

Harry Ridgewell: So, what do you say to the fact that France dropped the ability to vote online, due to fears of cyber interference, and the 2014 report by Michigan University and Open Rights Group found that Estonia's online voting system was hackable?

Areeq Chowdhury: Yeah, could you speak a little bit louder? I just didn't hear the last part of that question.

Harry Ridgewell: Oh okay. Can you hear me now?

Areeq Chowdhury: Yeah.

Harry Ridgewell: What do you make of the fact that France dropped the option to vote online in 2017 due to fears of cyber interference, and Princeton University found that Estonia's online voting system was hackable?

Areeq Chowdhury: I don't know the full details about the French online voting system, but I heard conflicting reasons for why it was dropped, so ... Obviously I heard it was for political reasons of expatriates voting for an opposing party. I understand that was contracted to bring it back because the quantity of votes dropped significantly, although I don't the full details. In terms of online voting systems being hackable the reality is that there is no system of anything voting or otherwise keeping the system secure. So, whether that's them building offline or whether that's a website online keeping them secure. What you need to have is an ability to detect... At the minimum what you need is an ability to detect any tampering with the system. So, say obviously as you say a method of online voting which is an ID system that they have. In terms of the UK we'd have to really look at this afresh because we have very particular electoral roles here that won't necessarily be comparable with other countries.

Harry Ridgewell: What do you think about the fact that in some U.S states those covered by the uniformed and overseas citizens absentee voting act can vote by fax, email, or web portal. How secure do you think those methods are?

Areeq Chowdhury: I'd say that I think.. how do I think the about email thing is?

Harry Ridgewell: Voting by fax, email, or web portal, which is an option in several U.S states. How secure do you think these methods are?

Areeq Chowdhury: It's not something I particularly would recommend for U.K online voting system, but it's not, the fine thing for votes is coming in places like email, it's not that much of a risk when you compare it to postal voting. The main risk is that it could be intercepted, I mean I don't know if it's the best idea, again it's a very similar risk to postal voting where if the vote gets intercepted from being delivered to your house or you delivering it to the election center they could probably just be fabricated and the other end could be affected in that respect.

I think the main thing about what they do in America in that situation I think it is portraying the fine group of voters I think it's for military voters I think, therefore it's a lot lower risk and a much lower scale of attack, say, than if you did manage to tamper or

affect those votes, it might not have a very significant impact on an election outcome. I think peoples fear with if you had that support for all voters I think then there'd be proper risk, I think.

Harry Ridgewell: And do you think using online voting could then lead to the losers of elections saying "oh, I lost because the vote was hacked or it didn't work properly." Rather than just the fact that they didn't, you know, get enough votes.

Areeq Chowdhury: Yeah, this was the main risk in my opinion with online testing more so we obviously have lots of characters around identity and regardless of the actual [inaudible 00:04:39] as a main concern. My point of view is how do you feel this will compare to maintain the public confidence, the fact that you could have a system that all of the computer scientists, all of the election officials, all of the critics that say, agree if [inaudible 00:04:57] and it's secure but then all it takes is one like you said a losing party could make the allegation that it was hacked, perhaps to, sort of even a field for people to believe that.

One example of the news is if you look at the EU Referendum, let's say the result went the other way around and remain had won that really depends on whether this election was done online, [inaudible 00:05:22] to say "oh, it's an establishment stitch up, it's been hacked." So, therefore the key, or the main criteria is to have as much transparency as possible within that online voting system and also with the council votes, therefore you can... really what you want is a system where absolutely anyone can count the results similar-ish to the current system.

In the current system you can have a [inaudible 00:05:55] parties looking over how the vote is counted for transparency but I think with online voting I think you'd need a bit more transparency over that part but also the rest of the system.

Harry Ridgewell: So, Web Routes democracy says that online voting would be a cheaper system than paper ballot that the U.K uses as the moment, but what about the costs of developing a secure online voting system and keeping that system secure? Wouldn't that be-

Areeq Chowdhury: So, we put an estimate which factored in both costs as well. And in the long run, obviously the short run is there'd be huge costs as there is to do with any kind of system hacker. In the long run you would have savings mainly through more and more people voting online compared to the alternative which has postal votes, which we predict would reduce significantly, in the long run. You know, the cost involved is actually quite large and if you really think about it, it kind of makes sense.

So, one of the main costs for example is the cost of actually opening individual envelopes. So, this is individual, you know, back end of the council, your local authority doing that for hours on end and opening envelopes and refining them to different parties. For me our report was based on I think 400 [inaudible 00:07:23] election I think it was 16, or maybe it was 17 I can't remember. That looked at online voting registration, the implementation of fax, projects other, sort of similar projects we compare the interest of the online voting system.

Harry Ridgewell: So, are you saying that the main cost of U.K elections at the moment is the postal voting aspect?

