



# ServiceSpark

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# What is the problem?

It's hard to volunteer in Albany County

# Coordinating Events

- ▶ Tedious
- ▶ Lots of Paperwork
- ▶ Difficult to track
- ▶ Difficult to find skilled volunteers

# Supervising Organizations

- ▶ Tedious
- ▶ Lots of Paperwork
- ▶ Difficult to track
- ▶ Difficult to pull reports on data

# Volunteering

- ▶ Hard to find nearby opportunities
- ▶ Lots of Paperwork
- ▶ Difficult to track volunteer hours

ServiceSpark  
solves these  
problems...



# Project Constraints



# ServiceSpark is..

- ▶ Completely open-source
  - ▶ Free as in speech
  - ▶ Free as in beer
- ▶ Compatible with any web-connected device

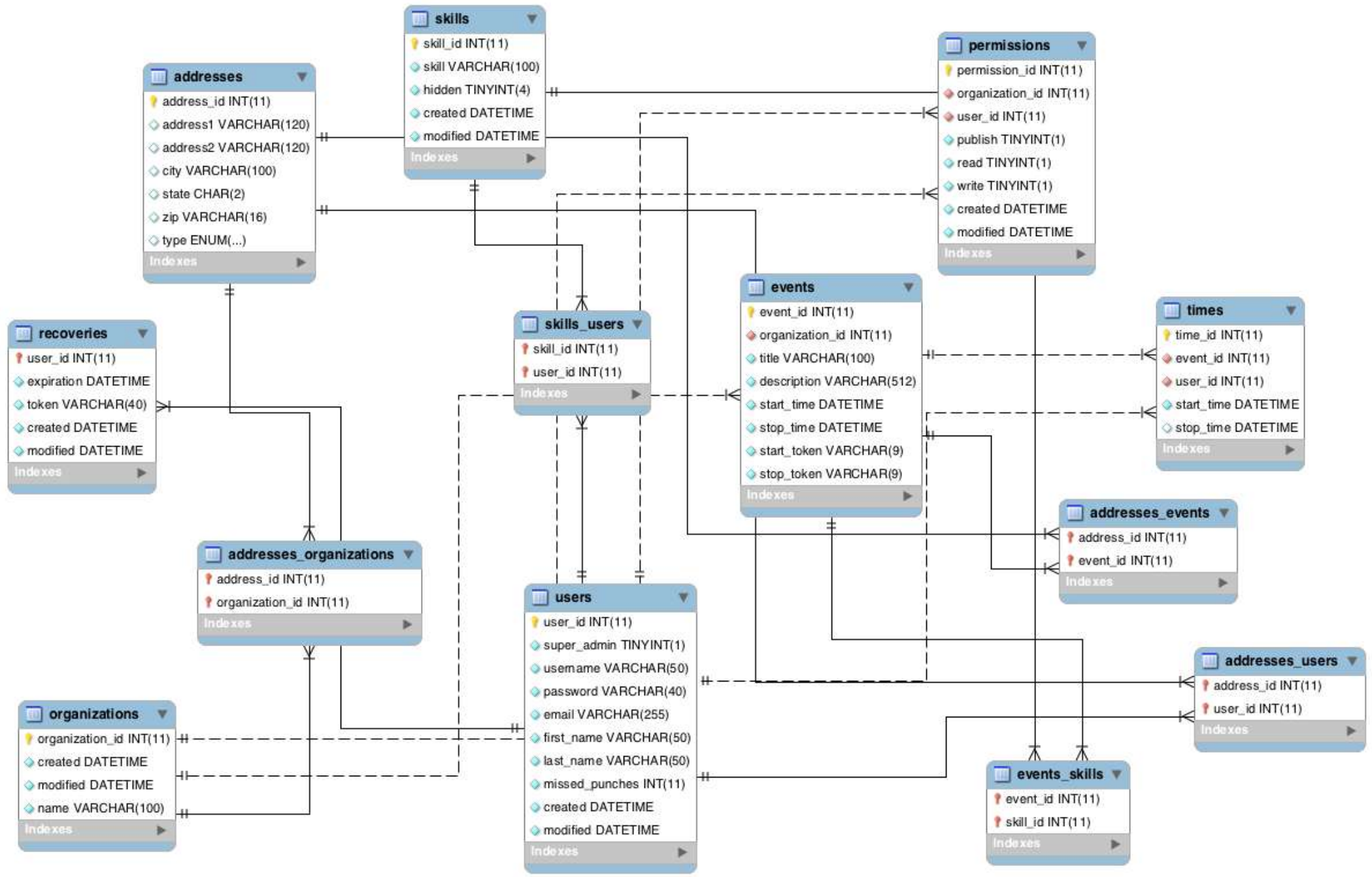


# Our Technology

- ▶ PHP
- ▶ CakePHP
- ▶ PHPExcel
- ▶ MySQL (SSD!)
- ▶ GitHub
- ▶ Bootstrap
- ▶ jQuery
- ▶ Google Maps API

# Behind the scenes

- ▶ Highly-normalized database
  - ▶ Three months of data modeling and testing
  - ▶ 3NF; almost BCNF (CakePHP limitation)
  - ▶ 13 tables
  - ▶ 51 fields
    - ▶ One nullable field
  - ▶ Over 20 integrity constraints
  - ▶ Strategic indexing to supercharge autocomplete lookups



# Behind the scenes, (more)

- ▶ Hash-hardened password recovery
  - ▶ 2-second *minimum* hashing loop guarantees unpredictable password recovery tokens.
  - ▶ We store the  $n+1$ th token, and we send the  $n$ th token
  - ▶ Given  $n$ , we can recalculate  $n+1$  (one way)
  - ▶ Adversary is essentially unable to predict or reverse engineer.

# Demonstration

[ServiceSpark.org](https://ServiceSpark.org)