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THE SECRET SAUCE OF INDIE GAMES

# INDIE GAMES

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GREENLIGHT BEST PRACTICE:  
TIPS TO NOT GET LOST ON STEAM

**LEVEL ARCHITECTURE CASE STUDY**  
HOW THE LEVEL DESIGN AFFECTS THE DIFFICULTY LEVEL

**GREENLIGHT POST MORTEM**  
HOW WINCARS RACER GOT GREENLIT WITHIN JUST 16 DAYS

**INTERVIEW WITH JASON RUBIN**  
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# NEW YEAR, NEW GAMES, NEW BEGINNINGS!

**2017** is about 1.5 months old, and just within these few weeks it seemed that one news followed the other. The first big conferences and events like Global Game Jam, PAX South, GIST, Casual Connect or White Nights in Prague are over, but the planning for the next events like QUO VADIS and our very own Making Games Festival, which will take place simultaneously for the first time, as well as the German Computer Game Awards are still under way, with the latter one making negative headlines due to frozen funds by the German parliament at the end of last year. In the meantime, the federal associations BIU and GAME have come to an agreement with the Federal Ministry of Transport; the pure fundings will even increase to 550,000 euros in 2017, excluding material prizes. The FFF Bayern (Bavarian Film/Television Fund), too, kicks off the new year with good news: While the Bavarians supported newcomers and young developer talents with about 600,000 euros until recently, the funds will be tripled by 2018!

In the meantime, Goodgame, Deep Silver Fishlabs and Crytek, too, made headlines with further job cuts. And while Capcom is giving us pleasant chills since January 24, thanks to their latest Resident Evil installation, the new President of the United States even has a lead time of four days, keeping

the world on edge with never-ending questionable decisions. Recently, Trump's Muslim ban for entry into the United States caused mass protests and numerous reactions by the international games industry which is negatively affected by such a ban in a not-to-be underestimated way. Will 2017 be another troublesome year? Before Christmas, we asked acclaimed experts and minds of the German games industry to name their tops and flops, desires and predictions – for both last and this year. From page 64 you can read how different their opinions were.

## Wonder weapon indie developers

That said, our focus this issue is on indie developers who never fail to surprise us over and over again, who are a constant breath of fresh air for the industry, and never cease to make us veterans aware of the fact that the creativity of newcomers all over the world is seemingly endless. Not only did we manage to get KING Art Games to enrich our cover story with their expertise on the topic of Kickstarter campaigns; we also feature studios and teams who are still at the beginning of their career and share a look with us at their first major projects. We're particularly happy about Josuhe Pagliery's title »Savior« – Cuba's first and so far only indie game.

In the meantime, we are busy preparing the next issues and wish you all the best.

**Enjoy the latest issue!**

Your Making Games Team



**Dirk Gooding**  
Editor-in-Chief of  
Making Games Magazin



**Nico Balletta**  
Managing-Editor of  
Making Games Magazin

»In this issue, our focus is on indie developers who never fail to surprise us veterans over and over again.«

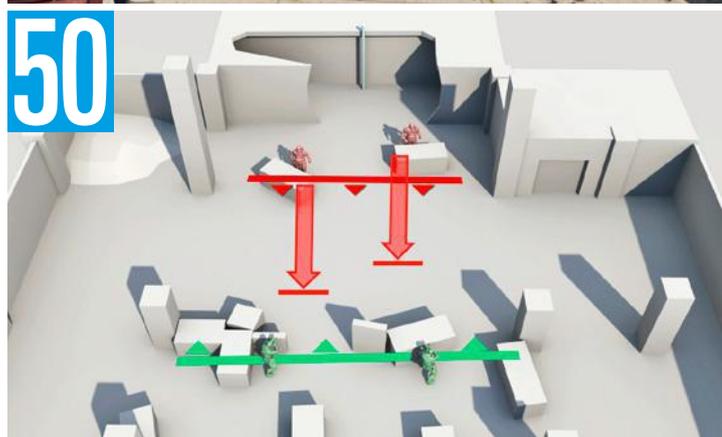


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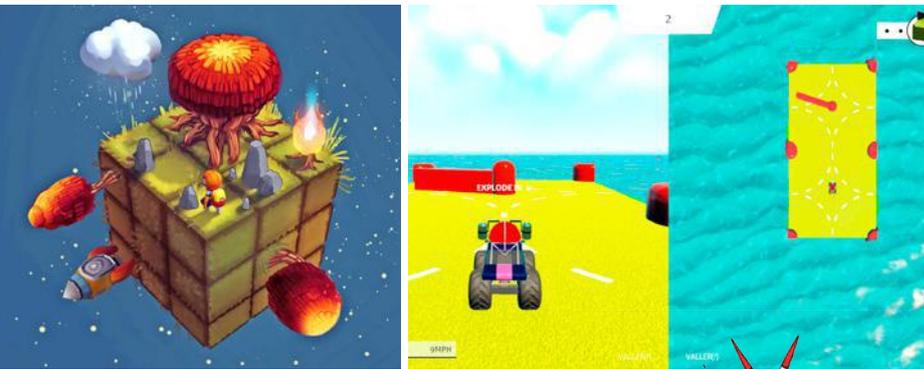
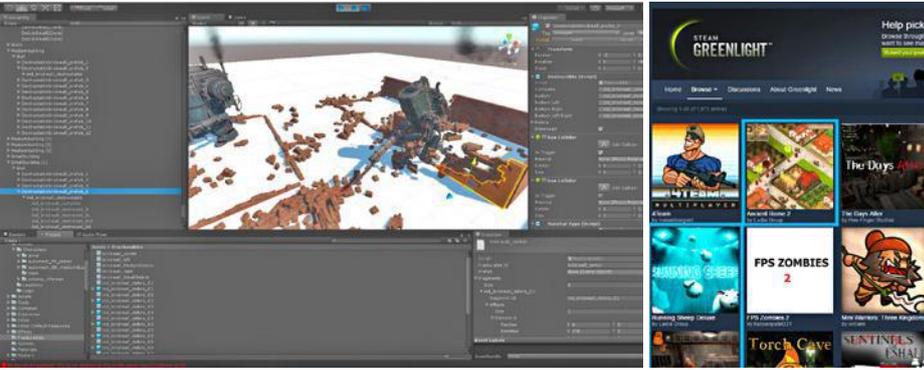
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# FOKUS GAME

## HOPE IN THE POST-FACTUAL ERA?

**Timm Walter embarks optimistically on the new year and tells us why he thinks 2017 has been quite positive for the industry so far.**



**Timm Walter**  
Head of Operations of the GAME  
Bundesverband der deutschen  
Games-Branche e.V. (German)

Timm Walter is a political scientist and as Head of Operations in charge of the operating business of GAME. Prior to his position in the association, he gained comprehensive experience in politics and the media industry as well as clubs and associations.

In May 2016, Stefan Marcinek (Assemble Entertainment) gave the industry a free conference: the GermanDevDays. The event will be held for the second time in 2017.



This is going to be quick – which may be due to the fact that the year has only begun and there isn't too much to discuss yet. Okay, contrary to common logic, Donald Trump has actually been elected the 45th President of the United States and is now happily spreading his »alternative facts« (already my favorite term of the year). And of course, the new Berlin airport »BER« still won't be opening its doors this year – literally. But as long as gamescom doesn't move to Berlin, this fact will not affect the games industry too much. And with regard to Trump... well, I guess we don't have to worry that he will be closing down PAX or E3.

So what to talk about? Clearly that there's hope for the German industry. Because apart from a controversy at the very beginning of this year, 2017 actually started quite well, both on a small and on a large scale.

### The German Computer Game Awards and more money for the industry

Take the German Computer Game Awards, for instance. Despite the negative and rightfully criticized decision by the German government to freeze the prize money, it was raised again this year after all. This was possible because the organizers – and yes, dear critics, the Federal Ministry of Transport and Digital Infrastructure is one

of them – sat down together, absolutely determined to raise the prize money against all odds. But material value aside, the industry also makes a contribution through mentoring and media achievements. Something that's happening for the first time this year and deserves utmost respect. But the German Computer Game Awards aren't the only funding tool which raises the available means. Bavaria, e.g., raises funds in three steps to 1.8 million euros by 2018. Now there's a strong message!

### Events from and with the industry

Strong messages are also coming from other areas. The individual associations and networks are collaborating more and more as recently demonstrated by gamearea-FRM joining both BIU.net as well as GAME. On a regional level, too, the interconnection of the industry is progressing. There are more and more game jams or network events, not only organized by the usual suspects, but directly by the industry. The result are not only traditional, but rather more creative formats as shown by, e.g., the »Talk and Play« series in Berlin or the GermanDevDays.

What do things look like nationwide or online? There, too, more and more formats emerge which address the industry and keep it informed. Be it »Der Reichart« with his regular videos on current topics or the »Talk in der Alm« video series – sometimes also starring guests.

It seems that the industry has become more active again. Apparently, we feel the urge to talk to each other, connect, stay in the loop, and thus – sooner or later – make progress. Let's hope that this upturn is not only owed to the annual New Year's resolutions, but will last for longer. Because one thing is clear: a lot more can be achieved when working together.

And in case Mr. Trump does close down PAX, a functioning scene which could then take it to Germany, isn't that wrong after all. Maybe by then, the doors at BER can finally be opened...

# DEVCOM - EUROPE'S NEW GAME DEVELOPER EXPO



In an official press release from February 3, 2017, Computec Media GmbH in cooperation with Aruba Events and Koelnmesse GmbH announced a new developer conference called »devcom« (www.devcom.global), consisting of a traditional conference part with key topics of the developer scene and high-profile international speakers as well as summits, master classes, workshops and networking events. devcom, which is closely linked to gamescom in terms of content, will debut on August 20, 2017 and will be completely integrated into the gamescom week. devcom will be kicked off by »Respawn – Gathering of Developers« (August, 20-21) which will also be integrated into devcom location-wise since it will be moved to Congress Center West of Koelnmesse and be launched with an Indie Game Summit, a Newcomer Summit as well as the new format »Late Night Talks«. From August 22 on, devcom will also feature the »gamescom business keynotes« and the »gamescom public keynotes«. The business keynotes are addressing the international specialist audience of gamescom, while the public keynotes feature high-profile speeches by popular faces of the games and media industry and address consumers.

## The devcom project team

Aruba Events as the organizing body has the economic responsibility; BIU and Koelnmesse are the commissioning bodies of devcom. Computec Media GmbH will closely accompany the conference as a media partner. Frank Sliwka (International Business Media) will support the project together with Stephan Reichart and the Aruba team and carry out essential tasks. The strategic orientation and content-related design are taken over by two boards. The strategic Advisory Board (representatives of Aruba, International Business Media, BIU, commissioning bodies of gamescom, Koelnmesse, organizers of gamescom) determines the strategic focus, the key topics and speakers, which are particularly important in combination with gamescom.

The Content Advisory Board consists of individual people from diverse areas of game development and is in charge of topic identification, contact to the speakers and organizational aspects with regard to the conference, the summits or workshops.

**Hans Ippisch**  
Managing Director, Aruba Events GmbH and Computec Media GmbH



»We're proud that BIU and Koelnmesse have entrusted us with this wonderful project. We're committed to establish 'devcom' as a new, contemporary generation of a developer conference which is bound to become a must-attend event for game developers from all over the world.«

**Tim Endres**  
Project Manager of gamescom (Koelnmesse GmbH):



»We're convinced that with 'devcom' we present a top-level international developer conference and are thus able to offer added value for our audience. Since devcom is closely linked to gamescom in terms of concept and content and is integrated into the gamescom week 2017, we create synergies and strengthen gamescom's position as Europe's leading business platform of the games industry.«

**Lars Vormann**  
Head of gamescom (BIU - German Games Industry Association):



»devcom' is the next important step with regard to the continuous evolution of gamescom, with a concept that's unique in the world. gamescom is thus not only the world's biggest event for computer and video games and Europe's most important business platform of the games industry; it's also bound to become a must-attend event for game developers from all over the world.«

# Eventkalender

[www.makinggames.biz](http://www.makinggames.biz)

Online event calendar with search function and event infos

## FEBRUARY 2017

### D.I.C.E. Summit

**Location** Las Vegas, Mandalay Bay Convention Center  
**Date** February, 21 through 23, 2017  
**Topic** Conference  
**Fee** 2,070 to 3,482 euros  
**Homepage** www.dicesummit.org

### Mobile World Congress

**Location** Barcelona, Fira Gran Via and Fira Montjuic  
**Date** February, 27 through March, 2, 2017  
**Topic** Conference  
**Fee** 799 to 4,999 euros  
**Homepage** www.mobileworldcongress.com

### GDC San Francisco

**Location** San Francisco, Moscone Center  
**Date** February, 27 through March, 3, 2017  
**Topic** Conference  
**Fee** 187 to 2,258 euros  
**Homepage** www.gdconf.com

## MARCH 2017

### Independent Games Festival

**Location** San Francisco  
**Date** March, 1 through 3  
**Topic** Award Ceremony  
**Fee** tba  
**Homepage** www.igf.com

### Gamify Conference

**Location** Munich  
**Date** March, 9  
**Topic** Conference  
**Fee** ---  
**Homepage** www.gamify-con.de/

### PAX East

**Location** Boston  
**Date** March, 10 through 12  
**Topic** Expo  
**Fee** sold-out  
**Homepage** east.paxsite.com

## APRIL 2017

### CeBit

**Location** Hanover  
**Date** March, 20 through 24  
**Topic** Expo  
**Fee** 26 to 1,990 euros  
**Homepage** www.cebit.de

### QUO VADIS 2017

**Location** STATION, Berlin  
**Date** April, 24 through 26  
**Topic** Conference  
**Fee** 99 to 749 euros  
**Homepage** www.qvconf.com

### Making Games Festival

**Location** STATION, Berlin  
**Date** April, 24 through 26  
**Topic** Festival  
**Fee** 13.95 to 39.95 euros  
**Homepage** www.makinggamesfestival.com

### German Computer Game Awards

**Location** Berlin  
**Date** April, 26  
**Topic** Award Ceremony  
**Homepage** www.deutscher-computerspielpreis.de



BIU.Dev   
BIU.Net 

Das Netzwerk der deutschen Games-Branche.



# NEW DATES FOR »BIU ACADEMY« WEBINARS

The webinar series »BIU Academy« initiated by BIU, the German Games Industry Association, in cooperation with Making Games in January 2016 will dedicate its next session to the topic »Crowdfunding«.



**B**IU Academy« in cooperation with Making Games is a webinar series for developers, founders and all those who are interested in its topics; a training scheme without travel expenses about all topics surrounding game development and sales, like business models, design, management, legal, marketing, and much more.

- **Duration:** 60 minutes
- **Monthly; Tuesdays** at 5pm
- **Fee:** 19.00 EUR (free for BIU members)
- **Register once at:** [www.edudip.com](http://www.edudip.com)
- **Book a webinar at:** <https://biu.edudip.com>
- **Current information at:** [www.biu-online.de](http://www.biu-online.de)  
Facebook: BIUeV  
Twitter: BIU\_eV

## Dates in 2017

Termin	Thema	Referent
February, 21	Crowdfunding	Jan Theysen (KING Art Games) Adrian Goersch (Black Forest Games)
March, 7	Design and Gameplay Development of Unravel	Martin Sahlin (ColdWood Interactive)
March	Brand Management	Claudia Kühn
April	Visual Effects	Christian Zilliken (Mackevision Medien Design GmbH)

Subject to change

## Become A Speaker!

You're an active member of the games industry and there's a topic you know all about and you would like to present in a webinar? Wonderful – BIU is always looking for speakers.

For more information, please contact:

**Stephanie Lang**  
Services Manager /  
Consultant For Funding Programs

+49 30 240 8779 0  
[lang@biu-online.de](mailto:lang@biu-online.de)

# Crowdfunding – Tips and Tricks

## Date and fee

- **Duration:** 60 minutes
- **Tuesday, February, 21** at 5pm
- **Fee:** 19.00 EUR  
(free for members of the BIU network)

Well-presented projects can still generate money and attention and help their developers become more independent. Those who want to use crowdfunding as a finance or marketing option, need to know the traps and risks and devote a great deal of attention to the subject. Adrian Goersch of Black Forest Games («Giana Sisters») and Jan Theysen of KING Art («The Dwarves») talk about their long-term experience

with various Kickstarter projects and provide tips on what needs to happen before, during and after a campaign to make it profitable for the developer and a good experience for the players. This includes determining the right funding goals, attractive rewards, marketing and the building of a community prior to the campaign, a realistic assessment of the workload and of the profits to be expected. The two experts provide an overview of the status quo of crowdfunding, take a look in the future and are happy to answer your questions.



**Jan Theysen**  
Co-Founder and Game  
Director at KING Art Games



**Adrian Goersch**  
Co-Founder and Managing  
Partner at Black Forest Games

# Development/Game Design of Unravel

## Date and fee

- **Duration:** 60 minutes
- **Tuesday, March, 07** at 5pm
- **Fee:** 19.00 EUR  
(free for members of the BIU network)

This talk is about the development process of «Unravel» – how frustration and chaos was turned into something absolutely beautiful and heartfelt.

Unravel was a game borne out of a need to create something more personal and meaningful; it was a revolt against games

without heart, games that just waste people's time. Making this game was a weird and wild journey, with many highs and a few lows, and it really revitalized our studio.

This talk is about that process – how it all started with an inspired camping trip, where I created the initial concept out of wire and some borrowed yarn, and how Unravel grew from there into a fantastic little game.

It's a talk about showcasing the beauty in the ordinary, and about trying to turn empathy and caring into game mechanics.



**Martin Sahlin**  
Creative Director at  
ColdWood Interactive

## Past topics at BIU Academy

Termin	Kosten	Thema	Referent
Jan 2017	€ 19,-	„The Game Must Go On: Live Service Localization“	Michaela Bartelt (Electronic Arts)
Dec 2016	€ 19,-	„Indie Games Publishing: Eight Years of Independent Publishing“	Dieter Schoeller (Headup Games)
Nov 2016	---	„How to Apply for EU Funding?“	Anne Le Rolland (Enterprise Europe Network)
Nov 2016	€ 19,-	„Practical Experience in Game Writing“	Falko Löffler (Freier Autor)
Oct 2016	€ 19,-	„Ups & Downs of Studio Foundations“	Stephan Winter (Limbic Entertainment)
Sept 2016	€ 19,-	„Monetization of Free2Play Games“	Christopher Hecht (Game Design Geek)
July 2016	€ 19,-	„Shaping your pitch“	Martijn van Doorn, Mat Morlock (DDM)
July 2016	€ 19,-	„Game Development and Publisher Contracts“	Konstantin Ewald (Osborne Clarke)
Juny 2016	€ 19,-	„Corporate Financing in the Games Industry“	Dr. Lutz Anderie
May 2016	€ 19,-	„Virtual Reality Development Insights“	David Bowman (Crytek)
April 2016	€ 19,-	„Game Design“	Prof. Sabiha Ghellal (Hochschule der Medien)
March 2016	€ 19,-	„Pros and Cons of Agile Project Management Methods in Video Game Development“	Ralf C. Adam (Tiger Team Productions)
Feb 2016	€ 19,-	„Brand Management“	Ronald Kaulbach (Ubisoft Blue Byte)
Jan 2016	€ 19,-	„Business Model Canvas für Online Gaming“	Kamil Barbarski (MAK3it GmbH)

# It happened on makinggames.biz

## Crytek shrinks to a profitable size



At the end of December, Crytek announced that it would split from all studios, apart from Frankfurt and Kiev, including their employees. Besides, in

January, the Mail.ru subsidiary My.com took over publishing of the free-2play shooter Warface. Prior to that, there were rumors for weeks about Crytek's new financial difficulties when one of their employees revealed that salaries hadn't been paid at all or paid very late for months.

According to Crytek's co-founder Avni Yerli, the goal of the downsizing is to focus again on »premium IPs« and the development of CryEngine. Those who are mainly affected by the shutdown are the offices in Budapest, Sofia, Seoul and Shanghai. In a press release from February 1, 2017, Crytek then officially announced that another 15 jobs would have to be cut in Frankfurt, too. Unfortunately, it wouldn't be possible to accommodate all team members in other projects, but the people affected would be compensated and supported in their hunt for new jobs.

## Star Citizen switches to Amazon Lumberyard Engine

One day before Christmas, Cloud Imperium Games announced that it would no longer use CryEngine, but Amazon's Lumberyard-Engine for »Star Citizen« and »Squadron 42«.

Reason for the switch was that Amazon's engine put a lot more focus on network technologies and was thus better suitable for online games like »Star Citizen«. So far, Star Engine, developed by Cloud Imperium Games, was based on Crytek's CryEngine and customized solely to the needs of Chris Roberts' team. Since Amazon Lumberyard is also based on CryEngine, the switch of the basic technical framework could be completed within just one day with the help of two developers on the engine team, as Roberts explained in the official game forum. So, no further delays were caused by this step.



## Why Epic Games are focusing on PC again



In mid-January, Tim Sweeney, co-founder of Epic Games, explained in an interview why the company is now focusing mainly on PC again and not so much on consoles any more. Epic Games made a name for themselves in the 90s, particularly with the Unreal series which made shooter fans on PC marvel in amazement. The now popular Unreal Engine is based on those games. Later, in times of »Gears of War«, their focus was on consoles. The reason for that was that before the breakthrough of Steam, PC sales plummeted

since too many pirated copies per legally purchased unit were circulating. The first part of the »Gears of War« series which was first released for Xbox 360 cost Epic Games around 12 million dollars to make, but made profits of around 100 million dollars. Later, the costs for console games increased, so that »Gears of War: Judgment« cost as much as 60 million dollars while generating roughly the same profits. With the upcoming release of Xbox One and PlayStation 4, the management of Epic Games feared that production costs would soar again, which is why they decided to focus on PC again.

## Sony shuts down Guerrilla Cambridge

In mid-January, Sony announced that the development studio Guerrilla Cambridge is going to be shut down. Guerrilla Games Amsterdam, currently working on »Horizon: Zero Dawn«, is not going to be affected from the closure. According to Sony, the reason to shut down the branch in the UK is that the group wants to restructure its studios in Europe, and Guerrilla Cambridge isn't fitting into these plans. At the same time, they promised though that they would try to get the employees concerned involved in other projects and move them to other

locations accordingly. Also, they want to support those colleagues as best as they can in their hunt for jobs at other studios. After all, there are quite a few developers in the greater Cambridge area, like Frontier, Ninja Theory or Jagex. Guerrilla Cambridge was founded about 19 years ago and was recently working on the PlayStation VR title »RIGS:



Mechanized Combat League«. Further projects included the »MediEvil« series, »Primal«, »Ghosthunter« and »Killzone Mercenary« for PlayStation Vita.

## Polish industry veterans found development studio



With the foundation of the studio Strange New Things in mid-January, Poland proved once again that it is more and more turning into a games hotspot in Europe. Techland's former COO, Pawel Zawodny, is joined by former employees of Techland, IO Interactive and CD Projekt Red to create »emotional gaming experiences« from now on. Zawodny confirmed that each team member has years of industry experience, having worked on games like »Hitman«, »The Witcher« or »Call of Juarez«.

The team already consists of producers, artists, writers, programmers, level designers and other positions which are all said to have had a »major influence« on said AAA projects. After years where the developers behind »Strange New Things« tried to adapt to the so-called market conditions they now want to do something completely different. Therefore, the first step was to give up on a set hierarchy or positions on the team.

## Apple's App Store earned developers \$ 20 trillion in 2016

At the beginning of the year, Apple announced that App developers generated total revenues of 20 trillion dollars in 2016 – about 40 percent more than 2015. According to Apple, this growth is primarily owed to game apps, with »Pokémon Go«, »Clash Royale«, »Monster Strike« and »Fantasy Westward« being the top sellers. Nintendo's »Super Mario Run« claimed the top spot as the most downloaded app on Christmas Day and New Year's Day. Besides, Apple broke another record: On the first day of 2017, the company registered purchases (both apps and in-app purchases) worth 240 million dollars, with the US, UK, Japan and China being the markets where most money was spent on apps. China recorded an increase of 90 percent within one year, taking the number one spot of the top markets from the US. Since the start of the App Store in 2008, the developers of those programs earned a total of 60 trillion dollars.



## Warner reopens Avalanche Software



When Disney decided in 2016 to withdraw from the business of game development, not only the Disney Interactive Studios were closed, but also Avalanche Software in May when around 300 employees lost their jobs. At that point, Disney had decided to license its brands to other publishers and developers instead of producing games themselves. At the end of January, Warner Bros. announced that the publisher would reopen the studio Avalanche Software and that a major part of its former employees, including founder and General Manager John Blackburn, would be on board again. Avalanche's first project is – ironically – the implementation of the Pixar movie »Cars 3« which is coming to theaters in June 2017. The team is experienced in implementing Disney and Pixar material after all, since after the takeover by Disney, Avalanche was working on »Cars 2« and »Disney Infinity«, among other things. On the long term, Avalanche is to work on other projects, too, though. Prior to that, the studio had made a name for itself with game adaptations of »Dragon Ball Z« or »Mortal Kombat«.



The biggest game disappointments of 2016  
[www.bit.ly/MG\\_Disappointments](http://www.bit.ly/MG_Disappointments)

The development costs of a VR game  
[www.bit.ly/MG\\_VRCosts](http://www.bit.ly/MG_VRCosts)

How roguelikes can also influence other genres  
[www.bit.ly/MG\\_Roguelikes](http://www.bit.ly/MG_Roguelikes)

The secrets of a long career in the games industry  
[www.bit.ly/MG\\_CareerInGames](http://www.bit.ly/MG_CareerInGames)



## INDUSTRY TWITTER

## @MAKINGGAMES\_DE/INTERESTING-PEOPLE



@megganpez

I don't have room in my suitcase for shoes because I promised my mom I'd bring home the PSVR.

Meggan Scavio, General Manager der GDC



@grumpygamer

I don't want to live in a world where a USB dongle needs a software update.

Ron Gilbert, Erfinder von Monkey Island



@DanielVavra

Have to say, that the huge praise we are getting for reporting honestly about the development gives kinda scary picture about game industry.

Daniel Vavra, Creative Director von Kingdom Come: Deliverance



@locust9

When people figure out that America is the Empire and not the Rebels they're gonna be pretty upset.

David Goldfarb, Game Director von Payday 2



@therealcliffyb

Love that as we are getting the start of dreary weather I can put on a VR headset and spend 10 minutes on a beach somewhere and feel better.

Cliff Bleszinski, CEO von Boss Key Productions



@ibogost

What do you do? Uhh, I'm a writer. I guess. What do you write about? Uhh, well, my latest book is about play. Plague? Sure.

Ian Bogost, Autor und Game Designer



@georgeb3dr

If you're a game developer or artist, your desk and workspace is basically your Bat Cave.

George Broussard, Erfinder von Duke Nukem



@mikeBithell

Hi. Don't enter competitions in hope of „winning“ a publishing contract. A contract is not a cash prize, it's an exchange of services.

Mike Bithell, Entwickler von Thomas Was Alone



@BenjaminCousins

Just noticed Super Mario Run uses 30fps rendered sprites for enemies rather than 3D skinned models? Is this 1996?

Ben Cousins, Mitgründer und CEO von The Outsiders

JOIN THE CONVERSATION



# SAVIOR

## CUBA'S 1ST INDIE GAME



Cuba is known for quite a lot of things: its famous cigars, the Cuban Missile Crisis, Castro – but video games? No. At least not yet!



Josuhe Pagliery is the Creative Director of Savior.

Josuhe is the director, art designer and screenwriter of Savior. He graduated in fine arts from the »Academia de Bellas Artes San Alejandro« and the »Universidad de las artes I.S.A.« He has experience as an animator and founded and directed the performance group »Golden Theory Popeye« from 2003-2013. [@saviorindiegme](#)

Savior is a special game. Some might see it as just another platformer. It is, however, not only one of many indie games, but the first one ever to be developed in Cuba. Just so you get an idea of the circumstances Josuhe and his colleagues work under: All pictures in this article were taken from his website, Facebook or his campaign video, as he wasn't able to send us material due to the nightmarish internet connection.

**Hi Josuhe, thank you so much for taking the time to tell us a little about yourself, the game you are working on and of course what makes it so incredibly unique. But first things first: Would you please introduce yourself and your team? Where do you guys come from?**

Hi, my name is Josuhe Pagliery and I am the creative director of Savior. I have a degree in visual arts from the Superior Institute of Arts in Havana (ISA). My partner in this adventure is Johann Hernandez. He is our programmer,

a graduated computer scientist from the Havana University. We are the true core of Empty Head Games and we worked completely on our own for almost a whole year. Besides that we collaborate with a very small group of friends and professionals when it comes to certain tasks as animation, VFX, SFX and music. Some of them come and go, others like Ruben Cruces (SFX and everything else!), German Carrasco (musician) or Tony Nodarse (animator) are staying with us as fundamental parts of the team.

**The game you are working on is called »Savior« – but before we talk about what makes the development process so uniquely special, please tell us more about the title itself and about its basics like the genre, the core mechanics and the player's goal? And of course: What is the game's story? How did the idea behind it come to life?**

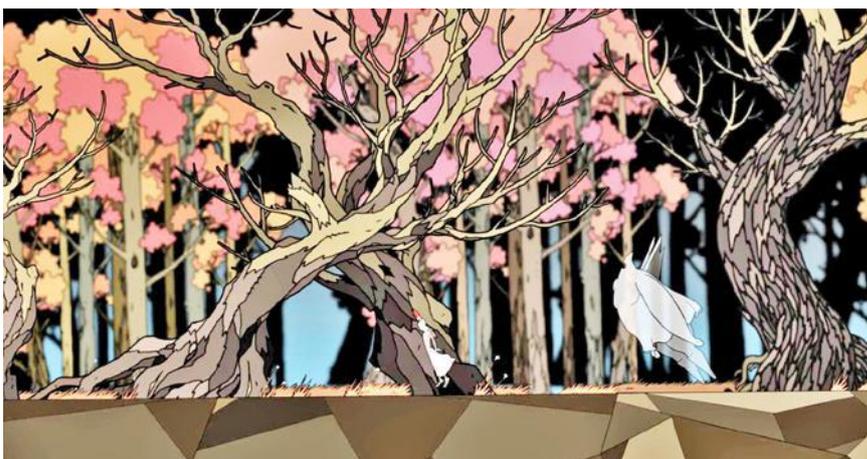
I always felt very interested in the idea of a »game inside a game«, and how you could

deconstruct the whole structure of what a video game really is from this particular perspective. Savior is created under very different layers of concepts that co-exist together: The first layer is what I call the »literal background« of a history in which the player interacts with the sort of classic video game fable. Our main character (intrinsically a hero) tries to save his own world after the Great God – some kind of anonymous and very powerful, supreme being – disgraced it by leaving it.

At this point I explored some ideas about what a savior really is. Maybe a hero – I go very close with Carlyle's conception of what a hero is («On Heroes, Hero-Worship, and The Heroic in History» is a book by Thomas Carlyle, published in 1841 in London, as a collection of six lectures, given in May 1980; source: Wikipedia [https://en.wikipedia.org/wiki/On\\_Heroes,\\_Hero-Worship,\\_and\\_The\\_Heroic\\_in\\_History](https://en.wikipedia.org/wiki/On_Heroes,_Hero-Worship,_and_The_Heroic_in_History)) – or maybe some kind of egocentric figure focused on himself and in his personal goals.

The game itself is closely related to the Judeo-Christian mythology. I started with the theological concept of God equal to reality, and from that point I translated this logic into a videogame: If God is equal to reality, then a video game (what is a self-sufficient reality by itself) could be a genuine manifestation of what God is. And when these questions over what reality is arose, you could not miss the tension that immediately erupted between reality and fiction and therefore the player and the game itself. Savior tries to emulate the human process of personalizing the »global« conception of reality into a very personal one.