Areeq Chowdhury: Postal voting in terms of obviously it's the actually polling station voting as well, you have a lot of work involved and you're paying people to man polling stations, you're paying for the hiring of polling stations, you're paying for the hiring of council officers, you're paying for training of staff members, you're paying for individuals, you're paying for things like pencils and stuff mainly, I'm not sure how much, a few thousand I think. And there's a lot of different little costs involved and postal voting in the main part contains more mail, especially for liberal parties, and also it's costing increase if you're a voter abroad.

So, lets say you're a voter in Australia through postal vote, that cost to send that out is, again, quite expensive. You wouldn't really have a lot of these costs with online voting, online voting, obviously you would have new costs, but in the long run a lot of.. see for instance a lot of [inaudible 00:08:51] that you can't really have with individual votes.

Harry Ridgewell: So, do you advocate in the long run that elections become purely run online and that there wouldn't be any polling stations to be able to vote...

Areeq Chowdhury: No, I only advocate for online voting to be an option.

Harry Ridgewell: Right.

Areeq Chowdhury: Alongside the current system of voting.

Harry Ridgewell: Right.

Areeq Chowdhury: In terms of cost I mean, there's added benefits in terms of sort of, value for money. Oh, hey man. Sorry, one second.

Harry Ridgewell: Sure.

Areeq Chowdhury: Pardon? Sorry. [crosstalk 00:09:37] really nice to see you, man.

Hello? Sorry.

Harry Ridgewell: Hi. No, that's alright.

Areeq Chowdhury: An old friend on the phone just caught me. What was I saying? Oh, the cost is one benefit, to be honest the main thing with online voting is about accessibility, It's about if you had online only you would loose other voters who don't have access to the internet, who maybe don't know how to use the internet, don't feel comfortable voting online.

What we advocate is that it's supposed to be an option alongside the current voting scheme. So we're able to reach out to voters, for example with disabilities, and vision deterrence who physically can't vote in the current system. So, for example if you're blind the option available to you is a braille template, which is basically a template you

put over the paper ballot in the polling station. However, only one percent of blind users of the U.K actually read braille now, because of the new steps by technology and so many different aspects in terms of, like, screen readers, audio books, things like that and it's quite an old fashioned thing, and also a lot of people go blind later on in life so don't actually learn braille anyway. But, also if you have housebound disability you physically can't leave your house [inaudible 00:10:56] can't even, you know, postal vote is kind of useless to you as well. Those are the main benefits I would say of introducing online voting is the fact that the current system doesn't serve all voters as it should do.

Harry Ridgewell: What about the danger that those who would vote from home online, their vote, someone could either force them from home to vote a certain way, or try and buy their vote?

Areeq Chowdhury: Yeah, so this is a risk that is already apparent with postal voting. You have the exact same risk with postal voting. So, what Estonia has done to get around this problem is they allow people repeat voting, this is where you can vote multiple times over a two week period, and in your account a part of that is [inaudible 00:11:54] vote selling, because why would someone buy your vote and post it later? And also, if you are pressured to vote in theory you can go and change that later on, and even if your last vote is tampered in any way you can then go to the polling station on election day, and cancel your online vote. It's not a perfect system, because like I mentioned earlier if you're disabled it might be very difficult for you to go there in person and vote at the constituency. However, it's a great safe guard if you have, with the current system, postal voting because there is that back up with postal voting if someone saw that this was your vote, or someone changed your vote, to something you don't want and it's too late to retract it.

Harry Ridgewell: Is the online voting system that you advocate would that be underpinned by a national identity card?

Areeq Chowdhury: We're trying to at the moment cause a [inaudible 00:12:54] try to put principles on the online voting platform and that's one of the key criticisms they're looking at because its kind of a scheme that you would have facial identification with an online voting system. But, to be honest in our current system, currently we don't have facial ID requirements for elections, but the government is looking at this as of recent [inaudible 00:13:19]. Personally I think people wouldn't vote on the voting system unless you did have facial ID in place. So, it's one of the questions we're looking at, so I don't really have an answer for that yet. It's still up for debate, at the moment.

Harry Ridgewell: And what do you make of the fact that many experts say that voting online, you know, because people we use computers irresponsibly, so, the computer itself could get a virus and as well as that many nations are capable of conducting cyber attacks. How can online voting ever be totally secure?

Areeq Chowdhury: So this is why I think the problem in the [inaudible 00:14:13] there's this false criteria that doesn't exist anywhere else. There's no such thing as a 100% secure system offline or online. You can have assurances but I think there should be assurances throughout that's something we're looking at in this project as well. The minimum thing

you need is the ability to detect whether it's being tampered with. Therefore, what you need is a system of audit after the vote. We've got a couple of ideas around that, that we're starting to work out. So, there are actually experts on both sides of this, I mean our project for example is informed by a number of [inaudible 00:14:50] outside of security, academic lecturers. I don't think there's any real consensus on this I think the problem is that setting up this impossible criteria for extra security then obviously no system will ever meet that and if you try the same level of [inaudible 00:15:06] take a voting then I don't think they will be satisfied with the current system.