Finally I have the game mechanics and they are something I feel extraordinarily proud of, because we managed to create a very particular mix between a classic 2D platformer control and a timing-based



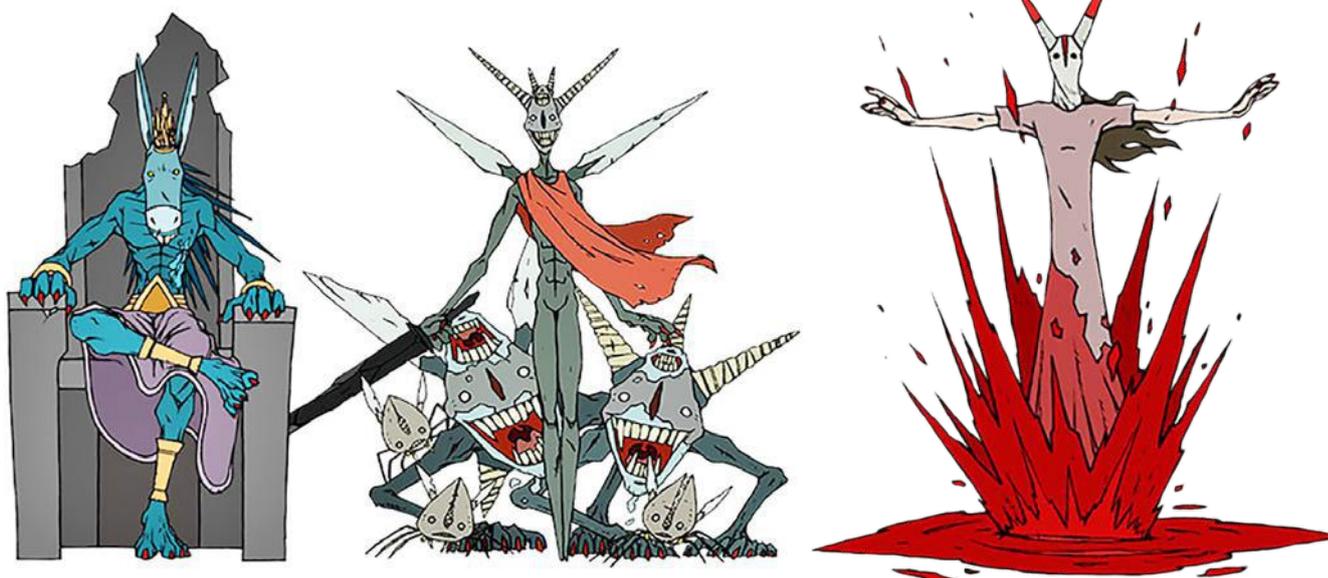
At its core Savior is a timing-based 2D platformer and the first independent videogame ever to be created entirely in Cuba.

gameplay mechanic. The gameplay itself will be constantly evolving during the process of playing, but that is something I don't want to spoil for our future gamers.

**Who composed the excellent soundtrack? The atmosphere it generates in combination with the visuals is amazing.**

The musician working with us is German Carrasco who is already studying composition in fifth year at the Superior Institute of Arts in Havana (ISA). His tendency as an artist to this sort of melancholic sadness in sound is present in almost the whole game, solidifying my goal in recreating a deep emotional experience with Savior.

**So, Savior is actually a video game about characters being part of a video game. Looking at the art of your game, the graphics, the characters and monsters range from mythical to even a little disturbing. Would I have to guess, I'd say it's a mixture between Egyptian and Greek, with an oriental touch. But what exactly were your main inspirations?**





Over eight stages the player is on his journey to find the »Great God of the Universe« so he can save the protagonist's crumbling world.

Savior's story is closely related to the Judeo-Christian mythology, its artistic influences range from Disney to Art Nouveau.

Well, for sure I have a lot of cultural references in Savior. The concept, as I mentioned before, comes from a theological background, so in terms of history I think we are very related to the Judeo-Christian mythology. In terms of visuals I have a lot of influences from symbolism-artists such as Brocklin or Millet, some of Art Nouveau and Deco style in the way I deal with the backgrounds, steam glass aesthetic in general (all of the heavy black lines around every single element come from the idea of emulating that iconic religious look), a lot of Japanese artists as Akiman or Yoshitaka Amano mixed with some of the old Disney movies, European and even Russian animation as well. Sorry man, but I could keep going and going when it comes to this subject!

**I love the moments when levels become totally surreal, e. g. when there are lines of code shimmering through in the back of the stages, making clear the world your character is trying to escape from actually is a video game. It reminds me of Kratos from »God of War« having to escape Hades, with a little bit of »Matrix« mixed in. I have to ask: Considering the circumstances under which the title is being developed, Savior seems like one huge metaphor. If so, would you talk about what it stands for?**

A metaphor should never be revealed. Knowing about the concrete idea kills the fun and the important mental process of actually getting into what you are playing on your own. Still, we have a lot coming from our very distinct reality in Cuba, and as I told you before I really enjoyed this kind of philosophical analysis, the interpretation of what reality is. The symbols are there, and in Savior I have

used many if not thousands of historical, philosophical, political and artistic references as well as, of course, typically Cuban references. Simply because you could never escape that »real« reality of everyday life! Then you have the pieces but you have to put them together on your own, and depending on what kind of person you are, you have your very own perspective of what kind of game Savior is. But don't worry, if you don't want to »suffer« too much from any intellectual process, you can still simply play that silly and superbly animated video game of a »hero« with a white mask and horns trying to save »another« ruined world.

**» Sometimes it was like having to reinvent video-games over and over again.«**

Josuhe Pagliery

**Apart from being an indie game with beautiful graphics, a cool story and a formidable soundtrack, there is one other thing that makes Savior such a unique title: It actually is the first indie game to be developed in Cuba which kind of makes you pioneers for an industry that's been growing immensely over the last decades. What makes developing a game in Cuba so difficult? Is it the politics? Is it the infrastructure?**

It is a mixture of all those factors. Back in the 80's or 90's video games in Cuba were very uncommon among regular people. If you could afford an SNES in '92 with four cartridges you were kind of a very wealthy person. At that time people in Cuba weren't allowed to have a personal computer of their own, so all the games back in those days were exclusively on consoles. Besides that negative fact, the Cuban government saw video games in general as this American imperialistic way of brainwashing the new generation. Believe me, those weren't cool



times for Cuban gamers! Right now the government invests at least some resources trying to create a national video game industry in Cuba, aiming at the kind of boring historical and/or educational video games of poor quality. And it's still like before, they wish to create a monolithic structure in which all developers work under only one direction – good luck with that s#%!

**What were, from a developer's standpoint (programming, design, etc.), the most difficult hurdles to master?**

We struggled a lot with the animations when we first started the production. Keep in mind: Cuba is so much different to other countries, especially when it comes to accessing information. Therefore many, many times we were confronted with a lot of problems concerning video games, that had actually already been solved loooooong ago, but we had to solve them all by ourselves! It was like having to reinvent video games all over again!

For example, the idea of having different and individual game mechanics sounds – at least in this case – cooler than it actually is, because you need triple the iterations compared to working with classical and already established gameplay. You could always end up doing something »new« that still wasn't fun or good. Let's just hope this will not be the case, but – you know – »new« isn't necessarily a synonym for »good« ...

**How do you finance your work? What is the most expensive part of developing Savior? And are there ways for interested gamers to support your project? You had a campaign on Indiegogo.com – is it still going? And are there any other campaigns as well or do you all have regular jobs, with Savior being a project you can only work on in your spare-time?**

All the things we've accomplished so far we exclusively financed ourselves and that is something I am really proud of! Believe me, it's particularly hard in a country in which we experienced the conversion towards a capitalist way of living but under the same old socialist-based society over the last five years. For me as an artist it is extraordinarily difficult – sometimes you have money, sometimes you simply don't, the production, however, never stops running. The Indiegogo-campaign seriously came in at the perfect time, a genuine »savior« so to say. At exactly that point we started to run out of money and that put us and the project itself under a lot of pressure and stress. Me, I've always been working on Savior full time. Just now – again thanks to the campaign – Johann left his prior

job as a web-programmer, so he could focus entirely on the game. We still depend on the Savior-campaign at Indiegogo, and luckily for us, there are still a lot of amazing folks all around the world supporting us and our project. Let me take this chance to express my deepest gratitude to all of them!

**In your interview with Kotaku you said, it took you almost 30 minutes to open the website and read their article about Savior. Exactly how badly does the lack of internet slow you down? And how badly does it affect the most important factor of developing a game besides the actual development: getting people to know about your game?**

Know that you are a really lucky guy! You could have this really slow internet-modem in your house, which hasn't enough power to let you see anything in motion – no videos, no Youtube, nothing! Here it is, for example, impossible to open the Indiegogo-page. Imagine that you don't have a bank account, imagine that you have hardly any idea what other people like you are developing at the moment. Forget access to press, festivals, crowdfunding campaigns (we were only able to do that with the help of the Innovadores Foundation based in America).

When we started the campaign we had 200 followers on Facebook and 36 on Twitter; it was a heartbreaking moment for us when we read about the necessary numbers that people and even Indiegogo suggested for starting a campaign. Imagine, they talked about 8.000+ followers and things like that! How could you promote yourself in a country where even having a simple video chat

requires a hideous travel to some sunny Wi-Fi hotspot, where you are surrounded by hundreds of people sitting in the streets like they are homeless? Because of that I always insisted that we aren't indie developers. We are indie-undergrounds because our working conditions are far worse than almost anywhere in the rest of the world. Our equipment, for example: Until my recent

trip to the US, I was drawing with an old Wacom bamboo model from 2009, the same with my I-3 computer I got on a distant trip to Canada within the same year.

Our programmer is working with an I-5 from 2012, he doesn't even have the »luck« of having a modem so his only chance to go online lies at one of those few Wi-Fi hotspots! For Cubans, Cuba isn't exactly a cheap place to live, you have to struggle with all sorts of difficulties – financing a game and still making enough for a normal living. And what about your personal life? Hey man, I am lucky enough to still have a girlfriend. All the money I have flows directly into the

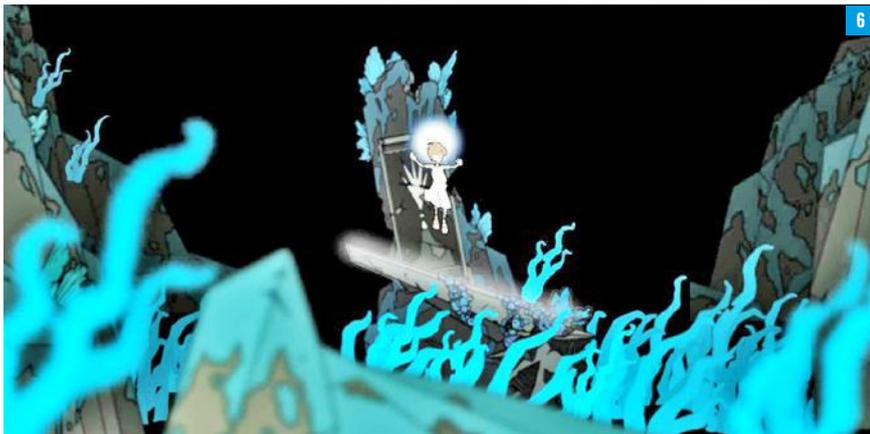


1 2 3 4 Josuhe and his partner Johann are the heart and soul of Empty Head Games. Their dream is to finish Cuba's first indie game, no matter the cost.



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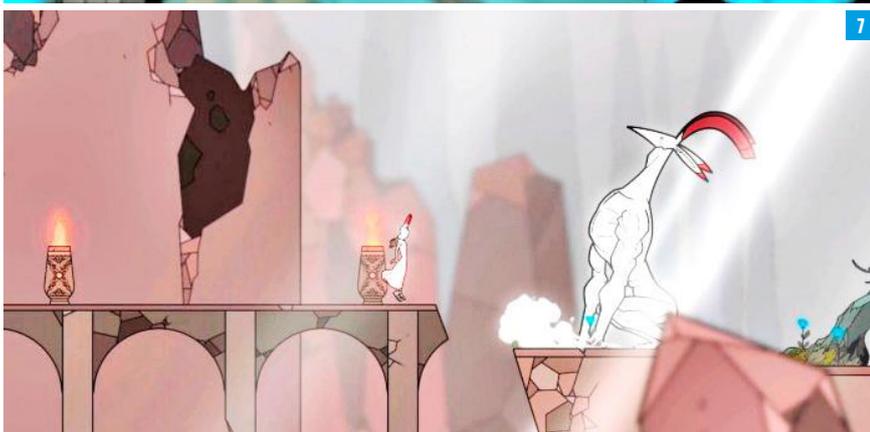
5 6 7 For most people in Cuba public wifi-hotspots are the only way to access the internet. It's circumstances like that that make developing a video game in Cuba such an extreme challenge.



6

next goal is to launch the playable demo of Savior in late March 2017, maybe April. That could help us reaching and finding more people interested in future collaborations, but I'm telling you: For us, the demo will be the real game changer! At the end of the day a game has to be played and tested for his value. If it fails at this point already all the wonderful history, graphics, visuals and music were in vain.

**I would imagine that your interview with Kotaku gave you and your game quite a solid push? Did it actually help making a greater deal of people aware of Savior? Promoting a game nowadays often seems to be more of a deal-breaker than developing the game itself. Do you get the chance to attend many events to promote the game?**



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Yeah, that is something I had to learn the hard way. I really hate the entrepreneur part of being a businessman. It's a necessary evil I am simply not good at. Plus, it's really sad when people who don't know anything about you or your life instantly think of that stereotype of the poor Cuban guy struggling with his »colorful« socialist reality. On hand it becomes really annoying, on the other hand you need to pursue every chance you get to make your project visible to others. That's the price and my personal rule. It doesn't matter if it's an interview with Polygon, Kotaku, you or that really cool girl from Turkey – I go into every interview with the same enthusiasm.

When it comes to gaming events – well, no, we didn't have the opportunity to attend even a single event in our lives as developers so far.

**Have you ever thought about moving to another country, even if it's just for developing Savior under different, more comfortable circumstances? Or do you actually say: »No, even if it's hard, I'm going to stay here, develop this game here in Cuba and show the people, what is actually possible!«**

The future is always uncertain but I think that it is fundamental that at least the playable demo comes completely from Cuba – »Made in Cuba«. I see that as a statement, proof that you can make a really good game

production of the game. The expectations and the feedback of all people prior to the campaign was almost completely negative: »You're crazy, how are you ever going to recover from all this money you spent? Who will play this game anyway?« Suddenly you're no longer a professional or even an artist, you're just some isolated weirdo who is stupidly dreaming of making a video game no one's ever going to see anyway.

**On Indiegogo.com it says that you initially tried to collect just enough money to produce a playable demo. How about the stretch goals? What's the actual status – of the campaign and of the game itself?**

As far as I can tell you we are now listed under »on demand« on Indiegogo and we are still receiving some money from there. Our

no matter how many resources you have at your disposal. That's the beauty of art and sometimes less is better. Viewing the whole situation from that angle probably puts us as developers in a better position than almost anybody else in the world. It's really hard thinking of another video game developer who has less than we do.

**Are there any bigger events, maybe even in Europe, that you are going to attend in 2017?**

Not at the moment, but I'm quite optimistic that with the playable demo in our hands we could reach a whole new level of possibilities that may even bring Savior to Europe.

**When do you plan on finishing Savior?**

In late 2018, but I don't want to set it in stone.

**Should Savior become a success, what are your plans for the time after?**

Man, let's hope your words come true but I don't want to have any expectations towards »future success« and things like that. We have to stay realistic and respect what we have now. In that order you need to focus on your immediate next steps, and for me this next step is the demo. After that I will put up another close milestone and another, until you suddenly find yourself finishing the whole game. If you don't work t that way, at least

here in Cuba, you could end up getting lost in a vacuous world of wet dreams and illusions.

**What are your personal wishes for this year and the following – for Savior itself, but also for Cuba's gaming community and the industry?**

I wish that we could have the same opportunities every other developer has in this world – no more, no less. My biggest expectation with Savior is that at the end of the day people from the rest of the world will say »Hey, check out this wonderful game« and maybe that guy never knew that this specific video game came from Cuba. My point is: I don't want to be the Cuban guy who made a video game. I want to be the guy who simply made a great video game. Period.

**Is there a game – besides Savior – you always dreamt about developing?**

That's easy: »Final Fantasy 6«, in my modest opinion, is the best video game ever made. Even if I reincarnate a million times with the only purpose of making video games, I still couldn't get even close to the perfection of this incredible work of art!

**Josuhe, thank you so much for your time – we wish you all the best and lots of success for Savior!**

Interview: Nico Balletta

# Support the Savior

Savior is clearly more than a game – it's a statement, a piece of art and possibly a milestone for a whole industry just waiting to flourish within the borders of Cuba. If you want to support Josuhe and his ambitious project, visit their campaign on Indiegogo.com:

<https://www.indiegogo.com/projects/savior-cuba-s-first-indie-game#/>

**8 9 10 11** On his way through the stages the 'Savior' discovers that he is nothing but a character in a videogame.



# 10 TRICKS, FOR INDIES FOR LONG-TERM SUCCESS

KING Art Games from Bremen have been in the industry for about 17 years now and, over this time, have gained a lot of experience about how the industry works. Jan Theysen, one of the studio founders, provides 10 tips for long-term success.



**Jan Theysen**  
Game Director at KING Art Games

Jan is Game Director and one of the co-founders of KING Art Games, having worked on all of the studio's projects, like »The Book of Unwritten Tales 2«, »The Dwarves« and »Battle Worlds: Kronos«. He plays on all platforms that he can lay his hands on, from PC to console to mobile. [@JanTheysen](#)

**W**hen I was asked, for the purpose of this article, how to survive as an independent game developer for 17 years, my first thought was: »How on earth should I know?« What worked for us, might not work for someone else. Times change. A decisive competitive advantage ten or just five years ago, may be irrelevant today... or are there actually some timeless tips that may not guarantee success, but maybe make it more likely? Let's give it a try.

## 1. It's a business

Reason number one why small developers go bankrupt is the lack of a strong leader in the team with a business background. Somebody to take care of finances and contracts. Somebody who keeps an eye on budgets and schedules and knows how to push them through, even if there is resistance.

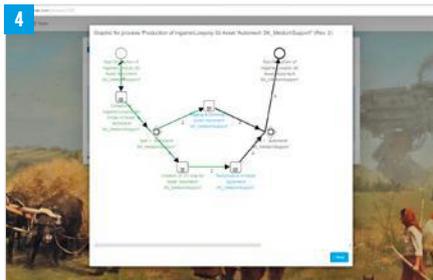
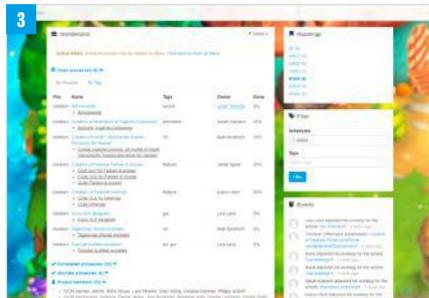
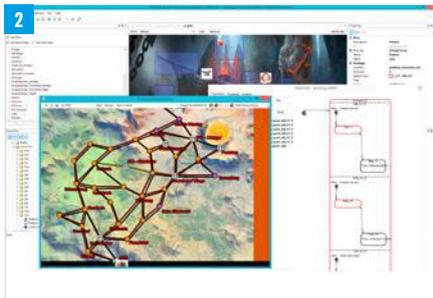
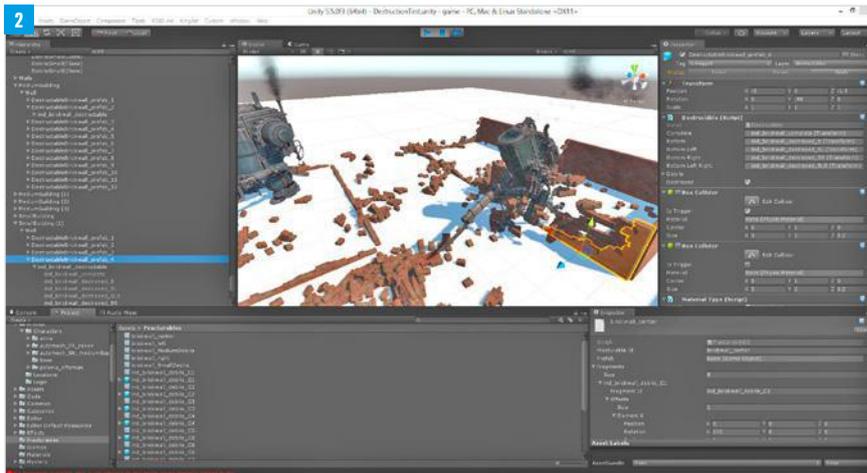
Many of the successful developers have at least one founder with expertise in this area. Game development is a business, and if there's nobody on the team with the required know-how, stop reading and do something about it. Right now.

My co-founder Marc is our business man, and I'm pretty sure that without him, KING Art may have had a few more quick successes – but would have also gone bankrupt four or five times.

## 2. Don't do what others are successful with

This sounds like some horrible advice, but it hopefully makes sense at second glance: If a game is really successful, the temptation is big to do something similar. When »World of Warcraft« broke records, one MMO after the other emerged practically overnight. How many people tried to copy »Minecraft« or »Clash of Clans«? And who remembers the popular »Flappy Bird« clone no. 131?

Exactly. Nobody. Because most copies aren't successful. First of all, there's the original game, so why play a copy? Second, there isn't only one copy, but a lot of them which have to share the remaining players among them. And third, those copycats are usually too late to the party: The ship has sailed by the time they have completed their game. And fourth of all, there are others who can clone better and at lower prices. And fifth... Oh well, enough for now.



**1** KING Art today uses Unity in all teams and for all projects. Here's a screenshot from the physics prototype of their upcoming real-time strategy game »Iron Harvest«. **2** kAPE is KING Art's state-chart tool for the scripting of game logic. KING Art used the tool for almost ten years and constantly developed it further until the team now finally set up kAPE 2.0 from scratch. **3 4** The self-developed process management tool kABA maps the processes in the company, provides all employees with jobs as well as the controllers with current data. **5** »The Dwarves« Facebook page with a respectable 36,000+ fans. Set up by KING Art, managed by KING Art and THQ Nordic.

Instead of jumping at every new trend or »doing what everyone else does«, we think it's a better strategy to either make »timeless« games or to develop games for a target group which hasn't been served in a while. After all, target groups which are too small for AAA publishers don't just cease to exist.

### 3. Keep a sober view

Release parties aside, it's important to keep a sober view. In a hype-driven industry it's sometimes hard to assess chances and risks objectively. But it's inevitable if you don't want to get on the wrong track financially.

Those who have the financial means, can try out a lot of things at once, gain experience and invest more in those areas that proved solid. But as a small developer with limited means you have to think twice before making an investment.

It's also important to not only look at the

potential benefits, but above all to think through a potential negative scenario as well: What will happen to us, in case we fail? And also: Will we lose out at all if we're not on board from the beginning?

A current example for this is VR. Apart from the fact that there were and are good reasons not to believe in a breakthrough in the coming years, we never fully understood what benefits it should bring to be a part of it from the start. The install base is very small, tools have to be developed and experience needs to be gained first.

So why engage in it early? Why not wait and see how things will develop and possibly jump onto the bandwagon later? Admittedly, this is highly unromantic (after all, which developer wouldn't want to be a pioneer of innovation and dance on the cutting edge of a new technology?), but rationally speaking, it is still the only right

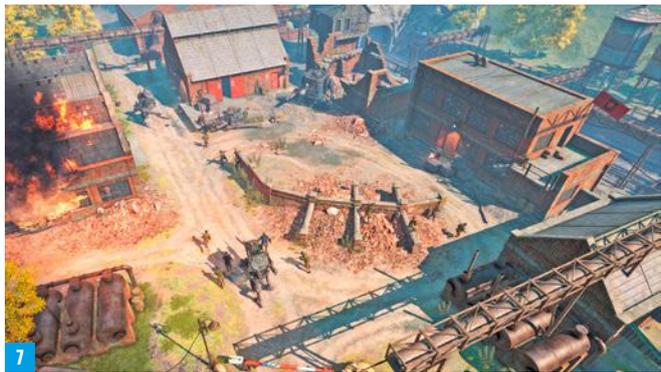
## »Stupid Money«

When we say under point 2 that one should not swim after a ship that has sailed, and under point 3 that one should not join in every hype, we refer to the real world. Obviously, anyone can immerse in the world of investment funds and venture capital, which are mostly unaffected by real market conditions.

They're usually either too late or too early, but still invest a lot of money – something every developer appreciates; however, in that case you should keep point 4 in mind and not miss the time to say good-bye.

It gets really annoying when too much »stupid money« leads to market distortions which are harmful for everybody – especially for those who can't or don't want to burn money.





6 7 8 9 One of KING Art's current projects: the real-time strategy game »Iron Harvest«.

decision (see box »Stupid Money«).

### 4. Work on several projects at once

Those who have already witnessed the bankruptcy of a publisher know how problematic it can be to be dependent on individual partners. Since we try to use appropriate language here, we can't possibly comment on insolvency administrators or the insolvency process in general. But it's easy to imagine for everyone how hell breaks loose when a developer's only source of income becomes insolvent and the new, unwanted business partner shows little interest in regulating things.

We learned our lessons from this and have three internal teams today working on three different projects for three different partners. Should one of the partners be facing problems, it's not necessarily that big a drama yet.

Besides, we work in various genres on various platforms and for various target groups. The chance that all markets we're active in are ailing at the same time, is quite small.

Since we're using the same technologies and tools for all projects, we can quite easily shift resources within the company, if

necessary. And since we start and complete developments on a regular basis, experiences we make from one project immediately benefit other current projects. A high throughput of games ensures a fast progress of the team, its tools and the workflows.

### 5. Think about the marketing

In our industry, you don't earn money by developing games, but by selling games. No matter how well the development process is optimized... the smoothest development is worth nothing if the game doesn't sell.

In the last few years, it has become more and more important for developers, too, to think about the market, target groups, social media, PR and advertising. Visibility is the biggest challenge these days. It's simply no longer enough »just« to make a good game.

Assigning all these tasks to a publisher and hoping for the best isn't a good idea. Publishers don't have a magic wand either to give them insight into the soul of the players. At the end of the day, they don't know your target group as well as you do – and they certainly don't know your game as well as you do. They don't run around all day with your game in their mind like you

»What worked for us, might not work for someone else.«

Jan Theysen



14 The turn-based strategy game »Battle Worlds: Kronos« from the year 2013 was KING Art's first Kickstarter project.



hopefully do.

That's why we would recommend to take action yourselves. Talk to your publisher and get involved. Maybe you can take over the community work. Present marketing ideas. Take part in trade shows. We made the experience that both players and the press alike appreciate when developers speak for their game themselves and show their enthusiasm about it. Authenticity is often more important than professionalism. And good publishers appreciate developers who get involved in the marketing process.

## 6. Find good partners and make sure to keep them

We are proud of having cooperated only with a rather small number of different companies over the years. For almost every partner we developed several games, for some even half a dozen or more. For us, this means that both sides were happy with the partnership.

Regularly entering new partnerships – including new contracts, new structures and production processes – may be the right way if you want to make it quickly to the top. However, once you slip and need a helping hand, it's better to have a long-term partner by your side.

In the daily work, too, one should not underestimate the saving potential resulting from established processes and direct lines on a business level. So, our motto has always been to look for mid- and long-term partners instead of picking the next best one if you hit a rough patch or somebody offers a little more money. The basis for a long-term partnership is mutual respect (which involves being honest and, if necessary, clear words) and a decent contract (see box »Contracts«).

The basic rule is: Life is a lot easier if both parties pull in the same direction.

## 7. Keep an eye on the costs

If a developer or publisher survived the first few years and still hits rough times, it's mostly because they became too confident and took too big a risk financially.

Markets change and developments get

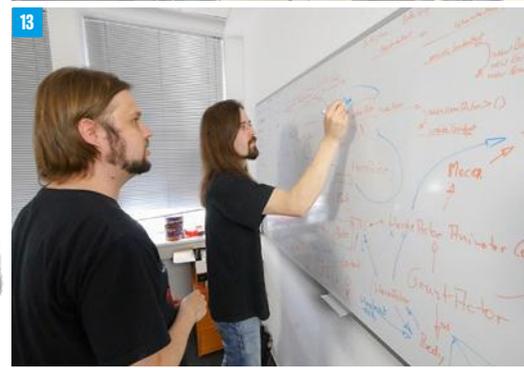
delayed. And is any game ever doing as well as one had hoped for? Those who make too optimistic plans will quickly get into trouble. Best-case scenarios should be a nice surprise, not part of the planning. Business has to go on, even if things are not going well.

High costs in the games industry are mostly caused by a large headcount. Therefore, we try to work »as much as possible« with external freelancers and external teams and only start hiring people when we're very sure that we can employ them on a mid- and long-term basis.

The other big topics are realistic planning, good controlling and efficiency. As a German developer, you simply have higher costs than others, so tasks need to be completed faster while retaining the same level of quality. This is where having experience, tools and, above all, an established team pays off.



**10** Successful marketing stunt: Initiated by Julian Strzoda (left) of KING Art, a song was recorded for »The Dwarves« in cooperation with Blind Guardian. The video of the song was watched almost a million times. By the way, KING Art's CEO Marc König (right) played the drums. **11** KING Art with »The Dwarves« at various trade shows. **12** Part of the »Dwarves room« in KING Art's offices in Bremen. **13** KING Art's Head of Programming Philipp Kolhoff (left) and Technical Director Thomas Jahn (right). Both have been with the company for about ten years.



# Contracts



We enjoy a certain reputation with regard to our contracts. Our contract negotiations are just as comprehensive as our contracts, regularly driving our future partners crazy.

We're not doing this because we enjoy it (one of the reasons why we prefer to work with long-term partners is that we don't want to set up a new contract all over again). We're doing this because we want to make sure that both sides fully understand what they're about to engage in. We discuss all sorts of contingencies and prefer to clarify matters in advance than in case of dispute.

We think that contracts are written, so they never have to be looked at again. It's about both sides making clear for themselves what they actually want and what they don't want.

Contract negotiations are the perfect time to put the brakes on euphoria and also look at the bigger picture with a pessimistic scenario in mind. You get to know each other and learn to assess whether you really want to create something together for the next few years, or maybe not. Once the contract is signed, there's no turning back.

**16 17** One example for a long-term partnership. Top: »My Free Zoo«, the first game KING Art made for Upjers in 2011. Bottom: »Upjers Wonderland«, KING Art's seventh game for Upjers (currently in closed beta).



**15** The point&click adventure »The Book of Unwritten Tales 2« was KING Art's second successful Kickstarter (followed by the third one »The Dwarves«). KING Art developed the title for as many as ten (!) platforms.

## 8. Build a team for the long run

Bremen isn't exactly the center of global game development, and we're neither Blizzard nor Naughty Dog, who can offer a great name, top projects and high salaries. So, how do you get experienced talents to work for your company long-term and for a reasonable salary? You »raise« them yourself.

Almost everybody who works for us did an internship first and proved to us that they would be beneficial for the team in the mid-term. Mind you, they »only« showed their potential; we're not expecting young talents to already have the know-how that we're eventually looking for. But as long as they have the skills and the will to learn for the rest of their career, we're happy to teach them what they need to know.

This takes time and money. But after all, we don't hire someone just to fire them again after one or two years. We bind good workers to us for the long-term by giving them challenging tasks they can grow with, and by possibly using them in areas they're interested in.

This approach means that we can't quickly

upscale our team. It takes every employee a few years to get where we want to have them. But the result are competent and loyal employees who work together more efficiently than any team put together on a »hire & fire« mentality could ever do.

## 9. Develop cross-project technologies

kAPE is a state-chart engine which can be used to script logic for story-driven games. We developed kAPE 2007 for »Black Mirror 2« and then used the tool for »The Book of Unwritten Tales 1 + 2«, »The Critter Chronicles«, »The Raven« and »The Dwarves«. This means, we used the same technology for almost ten years, while constantly improving it.

Whenever we can, we prefer to tackle a problem »properly« rather than »quick & dirty«. Often, this means building a solid technical solution once – and then again after the first solution ends up in the trash and we know how to actually do it.

We're constantly working to improve these tools, technologies and workflows across all projects. When a solution has become

obsolete (like KAPE for a current project), we develop it again based on the experience we gained previously.

Everyone in the company knows the tools, and everyone can provide their feedback to the respective developers (who either sit in the teams or work on several projects). So, we never start a project from scratch, but already have a number of proven components to work with. And, of course, we can use our tools quite efficiently since our employees often have long-term experience with them.

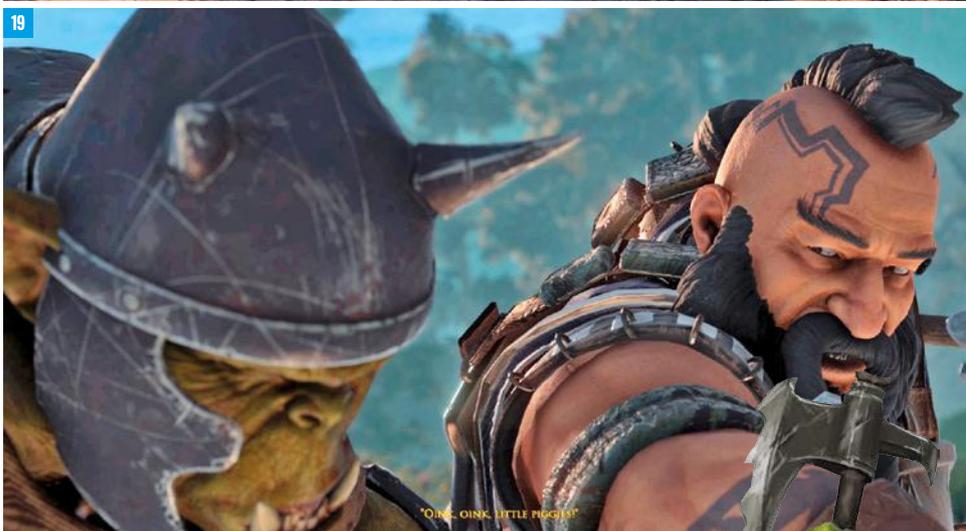
### 10. Be lucky

KING Art will celebrate its 17th anniversary this year, and in the first ten years, we were on the brink of bankruptcy a few times. We also had a bit of luck to always make it back. You can do your job properly, you can be flexible and you can improve your chances for a positive outcome – and so you should –, but nobody can be successful without occasionally having luck, chance, or whatever you may call it, come to your aid.

If you keep that in mind, it will improve your awareness of those who »made it« as well as those who didn't make it.

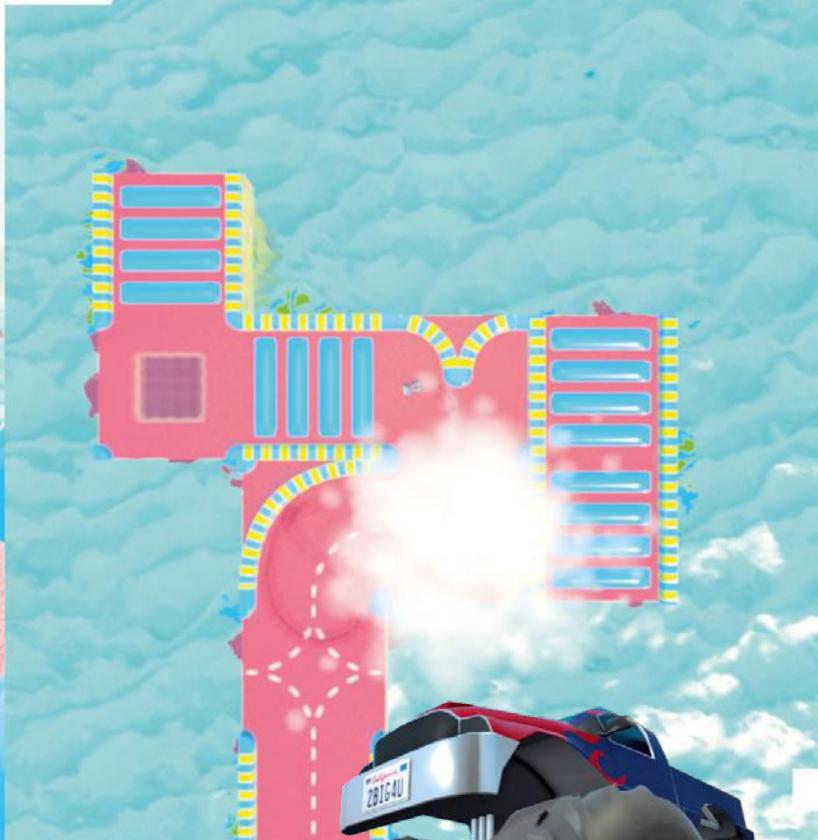
Sometimes, the simple difference is to »be lucky« or not. We wish everybody who tries to make it in our difficult, but great industry, the former. Your KING Art Team.

Jan Theysen



18 19 KING Art's recently published game »The Dwarves«.





# CAN'T DRIVE THIS!



Game jams are a true source of creative energy – something the Pixel Maniacs from Nuremberg can tell a thing or two about. After all, their multiplayer fun racer is a result of such a game jam.



**Andreas Scholz**  
Programmer at Pixel Maniacs

Together with Johann, he's in charge of the programming and the quality of the games made by Pixel Maniacs.

🐦 @AndiSpunkt



**Benjamin Lochmann**  
CEO at Pixel Maniacs

Benjamin is in charge of tiresome office chores, marketing and making sure that things run smoothly and on time.

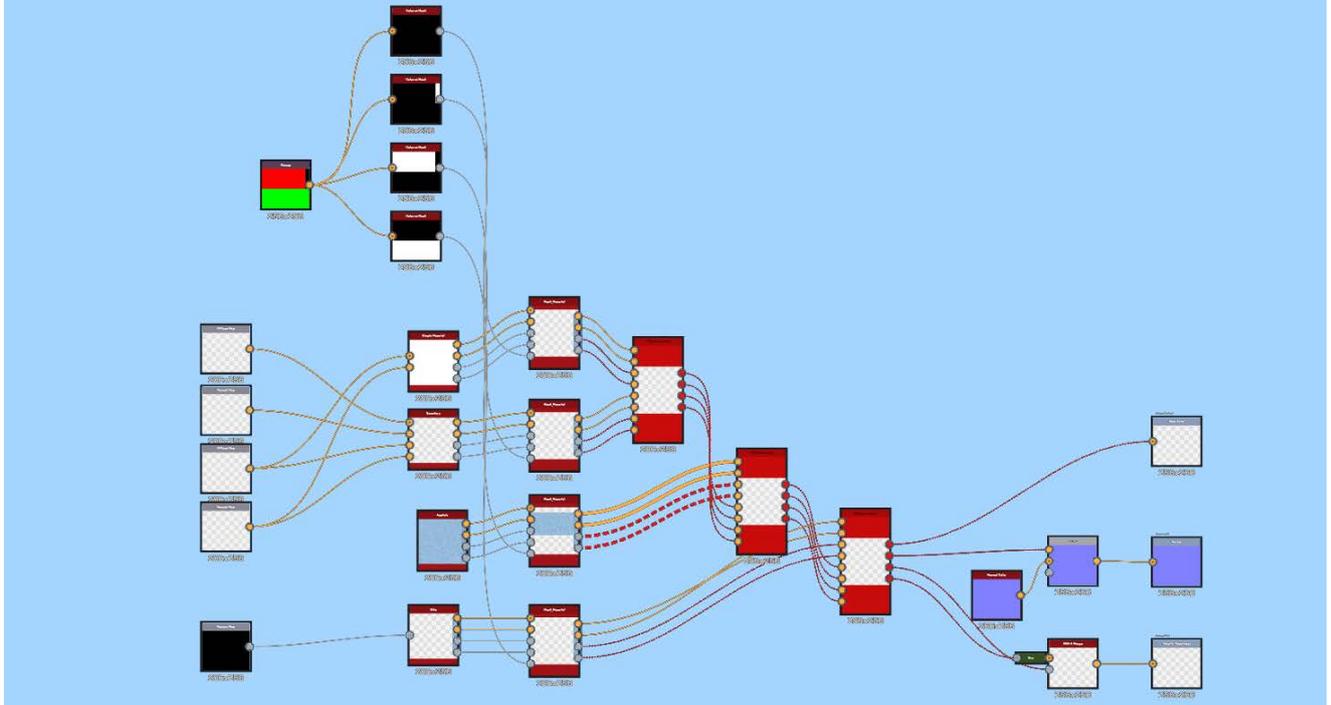
🐦 @BLochmann

**W**e're the Pixel Maniacs, a small indie development studio from Nuremberg. Originally named »Benjamin Lochmann New Media GmbH«, we've been developing mobile apps since 2011, and are proud to say that we have over 150 apps in the App Store and on Google Play. The apps which were originally characterized by their style and their quick development time, were often available for download in the store after only a few days. Over the years, the apps grew in size until we eventually focused on developing multiplayer games like chess, nine men's morris or battleships, and were nominated for the German Design Award with »Sudoku Champions«. But being a company consisting of gamers, we've been itching for a long time to go beyond the scope of mere app development. So, last year we joined the club of desktop and console developers, and on February 16, 2016 we celebrated our debut with the release of our first PC game »ChromaGun« on Steam. Today, almost a full year later, our second game is

about to be completed. »Can't Drive This«, a crazy party multiplayer racing game, also resulted from a game jam and is currently in Early Access on Steam.

## Game Design

In Can't Drive This, two players compete against each other. One player drives a car, while the other one builds a race track – at the same time! It's hard to assign the game to a certain genre. It's probably best described as a sort of asymmetric »split-screen co-op arcade-building-racing editor« game. Each match starts with a road tile of just about 20 x 20 meters (approx. 65 x 65 ft) in size, which the driver is placed upon; the »builder«, on the other hand, now needs to build a race track for the driver. It's not that easy though, since each additional 20 x 20 meter tile which the builder can place is selected randomly – similar to Tetris. It may be a straight tile, a 90-degree curve or a miniature golf-like windmill which makes the driver's life hell. Now, the driver could just drive really slowly in order to keep control of the track, but obviously, the game is hardest



– and most fun – at high speed! That’s why we based the game on the movie Speed, featuring Keanu Reeves and Sandra Bullock, and make the car blow up, if the driver is too slow. The driver is now faster, leaving the builder less time to place the tiles. As a consequence, the track isn’t optimized, which makes it harder for the driver to keep control. The driver who now loses more and more control of his vehicle, now makes it harder for the builder to assess where to best place the tiles. Thanks to carefully balanced parameters, the game dynamics resulting from this so-called »positive feedback loop« guarantee a series of short, challenging and scream-filled rounds and – for our benefit – an enormous »just one more round!« effect. In order to increase the replayability, the driver can choose among a number of different and customizable vehicles, e.g. a monster truck, a stroller or an ice cream truck. The builders, too, can customize their tracks and adjust the colors and patterns to their liking. In online matches, the driver drives the car on the track of the builder.

### Customization Techniques & Artwork

Customizing vehicles with fun accessories like spoilers or hats is no problem at all from a technical point of view: A new object is added to the vehicle object – done. Adapting the color of a vehicle or track tile is a different story though. Traditionally, 3D models get their look using just one material. Materials usually consist of a shader and several textures which, e.g., describe the color or plasticity of the model. Since we wanted to use different colors for different parts of a model, we couldn’t use Unity’s default solutions. We had two options: One would have been to write a shader which would get information from several textures and colors and offset them against each other in a certain way. This would be repeated for each

frame and could potentially kill the performance of the game. A fast-paced game like this needs a frame rate as high as possible, so we decided against this method and instead went with procedural materials, so-called substances. Substances are materials which, similar to a shader, offset several inputs – like colors or textures – against each other. Unlike a shader, substances produce textures though which are saved as a file. Although it takes longer to produce such a texture file than to just render the end result of the calculation onto a model, it only has to be done once. This means: Every time a player colors their street or their car, a new texture is being generated, saved and can then be used without any major performance issues without having to calculate each frame individually. In order to generate this procedural material, we used the »Allegorithmic Substance Designer«. The Substance Designer uses a node-based system to generate and display the mathematical operations between textures, parameters, colors, etc.

### Driving Physics

The original car from the game jam version was sluggish and slow because the driving physics were set up physically correct. For the later game, we tried and tested several driving physics and combined the best of all of them to create an arcade behavior similar to games like »Mario Kart«. The new car physics as they exist in the current state of the game, have little to do with actual physics. Physically speaking, the tires are balls, the colliders of the vehicles are simple blocks, and the only reason why the car can’t accelerate in the air, too, is an IF in the code. Sometimes realism just needs to step aside and let the fun prevail.

### Marketing

Being a small indie studio, our marketing budget is tight, which is why we try to

The Substance Designer uses a node-based system to display and create the mathematical operations between textures, parameters, colors, etc.



**Johann Bauer**  
Programmer  
at Pixel Maniacs

Johann is one of the programmers, and he makes sure that the games are bug-free and run with good performance.

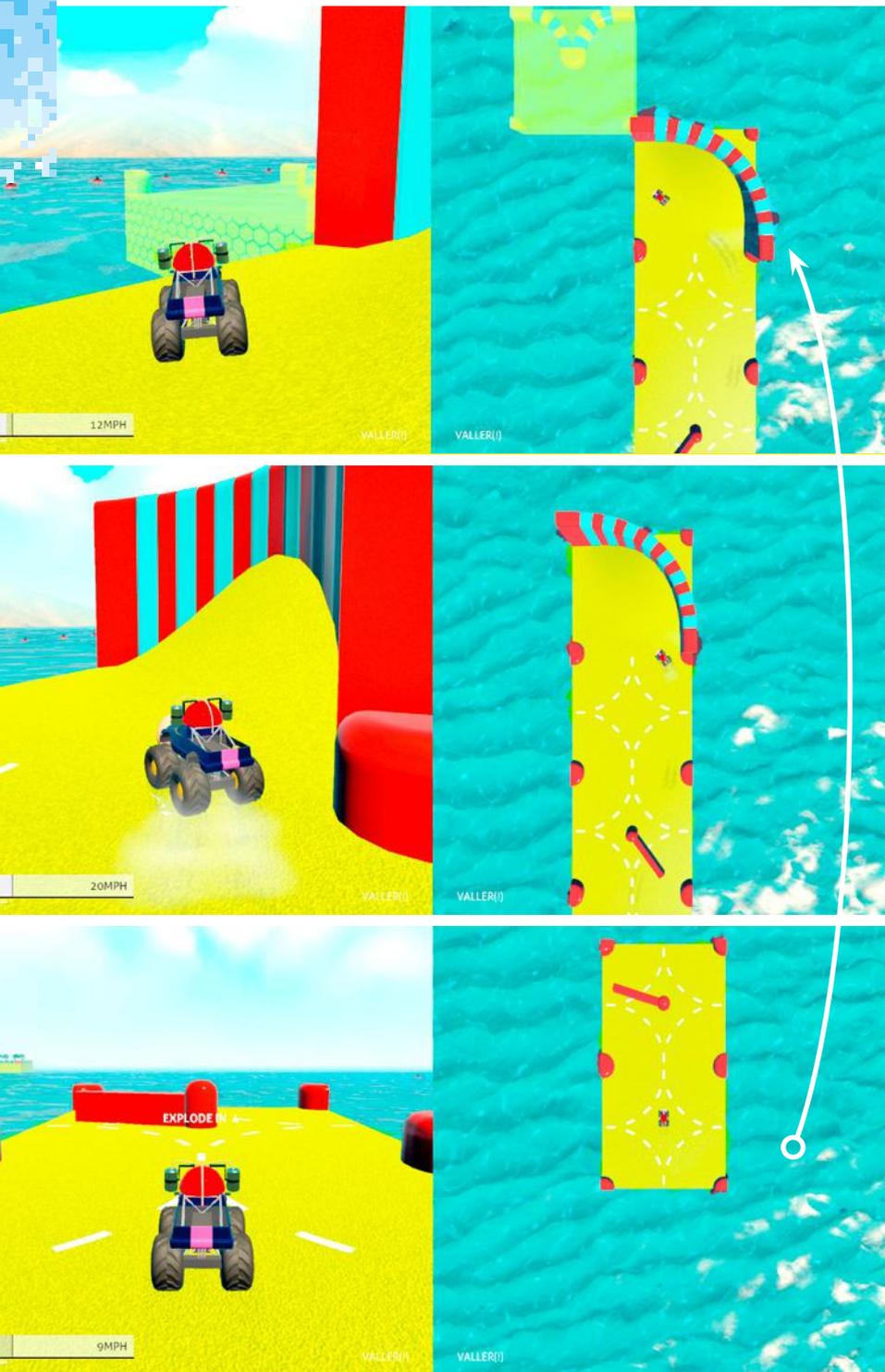
🐦 @ZumJohann



**Steve Crouse**  
Creative Director  
at Pixel Maniacs

Steve’s job is to make sure that the Pixel games are fun to play and that they look the way they do.

🐦 @SteveCrse



One is the builder, the other the driver - the mix of fun-racer and track editor, garnished with a trace of miniature golf, is not only unusual; it also quickly creates a »Just one more round!« factor.

generate the biggest impact possible with minimal resources. Hence, we focus our marketing mainly on social media campaigns and influencer marketing; here are a few examples:

#### Ludum Dare

Ludum Dare – for all those who haven't heard of it – is a regularly held game jam which we participated in three times so far

and gained extremely positive experience from every single one of them. At the event, thousands of developers around the globe, both pros and amateurs alike, develop a game within 72 hours. At the start of Ludum Dare, a topic is announced which is usually a bit vague – »Shape Shifting«, for example, or »An Unconventional Weapon«. The last two times we participated, we streamed the entire process live on Twitch – from the brainstorming sessions to the respective concept phase up to the actual development of the game. Not only did we have a lot of fun making the game, we also received direct, unfiltered input by the audience. The game jam was also followed by journalists from a number of gaming magazines: Within those 72 hours, an article on Kotaku was published, which also gave Can't Drive This a lot of attention. Friends on Twitch drew attention to our game jam participation in their streams, providing us with another platform for even more fan contact. When the time is up, the winners of the game jam are selected. For this procedure, all participants evaluate the submissions by other participants. In order to be able to win the Ludum Dare at all, a participant must have evaluated at least 15 other titles. Only then their title will be presented to other participants for evaluation. This system opens the door to a massive community of enthusiastic developers who often become good friends later.

#### Greenlight

We took advantage of the game jam's marketing boost by submitting our game to Steam Greenlight while Ludum Dare was still running. The resulting article on Kotaku was so popular that Can't Drive This passed the Greenlight phase within just one week. We also regard Greenlight as an important marketing factor since it creates a discussion, stimulates input from outsiders and generates significant hype early in the development phase of a game.

#### Early Access

Our loyal local gaming colleague, Christian Dickert, gave us the advice to use Early Access, not only as a platform for early user feedback, but also as a marketing tool. Gamers who are interested in Early Access titles often differ from gamers who prefer to wait for the finished product. Due to these slightly different target groups, we saw the potential to reach more people and thus take advantage of the obvious benefits of Early Access:

- faster monetization of the project (at least to some extent)
- fast evaluation of user feedback (does the concept have potential at all?)
- detailed user feedback and the foundation of a solid fan base, provided the proposals



by the community are consequently realized and implemented

### Viral Campaigns

The marketing experience we had made in the apps department so far (more than 150 launched apps) were limited to mere performance marketing campaigns. We usually tried to buy as many installs as possible in the shortest possible time to conquer the respective platform charts on iOS or Google Play. We took the exact same approach with our first game ChromaGun and failed miserably. None of our performance campaigns generated a positive ROI; in most cases, we even missed it by several hundred percent, although the target group apparently couldn't have been more fitting (e.g. Google Adwords for keyword »Puzzle Game Steam Linux« or similar). In the following weeks, we talked a lot to our gaming colleagues who were much more experienced in this area, and we learned that in order to promote a game, unlike a small free app, it's important to have as many »brand touchpoints« as possible. Essentially, a potential customer must have heard about a product a number of times first until he eventually decides to buy it. Other factors besides the actual product also play a role, like the game studio or a positive reference to the game from a respected authority. This authority doesn't necessarily have to be a big (print) gaming magazine; a popular streamer or YouTuber may also be an authority for their target group. So, in order to create as many of such »brand touchpoints« as possible for our rather low budget, we moved our focus to viral campaigns. We tried to make up for the money we were lacking through creativity. Two of these campaigns were:

### Save the Penguins!

For the launch of the Linux version of Can't Drive This we kicked off a campaign in

cooperation with a penguin rescue center in South Africa and invested 100 percent of the revenues from the Linux version of Can't Drive This in the adoption of penguins. In addition to articles in a South African magazine, we also received prominent rankings in the /r/linux Subreddit and a lot of fun tweets. The penguins themselves were named after the best players of the game – we're really looking forward to meeting our little TheRealHellcat and the agile Pony-punch in the Arctic Ocean.

### Like a Wrecking Ball

During the first streams of Can't Drive This we realized that a lot of streamers associated the wrecking ball-style tile in the game with singer Miley Cyrus. The video of her song »Wrecking Ball«, where she's swinging back and forth on a wrecking ball naked was a huge success. We took advantage of that and implemented a small server-side switch to spawn a naked woman on our wrecking ball. The feature lay dormant in the code for weeks until we were live during a bigger stream where the (female) streamer was also singing the chorus of the song – »I Came In Like A Wrecking Ball«. In the next round, Miley spawned, and the streamer completely freaked out. We were perfectly able to use this part as a snippet on Reddit, Twitter and the likes, which brought us an incredible amount of impressions and thus further brand touchpoints.

### Our Own Twitch Stream

A few weeks ago, we started to expand our own Twitch stream on twitch.tv/pixel\_maniacs. Every Tuesday at 9am and every Thursday from 6pm we offer a behind-the-scenes of game development. This offers a number of benefits for us: We keep in touch with the players and get direct feedback, and also a lot of good suggestions for improvement. We use the

The Pixel Maniacs not only made headlines with Can't Drive This. In addition to around 150 apps, the excellent color puzzle ChromaGun, too, was made by the Nuremberg-based studio.

Creativity meets Charity: The total proceeds from the Linux version of the game were donated to an African rescue



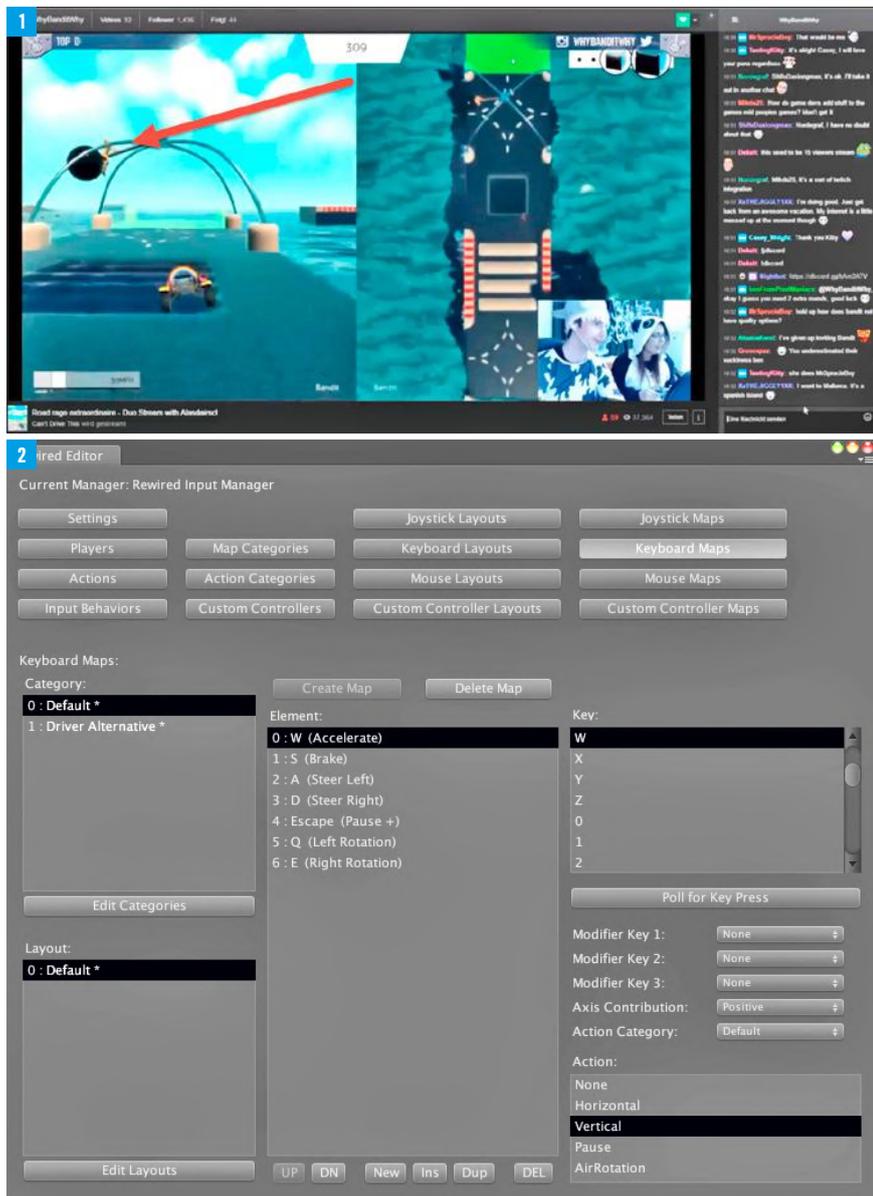
Thursday stream to try out games which every game dev should know. We try to analyze these games from a developer's point of view and to learn what's been implemented well and not so well. For us, the partnership with Twitch generates additional revenue (if not much) since the viewers have the chance to subscribe to our channel for a fee.

### Make Contact with Other Developers

Our most important advice for everyone: Get in touch with other developers. While we're not profitable with our games yet (we're cross-financed through our previously created apps), our gaming revenue is growing, and a relevant part of this growth is owed to valuable tips from the developer community. Hence, we're happy about any form of exchange and any cross-promotion!

**1** Easter egg hidden in the code: The streamers were just singing along to Miley Cyrus' »Wrecking Ball« when they spotted the naked lady on the track wrecking ball.

**2** Rewired for Unity does all the hard work and supersedes annoying code-checks for reconnected controllers.



### Technology

We actually don't want to talk too much about Unity itself since the readers of Making Games are probably familiar with the benefits and disadvantages. We noticed that we can create fast-working prototypes with Unity, which are also playable without download thanks to the WebGL export – perfect for a small game that's to be created during a game jam. After Ludum Dare was finished and we had only received positive feedback to the »innovative game idea«, we wanted to go ahead and publish the game. Strictly speaking, we basically started from scratch and revised and scrutinized every single component.

### Online Multiplayer

One of the significantly bigger challenges was the fiercely requested online multiplayer mode. A multiplayer game consists of finding a fellow player (matchmaking) and connecting the game to exchange game data. For the matchmaking in the lobby we use the eco-system each game is started in. In the current case, for example, we use Steam and its infrastructure. This way, the game can be played with both invited friends and opponents filtered by region. The code is abstract, so that it's possible to quickly use other eco-systems, like that of PlayStation instead of Steam Matchmaking. In the game itself, data is exchanged via the Unity Relay Servers. Since a game round is played by two players, we decided against dedicated servers. It's a classic host-client system where one player acts as the host and both players are clients, too. Due to latency issues, in Can't Drive This the driver is always the host of the game, while the builder is always the client. Since version 5.4, Unity offers its own multiplayer stack with its own Relay Servers, which is paid for based on traffic used. Our first step was to keep the costs at a minimum by trying to create a direct connection between the two players and use the Unity Relay Servers solely as a backup. With techniques like NAT punch-through and specifically hosted Relay Servers, this procedure worked quite well; however, there were constant problems with some internet providers and the connection between IPv6 and IPv4. In the end, we decided to go with just the Unity-hosted UNET solution.

### Assets Used

#### Rewired

Our friends at Klunk Games who developed the award-winning »Shift Happens«, among other games, recommended Rewired to us for the gamer input. The library offers keymapping for all current controllers on almost all operating systems and consoles, and also deals with special cases like the de-/activation of controllers. Since the players

are assigned different roles, it is possible to switch the keymapping between driver and track builder during runtime, without having to use a large number of IF statements.

### Data Bind for Unity

During development, we wanted to establish a kind of design pattern in Unity for the user interface, and while doing so, we came across Data Bind for Unity, an excellent asset to counter the UI chaos and to use the MVVM pattern. After a familiarization period, everyone on the team was thrilled – it's the perfect interface between code and UI design.

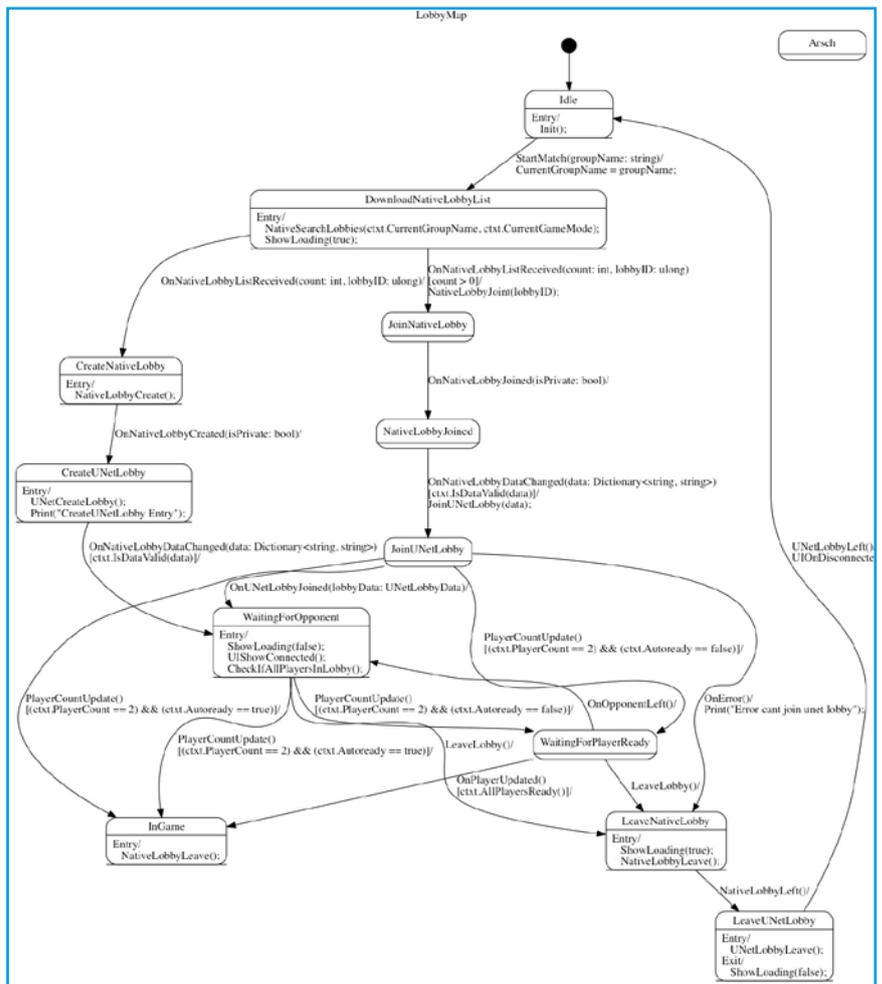
### Temporal Rejection Antialiasing

Unity itself offers a lot of post-processing shaders, most of which cause considerable performance losses though. An article about Playdead's indie hit »Inside« made us aware of their antialiasing shader which boasts an excellent performance. The method behind it is called temporal rejection. Simply put, with this kind of antialiasing, the camera makes each frame shake very slightly, and several of these slightly blurred images are then aggregated to find edges in the image and blur them. This creates a pleasant and unique antialiasing.

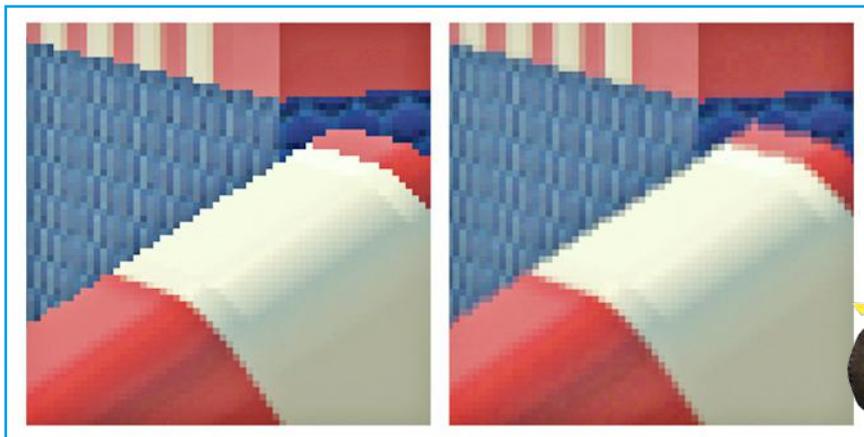
### More Tips

We're constantly working to improve our workflow in Unity and are writing our own editor scripts to test the start of the game, to better manage assets or prefabs and also to develop interfaces with our online tools. In order to receive a homogenous build and avoid using a work computer, we use a computer which analyzes, builds, tests and uploads the current project with Jenkins. We wouldn't want to live without it any more.

Benjamin Lochmann, Johann Bauer,  
Andreas Scholz, Steve Crouse



A model of the »network state machine« shows that online games are no trivial matter.



Antialiasing creates smoother edges and a more pleasant look for the game.