Harry Ridgewell: Is the online voting system that you advocate then, would that be different to Estonia's? Because Estonia's has been criticized by the OSCE and the ODIHR. They said that it didn't have end to end verifiability, this was in 2014.

Areeq Chowdhury: Yeah.

Harry Ridgewell: I believe it does now.

And Princeton and Michigan university have found that Estonia's online voting system was easily hackable.

Areeq Chowdhury: Yeah. So, what I would look at as a side point is there's an organization called [inaudible 00:15:57], I don't know if you've come across it?

Harry Ridgewell: Yeah.

Areeq Chowdhury: As a part of the solution. So, the reason I'm saying this about the organization is they eliminated that voting. You know, they [inaudible 00:16:08] the website and a lot of academics. I think possibly the ones in Michigan mostly are this organization called [inaudible 00:16:16]. Therefore, my problem with this research is whilst they highlight very solid points that they should eliminated. So, basically I don't think as an independent it would've been used that way because the ideology is, kind of hard to have a discussion on anything [inaudible 00:16:40] independently.

What was the actual question again? Oh, what system do I advocate? Well, I don't actually advocate a particular system, what I advocate for is for pilot. So, what we're doing is looking at what principles need to be met, we're not specifying, for example, whether you need to [inaudible 00:16:57] or anything like that. We're looking at what principles should be met and who Pilot can design a system because a lot of [inaudible 00:17:06] electoral law is very different to things like that and ours for example is one of the few countries where we don't actually have a secret ballot, we've got a mixed ballot where the ballot paper has for example, a serial code on the back of it that is linked to the other paper so that being the result on the election afterwards you can actually have a system where you can take action and actually verify. So we work a very different system and that itself is quite a big different to what a lot of countries have, but they have difference rights to a secret ballot that we don't actually have. We have a [inaudible 00:17:47] ballot.

Sorry, I'm just trying to quickly check my [inaudible 00:17:53]. Sorry, I think I'm doing the wrong thing.

Harry Ridgewell: That's alright. Do you think that online voting tends to benefit any political groups more than others?

Areeq Chowdhury: It's very hard to predict what impacts it would have on different groups. I mean, some would argue that it would impact or benefit Labour, for example, because more younger people would vote, more younger people are more likely to vote Labour. But, also, we don't know how expat voters, they might vote Conservative and they tend to actually, and the conservatives recognize the fact that they're lifting this cap on how many years... the limit on how many expats can vote, which previously it was 15 years allowed for unlimited period away from U.K. So, they could benefit in that respect, it's very hard to predict and personally I don't really care which group, It's more about access, it's more about organization rather than where currently not many people participate and not everyone can physically participate.

Harry Ridgewell: Finally, could you please explain why you advocate that the U.K adopt online voting?

Areeq Chowdhury: Several reasons, the reason I started looking at this myself was through the problem of [inaudible 00:19:26]. But then I might still get people as... there still is but as this point though, compared to older generations we're looking at around, in a general election you're looking at 50% I think that keep on electing, which I a slightly over but still [inaudible 00:19:43] of all voters really. And that was originally [inaudible 00:19:48] and it's still actually part of that because it looks towards if you look at society right now we have quite a sort of online default in society maybe people expecting to do things online and regardless of what that is I'm hoping to make an impact in that sort of progression of that.

Other reasons like I mentioned disabled voters aren't able to access that human right as an independent because our... and it's the reason why actually in New South Wales, in Australia why they actually put other blind voters [inaudible 00:20:28]. Looking towards the future, you're looking forward to [inaudible 00:20:40] for example, first time voters out there would have been born within the millennium, so, won't remember a world before Facebook, apart from social media very laxly. I would say the majority of first time voters will never have seen a [inaudible 00:21:01] in their life, and yet they're expected to be faced with a very alien system. So, a big part of it is actually modernizing our system, making it more enhanced the way people look at it. That's my opinion towards the [inaudible 00:21:09] there shouldn't be this whole system that we've had for so long. And we don't really have it in other parts of the U.K like parliament for example is a lot more modern. Westminster elections vote traditionally.

Yeah, the key argument over the period of me researching it has been really around disabled voters and [inaudible 00:21:35] forgotten by our election system and these arguments of security and funds don't really shunt their need to be able to vote in elections, in my opinion. So, what my view is the argument is that we should have online voting, I see in 100 years time, for example looking at it and therefore how do we go about designing it how do we make sure we can answer some of these questions not around 100% security, but the ability to detect at the moment, detect tampering with

the votes. So, that comes out [inaudible 00:22:15] get audit the vote and get used to verifying the votes. How to actually go about designing a system like that.

Harry Ridgewell:       Okay thank you. That's all of my questions. Is there anything else that you want to add?

Areeq Chowdhury:       No, not at the minute. But yeah, we have a lot of information as well and if you have any questions, you can contact me by email.

Harry Ridgewell:       Okay, thanks.