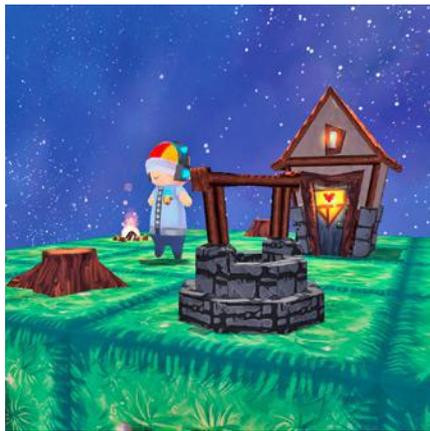


Titelthema: Case Study  
Making Games 03-04/17



# EVERYTHING REVOLVES AROUND AND IN CUBIVERSE

What started out as a student project eventually turned into a tricky, fun puzzle for fans of Rubik's Cube and all those who may become them!



The development of a game is usually a rocky road, even the most successful developers and designers can confirm that. And even with a lot of experience and several shipped titles you sometimes stumble upon some smaller or larger obstacles.

The nine developers of »Cubiverse« have a thing or two to tell about how young students still in their learning phase need to start all over and fight for success even more often than that. What started out as a semester project in the third semester at Mediadesign Hochschule Munich, eventually – after some smaller breaks and a restart – turned into a game which won the German Newcomer Award.

### What is Cubiverse?

In Cubiverse, the player assists the main character Euler to collect crystals to power his spaceship. You travel through a colorful galaxy of planets which are arranged based on the principle of Rubik's Cube and contain a number of challenging puzzles.

The player turns and rotates the whole planet and everything that's on it and thus solves tricky puzzles. The charming art style and the intuitive controls encourage the player to work with the cube, without the frustrating moments of the classic Rubik's Cube. Cubiverse is set to be released on iPad and on Android tablets.

The goal in every level is to collect the energy crystal and take it back to the spaceship using the fewest turns possible. The high-score is made up of the number of segment rotations and tiles travelled. The player has to solve various puzzles, among other things, like moving tiles next to or below each other, activate pressure plates or take patrolling animals to their respective tile. Cubiverse is perfect for all those who enjoy puzzles, love colorful worlds, are fans of Rubik's Cube, or simply for those players who couldn't find access to Rubik's Cube so far and were rather frustrated by it.

### Every beginning is hard

The original idea for Cubiverse was a totally different one. The color tiles of the magic cube were to play a big role and were to have different values and effects (e.g. blue = water, costs a certain amount of points to cross). Also, the entire game principle was more oriented towards an RPG with turn-based gameplay. Quite a contrast to today's version of Cubiverse, where you puzzle your way through planets and go on adventures with a rocket.

For one, we realized pretty early that this idea was far too much for a six-week university project. Plus, we also realized that the actual Rubik's Cube mechanics were much too hard for beginners. It proved too complex with all the color effects to also think about where certain enemies or items would be hidden and how to move the character there; it dampened the gaming experience considerably. So, we discarded the first idea and reduced everything to the basic mechanics of the cube. Even then the final result of those six weeks still differed a lot from the current version. The player had to interact more with NPCs and items and solve less puzzles, which still limited the possibilities for more complex levels.

### New beginning, new energy, new gameplay, new style

By restarting the project in the last college semester, the game was to get a complete

The first concept art of the game Cubiverse, still featuring colorful tiles and items.



**Simone Mändl**  
Art Director for Cubiverse

Simone is currently working as a Freelance Illustrator and Concept Artist for various game projects. As Art Director for Cubiverse, she's responsible for the visual design of the game and the complete 2D art department. [@Simonemaendl](#)



**Caroline Flesch**  
Level Designer for Cubiverse

Caroline works as a Junior Producer at aesir Interactive and is one of the organizers of GameCamp Munich and the Games/Bavaria Vernissage. For Cubiverse, she's mainly in charge of the level design and everything that's related to it. [@fl3sch](#)



The new settings options can easily simulate different times of day.

## Atmosphere and shaders

Something I always dreamed of as a fan of colors was an adjustable (colorful) light and a variable skybox behind the cube. This simply wasn't feasible with the old engine and our limited know-how. After switching to Unity, we had a lot more options, and after just a short amount of time we managed to adjust the Unity lighting to our needs (read more on this on page 35).

Simone Mändl

makeover. Not only did we want to improve the art style, we also wanted to completely reiterate the gameplay which still wasn't properly homogenous. Also, by switching the engine to Unity, we wanted to optimize and simplify a lot of workflows and above all make the game more performant for mobile platforms.

This meant a complete restart for the programmer, but it also allowed for all sorts of game mechanics to be radically overhauled. Luckily, the amount of experience everyone had gained by then expedited this initial phase considerably.

For the A-team, the engine change in theory didn't mean throwing everything overboard. However, all assets, textures and artwork dated from the third semester, and the artists, too, had considerably improved their skills over the past two years (e.g. through the practical semester).

So, the Art department, too, discarded old relics. The new style was going to be plainer: less details, big color fields and a lot more atmosphere. In the first step, all sorts of smaller assets were weeded out. Where there used to be thin tree trunks and small flowers on the fields, there were now massive rocks or bushy trees. We originally assumed that more detailed game worlds with lots of items would be more interesting for the player. However, it turned out that testers associated meanings or functions with some details which they actually didn't have. Plus, it also made it harder to keep an overview of the level and to reach the goal.

So, when all of the small models of the cubes were gone, it was time to work on the large models, filling out the surfaces a lot more. The goal was to clearly show the

player when a tile is blocked and when it is accessible. In the last step, we then adapted the textures.

With the first version of Cubiverse, we overwrought things and created a texture library; there was a texture for each »material«, and the 3D artists had to »unwrap« their objects on several textures and hope that there'd be something suitable.

In order to avoid these problems, all models were unwrapped performantly and textured manually from then on. Special emphasis was always put on the upper side of the object since that's the one facing the player. Side parts of the objects are unwrapped smaller and textured with less details, while bottom sides are only one-colored areas.

### Status quo

Cubiverse is still an evening or a weekend project. All team members have proper jobs since they graduated, which is why it is harder to determine milestones and core work times. The basic version of the game

The high level of detail (left) wasn't visible enough on the small cube. The reduced version (right) is clearer and better arranged.



has progressed a lot and is nearly completed, there are only a few final assets and levels missing. What remains is the final polishing and testing, and depending on how quickly we progress there and how many bugs need fixing, the game will be approaching its release sooner or later. We haven't set a date yet, but the game will definitely be available from the App Store in 2017.

### How to build a Cubiverse level

One aspect that's always been on top of the list during the development of Cubiverse, is the intuitive controls and an easy-to-understand game design. During the first prototype phases of the game, it quickly became clear that many players had great respect of Rubik's Cube and were easily discouraged by its complexity. Although everyone loved playing with the cube, hardly anybody was able to do more with it. So, the challenge was to come up with mechanics and build levels which would make the player think, and yet wouldn't be too complicated and cause frustration. Also, the mechanics were to be logical and graphically designed in a way that the player would know how to basically solve a level, without having to do too much thinking. So, a player can solve all



The gameplay is currently tested on these cubes.

Level planning: The layout of the elements placed on the Lego cube is transferred and saved to a tool.

Legend			
Empty()	Add	D	L C
Blocker()	Add	D	L C
Blocker()	Add	D	L C
Player(Player)	Add	D	L C
Crystal(C)	Add	D	L C
FN(FN)	Add	D	L C
db()	Add	D	L C
FU()	Add	D	L C
entity()	Add	D	L C
+			

Save Image

Clear all Fields

Delete Saved Types

Der hohe Detailgrad (links) kam auf dem kleinen Würfel nicht zur Geltung. Die reduzierte Variante (rechts) ist klarer und übersichtlicher



Concept cubes at Easter. There's even an interesting »Let's Draw« on YouTube ([goo.gl/04v4JW](https://goo.gl/04v4JW)).

## 2. Devise settings, create concept art and commission respective 3D models

Since we wanted to offer the players not only challenging puzzles on their journey from planet to planet, but also graphical variety, we always planned settings which would go hand in hand with the gameplay mechanics.

In order to speed up the concept art process and avoid having to create a new cube all over again, we made a »plain cube« - a cube that would only show grass areas, the character and the rocket.

The grass and the sky behind the cube are set up in Photoshop, so that they can easily be recolored and thus quickly change the basic atmosphere on the cube.

Subsequently, elements from other cubes, which had already been drawn, were copied onto the cube to avoid having to draw things like rocks or flowers all over again every time.

And last but not least, the fun part: the design of new objects! These are always drawn from scratch and represent those elements which make each cube so special. We would draw a traditional sketch, add color to it and finally adjust the light and shadow of the object, so it would fit the rest of the cube. Once the concept artwork is finished, we determine what else is needed to make the

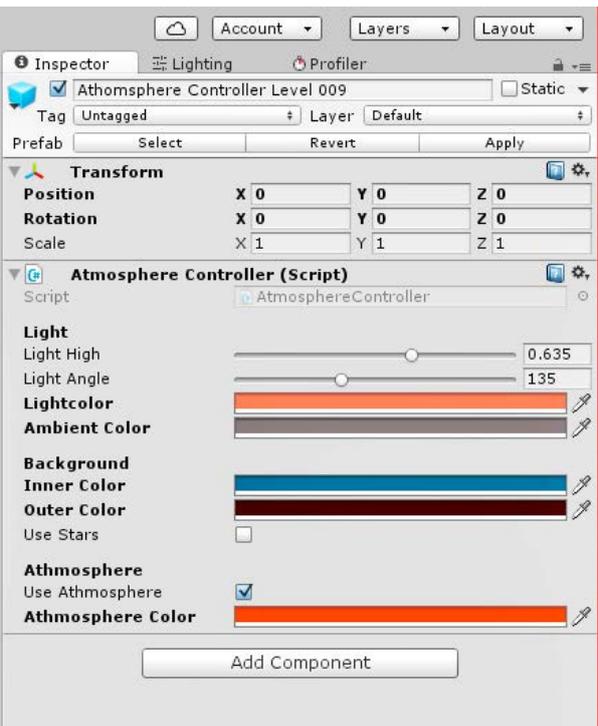
levels without knowing anything about the algorithms of Rubik's Cube, and with a little practice then find faster solutions.

## 1. Thoughts for the game design

The goal was to link the puzzle mechanics to the basic game principle of Rubik's Cube: the rotation of the cube. This was the basis for the puzzles where two tiles need to be rotated next to each other and one tile below another. Then there was the addition of blocking elements which, e.g., make tiles inaccessible or combine tiles, so that two or more cube segments rotate together. In order not to make it too easy for the player, all puzzle mechanics can be combined and constructed modularly in different orders. The mechanics are introduced one by one, so that the learning curve isn't too steep and the players can learn and practice new mechanics first, before another one is added.

The empty cube (left) is the basis for all following concept drawings.





With this script, the colors of the space around the cube planet can be arranged.

cube look like the artwork. This may be an effect (fog), a new color variant of the trees (retexturing for fall), or a completely new 3D model.

### 3. How to build a level

Each level is designed, built and tested with the Lego prototype (see right), before it is implemented in Unity. The advantage of this is that we can play around, discard and revise ideas without much effort.

First, we set the parameters for the level. In each case, that's the player character, rocket and crystal. The player always starts off with his rocket on the upper side, the area that's also seen first in the game. The crystal, on the other side, can be placed randomly on the cube. Step by step, additional puzzle mechanics will be added. This means that the crystal is blocked and can be unlocked by solving a puzzle. Depending on how many different mechanics there are, the level is filling up bit by bit. While the cube is being turned, the order of the puzzles is constantly tested, e.g., as to whether different solutions are possible and thus the shortest way isn't obvious straight away. That's even more important the more puzzles there are in a level. In addition to the Lego prototype, there's a simple tool where the positions can be directly inserted to make the eventual transfer to Unity easier. Also, the ideal solution needs to be constantly documented during the building process. Because even if you build the levels yourself, you quickly forget a move

with increasing complexity. The moves are documented by the common Rubik's Cube algorithms, i.e. abbreviations like R, Ri, L, Li, D, (right, right inverted, left, down, etc.). This system assumes that the cube is always held in a default position, the center tiles don't move and the sides aren't rotated. The »i« stands for »inverted« and refers to whether the segment/the row is rotated clockwise or anticlockwise.

In order to optimize the process with the prototype in terms of planning and other departments, the individual mechanics were assigned colors which are found both in the Lego blocks as well as in the documents. That way, the puzzle content of the individual levels can be derived, even if no assets have been used yet. In the end, everything's transferred to Unity and can be played digitally from then on.

### 4. Atmosphere Shader

The last step is to put everything together in Unity, with the concept art serving as reference material for the final cube. One tool artists like to use a lot is the Atmosphere Controller. This script allows for each cube to be customized, e.g., for the skyplane you can set an inner and an outer color for a color gradient. The stars in Cubiverse can be colored in any way and also be switched

on and off, and even the foggy atmosphere directly surrounding the cube can be colored. If you're still not happy, you can still modify the strength, direction and color of the light on the cube and also add an ambient color to the cube.

Simone Mändl, Caroline Flesch

## Why Lego?

In order to test the game mechanics, we needed a prototype which we built from Lego. This way, we had the possibility from the start to get external feedback, before we tackled the technical side. The background for this was that, being in the third semester, we were still noobs, knowing that some things would be taking longer than expected. The prototype actually turned out to be one of our best ideas; even today I use the Lego cubes to build levels, before implementing them in Unity. Plus, it's always good to explain the game with something haptic, and anyway: Who can say 'No' to Lego?

Caroline Flesch



Level design with Lego: First, the basics are placed (top) and then being added to.

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When taking screenshots of your game for a Greenlight campaign (or in general), look at how the big boys do it as they usually turn off features like the UI for better immersion.

# STEAM GREENLIGHT BEST PRACTICES

With Steam Greenlight any indie developer nowadays has the chance to enter Valves ecosystem, reaching millions of players. That at the same time means, that Steam gets flooded with new projects. The following best practices might help you to get your game noticed and a lot of them apply not only to Greenlight, but to indie game marketing in general.

Steam Greenlight is a place where Steam gamers can check out upcoming projects and concepts that want to be on Steam and help support these developers. Players can vote «Yes, I'd like to see this on Steam» or «No, I wouldn't want this on Steam» when they see your game, as well as leave comments.

Valve reviews Greenlight submissions manually, takes the top voted titles and pushes them onto Steam for the developers to publish! It seems like it should be a simple process, but over the years it's become harder and harder to get noticed on Greenlight.

Some people argue that «as long as your game is good, it'll get Greenlit». The sheer volume of games that are on Greenlight makes this a naive proposition. It's vital to have a solid strategy when it comes to trying to get noticed and get on Steam, and

we're here to help you identify a plan of action to ensure your success.

## What kinds of games do well on Steam?

According to SteamSpy, the overwhelming majority of players on Steam do not buy many games. In fact, they buy four or fewer. If they're in this demographic, you're not trying to market your game to them.

Based on data presented online, hardcore gamers (the ones that play major hits or buy a multitude of indie games) are very rare when compared to the overall audience.

One percent of Steam gamers own a third of all copies of Steam games, and 20 percent of Steam gamers own about 88 percent of games. There are over 700 million PC gamers, but if you're making a game for Steam, you're only striving for the attention of only about 1.3 million gamers that are buying the majority of games.

If you're selling your game on Steam, you

should appeal to the hardcore demographic if you want to get any traction whatsoever. This means ... roguelikes, RPGs, super niche visual novels if that's your target audience, or even meme-inspired games that may appeal to the right crowd. But, don't do casual. That's more of a mobile thing. Before you even consider Greenlight, make sure you would be a good fit!

#### How far along should my game be?

Your game should have a polished vertical slice of gameplay. Slick visuals, slick gameplay, slick production values. Nothing seemingly unfinished or unpolished, and no placeholder »programmer art« graphics. These will put players off and discourage them from even trying the gameplay. Nobody wants to play an ugly game.

You can go extra light on the content, but absolutely do not skimp on the presentation. Take to Twitter or ask friends for their honest opinions. Find out what qualms people have with the game, and focus on eliminating any that are presentation or visuals-related.

#### What should I prioritize in development?

Prioritize the visual aspect over everything else. If you're horrible at this – find an artist and partner up, buy some asset packs, or contract a graphics person. After the visuals are polished, focus on refining the core gameplay loop. Make sure that the game is fun. Test it out yourself or with your friends. It doesn't have to be a super long, immersive experience – just enough to give people an idea of what they'd be buying.

If you and other players who test the game are not enjoying it ... chances are it'll look bad in a trailer and won't be fun overall for players who check it out. You're trying to convince both Valve and the Steam player base that your project is worth being sold and played by the masses on Steam, so make sure you have a project that lives up to Steam's standards!

**Protip:** Play some of your favorite Steam games and have a pen and paper handy. Jot down your thoughts on what makes them so fun and compelling. Is it a neat mechanic? Polished visuals? A quirky hook? Try and identify what inspires you on Steam, and follow the footsteps of developers who have succeeded before you. Read developer blogs for other studios and find out how they refined their games, then see what works for you personally.

#### Polish, polish, polish

There's a saying in the game development community that for every hour that gets spent implementing a new feature, 10 hours should go into refining, polishing, and iterating on the new feature. This isn't just a joke or a gross misrepresentation – this is reality.

Polish doesn't mean what you think it means, however. It doesn't mean doing what you think looks good. It means doing what the audience wants. You're making a game

for Steam, which means you want the masses to enjoy it. Get feedback from others, draw inspiration from games in similar genres, and make sure that you watch a lot of videos about game feel. Jan Willem Nijman from Vlambeer has some great videos on YouTube. Be critical of your own design, and be sure that your game feels and looks »alive« visually. Build visual interest with enough special effects, and when in doubt: add more screenshake.

#### Optimizing for trailers and screenshots

Make sure to take clean and well-framed screenshots. Bad screenshots will gimp good games. Make sure to remove unnecessary graphical interface and heads-up-display elements from all screenshots. A lot of major games publishers and creators do this for all of their projects, and it really immerses you in the world framed by the screenshot.

For trailers, don't do it yourself unless you have a good eye for that kind of thing and have done trailers before. Pay someone else who has experience with the craft to do it for you. Your trailer is one of the most important marketing materials for your game, and you only get one first impression – make it count. Having a sloppy trailer has single-handedly ended many careers for budding game developers. Trailers show off your game quickly and efficiently. If it's bad, your game will most likely flop. Don't let that happen to you.

### Your Presentation

#### The importance of quickly hooking players

When it comes to the Greenlight process, players aren't looking to sit around and examine games in-depth for hours on end. They're looking to do a quick topical scan and quickly ask themselves questions in their heads: How do the screenshots look? How enticing is the logo? Does the description make the game sound enjoyable? How much pleasure would I get out of this game? Why should I care?

If you fail to answer these questions by having a super polished Greenlight page, they'll vote no or ignore you instantly. A lot of viewers won't even watch your video or read your text in entirety. It's all about quickly hooking people who visit your page, and convincing them to keep reading. If you can convince someone to check out your project in its entirety, you can more than likely convince them to vote positively for you. Here's some advice for making sure your initial presentation is as polished as can be.

#### Screenshots

**Protip:** Remove the UI elements from your screenshots, and instead just focus on the character and the environment. It's one of the oldest tricks in the book, but removing the UI will psychologically hint to the viewer that it's an area to be explored, and less of, »I'm just looking at a screenshot of a game«. It's very similar to



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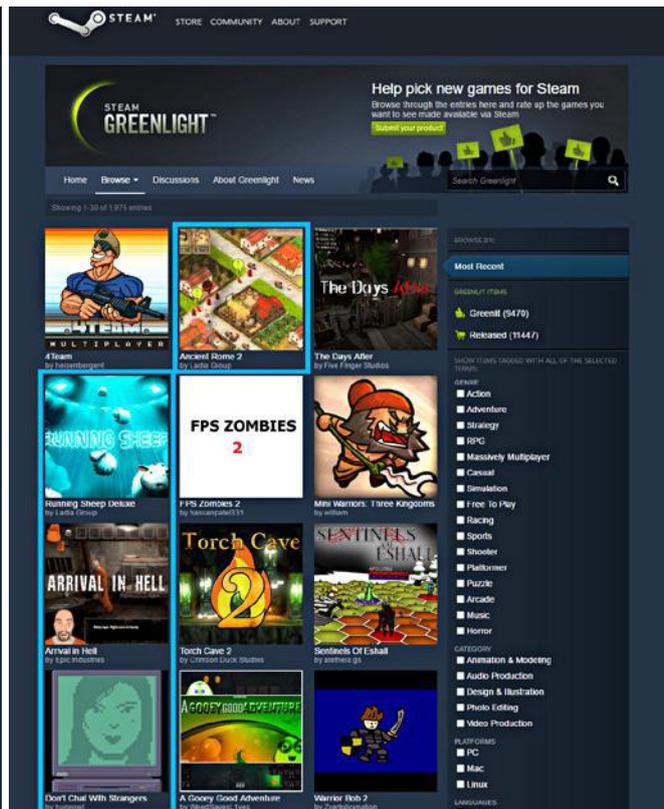
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Think about how to design your Greenlight page. GIFs are a good idea as they draw attention to your game (like the ones with the blue frame on the main page do). On the detailed page a trailer (1), some screenshots with typical gameplay scenes (2), again the GIF (3) as well as a short description text (4) and bullet points (5) are a good idea. Responding to feedback and questions (6) is a must.

looking at a photograph of a location in the real world and inspires much more wonder.

Make sure screenshots are carefully selected and curated. A good strategy is to play through the game for a few hours and just take as many screenshots as you can. Then, go back through and edit the best ones. Make sure you are prudent with how many you post – too many and it bores fans, too few and it looks suspicious, like you’re hiding something. Show off enough of the game and the core gameplay loop that people get a taste for it, and make sure you highlight some awesome scenarios and inviting settings to convince players that they need to experience it for themselves.

#### Trailers

People always ask: theatrical or gameplay? Well this depends on your goal. We recommend both if your game has both story elements and strong repeated gameplay elements. Think about the message you want to give and the players you are trying to relate to.

Theatrical trailers are a good way to show off game features such as story, graphics, and music; they create a marketable dramatization that will pull in players that prioritize these features. Gameplay trailers show off just that – awesome mechanics, moves, abilities and scenarios. They’re great for showing off

quick little snippets of what the player will actually be experiencing in the game.

Consider hiring a studio to help you with the trailer creation. A lot of developers try to make their first trailer themselves without considering the fact that there are a lot of trailer artists who specialize in making trailers for the Steam audience, and do it every single day. They know the playing field and are familiar with gimmicks and flow that optimize trailers for player enjoyment.

#### Description text

Write as best you can about the game, the development process and the features it boasts. Draw comparisons to similar games or games that inspired you, and explain what elements you took from them. Highlight your plans for Steam and what features you intend to add. Talk about what state the game is currently in, and what more you plan to add.

Be sure to mention any past projects or development experience you and your team have – players are reassured when they feel like someone with experience and knowledge is creating a project, as it is less likely you will fall through.

Just be genuine and tell players what your game is about at its core! Story, gameplay, design philosophy, scope, amount of content and setting are all vital to discuss. Give

players a holistic view of the experience they are about to immerse themselves in by supporting your game!

#### Feature lists

Use bullet point features. Many times viewers will skip the longer paragraph description and go straight to the features list. Why? People are lazy. Feature lists go straight to the facts and are meant to be short and sweet. Using long sentences will completely deter the reader and defeats the purpose of feature lists. Five to ten bullet points is a good sweet spot.

**Protip:** Turn every »feature« of your game into an actionable activity for gamers. Convert each feature into a command using a simple little verb and your feature list suddenly reads like the recipe for an amazing gameplay experience. For example, instead of »6 different weapons to choose from«, say »Choose from 6 different weapons to kick ass with!« or something similar. It makes players feel like they're the ones in control of the game, and it lets them imagine exactly what they will be doing in the game – in this case, kicking ass with 6 different weapons! If you can get the player visualizing themselves in the game and playing it, you've got yourself a YES vote!

#### To GIF or not to GIF?

GIFs are a marketer's best friend. There are some awesome GIF-creating tools out there like GIPHY. Use them to create short GIFs (less than 15 Megabytes in size for Twitter and most other social media) showing off juicy combat, interesting gameplay or just cool visuals! GIF and video content really does well when it comes to Greenlight, as it is a super-efficient way for players to see some interesting aspects of your game in a short period of time.

**Protip:** Sit down with a recording software like Bandicam or Hypercam, and just record gameplay for five to ten minutes. Then, use Photoshop or other tools that can do GIFs, and cut out little snippets – five to fifteen seconds is a pretty sweet spot for GIFs. The more footage you have to choose from, the more options you have for creating awesome GIFs!

Another cool idea is to add text overlays highlighting the primary features of the game in your GIFs. This can help direct players' attention, and tell more of a story than just the visuals alone. You can turn your trailer clips with text overlays into neat GIFs if you need some easy content.

#### Quotes

If you've been showing your game to a lot of players, journalists, content creators or mentors, chances are they've shared their thoughts with you about the game. If you have something juicy someone said about the game, show it off on the page!

There's a really cool copywriting lesson they teach in a lot of sales and SEO seminars – use your customers' language to write your product description. If you have a lot of comments, reviews or feedback that love a certain feature and talk about it in a certain way, try and replicate or copy and paste that selection into your game's description. This way, players feel like they can relate more to what you're saying. Plus, if you highlight somebody's personal quote on the page, they're more likely to share it with their friends and increase the viral reach of your game!

### Your Marketing

#### Why marketing?

It's a dog-eat-dog world out there when it comes to Greenlight and indie games in general. If you don't do any marketing and sit there wondering why you're not getting any traction ... I have a simple answer for you. You need promotion to ensure success, because that's how everybody gets noticed! From car companies to musicians, it's all about things like social media, sponsorships, outreach and press coverage.

You, as a developer, have two jobs to do – you need to not only create a badass game, but also help push that badass game out to the masses! Here are some pieces of advice for an effective marketing campaign.

#### Starting early

Too many developers make the mistake of waiting until the game is about to launch online to start thinking about marketing or

## About Black Shell Media

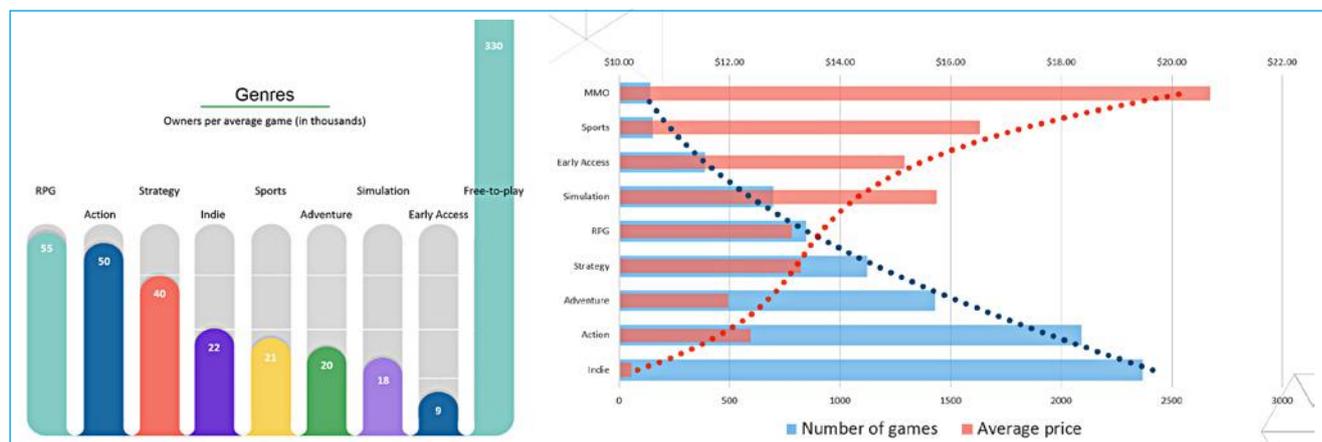
Black Shell Media is a publishing and marketing firm dedicated to helping independent video game developers reach massive audiences, publish financially successful titles, and turn game development into a career.

We publish over 55 titles with over 1.1 million players worldwide, and we have business partnerships with Valve, Microsoft, Amazon, Intel, Logitech and Alienware.

It's our mission to help game developers get more of what they want out of a rewarding opportunity in the game industry: more fans and sustainable revenue to keep them moving forward.



If you want to know how chances are for your game on Steam, SteamSpy is always a good source for information. Here are two examples from a report.



Setting up a development blog is a good way to keep your fans and players up to date (like Yacht Club Games, Shovel Knight) does for example. To spread the word, sites like Gamasutra can be a good place to cross post your blogs.

promotion. The second you have a solid idea and a plan to flesh it out, you should start marketing. Throw a quick website together in Wordpress, or even just make a Twitter handle for your game. The sooner people hear about your project, the better.

Big franchises do this all the time – as soon as they have concept art, trailers and initial screenshots to show the public, they do so. Granted, they have fan bases they spent years growing, and the twenty followers you’ll snag being a new game on Twitter will pale in comparison to the size of the audience at an E3 launch announcement, but it’s still the same principle.

Passionate gamers will follow projects from inception to launch, and support you all the way. Start early and make sure you post occasional updates and screenshots of development. Be honest!

**Run a developer blog**

Developer blogs – devblogs for short – have become a staple when it comes to indie game production nowadays. In an age where anybody can start a Tumblr or Wordpress site in a matter of minutes and with zero cost, there’s no excuse for keeping your fan base in the dark.

Try and write posts at least once or twice a week updating fans about development. Share screenshots, anecdotes, funny bugs, new builds,

videos ... pretty much anything and everything you can get your hands on! Fans will really connect with your message and vision for the game, and give you great engagement.

Plus, if you need beta testers or want to do a soft launch, who is more excited about your game and more willing to test it out than someone who has been tracking it since day one?

**Twitter**

Use popular and trending hashtags to raise awareness about your game and studio. Engagement is a two-way street; to receive comments, re-tweets, and followers, you’ll have to do the same in return. Post daily! Video and GIF content are proven to receive much more engagement than a static image. Twitter is another medium to easily gather player feedback of the game for improvement.

You can promote new updates and content on Twitter as the short-form nature of the platform lends itself more to self-promotion. Don’t get arrogant though! Twitter is a platform where just one retweet by a prominent influencer can get you lots of attention – be that good or bad. Try and Tweet at big influencers like YouTubers, journalists and industry veterans to get them to notice your game and give you a shoutout. It may not always happen as these people are very busy, but it’s worth trying to get on their radar! Worst case scenario, they just ignore you. In which case ... try again!

**Facebook**

Facebook is a great place for long-form content and deep engagement with fans. As I’m sure those of you who have added your parents on Facebook know, the network lends itself greatly to deep discussions and debates in the comments of posts. The Sharing feature is also a very powerful way to build legitimacy and gain traction.

Experiment with things like polls, Q&A sessions, blog posts and other deeper content. Facebook is a place people go to for finding and connecting with friends, so try and post something they would talk about with a friend! Don’t be overly promotional either. Twitter is more forgiving when it comes to shoutouts and promotions, but Facebook will leave you with no traction and a lot of people ignoring or blocking your posts if all you do is promote repeatedly. Think about posts before you share them – »Would I personally share this to my profile?« If the answer is no, re-think!

**Protip:** Facebook’s front page algorithm favors video content heavily. If you have trailers or another video, make sure you post them directly to Facebook instead of sharing them via YouTube, Vimeo or any other app. You’ll get much more attention! Facebook Live is also an important tool, as all people who like your page will get notifications if/when you go live, so consider the platform for live video Q&A or development look-ins.



## Other networks

Social media has become a varied landscape with endless amounts of tools. Establishing an identity on Facebook and Twitter is important, but there are so many other social networking platforms out there that you can use to build a dedicated and informed audience throughout your Greenlight campaign. Networks like Instagram, Snapchat, Pinterest etc. will diversify your social outreach and give your game more spread out attention. Try to diversify the content you share on these varied platforms as well, giving your fans incentive to follow you on multiple networks.

## Steam

There are a lot of Steam groups out there, and many are quite prolific especially when it comes to promotion. Explore the Steam community hubs and seek out groups that focus on bringing attention to new developers and games. It is highly recommended that you do not do giveaways of copies of the game in these groups, as a trend of giveaways before the game is even launched can really hurt the game's sales upon release. Just do some gentle shoutouts, or maybe consider purchasing a copy of a more popular game and hosting a giveaway to promote your game!

## Reddit

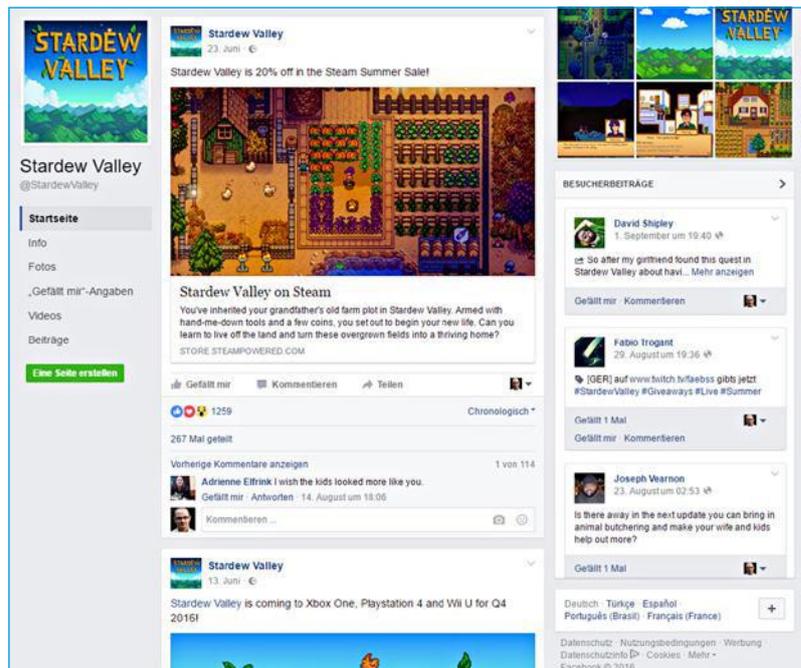
Reddit is a good place to get feedback on your game, to find out what players want to see, and improve features that respond to market demand. It's also a great place to find trolls. When you come into contact with a really ugly one, just grit your teeth and take the backlash. Lashing back will only hurt your brand's image. It takes longer to repair a reputation than it does to create one.

Try and stay patient if you get negative feedback. Remember that all criticism should be seen as constructive criticism – if someone is pointing out something they dislike about your game, and it's gaining traction, don't just brush it aside as someone being mean to you. Learn from what players dislike about the game, and use that information to your advantage. Having no feedback is so much worse than having bad feedback – how do you know what to improve on?

Some awesome communities are: game-dev, gaming, indiegames, gamemarketing, gamedesign, games, playmygame and genre specific subreddits (i.e. roguelikes, rpg\_gamers, JRPG). It may even be worth it to post onto bigger legacy games subreddits that your game is similar to, but be aware of specific subreddit rules and make sure that self-promotion is allowed! Otherwise, mods and users alike will bury your game in obscurity through the power of downvotes.

## Videos

Video content is one of the most increasingly important parts of a game's early identity. Videos are easy for fans to engage with and the quickest way to showcase what your



Social media is a must have today. Twitter and Facebook (in this example from Stardew Valley) are the biggest ones, but Snapchat, Instagram etc. are also worthwhile.

game has to offer if no one else has their hands on the game. Whether video production happens within your studio or is done by someone else, videos are an important part of the marketing process in today's landscape.

Videos could be simple »Let's Play« experiences where you and your team play chunks of your game to showcase the fun of playing your game or they could be complex behind-the-scenes videos to showcase the development process. Throughout a Greenlight campaign, video may be the only way gamers get to truly see what your game has in store, so while you don't want to take too much away from the ongoing development process, spending some time on video production is key.

If you're going to do unfiltered video, make sure the game's production value – visuals especially – is polished down to a T. Grab a nice vertical slice and record lots of footage. Be especially prudent if your game is not complete yet. You don't want to give people a bad impression!

Twitch and other live streaming services are also available to you as a developer, though it is risky to stream too much gameplay if the game is still early on. You can stream development, do Q&A sessions, or just show off brief sections of gameplay to build hype. Or get creative and integrate Twitch APIs into the game – a lot of developers actually allow Twitch chat to help control and affect in-game events!

**Journalists**

Big journalists get over 100 pitches a day. So don't get discouraged if you send out a

dozen emails and do not receive any coverage. Just keep trying! In order for the »big fish« to cover your game, the small ones will need to bite first. Send out press releases often, especially on big events such as launching your Alpha, Beta, Greenlight, and Full Release. Coverage is coverage, as your game and community grows the more likely you'll be seen by more popular journalists. Keep your press releases short and to the point. Make sure you feature:

- 3 to 4 images of gameplay
- A marketable banner
- Description of the game
- Bullet point features
- Social Media Share/Follow Buttons
- Greenlight, Steam and other store links
- A link to a presskit with images, videos and other assets

**YouTubers**

YouTubers are your best friends. YouTube has become one of the biggest gaming platforms in recent history and people who create content on the platform have grown to have subscriber bases larger than some countries (read: Pewdiepie!). Utilizing the outlet is key and really interesting demos featuring the best vertical slice of your game can do extremely well on the platform. People only want to watch about 10 to 15 minutes of video at a time and if you have a demo that can hook people in that amount of time, send it out to as many YouTubers you can.

Find the niche market of content creators that fit the genre of game you're developing and give them a look at your game. Try to ignore subscriber numbers and instead focus on the personalities you think would love your game! You might just get lucky and find your game going viral and being covered by some of the bigger names on YouTube!

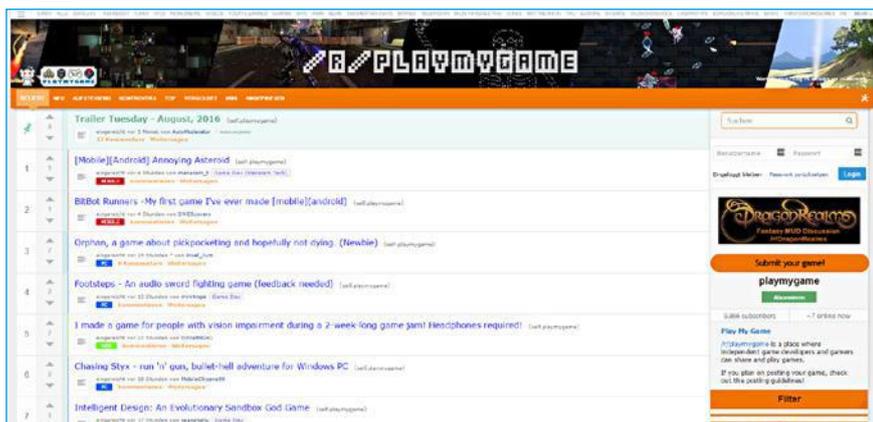
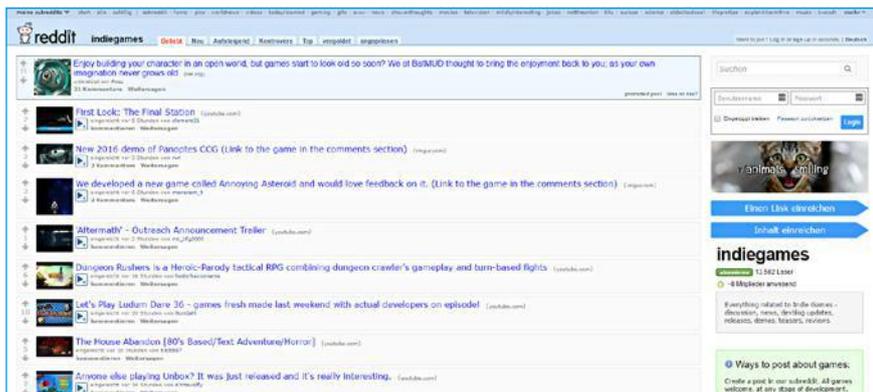
There are also a number of interview shows and podcasts that have a presence on YouTube. Obviously again, we don't want to take away from development time, but offering your time up for interviews and videos of the sort will help your Greenlight campaign through promotion and through developing your outward-facing personality. If gamers can tell you're just a person like them with a love for the industry, they'll feel even more likely to support you!

**Responding to feedback**

Communicate with the community. Feedback is extremely valuable and can be used to your advantage. Gather feedback about your game in order to improve it. Don't put out a game that has no demand! As mentioned under the Reddit section: there will always be trolls. Be the bigger person, backlash will only hurt your studio's image. If anything, just agree to disagree. Keep calm and develop.

Daniel Doan, Raquel Hayner, Nathan Hermanson, Raghav Mathur

On Reddit you can get feedback or promote your Greenlight campaign. But be aware of the rules of each subreddit before posting there.





# GREENLIT IN 16 DAYS

# WHAT WORKED WELL, WHAT DIDN'T

To succeed in a Greenlight campaign on Steam can be tricky. Javier Bargeño from DragonJam Studios explains how the team got greenlit within 16 days and what worked for them and what didn't.

Last February 10th, we excitedly launched a Greenlight campaign for »Wincars Racer«, our game at which a team of eight people have been working for two years, to be released on Steam. Wincars Racer is a fast-paced online arcade racer game, which pays homage to classic titles like »OutRun«, »Burn Out«, »Mario Kart«, and »Sega Rally«, where strategy also plays a role. The aleatory item system is dropped in favor of the player's ability behind the wheel and the use and configuration of the special skill that he/she chooses. Before reading this article I advise you to have a look at the campaign to have a better understanding at [www.making-games.biz/wincars](http://www.making-games.biz/wincars).

## Everything went Ok

Not that I thought this would go wrong for us or that our game didn't deserve to be greenlit by the community, but truth is the result was remarkably good achieving it on February 25th, ending 24th place after being in the Top 100 nearly through all the two weeks. After reading so many articles while I was preparing my campaign, I thought it was fair to analyze it publicly and draw some useful conclusions.

## First of all: Matching your Game and its Marketing

Since I published the first version of this article, many developers have asked me for advice about their campaigns on Greenlight or Kickstarter. It is always a pleasure to lend



Javier Bargeño is Online Marketing & PR Manager at DragonJam Studios.

Javier Bargeño is in charge of designing and putting into practice the marketing plan for »Wincars Racer«. Specialized in managing social media and the growing of online communities, his main challenge is to maximize the impact of the campaign in the game's promotion. Passionate about videogames and communication, Javier was part of the QA department at Electronic Arts for two years and is currently focused on materializing what he learned working for a big publisher, translating that work into an independent studio about to launch their first title.

»Wincars Racer« is a »Mario Kart«-like racing game, which passed Greenlight on Steam and is currently in Beta.





This is how the Greenlight page for Wincars Racer looked on Steam.

a hand by contributing with my vision about what is not working. Facing the analysis of other game's campaigns, allows me to continue learning and it fills me with pride seeing that some of the advice I gave did work. Everyone has been really nice and grateful, and to be honest I also ask for advice when I face a new challenge for the first time.

Yet, I can't help but notice that most of the times the problem was not how the campaign had been planned or executed. The problem had its origin way back, from the game's conception itself.

Moved by an unbridled passion, independent developers focus most of their strengths and resources on the game meeting their expectations regarding the fun, the innovation, or even the polishing and finishing of the game. And this is great, don't get me wrong, but few are those who in this first stage take into account how they will promote and do the marketing of their game, leaving it for later on or thinking that someone else will do it for them. And there's the problem ...

**... Nobody buys a Game which is just Ok**

It is vital for you to answer this question from the very first day: »Why would anyone buy my game?«, and put the biggest part of your resources into polishing that »something special«, which will make your game stand out over the rest. If you are not able to find a good answer to the question, maybe you should adapt the design of your game until you do.

Don't be obsessed, though. Your game does not need to be a true revolution with never before seen mechanics or extraordinary visuals, but it should stand out due to a different graphic style, an original setting or because of a premise which is attractive enough to call the attention of the press and players.

Something that usually works really well with indie games, is rescuing a formula from the past and updating it with present day mechanics, mixing aspects of different genres in an original way or being inspired by a current successful title and creating a game with your own vision potentiating some of its aspects. Like, for instance, for

»Enter the Gungeon« by Devolver Digital or »Nuclear Throne« by Vlambeer both developers did seek inspiration in »The Binding of Isaac« by Edmund McMillen.

**Test it before taking the Plunge**

As important as endowing your game with something that makes it stand out, is to check that people out there perceive it that way. It is useless giving it a personality if people don't see that.

You need to get out of your ivory tower and show your game to strangers, preferably to journalists and players who haven't heard of your game before. Examine their reactions and the level of enthusiasm that you manage to cause.

Listen to their feedback, retouch your pitch and first images until you see that your communication is truly working. If you have modified your elevator pitch several times and you still don't get good results, consider changing aspects of the game design and try again until you succeed.

**I was there**

They say, you're not a good entrepreneur until you bankrupt at least three times. Behind this flashy statement lies a big truth: With the right attitude, failure can be the key for future success.

Indeed, when we started working on Wincars Racer (before we changed it, the name of the game was »Formula Wincars«) we had the idea of launching a Kickstarter without having polished our marketing and failed badly.

In an attempt to call the attention about the online aspect of the game, the hook and the elevator pitch which we used was:

»Formula Wincars – MMO Racing Arcade: Manage your own race squad, increase your skills level, team up with friends and compete to win tournaments prizes on wild circuits.«

Both the message and the images and video, which we had at the time, didn't manage to connect or arise real interest on the game beyond friends and acquaintances. Even the public, who did find the idea attractive, focused on discussing the term



»MMO Racing« more than anything else. Sincerely, our old pitch was not a good one and revolved more on what the game could get to be rather than what it really was at the time.

This is how we promoted our game when we achieved the Greenlight:

»Wincars Racer: An arcade online racer with a strategy twist. Instant racing fun in the vein of arcade classics with modernized mechanics and special skills to use intelligently. No random power-ups mess.«

A much more persuading pitch, which truly highlights what makes our game special and different.

### Preparation of the Greenlight Page

Once your game and your marketing are ready so everything goes as planned, exposing it to the public in a reduced circle and achieving the best possible version of the pitch and images, you will be ready to take the plunge. From this moment I will tell you all the tricks that I learnt organizing and launching our Greenlight campaign. I hope they are as helpful for you as they were for us. I will focus on what worked:

#### Description

We went for an approach as similar to a elevator pitch as possible. Then, a hook phrase which defines your game, and at the same time explain what makes it special. After this, a list of main features, a link to play the demo (I will talk about this later on) and a flashy little section for press mentions and awards. Filling the description with images, GIFs and headings for each section has been a good idea for games which have done well on Greenlight. We went for something simpler and we saved a lot of time to be used on other tasks.

#### Images

Same approach as before: We used the best six images we had and it was enough. Valve makes you use a minimum of four images and we had many more available in the press kit, but we want to go straight to the point. Most of the players who check Greenlight devote a very small amount of time to each game so it is best to highlight your best features: »There's no second chance to make a good first impression.«

#### Choosing your Branding Image

We devoted more time to this task and we think that the number of visits increased for this reason. We made an animated GIF with some of the most spectacular moments of the game which were representative of the gameplay and we also interspersed the logo.

Although Greenlight lets you upload a bigger GIF, we decided to optimize it at 150 by 150 pixels, which is the size shown in the page where you compete with other games to get people's attention. In your page's profile the resolution will look like crap, but

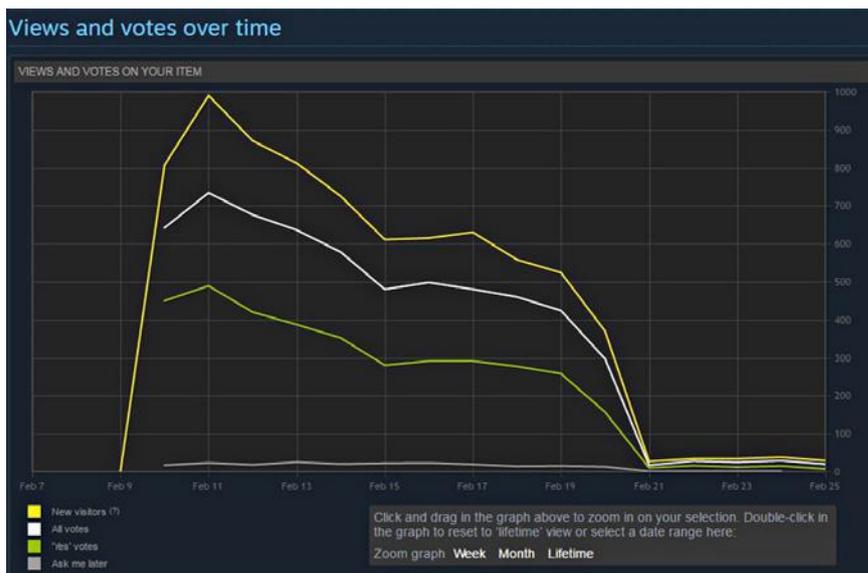


Figure 1: This graph shows the views and votes over time.

that's where people will mainly pay attention to the video and the images.

### Views and Votes over Time

The graph in figure 1 says it all. From day 21 on, the organic traffic practically dies. The upturn from day 15 shows our maximum effort giving it visibility in the threads we had opened on forums as well as having a bigger activity on Twitter, Facebook groups etc.

It is clear that the best thing to do is to try to concentrate your resources on a good launch and letting Valve's system keep you visible for as long as possible. Never try a long term »leak« campaign, as you will lose most of your options.

### Press/YouTuber Mailings

Today, an independent studio launching a Greenlight campaign is no big news. It is very difficult to get the media publishing your press release unless the game is extremely polemic or original. Our plan was to launch an open Beta version of the game the same day we kicked off the Greenlight campaign.

The mail we sent had the following subject: »Wincars Racer launches a campaign on Greenlight and announces open Beta«

A much more appealing headline in order to get a journalist, a YouTuber or any streamer interested in your game and publish a post or record a video about it, which on top of that means added value giving their readers and followers the chance to play and try the game. It worked. Figure 2 are some examples of pieces and articles written about Wincars Racer:

Some publications like IGN Spain directly titled »Wincars Racer launches its open Beta« and talked about and recommended the Greenlight campaign inside the article.

It's always advisable to write each email

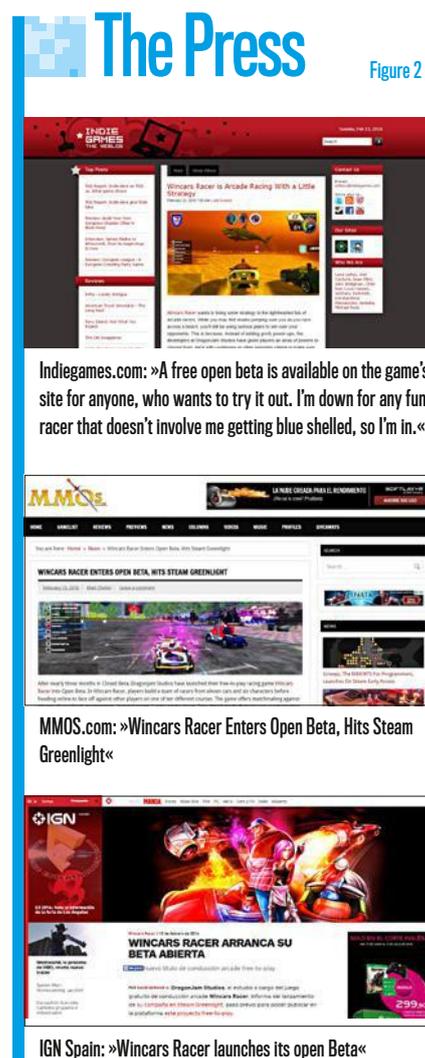


Figure 2

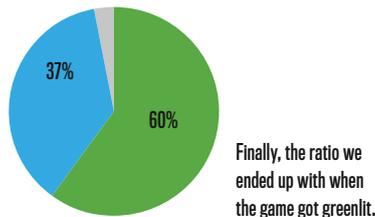
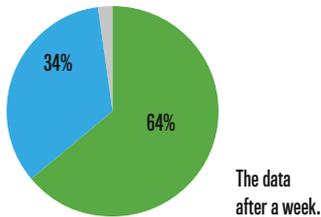
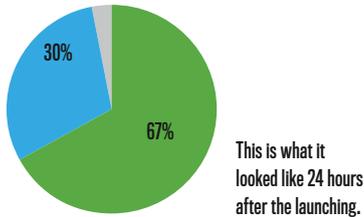
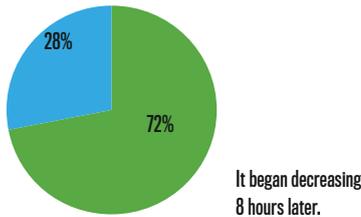
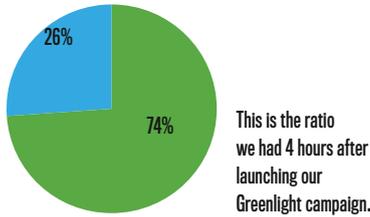
Indiegames.com: »A free open beta is available on the game's site for anyone, who wants to try it out. I'm down for any fun racer that doesn't involve me getting blue shelled, so I'm in.«

MMDOS.com: »Wincars Racer Enters Open Beta, Hits Steam Greenlight«

IGN Spain: »Wincars Racer launches its open Beta«

# Comparison of Votes

Figure 4



»Yes please«    »No thanks«    »Ask me again later«

individually, but if you can't afford to do this for lack of time there are great tools which will help you.

We used Mailchimp to send these automated press statements. A great tool, which guarantees your mails will reach their destination. It doesn't make spam filters go off and provides data about who actually opens your mails and even the links which they click on. If your emails are not opened, you can try sharpening your aim and drawing conclusions about what you are doing wrong – it has A/B tests integrated in the mails.

However, do not forget that there are people at the other end opening mails. Personalize them the most you can, with the recipient's name and surname, personally answer each journalist, who writes to you, and make things as easy and straightforward for them as possible. Don't forget having a press kit ready and include it in your mail.

Don't worry, if there are people who open your email, but finally don't post anything about your game. This can be due to a thousand factors and not because you did something wrong or your game is not attractive enough (you will be aware of this in many other different ways).

Journalists usually follow many games until they decide that it's time to talk about them or that they fit into their publishing agendas. Having them periodically updated with the most important events relating the development of your game, will help to make yourself a name and it can be the first step to build a stronger personal relationship for the future.

## Mailings for Players, who signed up at our Site

Since we started our development blog, we added an option so those players who wished so could join a Wincars Racer mailing list. In exchange we offered them exclusive content like early access to Beta Tests and invitations to participate in tournaments where we had prize draws and we gave away gaming headsets, t-shirts etc.

We have more than 3,000 registered players and the statistics say that more than 600

opened the email the same day we sent it, and that 200 clicked on the Greenlight link. We can assume that means 200 positive votes, can't we?

Besides, many players told us they had received the email but hadn't had the chance to vote on Greenlight in that precise moment, and that they would do so later. For this reason, we assume that the number of positive votes coming from the mailing list is substantially bigger.

## Google Analytics: Where the Visits came from

Once you launch your campaign on Greenlight, you get access to a basic analytics site on Steam. If you want more detailed information, it also allows you to synchronize a Google Analytics account. I recommend to do this, because it gives a clearer view about where do people come from to your page. It will also help you to make future decisions about how to approach your marketing strategy for the game, the launch or even to decide into what languages should the game be translated. Figure 3 shows the Google data.

As you can see, they're not exactly the same but don't give it more importance than it has, this is due to the different criteria used to determine which user is a unique user and which one is not.

Do not worry either about the rebound rate, conversion, or the ratio of first time users vs. users who come back. This data can be very useful for your site's analytics but not for a Greenlight.

Google's statistics includes statistics on which country people, who are visiting your page, are from, which is indeed important information, if you are thinking about what countries or languages your launch campaign should be focused on, even more so, if your game has a strong online approach as ours, as it can also help you to optimize your servers.

Another important graph at Google Analytics is the statistic about where people came from: Up to this moment, I had read in other post mortems that usually 70 to



Figure 3: The final statistics according to Google Analytics.

80 percent of your traffic would come from Steam itself. Although the graph in our case says 30 percent comes from Steam, most of the 53 percent of direct traffic also corresponds to clicks on the game icon on Steam. Crosschecking this data with the one from Mailchimp regarding people who clicked on the link in the emails we sent (which is also included in direct traffic), we could deduct that 60 to 70 percent of our traffic came from Steam.

The referrals graph is a bit disappointing. Despite being featured and recommended on many sites, the number of visits is not very big. Although the sum of all of them has been of great help spreading the word (adding the ones we don't know about, disguised among direct traffic). Social networks, mainly Twitter and Facebook, also helped with 500 visits, a 5 percent of the total.

Building a community around our game from the beginning of its development was the key. Keeping and taking good care of the relation with journalists was also helpful in order to get more visibility, but not so much as we expected. I think that this would be different if we were discussing a game release and not a Greenlight campaign.

### The positive/negative Votes Ratio

First, I would like you to have a look at the ratio between positive and negative votes in [figure 4](#).

We had a yes/no ratio close to 50 percent among the players who got to know our game for the first time through Steam Greenlight. However, we managed to increase this percentage to our favor thanks to all the votes we received during the first days from our followers, who got to the site through our emails and social networks as well as from articles published in the press.

The site Green DB ([greendb.net](http://greendb.net)), as well as indicating your rank position on Greenlight, also awards a maximum of 5 stars to each campaign. Ours got 4 stars from the beginning to the end.

No one knows exactly, how Steam does work in order to decide how many people it will show your Greenlight to, but I suspect having a ratio above the average was beneficial in order to get thousands of extra organic traffic. Trying to achieve a good initial »momentum«, can be the key to manage to prolong those first days of maximum exposure.

### Events and Trade Shows

I assume everyone knows already, how important it is to attend game fairs and to show your game to the public first hand. We couldn't, in economic terms, afford to attend trade shows which are held abroad, but we did take the chance to make our Greenlight campaign coincide with an event, which was

going to be celebrated in our city: »The Japan Weekend«. We also organized our own event at Telefónica's Flagship Store as a release act for the open Beta and the Greenlight where we invited the press.

These events allowed us to win more followers, positive votes on Greenlight, plenty of photographic material to share on social networks and above all to have the chance of having the press play our game and answer their questions.

This is not an action to be synchronized with the first day of your launch on Greenlight (you will have too much work to pay attention to and preparing for a fair is a hell of a lot of work), but without a doubt it helped prolonging the exposure in the press and social networks.

Finally, as highlighted by Thomas Brush, the creator of »Pinstripe«, in his article »Why your Kickstarter Will Fail«, attending fairs will help you establishing new relationships with the media and other videogame creators besides reinforcing the ones that already exist.

### Summary

As a general rule, only show the best about your game. I know how great it is to have lots of content, but if you have to choose, do not hesitate to go for quality over quantity. Steam Greenlight is not Kickstarter and there's no need to show everything you have to justify the economic support. You better focus on making a good impression shooting your best shot in a clear, simple and straight way.

#### What didn't work

- We didn't manage to appear in almost any of the big videogame publications.
- It may be useful in order to get the media to know and follow you, but we are not sure, if we didn't get a lot of visits through the media that covered our campaign, probably not.
- We hardly attracted any traffic from Reddit. My advice is that if you are not a regular user of some successful subreddits, don't even try it. You'll be marked by the punishing cross of spam.

#### What worked

- Optimizing the Greenlight page to the maximum (video, GIF and texts) to keep a good yes/no ratio.
- Building and keeping a good community of followers from the beginning of the development was the key.
- Concentrating all the most important marketing actions in one day to create momentum to achieve exposure rocketing organic traffic.
- As with the community, working on building quality personal relations with journalists, streamers and fellow developers.

Javier Bargeño



As the team could not go to big events abroad, they organized an event on their own when the Open Beta was released.



Hosting events not only helps to generate followers, but also to make photos that you can use for promotional reasons on e.g. social networks.



# HOW AN ENVIRONMENT LAYOUT AFFECTS DIFFICULTY

Pete Ellis from Guerilla Cambridge explains how different uses of a level environment can be used to change the difficulty level for the player without just adding more or harder enemy types.



**Pete Ellis**  
is a Senior Designer at Guerrilla  
Cambridge.

Pete is an experienced level designer with a passion for narrative driven AAA single player games, currently working at Guerrilla Cambridge on »RIGS: Mechanised Combat League« for PlayStation®VR. He has experience working on first-person shooting games, having also worked on »Killzone Mercenary« for the PlayStation®Vita, and »Killzone: Shadow Fall« for the PlayStation®4.  
@PeteEllisGames

Recently I gave a talk at GDC Europe 2016 titled »Creating Conflict: Combat Design for AAA Action Games«, alongside fellow designers Mike Barclay (Naughty Dog) and Sam Howels (Deep Silver Dambuster Studios). The talk is available on the GDC Vault (albeit currently for members only) but I thought I would share the content of my part in an article that can be easily referenced quicker than searching through sections in a video.

I'm going to take a look at how we go about creating a level's geometry arrangement with reference to how the environment informs the difficulty of your encounter. We know the standard and most basic way of changing difficulty is by adding and layering in different enemy types (figure 1). These are macro changes; bigger increases in

difficulty that make noticeable steps up for the player. But what about micro increases in difficulty, rather than just big sweeping changes? How can you balance difficulty without relying on AI numbers or character types; especially when you may be restricted to certain character types for your narrative?

This can be done by using the environment to influence the behaviour of the AI and how the player combats them (figure 2). This is good for maintaining that the difficulty raises as the player's skill level increases and allows us to closely match the challenge to the player's skill to ensure levels don't become stale before new character types are introduced.

This is achieved through the design mantra »form follows function«; that a shape of a building or an object should be primarily based upon its intended function or

purpose. In our case, that a level's arrangement of geometry needs to support and influence AI behaviour and that different arrangements inform different outcomes. In this article, I will be covering:

- How an environment can be built to encourage or suppress movement, and how movement affects difficulty.
- How manipulating cover can affect difficulty without artificially altering AI behaviour.
- How an arena layout can affect the positioning of the enemy and what this means for challenge.

### How an Environment can be built to encourage or suppress Movement, and how Movement affects Difficulty

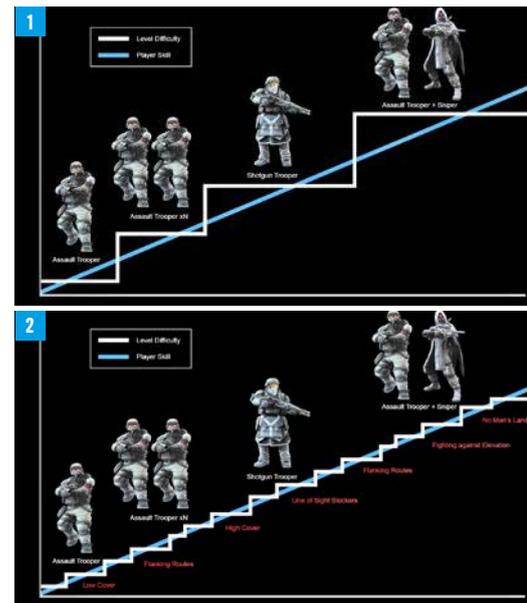
Firstly, why would we want to affect the movement of enemies? Simply put »moving enemies are harder to hit«. In our case, it's far easier to hit a static enemy, than one who is running around the environment. Suppressing enemy movement is useful for creating easier encounters, such as at the start of the game when the player is getting used to the game's mechanics. Whereas allowing enemies to run around a lot means the player has a lot more of a challenge to deal with, such as if narratively you wanted the player to feel overwhelmed.

So why can we not just artificially restrict AI to stop them moving? Well it's good not to do this so you don't have strange behaviours that go against what the player has already learnt; it's important not to break patterns of AI behaviours so that it's easy for the player to read and plan against.

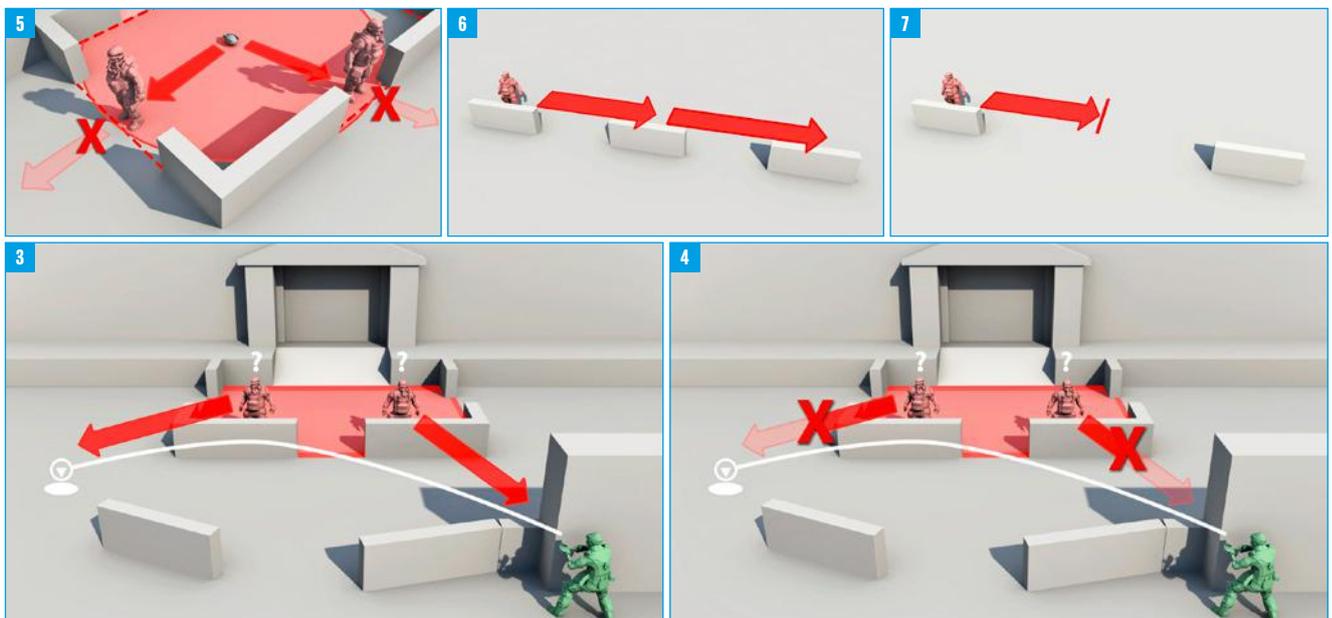
For example, if you created a refuge space that you populated with enemies (figure 3), perhaps because they guard the exit, or you didn't want the player to be able to leave without conflict, but they weren't allowed to leave the area then you can risk muddying the understanding of the combat situation for the player. If the player has a »go there« mechanic, like throwing a rock or other items for the enemy to investigate, or even if the NPCs investigate areas where they thought they saw an enemy, then it breaks the gameplay pattern (and the use of any mechanics themselves) if the AI don't react accordingly (figure 4).

In this situation the player can feel cheated, and in extreme cases you could also end up with situations where AI won't be able to run away from grenades or other danger areas, thus breaking the illusion of artificial »intelligence« (figure 5).

So how do we restrict or promote movement by using the environment? We have to arrange the environments to support the AI classes which are being used. For example, the assault trooper in Killzone, when in a combat state, moves between cover positions and will only pick other positions that are within a maximum distance. They will also try to maintain certain distances from the player so that they can occupy a mid-range. This is because of the type of enemy class they are, compared to the short range of the shotgun trooper, or the long range of the sniper. They will only engage in melee combat if the player has closed in to within a short enough distance, otherwise they will always try and move away into mid-range cover, should there be any available. So, if you wanted the enemies to be able to traverse smoothly you would position cover within their movement ranges (figure 6).



- 1 The most basic way of changing difficulty is by adding and layering in different enemy types.
- 2 Using the environment to influence the behaviour of the AI and how the player combats them, is good to make sure difficulty increases accordingly to the players skill level increase.
- 3 Allowing enemies to run around a lot means the player has a lot more of a challenge to deal with them.
- 4 If you create a space that the AI is not allowed to leave, you can risk muddying the understanding of the combat situation for the player.
- 5 Another problem of a space that the AI is not allowed to leave is that it might break the illusion of intelligence, if enemies don't flee from a grenade for example.
- 6 If you wanted the enemies to be able to traverse smoothly through the level, you would position cover within their defined movement ranges.
- 7 If you wanted to discourage movement you would not place any cover here and the troopers would have no other choice but to occupy one area of cover.



If you wanted the enemies to be able to traverse smoothly through the level, you would position cover within their defined movement ranges.

If you wanted to discourage movement you would not place any cover here and the troopers would have no other choice but to occupy one area of cover (figure 7). However, should the player either close in to within melee distance, or throw a grenade to move them, they will react normally and as their standard behaviour dictates, so they don't break any behaviour patterns. Level layouts and cover arrangements will be influenced by your game's AI metrics.

Another way to discourage movement and progression both for the player and the enemy is to use a »No man's land« (figure 8). This is an open area devoid of cover so it's a dangerous place for players and the enemy to cross as they are completely open and easy targets.

This psychologically makes people refrain from moving through it until the area is clear and it's safe to do so. In terms of AI these no man's lands will be further away than their cover movement distances when using AI classes that use cover. It's a way to stop the player from moving onwards through the level, without artificially restricting them or holding them back in a noticeable way. For example, in the first encounter of the opening mission of Killzone Mercenary the player's immediate goal is the climbable pipe at the back of the arena. To stop the player from dashing on ahead, I used a small no man's land between the player's front and an enemy front. The depth of this area was more than the distance an assault trooper would seek a new cover position within (figure 9) and it encouraged the player to stay at the original cover positions until the enemies were defeated. This was to ensure they were facing towards the climbable pole behind the enemy at the end of combat, which was the next part of the tutorial.

The troopers' movement was reduced by not giving them any flanking routes, which

also ensured it was an easy battle for the player to have at the start. If we provided routing and cover within the movement distances according to the metrics, then this would encourage the troopers to move more (and thus be harder to hit than a static target) and they would have been able to move to more advantageous positions, where they could potentially surprise the player with an attack. If an enemy can get closer to the player, then it's assumed their accuracy and damage is increased (depending on their weapon of course).

Allowing for the enemy to flank the player is a harder case than remaining in one position. Further to this, an even harder case is allowing the enemy to »enfilade« the player (figure 10). Enfilade is a military term that refers to flanking an enemy so that they are positioned with no cover from the side and are thus exposed and vulnerable. If done to the player, this causes them to have to move from their current position to a safer position which they can defend from. They are often rushed into a new position that they haven't necessarily planned out first and this scenario can be quite panicky, so coupled with receiving fire whilst exposed it makes this a very hard case. It is good to encourage the player to move though, so that they don't experience the entire combat sequence from just the one position, which could become repetitive. Reversing these roles would make it an easier case for the player in which the player has a flank route that they can enfilade the enemy from; an easy case and a satisfying one when you are able to cut down the enemy without them being able to defend themselves.

### How manipulating Cover can affect Difficulty without artificially altering AI Behaviour

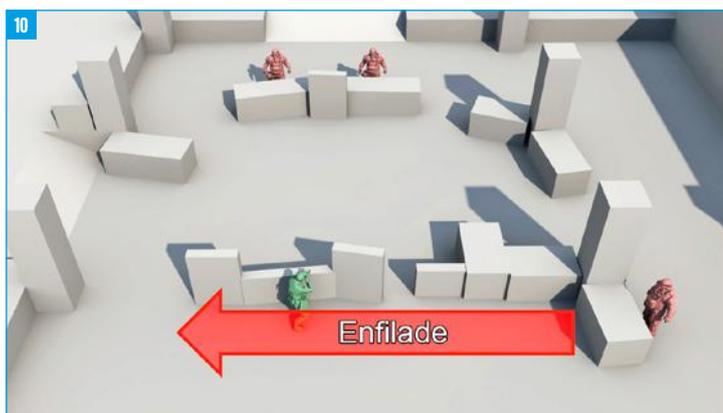
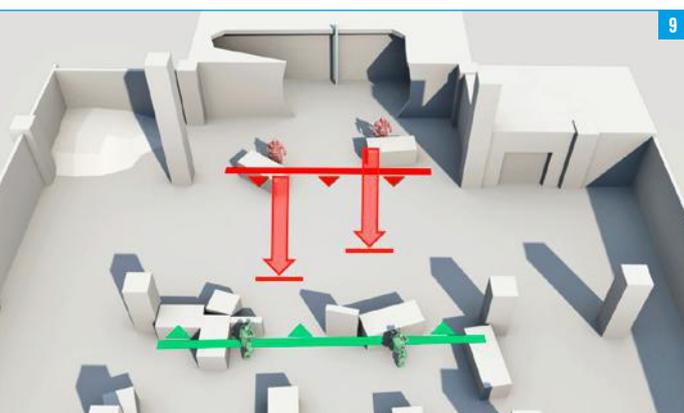
The thing to consider with cover, and one of the fundamental thoughts behind its form, is that »Knowledge is Power«. If you as a player know the movement and position of the enemy, you have an advantage. For example, providing only low cover options allows the



8 One way to discourage movement is the use of a »No man's land«, which is an area without cover that is both dangerous to move along for the AI as well as the player.

9 No man's lands are a way to stop the player from moving onwards through the level.

10 Enfilade is good to encourage the player to move so that they don't experience the entire combat sequence from just one position, which could become repetitive.



player to track enemies within the environment because enemies are generally fully upright when running between cover islands.

In one of the earlier sections from Gears of War (figure 11), as the enemies run into the arena from the side, they run behind predominantly low cover. This allows the player to track them all as they cross the area to their cover positions. The player knows where all the enemies end up and can strategise their plan of attack accordingly – Knowledge is Power.

When in low cover, enemies tend to be at a height where the player can see the top of their heads whilst they move, which means that when enemies move to a new position whilst still in cover, the player is able to see and track this movement (figure 12). This means the player is not caught in a situation where they don't know the location of the enemy and thus won't get flanked or surprised with an attack. When the player uses low cover, both in 3rd person and 1st person, they can see over the top and track the enemy from a safe and, depending on how your game's rules work, a hidden position.

Low cover is a harder case for targeting the enemy as they generally expose less of their body when they attack. Whether they peek over low cover or do blind firing or if they stand up to take a more accurate shot, they only expose half their body, as the lower half is blocked by the cover (figure 13). The upside, meaning it's not too tough to combat, is that the area that the player is targeting includes the head, which traditionally is the »one shot kill« location on the target's body.

High cover, on the other hand, doesn't reveal any of the enemy to the player; you won't be able to see their heads moving as the taller cover will block their entire body. This means the player either has to move to another location to get a better angle on them or wait for the enemy to expose themselves out of cover when they try to take a shot at the player. This inherently is more risky as it means the player has to risk exposing themselves to fire at the enemy whilst the enemy is firing at them. However, in comparison to low cover, when an enemy leans out from the side of the high cover, they show their full profile; or if they step out of the cover completely they reveal their full body, which is an easier case than



only showing their heads. The balance here is that although the enemy is hidden when not firing, when they do attack they are fully exposed and are a larger target to attack. High cover as line-of-sight blockers are also beneficial for enemy types which don't use cover, as when they move behind it they can't be shot at and can potentially be lost.

These considerations also go for the player as well and additionally how we can layer them together; for example, castle crenellations work by providing low cover next to high cover (figure 14) to create a much more protected and safe cover arrangement

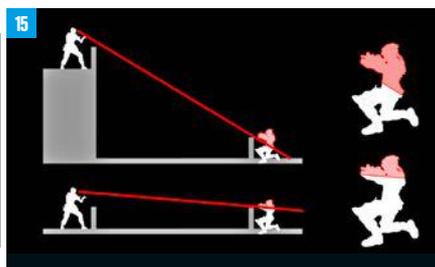
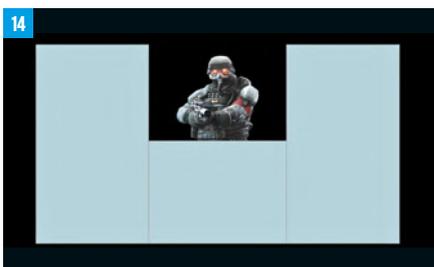
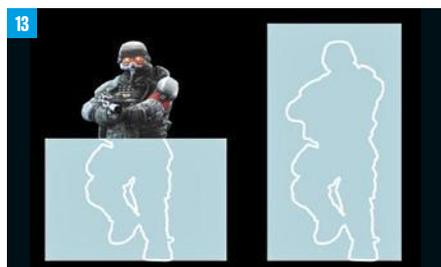
**11** In one section of Gears of War, the enemies run behind predominantly low cover. This allows the player to track them all as they cross the area to their cover positions.

**12** When in low cover, enemies tend to be at a height where the player can see the top of their heads whilst they move and so won't be surprised by an attack.

**13** Low cover allows for the player to shoot at their enemies and even though they are harder to hit, aiming for the head provides an effective mean against them.

**14** Crenellations of low and high cover together are the safest arrangement for the player.

**15** How much of an enemy is revealed from cover is also affected by the elevation of the player.





16



17

**16** In a scene like this a lot of line-of-sight blockers hinder the player to track enemies, which allows the AI to flank the player.

**17** The line of sight blockers stop the player from shooting the enemy to stop them from progressing any closer.

for the player. They neither have to step out from high cover to reveal their full body, nor only have low cover which isn't as fully protective as full cover – especially for 1st person shooters.

How much of an enemy is revealed from cover is also affected by the elevation of the player (**figure 15**); fighting down towards an enemy will reveal more of the enemy from the height advantage, making them easier to hit. Additionally, less of the player can be hit from the enemy fighting upwards. From this elevated position the player can also see and understand more of the arena layout; if the player can see more they have a combat advantage – it's back to «knowledge is power».

### How an Arena Layout can affect the Positioning of the Enemy and what this means for Challenge

One of the fundamental thoughts for enemy positioning, like an eye gouged in a fight, «what you can't see, you can't hit». So in games losing sight of the enemy means you're unable to shoot them and thus defeat them.

Having line-of-sight blockers in the environment not only mean it's more effort for the player to track enemies but they can

**» ... off screen enemies are a hard case especially if they are above the player. And the hardest example? If you want to be nasty, you can spawn enemies in behind the player! «**

also stop enemies being tracked altogether. Enemies can get closer to the player more easily (so you're an easier target for them to hit), or into more advantageous positions for themselves which make it tougher for the player, such as flanking.

In *The Last of Us*, after the hunter ambush in Pittsburgh, an enemy runs across the central view of the shop entrance from right to left (**figure 16**). This enemy is a melee class of enemy carrying a plank of wood and attempts to get close to the player in order to attack. The tall cover on the left hand side with the car and pillars, along with the line-of-sight blockers across the windows, blocks the player from tracking this enemy, allowing him to get close to the player and flank them.

Whilst the player is occupied with shooting the enemies that they can see behind low cover, even if the player has a radar, or in this case a «listen» mechanic that reveals enemies' locations, the line of sight blockers stop the player from shooting the enemy to stop them from progressing any closer (**figure 17**).

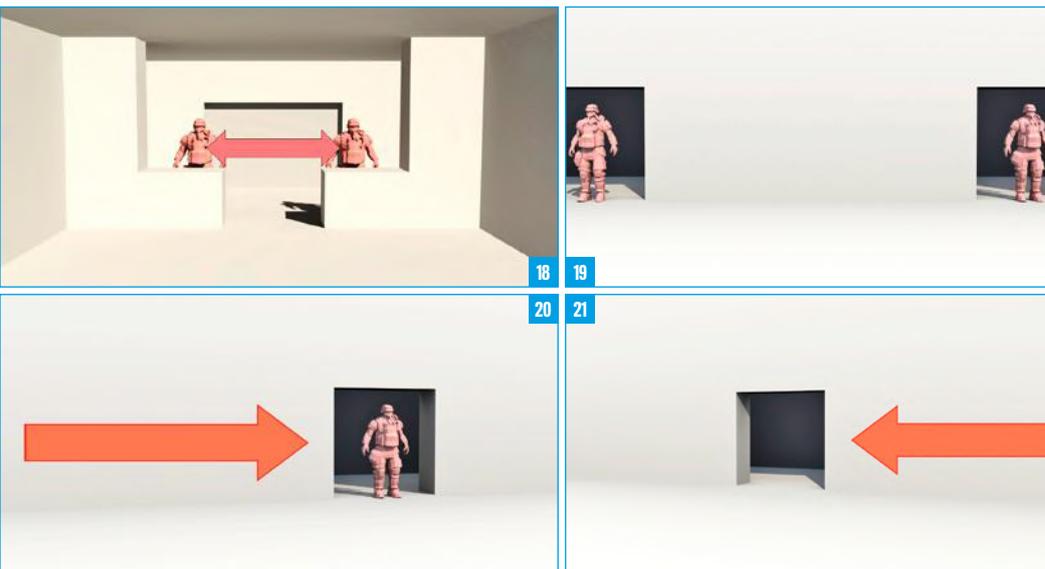
If lines-of-sight blockers funnel enemies into a chokepoint, then this is an easy case for positioning. Imagine one corridor, even if you used the harder case of cover; the high cover mixed with the low cover for revealing the least amount of the enemy, this is an easy case in terms of «aim movement» (**figure 18**). This is because the player has everything in this one window and doesn't need to move the reticule much to defeat the enemies.

When developing *Killzone Mercenary*, we created arenas, rather than it being a corridor shooter, so we had to consider avenues of fire. Imagine if you had a situation with split enemies so the avenues of fire were more than a screen width apart, be it because a wall (a line-of-sight blocker) in the centre splits the enemies or there are spawn points behind each of the doors (**figure 19**). This is much harder to tackle as the player has to divide their attention and balance their focus between two fights (**figure 20**), allowing the «unseen» enemy to do what they want (**figure 21**), such as fire at you unhindered, or advance towards you without you knowing. They could even move position altogether so when you look back they've completely gone and now you've turned your focus away from an enemy you could see and were shooting at, to an empty space, now facing away from two enemies who can shoot at you unhindered.

Furthermore, off screen enemies are a hard case especially if they are above the player. And the hardest example? If you want to be nasty, you can spawn enemies in behind the player! But do this sparingly as it can feel unfair. In summary, the further apart the avenues of fire, the greater the difficulty.

### Summary – Greybox Example

To summarise we can take a look at an example of setting up a simple combat arena with everything we've looked at here.



- 18** Having all the enemies on one screen is the easiest option in terms of aim movement as the player doesn't have to move the reticule much.
- 19** If the enemies are split far away from each other, this is harder to tackle for the player as they have to divide their attention between two fights.
- 20** If the player focuses on one enemy, ...
- 21** ... the second one can do whatever he wants, e.g. flank the player.

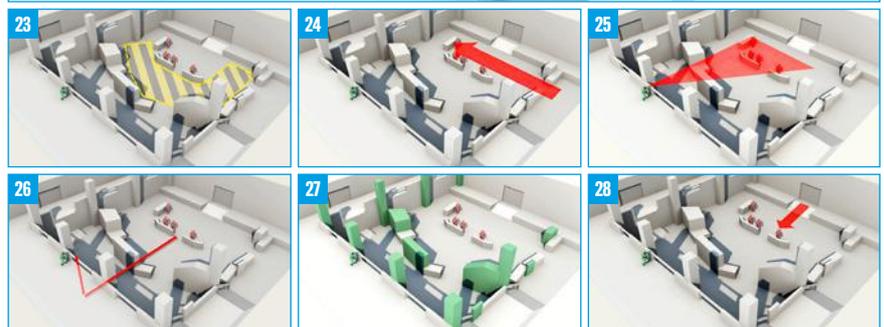
If you had a narrative, where you wanted the player to hunt out a unit of enemies and get the drop on them, launching a surprise attack on them, you could incorporate these factors:

- Limit the enemies' movement options, so they will move less and be easier to hit (**figure 22**).
- Incorporate a no man's land around the enemy area to stop them from moving (**figure 23**).
- Allow the player to enfilade the enemy (**figure 24**).
- Use small avenues of fire allowing the player to track and target all the enemies without losing sight of them (**figure 25**).
- Lower enemies so the player can shoot down at the enemy and see more of them exposed (**figure 26**).
- Position line-of-sight blockers in favour of the player to allow the player to »disappear« and break lines of sight from the enemy (**figure 27**).
- Include only one spawn point at the back (in the field of view) where enemies can be tracked entering the environment (**figure 28**).

Pete Ellis

And what's great about this is that whatever you do to make it easy for the player, you can then invert to make it difficult for the player. For example a hard case would be:

- Having many movement options for the enemy, making them harder to hit.
- Using a no man's land around the player, discouraging them from moving.
- Allowing the enemy to enfilade the player, forcing them out into this no man's land.
- Having multiple spawn points for the enemy on opposite sides of the map, off screen from each other.



- 22** Limit the enemies' movement options.
- 25** Use small avenues of fire.
- 28** Include only one spawn point at the back.
- 23** Incorporate a no man's land.
- 26** Lower enemies.
- 27** Position line-of-sight blockers.

# VR THE FUTURE



Jason Rubin is known for creating the classics Crash Bandicoot and Jak & Dexter. Now he is the head of content at Oculus and in charge of creating what might become the future of gaming.



#### Jason Rubin

Jason Rubin is the head of content, the team at Oculus responsible for collaborating with developers to build games and experiences for Rift and Gear VR.

A 30-year veteran of game development, Jason was the co-founder of Naughty Dog where he created the hit games »Crash Bandicoot« and »Jak & Dexter«. He also co-founded the media mashup tool Flektor, which he sold to Fox Interactive. He also was president of THQ, inc. [@Jason\\_Rubin](#)

**V**R – the hype is real! Or is it? Going into 2016, a lot of players talked about it being »the year of VR«. Now that all of the three big headsets are available – was it really?

New technologies follow a curve. There's the pre-hype, then there is reality. When you launch you actually have to deliver. People make incredible promises before something comes out. Oculus was always saying we believe this is the next computing platform but it will take a while for it to take off. There were others out there making huge statements about how overnight it was going to become a massive success. What we were saying is »This is the future'. And 2016 was our big step in launching that future. We launched Gear VR, May 28th we launched the Rift and December 6th we launched Touch. We now have a full suite of what we call »Entry Level

VR« and »High-end VR«. Now we are in the stage of improving the software and making it consumer friendly. We are very cognizant of the fact that the price is expensive and not everybody has these PCs, but we know in the long run this all fixes itself. Technology works its way through. Remember the first big flatscreen TV you saw, and the price tag on it and you said »Cool, but not right now!«

Now everybody has one at home. We believe VR will follow the same path. When people try this out, whether it's in Media Markt or Best Buy, the surveys at the end say »This is huge. This is part of my future!« But actually taking out your wallet and making the jump is something enthusiasts are doing. We are absolutely positive VR will follow that curve. Now we're in that reality phase, and everyone comes out and starts picking at the thing that wasn't doing your taxes, curing cancer and all the things people might be saying. In a year or two or three, whatever it takes, the price, the software and

the intensity hit, all of your friends have it and you have to own it, too.

**The same with smartphones. Almost everybody's got one, even though they are still pretty expensive.**

I remember all the articles saying »I don't need to surf the internet on my phone! Does it do phone calls? I don't need touch screen!« Cutting to a few years forward: I use Uber, I use Airbnb, I do all my banking on my phone. We think VR will follow the same path and in a few years we'll be doing everything in VR. Right now it's an enthusiast machine and for that we think it's a really good launch. With more than 50 titles on day 1 with Touch and over a 100 titles in store already on Rift it's a huge first year when you compare it to any other hardware launch. It will take time to reach mass market – but we'll get there.

**Did the technology achieve the impact you expected it to have? Or would you rather say 'Well, not in total numbers, but now we have a more than solid base to build upon.'**

If you had to choose between a technology that didn't deliver the promise, but a lot of people bought it as of the hype, or a technology that absolutely delivers on the promise, but will take a while to adopt because the price point is too high, you choose the latter – you want to have a product that makes consumers happy. And if you look at the people who were taking it home, the satisfaction level is very high, so we are really happy with the way that we launched.

**At Gamescom I enjoyed the Rift for the first time myself. They had me play »Wilson's Heart« and I never expected this quality. Oh, and I screamed like a girl. After that I just thought 'if they keep going, this might become huge!'**

And it's only the first generation. Things just get better in a technical way. It's the first attempt for all of these companies at software and our first attempt at the hardware. You can only imagine what things are going to be like in four or five years.

**How do you look at PSVR which is much cheaper and has less power but has been purchased by a lot of people – are they getting a bad experience which might rather harm VR in general?**

I think there's going to be many levels of quality in VR, just like there are many levels

of smartphones and people will decide what price quality fits them. We decided that we wanted to have an entry level VR device with a really high quality – the best on the market, at a reasonable price, although still expensive. We didn't want to shoot for 10.000 or 5.000 dollars, but somewhere in the range of 500 to 1.000 dollars. Really high-end and driven by a processor that could create the graphic fidelity and framerate for what we believe is necessary to get presence. There is a threshold below which VR doesn't make you truly believe you're there but is still very cool. We believe that bar is at a minimum of 90 FPS. Then you want to have the graphic fidelity in each eye at 90 FPS to create great visuals and we think that the Rift is right at that space.

**» VR will take time to reach mass market – but we'll get there! «**

Jason Rubin

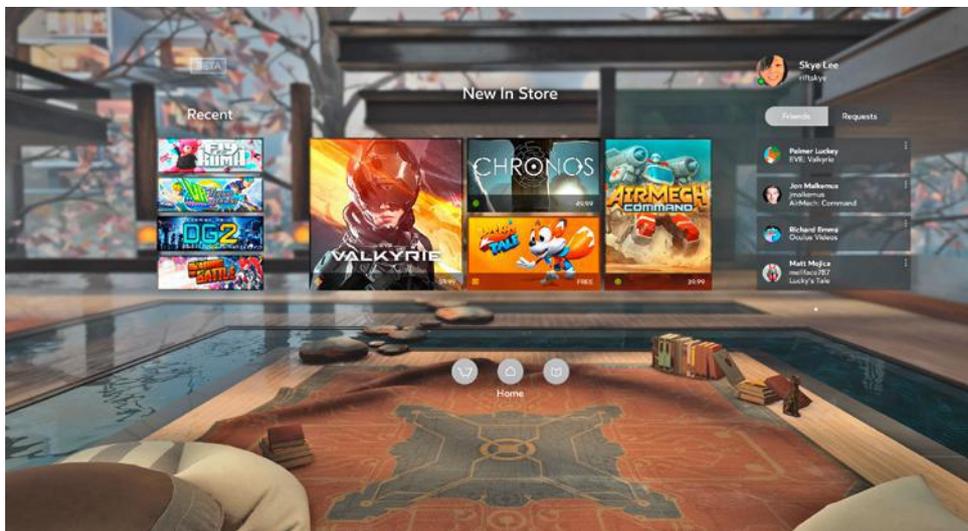
**Would you see PSVR as competition or rather as a chance for VR as a whole? In a way it gives people the chance to try out VR with less of a financial risk.**

Definitely the latter. We consider ourselves all marching in the same direction. PSVR is good for VR as it's getting a large number of people excited about its potential. And just like Gear VR we believe there will be people who enter into many levels of VR below the Rift and say »This is what I like, with the software getting better and better.« We believe that we have the best hand-tracking, the most comfortable headset and the best ergonomics in the business. And we believe if people want VR, wherever they entered, their next step will be into an Oculus product. We don't have side businesses, we are a 100 percent dedicated to making VR successful. Right now VR is a test for a lot of people. Strapping their mobile phone into something or using the console they already

VR offers a whole new dimension of what is possible in puzzle games like »Luna«.



After only one year Oculus' store contains already more than 100 titles, including a lot of tech demos. Huge games, however, will still take another few years in the making.





High-level entry into VR: Oculus is aware of the Rift being a product for enthusiasts but convinced of its yet unmatched quality.



have. And when they say »Yes, this is for me!«, we think they'll come to us, so it's all good for Oculus.

**Like a drug dealer (laughs): A first cheap shot to try it out and as soon as you're hooked, you go and get the good stuff – in this case from Oculus.**

(giggles) And this is all we do. The amount of dollars and attention we are spending to improve our business, hardware and software is unmatched. Over time that will give us the distance from our co-conspirators and we'll do really well.

**There has been a lot of talking about platform fragmentation in VR: Steam games just on Vive, Oculus on Rift and now Sony brings in PSVR. Is it your main strategy to create this Oculus-only cloud to put yourselves ahead of your competitors?**

Well, with over 250 million dollars we've spent more than any other hardware company to date on software. And while everybody waves their hands and talks about how they've invested in the business, I think – especially after Touch launch – anybody who goes and looks in the stores will realize that we have the fullest, deepest, largest bank of VR software out there. That is a lot of money to spend and we believe it's only fair that we reap the rewards by having people come to our store. Google and Sony are investing in their own software for their own stores. We applaud them for doing that – we are doing the same. I know there are people out there who don't understand that, but we feel it's perfectly natural to do that. Certainly if you ask Microsoft, who will enter the business soon, they won't be saying »Ah, no, we are just going to spend money and give it to everybody«.

**With the creators update in spring 2017, Microsoft revealed it's going to enter the VR market and that there will be additional headsets from companies like Dell, Asus, HP and others, with a starting price of around 299 dollars. How do you feel about this initiative? Simply more competition or do those devices aim for a completely different user base? And: Are there any plans for a lower priced Rift to broaden the customer base?**

We don't have any plans for a lower priced Rift. We believe, as I said earlier, there is a bar that needs to be reached to get presence and that the Rift is above that bar. I have yet to use any of those Microsoft devices so I can't comment on whether they meet it. If you're

going to go below that bar, something like Gear VR is the right space. 99 dollars – that's an awesome »Can't be beat«-price, so something in-between that fails to reach the bar of presence and has a higher price-point ... I can't judge something I haven't seen, but I'm dubious.

**People seem to be afraid of VR headsets following the same trend as smartphones, having to acquire new hardware every two years. Do you believe those are valid doubts?**

I think they will be upgrading without obsoleting, but it's hard to answer that question. I'd say if you're buying a 99 dollar headset like the Gear VR, it isn't a bad consumer experience to expect annual quality updates – it's a 99 dollar device. We believe in the Rift and Touch as they are right now. The next generation of innovation is going to come from software.

There are many bells and whistles you can add on to the hardware but every time you do so, developers have to start over and customers say »Well, where's the software that takes advantage of this new feature?«, when people are just catching up with what it means to make VR games. So I don't think you will see annual updates on the high-end VR market, certainly not at the price points we're at. We are very considerate of the consumer at the same time as we're considerate about our development community that really needs time to figure out what to do in VR just with the stuff we've given them.

**With Touch on the market, would you say the Oculus experience is kind of complete? Or are you planning on putting out other gadgets? I'm thinking of fun features like the »Nosulus Rift« or the headsets used for the »Mass Effect« amusement park attraction which spurts water into your face.**

Really?! (laughs) Ok, I can tell you – PR-side – we are not launching anything that is putting water into your eyes or makes foul smells. We think that the headset, the earphones and the controllers are the fundamentals of this generation of VR. At some point we will take a step forward but not in the near future.

**» I'd never say anything won't work because I will be proven a fool! «**

Jason Rubin

**A lot of people criticize length and re-playability of numerous current titles. Many are more like demos you experience once or twice and maybe show to some friends. What about games following the usual standards?**

We have a bunch of games with average play sessions of over an hour, so the idea of a 30

minute limit is absolutely not true. I recently found the time to play a long session of »Dragon Front«, which I don't get to do very often, for four and a half hours straight. So I know that there are titles where you can physically stay in for a very long time. Anecdotally people online have talked about playing »Elite Dangerous« or »Chronos« for six to eight hours at a stretch. Chronos will take you about ten hours to complete. Elite Dangerous is an infinite game that you can play forever, so is »Project CARS«. The thing about them is, that they were released into the 2D-market. When VR came out, titles like these just ported themselves over. Anything that uses hand controllers, however, couldn't be thought about before we gave hand controllers to the market. Those titles are up against a couple of challenges. The first challenge is they have only had their hand track controller prototypes for about a little over a year now, regardless of who you were working with.

The average console title takes two to three years to make – we all know that. So even if they had gotten their controllers and immediately set out to make the type of title you are talking about, we'd still have another two years to go before this came out. Likewise there's an installed base issue. For an independent developer to make a title of that scale they have to expect a certain number of people to purchase it, but all of us started with zero installed base in 2016. This is one of the reasons that Oculus has been so aggressive investing. We wanted to jump-start the market by making multimillion dollar investments in titles like Chronos, »Dead and Buried« or »Robo Recall« to attract people so that after that people could do bigger titles. That's a long way of saying: Invariably there will be the titles that you want in VR. To expect those titles to be there today kind of ignores the practical development challenges that VR is up against, to deliver a multi-year title without having multi-years of hardware to build upon.

**Are there any genres, you'd say will never really work in VR and others that are predestined to take place in Virtual Reality?**

After 30 years of watching game development I never bet against game developers. Anytime you publically say »Uhm, this won't work!«, some genius figures out a way and makes you look like a fool. So I never speak against the creativity, ingenuity and resources of the development community. Too many people, too smart – they'll figure it out. There are challenged genres like 1st person shooters. Then there are genres like RTSs where it just works. Now you're looking down at this toy set and you put your hands in there and move things around. It improves what



already exists. And then there are genres that we don't know anything about yet, and perhaps they will end up being the killer genres for VR. It might take some years but I'd never say anything won't work because I absolutely will be proven a fool!

**That might be your chance: Name your favorite game and genre that will »NEVER WORK«.**

(laughs) Well, I've actually been doing that with shooters. We initially thought nothing will ever work, so we worked on »Damage Core«. The next generation is Dead and Buried, followed by Robo Recall and »Arktika.1«. And the beauty of the development community is that every time someone does something brilliant, everyone else just grabs it and steps on the shoulders of the geniuses before them. Everyone wants 1st person shooters in VR – the more we invest in them, the farther and faster we think we can push them.

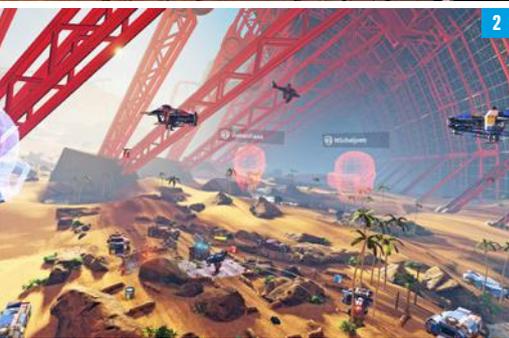
**A lot of people say »Wow, VR is cool« but in many cases - after a while - they think it's also just a regular game, only with lower resolution and limited controls. Any plans to keep up the »WoW!«-effect?**

When I started at Oculus two and a half years ago, my challenge was to put out software for

1st person shooters like »Robo Recall« are a challenging genre and the risk of motion-sickness is enormously high.



With the launch of Oculus Touch, the Rift experience is complete.



1 2 Genres like RTS transport perfectly into VR, like Force Field's title »Landfall« proves.

3 A quick consult in Force Field's open plan office in the heart of Amsterdam. Force Field is one of the world's largest development studios dedicated solely to developing state of the art Virtual Reality (VR) and Augmented Reality (AR), creating high-end games, innovative TV & video content, unique interactive experiences and groundbreaking applications.

4 Force Field producer Robert Abercrombie checks the latest build of the Oculus VR game Landfall.

VR. Everybody said »Make stuff that's only for VR!« The problem is: No one had ever made VR-games before. To go to a developer and say 'Figure something out' is great, but that wouldn't have brought stuff to the launch market place. The same is true for indies. They wanted to be first and they want money coming back into their coffers, so they take the low hanging fruit – things they already knew and adopted to VR. It will take a little longer for developers to have that brainstorm and say »This can only be done in VR!« »The Climb« is a perfect example.

**It just gets your heart pumping!**

Exactly! A game that could never be done in another medium. Go try to make The Climb work on a Playstation in 2D – it just doesn't have the same impact, right? And our stats show that people came back to it continually to play and demo it for their friends. Good for Crytek for coming up with that genius piece of software. I don't disagree that a lot of these games are also playable in 2D. Dragon Front is a perfect example. I could probably play it on an iPad but playing it in VR and sitting across from someone and seeing their head-motion is awesome.

I was playing against a guy, and he was one of those gamers you immediately dislike. He took all the time he could to take his cards out, did things that he knew would egg me on. He was also clearly a very good player and he was beating me. My fort had three health left, his fort had been untouched and his champion was about to kill me. I had my champion who was invisible and hit him for 20 points of damage. I'd guess one of the highest hits that ever happened in this

game, it's a single kill for his fort – one move before he would have killed me. And I saw his head do this (shakes his head around). In this moment I knew, that a human being was feeling it and I loved that moment (laughs)! I couldn't have gotten that on any other medium other than VR, the satisfaction of seeing the human agony of me smiting him in a single smash. It was one of those moments where I was like »Yeah, this really is different!«

**In many current games we teleport around which feels very unnatural and breaks immersion. Meanwhile in many 2D games we have the ability to move extraordinarily unnatural, in addition to superhuman senses. Playing a racing game, I have the whole road in my active HUD, which is actually very small compared to what I can see in total. In VR, however, I can see like in the real world, which would constantly shift my attraction. So the possibilities we have in 2D-games cannot be translated into a realistic VR-environment. On the other hand, a perfectly realistic setting can't also be transported from 2D to VR. Are there any solutions to these problems?**

It's a matter of »language«. When radio was out, people said »How do we use radio?« And over the time that radio became more and more popular with people, it changed. There was a very specific radio speaking voice that we think of as the 40ies accent. But it's not the 40ies accent, it's the 40ies' radio (!) accent. Radio quality was very low back then, the accent was created to help fix this problem. When TV came out, people who were in radio started working on TV and they quickly had to change their accent because people looked at them and asked »Why are you talking like that?« It totally made sense in radio, but it didn't in television, which then figured out its own language. If you look at old TV-shows now, they're almost unwatchable, even old movies. Think of »Dirty Harry«:

**» At least for the next five years it's Wild West and developers love it because it reminds them of their youth «**

Jason Rubin

Guy goes to his car, opens it, sits down, the engine goes on. You see him drive over a hill, around a corner, he gets out of the car, then the action continues. Movies were very slow until they figured out how to get so much more going on. The technology, the language of telling a story changed over time. The language you are speaking of is the language of the 2D-screen and we've had 30 or 40 years of gameplay development on it. We figured out how to get 1st person shooters to work, that happened about 20 years ago. John Carmack never would have imagined the whole 'You're in a helicopter, you punch a guy, he punches you back, you fall out and see your

hands and feet, then you hit the ground and see the guy jump'. The whole way that they do that in »Call of Duty« or other games makes no sense if you take it out of its space. But you believe it, because of the technology and the language of the 2D-game.

Now we're at the beginning of the VR-era and we have all these people that are versed in only the 2D-era of gaming, coming into VR, and they're bringing with them the »bad accent«. It's going to take them a while to figure out the right way of doing things in VR, maybe years, but as they do they are going to create a new language. You probably won't run at 25 mph like in most 1st person shooters. And driving games probably won't work the same way – deal with the fact that you really are looking 360° around you. A lot of the tricks we are pulling in games simply won't work! But I am absolutely positive, after watching technology from my lifetime, and then thinking and looking at the technology like the radio or TV transition, which none of us lived through, that we'll figure out that language.

#### Do you have any examples?

In Ubisoft's »Eagle Flight« you're an eagle. When you're up in the sky and things are far away from you, you don't tend to get sick from motion. When it tends to be a problem, is when you're zipping in and out of buildings, so they bring in black shutters on the side that impede your periphery. That helps with locomotion problems. Flattening 3D and going to 2D is another trick they pull. So, 3D and moving fast in 3D is part of what contributes. It's the disconnect between you inner ears and your eyes, what fundamentally creates the motion sickness, just like being on a boat on a stormy sea. Flattening the 3D to 2D tends to mitigate that, because your brain knows it's not real – another trick nobody tried in an FPS.

I don't know if it works. What I know, is that a lot of smart developers banging at this will solve it! Not by solving the problem, but by creating a language, that makes their games totally digestible and entertaining. People will take steps, put it in and then they'll say »We've figured something out. That whole blinder-thing? Get rid of it, that was only temporary.« That's how game development works.

Some issues are also very subtle. Even something as simple as a cursor on the screen – you would think people have been doing cursors forever. If I'm moving my head around, just put a cursor wherever I'm looking and I can select with a button what I'm looking at. But this cursor has to do some

very interesting things. It has to adjust for the depth of the thing that isn't behind it. So if I am looking at you the cursor is right on your nose. If I look over to the book stand, the cursor has to move back in 3D-space to hit the news stand, stays there until it gets on your forehead, jumps forward in front of your forehead, then jumps back again. When it does that it can't change size because if it changes size, it's very annoying. So it has to stay the same size, yet change in depth. And if it doesn't I'm dealing with a 3D-cursor that's in front of your face but behind you in space, and my brain is like »WHAT IS THAT?!«

It took us a good six months to come up with a cursor solution and that's just the cursor! I could rattle off 50 things like that that are so fundamentally not part of the game but necessary for every single one.

**So you don't only have to create a virtual reality that seems as real as it can get, but you also have to make what's unrealistic even more realistic. That's mad!**

(laughs) It's a bitch, exactly! And I can tell you that the developers I'm working with – like Insomniac, Ready at Dawn or Crytek who are top of their game story developers –, they feel like they've gone back twenty years in their learning because all the things they know aren't facts anymore, so they have to re-learn them.

And you would think they'd be frustrated, but it makes them feel alive. Things aren't changing as fast anymore in 2D-games. So it makes them feel that drive that created their urge to be game developers in the first place and it's addictive. Twenty years from now, ten years from now, maybe some of that goes away, because we have that language learned. But at least for the next five years it's Wild West and they love it because it reminds them of their youth.

**» What I long for is massive worlds to walk around in! «**

Jason Rubin

**What game would you personally wish for in VR, no matter if it's possible or not?**

What I long for is massive worlds to walk around in, with a significant number of artificial NPCs as well as real players and social interaction. Think of something like »Skyrim« or »World of Warcraft«. Those games are going to take a long time to happen because of the scope.

It took five years to launch WoW, four years to make Skyrim, six years to make »GTA 5«. I look forward to the day that we get to do that stuff. It's not going to happen tomorrow, but we will get there invariably. And those are the games where you say »How long are you going to be in there?« For a looong, long time!

»VR Sports Challenge« offers a wide range of activities like Basketball, Football or Hockey, fist-fights included!





Unlike »Elite Dangerous«, which was ported from the 2D screen, »EVE Gunjack« was directly built for VR.

**When I first tried out the Rift I was afraid I'd walk into a wall and I was glad the promoter was there to tell me where I was within this room. I knew I was moving, but somehow wasn't – like when you walk with your eyes closed, without knowing what angle your body's at.**

We now have a guardian system that'll help with that. You go around with your Touch controllers in your room and put the walls up. When you get too close you'd see the guardian come in and tell you to stop. We totally agree with that, also the angle-issue, there are going to be fixes, but right now we just don't have the language, yet, how to break immersion when you need to.

**Looking at titles like The Climb and games where you dive with sharks or get buried alive ... games that – let's say – trigger primal fears. Is there a possibility to establish VR as a therapy tool?**

Absolutely! VR is already being used heavily in therapy. We get a lot of incoming requests for hardware and help, treating all kinds of ailments. I actually brought in one doctor, a favor to a friend. The ailment he was trying to treat is a significant pain in your leg that has no bearing, no physical manifestation, it's a mental thing and it sounds horrible to people that are afflicted by it. But he had done a bunch of studies where in VR the person hit a button to move a virtual leg like this (moves his leg upwards), while their real leg stayed still. They found that after doing that people with that affliction were far more flexible and capable with their legs than they were beforehand. Like any other technology, VR opens up huge possibilities for positive impact. That's why we announced 10 million dollar funds for education, as well

The potential of VR is gigantic and all but limited to gaming, with education, architecture and therapy being only three alternative application possibilities.



as diversity, architecture and human and social interaction.

**That said, do you see VR's main focus in gaming or does its true potential lie elsewhere like in interactive movies and/or series? Or in promotional use, like at Audi?**

Sitting inside your car and designing it, as you like it to be? Sure! Mark Zuckerberg has said he believes VR is going to be the next computing platform. And if you want to be a computing platform you're not all about games. They will be a large portion of what people do with VR, because people like games. There will be a lot of entertainment in VR, including movies. But to be a computing platform you have to be broader than that – just look at what your phone is capable of. We fundamentally believe that the key power of VR is social and the ability to interact with somebody in a way that you can't do through a screen.

Just think of Facebook's interest in VR. Facebook is not a company that would try to acquire a new game technology. It's a company that tries to acquire things that are broad-spanning and generally speaking social. That's the future of VR, non-gaming already is the majority of usage. Over time people who develop for VR will figure out other things to do. The most amazing thing, I think, is that the game development community and people who understand real-time graphics, real-time engines, 3D-interaction and the things that have made games for the last 20 years or ten years, will be the people building floral shops, social interactions and all of the things we're talking about.

If I had a child that was interested in videogame-making right now, I'd be all in on learning 3D-graphics, 3D-programming, all of these things because it is the future in the same way that knowing how 2D-website design and 2D-graphics is a massive industry around mobile phones. We believe in all of that stuff.

**Any practical advice for developers new to VR? The two or three golden rules of VR development?**

We still don't know what works and what doesn't, so test! And not only on yourself, because developers tend to always like what they've created. Look at what other successful properties have done, most developers do that. Play everything, look at everything but be willing to fail for a while. It's going to be harder than it is to do the things you've done in the past because you don't understand the language we don't even really have yet. Be open to experimentation and failure. It's been challenging to a certain extend for my team at Oculus to tell people that they



»Superhot's« stop-and-go mechanics lower the risk of getting motion-sick, even though at its core it is a »1st person shooter«.

are doing things wrong. But the ones that are most open tend to end up with the best products in the long run and most of them have been open. One reason why indies are a huge part of VR's future.

**What's the next big step for VR and Oculus in particular? Larger play-areas, playing cable-free, even stronger immersion? And what would be your personally biggest wishes for VR?**

I think with the launch of the third camera or the third sensor we've covered all of the scale issues we need to in terms of the size of the space you're playing in. There are arguments that bigger is always better. This here is a massive room. Most of the world doesn't have this kind of space to dedicate to VR. I only have a few meters by a few meters to dedicate to it and if I start moving the furniture in our living room my wife is not going to have much of that.

We think we've got the right size. Cable-free is alluring but we have not seen the technology yet, that doesn't take the high-end machines that are above that presence-level and moves them towards or below that level because of compression and other issues. Then there's the struggle between wireless and resolution. We all want high-resolution screens, but as soon as you have those, you've got to opt the bandwidth of your streaming and that breaks it again. So to go wireless and then opt the screen resolution enforces wires again, which seems like a bad back and forth to go through. In the long run wireless is inevitable. We have shown an inside-out tracking-system at OC3. It does all the computing in the headset. You can just go as far as want to go, as long as you don't hit something, which has its own challenges. Personally I don't have problems with the cable. In some way it's nice because it tells you where the PC is.

... like a leash.

(laughs) Exactly. And you're pretty good at understanding when it's pulling in different directions. Losing that, which I've experienced when we use our stand-alone test-kit, is interesting. You can pretty much remember where you are in any given room; I've taken a step this way, two steps that way – you kind of know where you are. Kind of! As soon as you warp to another point you're gone and you have no idea where you are in the original space. Cordless has its challenges and it'll be interesting to solve them. It opens up another language-thing we have to deal with. This is going to be the way VR is for the next few years. It's going to be like »Great, no cable! Uh-oh, low resolution, we need a cable, what do we do?«

**Last question – is there going to be a UFC game on Rift? I'd love to get beaten up by Conor McGregor in VR.**

(laughs) Well, let's step back from the brand and talk about a fighting game. I've seen a bunch of those, they're a lot of fun. VR Sports has hockey fighting. And punching the virtual guy in the face is awesome! You can grab his shirt, pull him in, then he punches you. Fighting is doable, but there are challenges. You will never feel the punch, we'd never do that to you. When you get punched you also can't have your head turned like this (turns his head sideways) artificially, because that would make you very uncomfortable. Your head would say it's not moving, your eyes would say it is.

But generally speaking fighting can be done and there will be fighting games coming. When you go to the UFC specifically you'd have to speak to EA. We have a history of making boxing and fighting games – a lot of that doesn't work in VR, for the reasons we talked about. Those games like The Climb are infinitely impactful when they get created but they require a long time to create because you have trial and error, and it's going to take a while to get to language of fighting. But they're coming, they're definitely coming!

**Thank you so much for your time, it was a pleasure having you.**

Interview: Nico Balletta

**» We still don't know what works and what doesn't, so test. And be open to experimentation and failure! «**

Jason Rubin



VR-only? »Dragon Front« could easily be played on an iPad. The social aspect, is what makes the big difference.

# THE GERMAN GAMES INDUSTRY '16/'17: YESTERDAY & TOMORROW

Shortly before Christmas last year, we asked a number of veterans of the German games industry about their personal tops and flops 2016 and what they wish for in the new year.



**Robin Kocaurek**

»Klonk Games«

**Highlight 2016:**

That would definitely have to be the German Computer

Game Awards. We were nominated three times with »Shift Happens«, even for »Best German Game«.

I still haven't quite grasped it today, but the two trophies on the shelf are real. The Indie Arena Booth we organized took the Jury Award home – it was an awesome evening. It was unreal to celebrate with our industry peers and enjoy their respect and appreciation.

**Disappointment 2016:**

It was bitter to see so many colleagues lose their jobs. It goes hand in hand with a few projects that just didn't hit it off. »Consolidation of the market« sounds so dull. I think about the number of people affected, and it makes me really sad.

**My wish for 2017:**

I'm looking forward to a lot of projects which will hopefully be crowned with success. We will have launches on PS4 and Xbox One; a lot of studios we know well will also be releasing titles this year. I hope we will all make a breakthrough on the international market. The second title is supposed to be the hardest. And then the third... and the fourth...

**With the Indie Booth at gamescom, you have become an essential contact point for all sorts of indies – above all probably indies from Germany, but also for international developers. What do you think are the main differences between the German indie scene and in other countries?**

Personally, I think that a number of German indies (including us) were too cautious in the past with regard to game ideas and concepts. Maybe we were a bit insecure and relied on

proven concepts and ideas from the past, sometimes with a twist. It's hard to stand out from the crowd this way – generic ideas don't cause enthusiasm, they're merely liked.

Additionally, it's often the international indies that consist of veterans from big AAA companies, having access to a lot of know-how and contacts. It's slowly happening here, too, if you look at Maschinen-Mensch with »The Curious Expedition«. However, most of them are founded by students straight after leaving university with no experience of working in the real world, just like us. And only a few studios actually made it to their second game. But I'm convinced that this is changing now. Mimimi Productions with »Shadow Tactics« are proof for a studio that has grown up. This development and preservation of seniority is really important for the German developer scene, no matter whether indie or AAA.

The number of young developer talents and newcomers is growing and growing, while it feels like the market has less and less to offer.

**Do you think there's a danger that the indie market could be flooded in the future – similar to the music or mobile sector –, so that**

**it needs to be downsized again?**

I don't think it needs to be downsized, but I do think that the desire to buy has dropped a little, while there's a high availability of new games. This makes it hard for start-ups to position themselves, especially due to their lack of experience and maybe also the courage to do something unique.

I always like to draw a comparison to the music industry. I don't think there are more or less great bands based on what the market size allows. There will always be newcomers, and maybe they will have a hit one day. In the meantime, they play as cover bands at weddings to finance the studio time for their album. Probably no band is

»Shift Happens« won the category »Best German Game« at the German Computer Game Awards 2016.



economically promising in the early days, but that's certainly no reason to stop making music.



**Jan Klose**

»Deck13«

**Highlight 2016:**

Nobody sued Deck13. And if so, I pushed it aside!

**Disappointment 2016:**

People with the empathy of a jellyfish, who wish the plague upon others just because they didn't like some computer game. And platforms that enable these people to molest others with their emotional outbursts.

**My wish for 2017:**

A successful release of »The Surge«. Also, some games will be released under our publishing branch Deck13 Games, which will hopefully hit it off!

With The Surge, Deck13 has a potential contender for a hit. But the feeling still remains that German studios need to deliver a lot more quality to have a fraction of the success of the international competition and to be able to survive. Is this impression deceptive? If not, to what extent does this pressure affect morale – yours in particular and that of a German studio in general?

I think it doesn't make a difference which game is to hit the market in 2017: It has to be of very high quality to withstand the competition, and obviously not only on a national level, but across the globe.

I don't think the country of origin still plays a major role, both as far as employees and the customers are concerned. Every German studio has to compete with teams from all over the world, and budgets will always be tight. That's a challenge for any company.

**What fundamental advice would you have for a newcomer?**

Don't put all your eggs in one basket, but allow yourselves the freedom to hit rock bottom, without having to close down the studio straight away. Practice makes perfect, and in most cases, the first game isn't going to become a big hit. Lower your goals first before tackling your dream game. After all, it would be too bad if the dream of your own studio would be over before it really began!



**Teut Weidemann**

»F2P & Online Games Consulting«

**Highlight 2016:**

The German Dev Days in Frankfurt, combined with the person of Stefan Marcinek. You

have to imagine this happening in Germany: Somebody is selling off his company (Kalypto) which he has successfully built over the years, and in return he gives something back to the industry by hosting a fantastic conference – completely free of charge for the participants and for a good cause, too – supporting the family of a deceased industry colleague.

»The financial winners in our industry should give something back – this is the only way to make progress«, he says.

I haven't met many people like him in Germany – the country where everyone is just functioning, not helping a lot and taking everything for granted, while giving only little. I hope this will set an example for many in the industry.

**Disappointment 2016:**

The hype surrounding VR/AR. Everyone knows that you can't make money with games yet, and this won't change in the near future either. It seems the only way is to take money out of the investors' pockets, who believe in the hype from sci-fi novels. Yes, I do know a few small teams who made good money with their apps, and yet nobody can make a breakthrough with it. Not yet. When? Maybe in five years or so.

**My wish for 2017:**

Innovation, more freedom for creativity – on all platforms. I want awesome new games! Not old ones in a new dress with different scenarios or just better graphics.

This happened a lot in 2016, and some of the top hits promptly felt the consequences, even »Call of Duty«. To some extent it makes sense since, after all, you want to sell your IPs every year, only in 2016 it was slightly exaggerated. And why the big ones all decided

»The Surge« is going to be the next big hit from Deck13.





2016 saw the release of »Infinite Warfare«, another installment of the »Call of Duty« series, which wasn't spared from decreasing sales figures.

to throw their top hits on the market in the same genre within four weeks' time, still remains a mystery.

Oh, and I want to be the first one to grab a Nintendo Switch. Yes, I'm a fanboi! ;)

**The end of the year was quite rough for the games industry. How would you evaluate the year 2016, and what's your prognosis for 2017?**

I wouldn't say it was too dramatic, just a normal development. Some of it was foreseeable, other things not so much, and it's a shame of course, but the games industry is one that always reinvents itself again. And those who aren't dynamic enough or want too much too soon are left behind. Germany wasn't hit as bad as the US, but over there, people don't pity themselves so much. Instead, they say »Too bad, but hey, let's do something else then.«

2017? It's going to get even worse. Unfortunately, the hiccup from 2016 shows its full effect with a lag – and it's going to hit some teams who primarily live from contract jobs. Those who don't have other sources of income or make money independently of publishers, e.g. with an online F2P title, will struggle to survive.

**You're an expert for free2play and mobile, among other things – two highly competitive markets. How do you think business models and user behavior will change in 2017?**

Not much is going to change, F2P is taking over more and more market shares, genres and platforms. One should always keep in mind that F2P is over 15 years old. So, by now you can find F2P mechanisms even in AAA titles which are sold at a retail price of 60 euros. This mix is surely going to be very interesting – as well as becoming a standard. In general, there's a trend towards »games as a service« – which, funnily enough, derived

from MMOs – and will affect all genres and top IPs. Because now, it's no longer about good games, but about the players and how to keep them on a long-term basis. That's the center of all online games, and may I remind you that I already said at Quo Vadis back in 2006 that all games will be online games in the future. It may seem like I have to say it only because I'm a consultant in this area, but I just feel that many don't realize this yet, but run away in fear, even if they haven't achieved anything with F2P for once. It's as if failing with my first game means I don't want to make another one. As far as the user behavior is concerned, not much is going to change. The core group remains and will keep getting good games which we all love. This group is going to get bigger since there are more and more players – however, those come from F2P and are curiously watching how the core market will adapt itself to them. 2017? The market share of F2P will keep growing and be dominating other formats, too. 95% of mobile is already free-to-play, PC is getting there, too, and console is on the rise. That's nothing new though; we all saw this coming years ago.



**Markus Wilding**

»remote control productions GmbH«

**Highlights 2016:**

My personal highlight was the German Developer Awards. It was so nice to see not just

the many veterans, but also lots of young developers attend this »family gathering«. And I generally really like that the event isn't just an award ceremony, but one that both honors the social engagement of its members and supports it through a huge raffle and auction. Business-wise, the highlight was the ongoing internationalization of rcp, which started twelve months ago with the founding of rcp Finland and continued with the first Finnish studio, Rockodile, joining our group. I love that our idea of a European family of developers is starting to become reality.

**Disappointment 2016:**

The decision by the Budget Committee of the German government to not only freeze the prize money of the German Computer Game Awards, but also to demand from the games associations to cover at least half of the costs was a big blow. Last April, I attended the German Computer Game Awards and was positively surprised by the professionally organized event as well as the encouraging and promising speeches by the attending politicians. Unfortunately, it looks like those intents only lasted half a year...

**My wish for 2017:**

Game development has always had its ups and downs, and 2016 surely won't go down

in history as one of its best years. That said, all of us are working in one of the most exciting, most creative and most innovative industries there are, and my wish which goes out especially to the younger developers is to not letting bad news get you down. There are many great games that are just waiting to be created!

**With your experience of having worked for a major international publisher: To what extent did the German games industry catch up/lose to the international competition in 2016?**

The German games industry still suffers from a huge lack of awareness. When I returned to Germany after living abroad for 10 years, I was very positively surprised about how professional the German developer scene had become in many ways... but a large part of my surprise was owed to the fact that as a member of a large international publisher you don't even know about this. Apart from a few names like Crytek or Yager, Germany is still largely seen as the »Kingdom of Adventure Games and F2P«. One of the reasons for this is of course the previously mentioned lack of support from politics to support up and coming studios by public funding, which leads to a lack of presence at international conferences and trade shows, among other things. Poland is currently showing us how it's done: just a few months ago, the Polish government awarded the – by German standards – humongous amount of 27,5 million euros to local developers. A large number of projects were founded and still 6 million went to the biggest and most renowned Polish developer, CD Project Red. Those sums dwarf the public funding we're used to around here, most of which is limited to six-digit sums (if that!). And these kinds of fundings then allow so much more than just the development of a single prototype which then still has to be funded further by a third party. Enabling companies who have already shown promise to take this »second step« is completely absent in Germany. If nothing happens about this in the foreseeable future, the German developer scene will fall behind even further and will withdraw in its established niche.

**You guys have a lot of experience with free2play, among other things: Why was 2016 good/bad for mobile and free2play?**

There's no doubt about it: 2016 was an extremely challenging year for everybody who makes their money on mobile and especially on F2P. Two points proved to be the most problematic: the lack of visibility and the dwindling willingness of consumers to pay real money for mobile games. The bigger of those two problems is the visibility: Eight years ago, 250 games were published per month in Apple's App Store, now it's 500... per day. To stand out from this vast crowd, you either need an absolutely fantastic

game, extremely deep pockets or a powerful IP. And as recent years proved, these days you really should tick at least two of these three boxes to achieve sustainable success.

Aggravating this issue is the fact that consumers are less and less willing to pay for mobile games, especially in the German-speaking area. To a certain degree, this is a home-grown problem due to the huge number of F2P games! On the other hand, gamers who spend more time with a F2P title are still spending money on it, even over a longer period of time. Our most successful game »Angry Birds Epic«, for example, was developed by Chimera Entertainment and published by Rovio in the summer of 2014. 2.5 years later, it's still being played by hundreds of thousands of gamers daily, a significant amount of which are still paying money for it. To make this happen though you need to consequently stick to the »games as a service« principle – these days there's no way you're going to be successful without continuous updates and community care.



**Carsten Fichtelmann**

»Daedalic Entertainment«

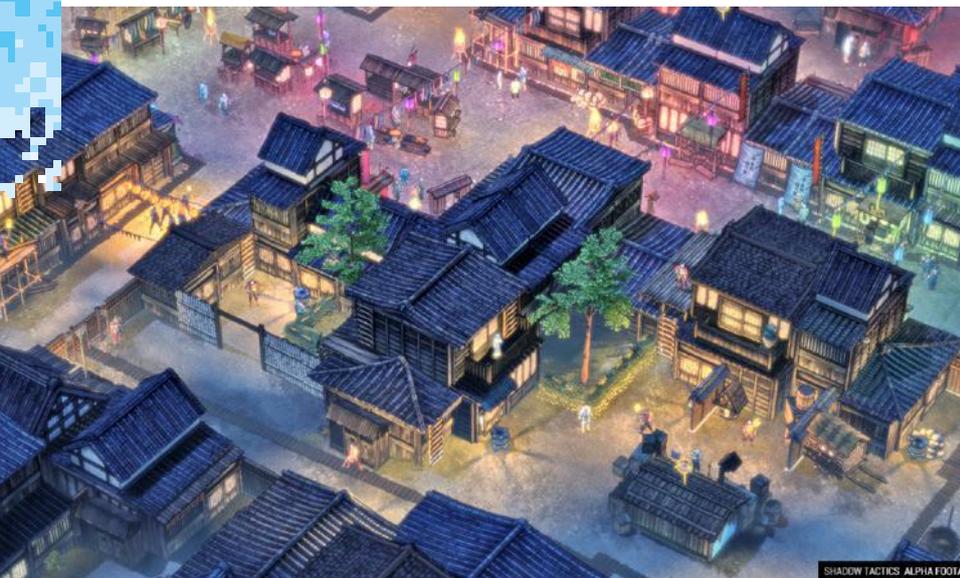
**Highlight 2016:**

The night of the German Developer Awards: 23 nominations, winning a total of 9 awards! With »Silence«, »Skyhill«, »Deponia Doomsday« and »Shadow Tactics«, as much as four of our games were among the winners. In a lot of categories, we even had to beat ourselves.

**Disappointment 2016:** The year was marked by a number of difficulties. The many negative press releases of the last few months showed that it seemed to have hit all competitors alike. And that's only the tip of the iceberg; after all, who would say for no reason that the market and

With »Deponia« and »Silence«, Daedalic adds another two strong titles to their portfolio.





»Shadow Tactics: Blades of the Shogun« by Mimimi Productions was the biggest winner at the German Computer Game Awards 2016, besides »Silence«.

its business models are extremely under pressure. I did just that and got into a lot of trouble for being honest.

**My wish for 2017:**

That things will get better again. We are developing some great games, but we did so in 2016 as well. And many games are struggling or failed not because of lacking quality, but because of the current market situation.

I hope the market will ease and customers will realize that quality has its price. I also hope that our titles that are geared towards long-tail sales, can tap their full potential in 2017 and thus compensate for the rather mediocre sales launches of some titles from 2016.

**How would you judge 2016, both for yourselves and for the German games industry in general?**

It was a very difficult year which Daedalic in the end managed to turn around, above all with Shadow Tactics: Blades of the Shogun by Mimimi Productions. 2017 is going to be even harder and more companies will have to cut jobs or go out of business.

**Daedalic today features a broad spectrum of in-house developments and publishing on PC, console and mobile. In your opinion, what were the trends in 2016, and what can we expect business-wise in 2017?**

Our themes are more and more targeted towards core markets. In the past, we had mix of midcore and core titles. The players' willingness to spend money and the visibility in the core section are better than in the midcore section where you quickly get lost in the crowd among many other indie titles.

Apart from the PC business, we will mainly continue to push further into the console market. There's no special plan for mobile; we will react to sensible opportunities only with very small budgets. In order for the premium segment of the mobile platforms to be eased, the platform providers would have to

make significant modifications. And it will take some time for VR to seriously provide plannable revenues.



**Thorsten Hamdorf**

»Head of Services - BIU«

**Highlights 2016:**

One of the highlights in 2016 and something that's made us, the German Games In-

dustry Association, particularly happy is the growing and improved interconnectedness of the German games industry – whether that's federal states, colleges, indies or our network for game developers, BIU.Dev, which has over 100 members now and is developing positively in general. More real highlights for me were our gamescom activities, like the Pitch & Match, which brought together 79 developers and 16 publishers from 17 countries, or our support of the still growing Indie Arena Booth. Personally, I was also excited about the first published Virtual Reality games as well as the much-awaited release of »The Last Guardian« in December.

**Disappointment 2016:**

Unfortunately, there were also some not so good news coming from the German games industry: The fact that in 2016 in particular, several German developer studios had to cut jobs, but also the decision by the Budget Committee of the German government not to increase the funds for the German Computer Game Awards, but instead to only cover half of the costs of the prize money.

**My wish for 2017:**

I wish for a lot of »C«: Companionship, Courage and Creativity! I wish for high-quality games from Germany to be internationally successful and for developers to grow again over here.

**The last few weeks were quite rough for the German games industry. How would you evaluate the year 2016, and what's your prognosis for 2017 for the German games industry?**

As the German Developer Awards recently demonstrated, some top-quality games were developed in Germany again in 2016, all of which will hopefully gain a big share in the international market. 2016 saw a lot of positive and also important initiatives for the determination of a course and for course corrections for the German games industry, which we should now all tackle together.

One of these initiatives is surely our concept for a tax incentive of game development in Germany, which we presented in November. We, the games industry, all need to work together now on its implementation. 2017 will have both numerous and exciting opportunities and potentials to offer. One major topic will be the German parliamentary elections 2017 with all their questions

surrounding the foundation and financing, the funding with a potential tax model or the progress of the digital agenda.

The best example: the broadband expansion! On the entrepreneurial side, we will hopefully witness exciting start-ups with courageous concepts by both new and experienced minds of the games industry. Plus, 2017 will also offer the chance to further develop and leave our mark on hot topics and technologies which dominated in 2016, like eSports and Virtual & Augmented Reality. But 2017 will also be about taking advantage of potentially attractive niches, like Shadow Tactics did recently, and to further strengthen the transmission of game technologies to other industries – buzzword »Applied Interactive Technologies«.

**A few weeks ago, you presented the concept of a new funding model. What's your prognosis for 2017 – how will politics deal with computer games as an economic factor and cultural asset?**

We will do everything we can to make sure that games will gain more recognition as an important economic factor and modern cultural asset, especially in politics. We had a number of great discussions in the last few months, e.g. at our summer party and the parliamentary evening, and we feel there's now a lot more understanding and readiness for improvement. In order to successfully work on the approach already taken, we need as much support as possible.



**Tom Putzki**

»Wargaming«

**Highlights 2016:**

The highlights from our point of view were, of course, the releases of »World of

Tanks« on PS4 as well as »Master of Orion«, plus the announcement of our cooperation with SEGA and Creative Assembly on »Total War: Arena«. Besides that, it was quite amazing having Trafalgar Square in London blocked for our tanks.

**Disappointment 2016:**

That would definitely have to be the passing of two personal industry buddies... In this respect, 2016 was like the plague anyway: Lemmy (I just count that as 2016, too), David Bowie, Prince, Alan Rickman, Bud Spencer, Leonard Cohen ... the list goes on and on. Then Brexit and the US elections... Thank you very much – enough now!

**My wish for 2017:**

Please be better than 2016. Plus, it would be much appreciated if the German politicians could learn from some of our neighboring

**»A lot of games failed not because of lacking quality, but because of the current market situation.«**

countries in terms of fundings and the recognition of computer and video games... We're far behind in this respect. It's high time – otherwise we're running the risk of completely losing out.

**The last few weeks were quite rough for the German games industry. How would you evaluate the year 2016, and what's your prognosis for 2017 for the German games industry?**

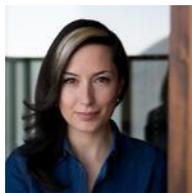
The industry was hit hard indeed in 2016... however, this isn't anything completely new. We're facing a painful consolidation phase every few years, according to the motto »been there, done that«. But the show must always go on. So, everyone who is now

predicting »the end of the industry«, should remind themselves that we've all been there before.

**Wargaming's spectrum of operations is getting broader and broader, like with »Master of Orion« in 2016, or also as a publisher and with the cooperation with Creative Assembly. What do**

**you think are the relevant trends in 2017, and how will they affect your business?**

For a long time, we were a one-product company, but those days are definitely over. From our complete »World of« series, with the flagship »World of Tanks« on PC, mobile devices and consoles, to »Master of Orion« up to our creative workshop and think tank WG Labs and the cooperation for »Total War: Arena« via our third-party publishing branch WG Alliance – our future is looking quite bright. We have our own brands; we breathed new life into a legendary franchise, and acclaimed developers and publishers trust our competencies. 2017 – we're ready for you!



**Nadia Zaboura**

»Zaboura Consulting«

**Highlight 2016:**

»Playdead's Inside«. A sensational gaming experience – a minimalist gem in terms of

design, sound and immersion.

**Disappointment 2016:**

I will skip the disappointments to leave more space for the next category. There's plenty to wish and ask for.

**My wishes for 2017:**

That would clearly have to be a considerably bigger, serious and long-term commitment by our politicians. The games business has serious arguments to be recognized as a leading industry and to be funded accordingly. Growth, revenues, innovation activity and innovator rate – the meaning of the industry still isn't reflected in adequate political recognition and above all its support.

Driving a tank through London: For Wargaming's celebrations in 2016, even Trafalgar Square was blocked off.



My second wish in this respect would be an industry which continually, clearly and constructively demands this political commitment together with the games associations. An industry which doesn't get frustrated or discouraged by the often lengthy, opaque political processes, but which remains strong, persistent and creative in its solidarity.

My third wish goes out to private and public investors: We need more courage to invest by German capital providers. If we mean business with Germany as a digital location, more capital needs to go to founders, medium-size companies and the big players. Also, networks which enrich the games industry with their important networking and information activities are worth funding.

**An often-discussed subject is whether the German games industry can withstand the international competition or not. How do you think the industry performed in 2016, and what's your prognosis for 2017?**

Due to my occupation, I look at this from a certain angle: There's still room to grow for the German industry in terms of international visibility and international location marketing. I see a particular need for action among the public economic and foreign trade agencies, cluster managements and business developers. Those include not only contemporary campaigns, but also the statistical investigation of the games industry with a detailed breakdown of value-added chains (like the Federal Ministry for Economic Affairs is currently offering in its monitoring report of the culture and creative industries).



**Jan Theysen**

»KING Art Games«

**Highlights 2016:**

As a gamer, my highlight was that a lot of awesome games were released. It's been a

while since I wanted to check out so many games. Some of them have also surprised me in a positive way. As a developer, my highlight (as almost every year) was to see the development of the teams and the individual people here at KING Art. In the last 12 months, we did a lot of things for the first time, and I'm already looking forward to learning new stuff again in the next 12 months.

**Disappointment 2016:**

With regard to the games industry, this would certainly have to be the many job cuts and the problems a lot of developers are currently facing. When it comes to investment-driven bullshit, my pity is limited. But I'm truly sorry for all those teams who hang in there with all their heart and passion. It is

possible to do everything right and still lose. I wish my colleagues a speedy recovery and that the show goes on for them.

Beyond the games industry, it would certainly be the new rise of the populists. It leaves me speechless when in times of unlimited information, the most appalling lies are still being spread.

**My wish for 2017:**

I'm not overly keen on wishing. »Doing« is what helps.

**Since »The Dwarves« have now been released – your third production with a Kickstarter campaign – and the next project is about to be kicked off: Will you be using Kickstarter again? And what's your prognosis in terms of crowdfunding for 2017?**

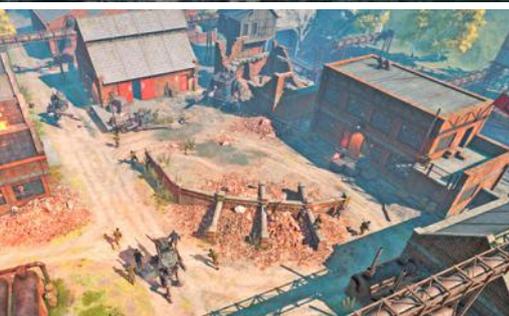
With »Iron Harvest« we have announced our next project, which has caused quite a stir. Several publishers would like to make the game with us, but Kickstarter would also be an enticing option for us. Our three campaigns so far went well, and we enjoy being close to the community. We will make a decision at the beginning of the year about which road to take. My prognosis for crowdfunding is that 2017 is going to be pretty similar to 2016, meaning that really good projects with well-executed campaigns which establish confidence in developers still have a chance. There will be less successful Kickstarters, but the successful projects aren't necessarily going to be smaller.

**How do you evaluate the past year, and what's your prognosis for 2017? After all, you've been successful for quite a while now.**

I think that a necessary correction took place in some areas, and this is only going to continue. The free2play/mobile sector is not just facing problems since 2016. Those who can't control their costs or are investor-driven and expecting or promising who knows what are now getting the bill for it. I actually expected this to happen years ago, but it seems that »stupid money« has been injected in the market for a longer time already than I thought was possible. I think this is a healthy development since it dampens some market distortions and maybe gives smaller developers or publishers, who invest their own money and whose operations are often more innovative, more air to breathe.

In the pay2play section, the market will remain difficult in 2017, but probably not get worse. One of the lessons we learned from the past few years is that it is no longer enough to just make a good game. You also have to know how to attract players. This may not be a core competency of a game developer, but whoever wants to survive must be a good salesperson as well. For many years, it became easier and easier to develop games, but harder and harder to sell them.

**»I think that necessary corrections have taken place in a number of areas.«**



After their successful release of »The Dwarves«, the Kickstarter experts at KING Art Games have their next big project in the pipeline.

I'm sometimes flabbergasted at how little especially young developers are aware of this.



### Wolfgang Walk

»Walk Game Productions, MD.H«

#### Highlights 2016:

My personal highlight was that a few of my former students have won a number of

awards for Shadow Tactics at the German Developer Awards ceremony – and rightfully so. And also that I was able to contribute to the work on »Phoning Home«.

#### Disappointment 2016:

Surprisingly, it wasn't the omnipresent, and in my opinion unjustified doomsday mood. Some unsustainable business models showed their limits. The lack of sustainability was apparent already quite some time ago. Those who act surprised now have kept their eyes shut for too long. But there will be new, exciting studios making games with international appeal and featuring fantastic, original design ideas. I think the slowly improving education in games in Germany is starting to bear fruit.

The real disappointment is the inability of our political representatives to point out the great significance of game technology and game design know-how for the future of Germany as a location for business and science to our politicians.

#### My wish for 2017:

I guess peace in the Middle East is asking for too much? Alternatively, I'd like to see a wake-up call for our two games associations and the politicians.

#### From a game designer point of view, which trends did you like the most/the least in 2016?

What I liked the most is that especially the indie sector again and again shows a lot of (sometimes rewarded) courage to leave the beaten paths and try something new. What I liked the least is that the AAA sector is still predominated by the same old same old. If nothing changes, I fear for an economic bloodbath in 2017.

#### Since you're active in educating young talents, what do you wish or hope for in 2017?

I wish for motivated students, an even closer collaboration between research, education and the industry – and for a small, charitable project I work on and that's also related to the topic to become successful.



### Adrian Goersch

»Black Forest Games«

#### Highlights 2016:

The participation of our eSports team as Black Forest Games at the »Call of Duty«

World Championships in Los Angeles. It was a lot of fun, the community feedback was

amazing and tens of thousands of gamers followed the matches. The fact that this was my highlight already says quite something about the year 2016.

Also with regard to the German-speaking games industry, it's hard to think of a specific highlight. On the other hand, some things are going quite well basically. Rockfish, KING Art and Mimimi made it to the top of the Steam charts. Yager, Piranha Bytes, Deck13 and us, too, are working on larger projects with international potential. THQ Nordic is making an extremely positive development, Flaregames is established as a successful mobile publisher, Headup Games always has a good sense for business. »The Long Journey Home« (Daedalic), »Dropzone« (Gameforge), »Drone Swarm« (stillalive studios) are really great projects which I'm expecting to also be commercially successful. The indie scene just made a mark with Jo-Mei's »Sea of Solitude« by getting EA to sign the project. These are just some examples which inspire great hope.

#### Disappointment 2016:

The first half of the year was extremely challenging for Black Forest Games and made great demands on our team. We had to tackle many challenges, and between partner projects and pitches of new concepts, our own project »Rogue Stormers« lost out in the end.

The result was that our eventual Steam release went quite wrong. Even worse, console versions were only completed during the blockbuster season and got lost in the crowd when released. The result: 50,000 units sold, where there should have been 150,000. That was really bitter since we wasted a lot of potential there.

#### My wish for 2017:

No mass dismissals and studio closures in the German-speaking games industry for just one year. Daedalic successfully leaving their niche, becoming an international powerhouse and financing all sorts of German AA and AAA projects. Carsten to then be promoted to become Governor of California. Crytek surprisingly publishing »Crysis 4« which exceeds »CoD« and »BF« in sales figures. For the first time in history, Best Game of E3 being shared by two games, »Elex« and »The Surge«. Gronkh who had just shaved his head and beard to get more privacy being mixed up with Björn Pankratz and stalked by hundreds of Piranha Bytes fans. In the US, a press release to be issued regarding the German Computer Game Awards, and Black Forest Games winning the developer award for Studio of the Year, although we aren't even nominated. Just because everyone loves our coffee mugs.

#### You recently started sponsoring an eSports team. How do you think the relevance of eSports changed in 2016, and what can we expect in 2017?

In 2016, Black Forest Games took part in the World Championships in Los Angeles with their own »Call of Duty« team.



In 2016, a lot of players from outside the industry jumped onto the eSports bandwagon, like the soccer clubs Schalke 04 or Paris St. Germain. For the first time ever, there were more eSports spectators than at the classic sports heavyweights. A lot is going to happen, primarily at the base, in 2017. Local eSports clubs are going to be established and start becoming a part of our society. In no time, parents will not only be driving their kids to soccer training or ballet classes, but to training in eSports clubs, and the bedrooms of German teens will be decorated with posters of eSports stars.

**You used Kickstarter for »Giana Sisters« and »Rogue Stormers«. When looking back on 2016, how important is Kickstarter still for game projects today, and how is the platform going to develop in 2017?**

Something happened that a lot of people – including me – had predicted three years ago. The hype has faded, but Kickstarter has established itself as a potential financing option. We have seen some successful German campaigns like »The Dwarves«, »Lost Ember« of course, but also »Fox'n'Forest«. To be honest, I don't expect major changes or developments in 2017. There's probably going to be one product or the other again which will get a lot of attention, but more due to the gameplay than the fact that it is financed through crowdfunding. There would only be a stir if Cloud Imperium ceased the development of »Star Citizen«. But I'm sure that's still going to take a while.

»Elex« by Piranha Bytes combines sci-fi and RPG elements. The game is scheduled to be released this summer.



**Felix Falk**

»Managing Director BIU«

**Highlights 2016:**

There are plenty, e.g., the German government's commitment to

computer games as a cultural asset through the financial support of the planned International Collection of Computer Games (»Internationale Computerspielesammlung«) which the USK (the German Entertainment Software Self-Regulation Body) is substantially involved in.

**Disappointment 2016:**

The increasing amount of bad news particularly in the second half of the year regarding the situation of German developer studios.

**My wish for 2017:**

I wish for a substantial promotion of Germany as a business location for gaming, with more political commitment, recognition and support, as well as for the entire industry to work together towards one common goal.

**When looking back on 2016 from the USK's point of view, were there any particularly positive or negative developments?**

2016 was a very good year for the USK. As far as the classic assessments, the memberships and the IARC are concerned, we managed to take further important steps and introduce innovations to prepare USK for future challenges.

**Since early 2017 you are head of BIU (the German Games Industry Association). What do you expect from the new year and how will the association be set up under your lead?**

I'm looking forward to a very exciting year for the industry, for BIU and for me personally. BIU has a fantastic setup, and I will tell you more about the marks I want to make once I've settled in my new job.



**Björn Pankratz**

»Piranha Bytes«

**Highlights 2016:**

As a developer, I'm always tied to my desk. However, in 2016 we travelled quite a

bit with the team and visited lots of trade shows. My personal highlights were Moscow, LA and Warsaw. I was blown away by meeting so many new colleagues and peers and by learning that being far from home is sometimes closer than you'd think.

**Disappointment 2016:**

I wasn't really disappointed by anything in particular since 2016 was a very exciting and good year for me. However, I'm finding it hard to see a lot of industry peers not doing so well and many sadly losing their jobs.

**My wish for 2017:**

I hope that we as an industry can focus on our own strengths and get to work with renewed momentum. The market is still huge, and I'm expecting some positive surprises and a few hits from Germany in 2017.

**Traditionally, you have strong ties to the PC as a platform: Why was 2016 a good/bad year for the PC as a gaming platform?**

There's now a lot of competition for the PC.

Playing on the couch with your controller is just more comfortable than in a computer room. But every platform still has its own right to exist and we should adapt accordingly and stay in the loop.

**The best/worst development of the games industry in 2016?**

A lot of German developers worked together more in 2016 and initiated some great projects. It's nice to see how supporting each other and socializing is helping us all. I'm looking forward to 2017. Onwards and upwards!



**Christopher Kassulke**

»HandyGames«

**Highlights 2016:**

My personal highlight was the birth of my fourth child at the

beginning of the year. A healthy family and a thriving company – what else is there to wish for? As far as business is concerned, we tapped into several new markets with HandyGames. Those who are familiar with us know that we called out our »Beyond Mobile« strategy a while ago. Last year, we stepped up implementations of our IPs on Xbox One, PS4, PC, Mac, VR, Tizen, Android TV, Wearables, etc. Our investments in the future went well, and I'm sure we will benefit from them in the years to come. A broad portfolio and our own strong IPs are only a part of our company's winning formula, so we're well prepared for the future.

**Disappointment 2016:**

2016 was a tough year for our industry, with lots of ups and downs. But I can't really make out an actual disappointment for me personally. However, I am worried about the games industry as a whole when I read about certain issues.

**My wish for 2017:**

As a realist, I believe that most wishes don't come true if you don't do anything about it yourself. That's why we at HandyGames thought about how we could substantially support the industry. Some have already discovered our »Talk in der Alm« video series on Facebook and YouTube. I'm sure we'll try out a few more things in 2017.

**2016 was the big year for VR. Since you traditionally have your finger on the pulse, how do you evaluate the development of this technology so far, and what's your prognosis for 2017?**

HandyGames was one of the first companies to bet on VR. Some products have already been successfully positioned on the market,



and we're already developing new blockbusters which will be setting innovative benchmarks again. I see great opportunities for VR, also for German developers in the near future. However, every studio needs to

decide for itself which VR hardware to support. The market is once again highly fragmented.

**When looking back on the last 12 months, how do you think business models and user behavior will change in 2017?**

Customers always want to have more for less money.

**»The hype has faded, but Kickstarter has established itself as a potential financing option.«**

The developers themselves who rush from one »sale« to the next bear part of the blame. This has reached particularly extreme dimensions in the PC and console sectors.

In the mobile sector, the F2P model will continue to establish itself. However, there's life beyond the usual App Stores, and things may look different there and we may be looking at various models like subscriptions and premium markets.

Questions: Nico Balletta, Sebastian Weber



“The company HandyGames is not only successful in the mobile market, it has also been active in the VR sector since its beginnings.”

# THE INDUSTRY AT A GLANCE

# COMPANY INDEX

Forget about the directory assistance! Here you will find all known publishers, developers, service providers, educational institutions and unions of the German speaking games industry.

Company	Street/Street Number	Postal Code	City	Phone number	E-mail
<b>DEVELOPMENT</b>					
3d-io	Albrechtstraße 46	65185	Wiesbaden	0611 / 5829602	info@3d-io.com
5d lab	Güterhallenstraße 4	79106	Freiburg	0761 / 28533385	info@5dlab.com
Adrastea	Bielefelder Str. 5	90425	Nürnberg	0700 / 42300000	info@adrastea.com
Aesir Interactive	Grafingerstraße 6	81671	München		w.emmer@aesir-interactive.com
Animation Arts Creative	Ankerstraße 3a	06108	Halle (Saale)	0345 / 4700274	info@animationarts.de
AntMe!	Mülleranger 7a	82284	Grafrath		info@antme.net
Bad Monkee	Grindelallee 100	20146	Hamburg		info@badmonkee.de
B-Alive	Panoramastraße 23	88444	Ummendorf	07351 / 441307	admin@b-alive.de
Beardshaker Games	Wartenu 16	22089	Hamburg	040 / 28471900	contact@beardshaker.com
BIGITEC	Theaterstraße 22	53111	Bonn	0228 / 42976585	info@bigitec.com
BIGPOINT	Drehbahn 47-48	20354	Hamburg	040 / 8814130	info@bigpoint.net
b-interaktive	Lohbachstraße 12	58239	Schwerte	02304 / 3382391	info@binteraktive.com
Bit Barons c/o Wailua Games	Schellingstraße 35	80799	München	089 / 41617744	info@bitbarons.com
Black Forest Games	Maria-und-Georg-Dietrich-Str. 2	77652	Offenburg	0781 / 31057910	info@bfgames.biz
Black Pants Studio GmbH	Thiemannstr. 1, Tor 4 Haus 5	12059	Berlin	0160 / 6529506	mail@blackpants.de
Blazing Badger	Niddastraße 64	60329	Frankfurt am Main		info@blazingbadger.com
Blue Byte	 Adlerstraße 74	40211	Düsseldorf	0211 / 338000	info@bluebyte.de
Blue Byte Mainz	 Römerpassage 1	55116	Mainz	06131 / 554470	studio-mainz@bluebyte.de
Bongfish	Am Eisernen Tor 3/2	A-8010	Graz	+43 / 676 / 7822203	info@bongfish.com
Brainseed Factory	 Theaterstr. 22	53111	Bonn	0228 / 42976585	studio@brainseed-factory.com
Bright Future	Gustav-Heinemann-Ufer 56	50968	Köln	0221 / 78982171	info@brightfuture.de
Brightside Games	Am Studio 2 A	12489	Berlin	0177 / 3354447	info@brightside-games.com
Broken Rules Interactive Media	Johann Strauss Gasse 20/8	A-1040	Wien		hello@brokenrul.es
Bronx Studios Entertainment	Olof-Palme-Straße 13	60439	Frankfurt	069 / 870050660	info@bronxstudios.com
BSS web consulting	Savignystraße 74	45147	Essen	0201 / 5200044	info@bss-consulting.de
Buntware Games	Wentzingerstrasse 20	79106	Freiburg	0714/2038044	contact@buntware.com
Bumblebee.	Gerresheimer Straße 7	51674	Wiehl Merkausen	02261 / 4795001	tassilo@bumblebee-games.com
ByteRockers	Schivelbeiner Straße 1	10439	Berlin	030 / 232573390	info@byterockers.de
Bytro Labs	 Zirkusweg 2	20359	Hamburg	040 / 36905400	info@bytro.com
Caipirinha Games	Kiefernweg 1a	24161	Altenholz	0431 / 324540	info@caipirinhagames.de
Chasing Carrots	Hornbergstraße 94	70188	Stuttgart	0711 / 64519353	info@chasing-carrots.com
Chimera Entertainment	Karlstraße 68	80335	München	089 / 210205790	info@chimera-entertainment.com
CipSoft	 Prüfeninger Straße 20	93049	Regensburg	0941 / 6308280	kontakt@cipsoft.com
Cliffhanger Productions	Mariahilfer Straße 103/Stiege 1/Top 25	A-1060	Wien		office@cliffhanger-productions.com
ClockStone STUDIO	Claudiastraße 14	A-6020	Innsbruck	+43 / 512 / 890377	info@clockstone.com
Cooee	Europaallee 7-9	67657	Kaiserslautern	0900 / 1002273	
Crafty Studios	Lichtenwörthergasse 112a	A-7033	Pötsching	+43 / 664 / 2143121	info@craftystudios.com
Crazy Bunch	Billhormer Röhrendamm 8	20539	Hamburg	040 / 23624592	team@crazybunch.biz
createale	Mörkestraße 30/4	71636	Ludwigsburg	07141 / 2399563	contact@createale.de
Cre@Team Software	Sünderup 6	24943	Flensburg	0461 / 64808	
Crenetic	Kreuzstraße 3	45468	Mülheim an der Ruhr	0208 / 4442142	info@crenetic.de
Crytek	Grüneburgweg 16-18	60322	Frankfurt am Main	069 / 21977660	info@crytek.de
Cyber Arena Entertainment Group	Carola-Neher-Straße 12	81379	München		info@c-arena.com
Dachshund Games	Turmstraße 48	10551	Berlin		team@dachshund-games.com
Daedalic Entertainment	Papenreye 51	22453	Hamburg	040 / 43261270	info@daedalic.de
Decane	Marienhöhe 157	25451	Quickborn	04106 / 1282400	info@decane.net
Deck13 Interactive	Gutleutstraße 82	60329	Frankfurt am Main	069 / 71671660	info@deck13.com
Deep Silver Fishlabs	Großer Burstah 50-52	20457	Hamburg	040 / 8888000	business@fishlabs.net
Destrax Entertainment	Merkurstraße 10	33739	Bielefeld		info@destrax.de
Digitalmindsoft	 Wichernstraße 10	89073	Ulm		info@digitalmindsoft.eu
Doublesmith	Wiener Straße 20, EG Haus 4	A-3100	St. Pölten	+43 / 699 / 19447880	mail@doublesmith.com
dreiNET	Bergedorfer Straße 96	12623	Berlin		philip@dreinet.org
Dutyfarm	Oranienstraße 6	10997	Berlin	030 / 30368430	info@dutyfarm.com
East Forge Entertainment	Baumannstr. 3	04229	Leipzig	0341 / 5940359	info@eastforge.com
eelusion	Feldstiege 78	48161	Münster		contact@eelusion.com
Egosoft	Heidestraße 4	52146	Würselen	02405 / 4239970	egoinfo@egosoft.com
Elements of Art	An der Eickesmühle 23	41238	Mönchengladbach	02166 / 9156789	info@eoa.de
Enter-Brain-Ment	Rigaer Str. 29a	10247	Berlin	030 / 55872445	interesse@enter-brain-ment.com
Envision Entertainment	Binger Straße 38	55218	Ingelheim	06132 / 8995068	info@envision-entertainment.de

Company	Street/Street Number	Postal Code	City	Phone number	E-mail
eos interactive	Carl-Zeller Straße 16	75015	Bretten	07252 / 957757	info@eosinteractive.de
exDream	Buchholzer Str. 24e	30629	Hannover	0511 / 37077675	info@exdream.com
exozet	Platz der Luftbrücke 4-6	12101	Berlin	030 / 2465600	games@exozet.com
extra toxic	Offenbacher Landstraße 368	604599	Frankfurt am Main	069 / 48440040	info@extratoxic.com
eyefactive	Feldstraße 128	22880	Wedel	04103 / 903800	info@eyefactive.com
FAKT Software	Dufourstraße 28	04107	Leipzig	0341 / 14990564	info@fakt-software.de
Fairytale Distillery UG	Grafinger Str. 6	81671	München	0163 / 6852365	info@fairdist.com
Far Away Illustration & Design	Im Goldberg 42	63571	Gelnhausen	06051 / 7004970	info@faraway-illustration.com
FDG Entertainment	Romanstr. 7-9	80992	München		info@fdg-entertainment.com
flaregames	Kaiserstraße 146-148	76133	Karlsruhe	0721 / 1831540	info@flaregames.com
Frame6	Heyestraße 41a	40625	Düsseldorf	0211 / 95763955	contact@frame6.de
Fried Bytes	Papestraße 12	66119	Saarbrücken	0681 / 68819141	hello@friedbytes.de
funworld - S&T AG	Industriezeile 35	A-4021	Linz	+43 / 7662 / 67850	info@funwin.com
GameArt Studio	Bismarckstraße 107	10625	Berlin		kontakt@GameArtStudio.de
GameDuell	Taubenstraße 24-25	10117	Berlin	030 / 288768210	impresum@gameduell.de
Gameforge	Albert-Nestler-Straße 8	76131	Karlsruhe	0721 / 3548080	info@gameforge.de
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Making Games 03-04/17

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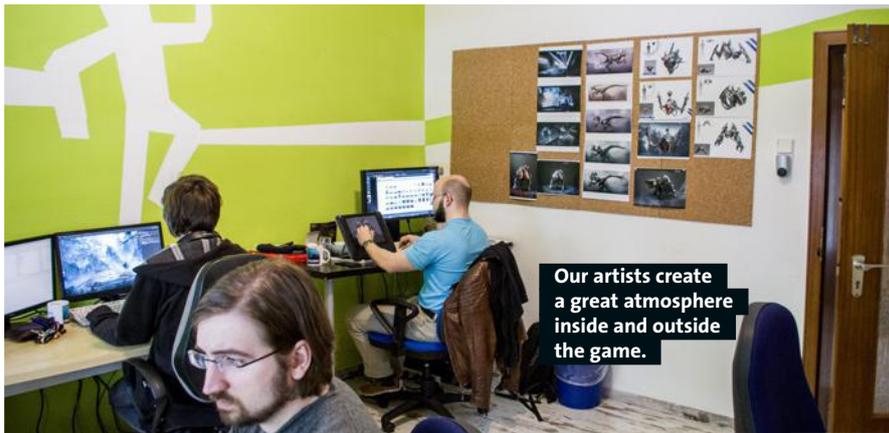
Searchable online index: For every Key Player company you can find the detailed company profile online.

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# A day in the life of... PIRANHA BYTES



RocketBeans TV pays the Piranhas a visit to bring a few of the characters to life.



Our artists create a great atmosphere inside and outside the game.



Just like home – only with more decorations on the walls.



Fan art is always much appreciated!



The entire team in their own garden. They not only like to strike a pose there, they also love their BBQ.

The makers of Gothic and Risen have their offices in a detached house in the German town of Essen. The team invited us to visit their sacred halls where the RPG experts are busily working on their latest project: the sci-fi RPG Elex.



Quest mastermind Harry designs fascinating quests for the players.



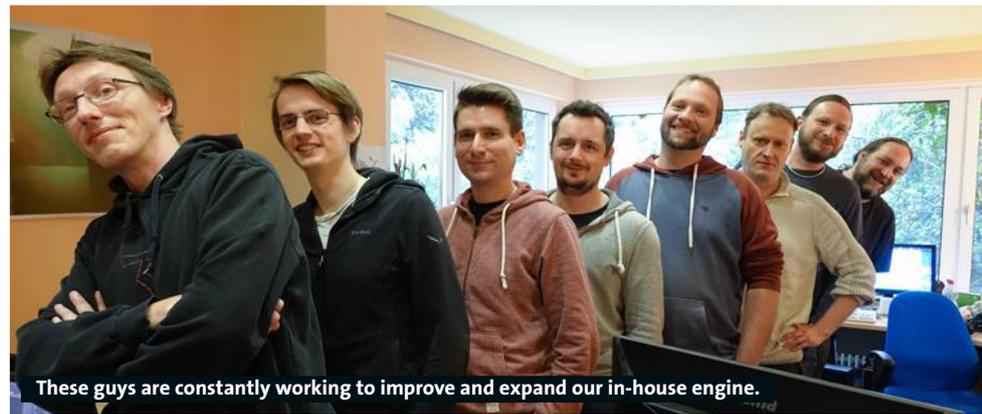
Jennifer Pankratz is in charge of PR, Story and Game Design. For her, focus is everything.



The level department. Random fact: Every Wednesday they have bread rolls with ground raw pork for lunch.



Robert is focused on making sure every location in ELEX looks spectacular.



These guys are constantly working to improve and expand our in-house engine.



Brainstorming for battles with the help of coffee.



The family-like atmosphere is the basis of good results and fun at work.



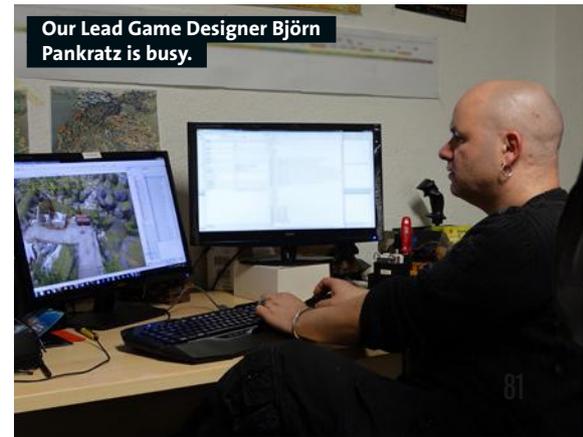
Claudia, cutscene specialist, creates cinematic moments.



Our Managing Director Michael »Magic« Rüge at work.



Still proudly displayed in the hallway.



Our Lead Game Designer Björn Pankratz is busy.

# MAKING GAMES PREVIEW

## Ubisoft goes eSports

While »Rainbow Six: Siege«, Ubisoft's first genuine multiplayer title that's been established in eSports, will soon be presented with new content, the next PvP spectacle is already lining up with the much awaited »For Honor«. We take a look at the creation of both titles, talk with the developers about obstacles and an educational exchange of experiences, and we also chat with pro gamers about their experiences online and during Ubisoft's eSports event in Montreal.

## Further topics

### Early Access Baest Practice

The team behind the indie RTS title »Subsieg« grants fascinating insight into the final steps before the start of the »Early Access« phase.

### Social Media Case Study

Felix Janzen explains how InnoGames analyzes data on Facebook to draw maximum benefits from advertising campaigns.

### Post Mortem to Paperverse

On the search for an individual look, Thing Trunk decided in favor of a papercraft style – Maciej Biedrzycki explains why.

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