

Trillium Beacon - Homeless Beacon Network

Network Application Development

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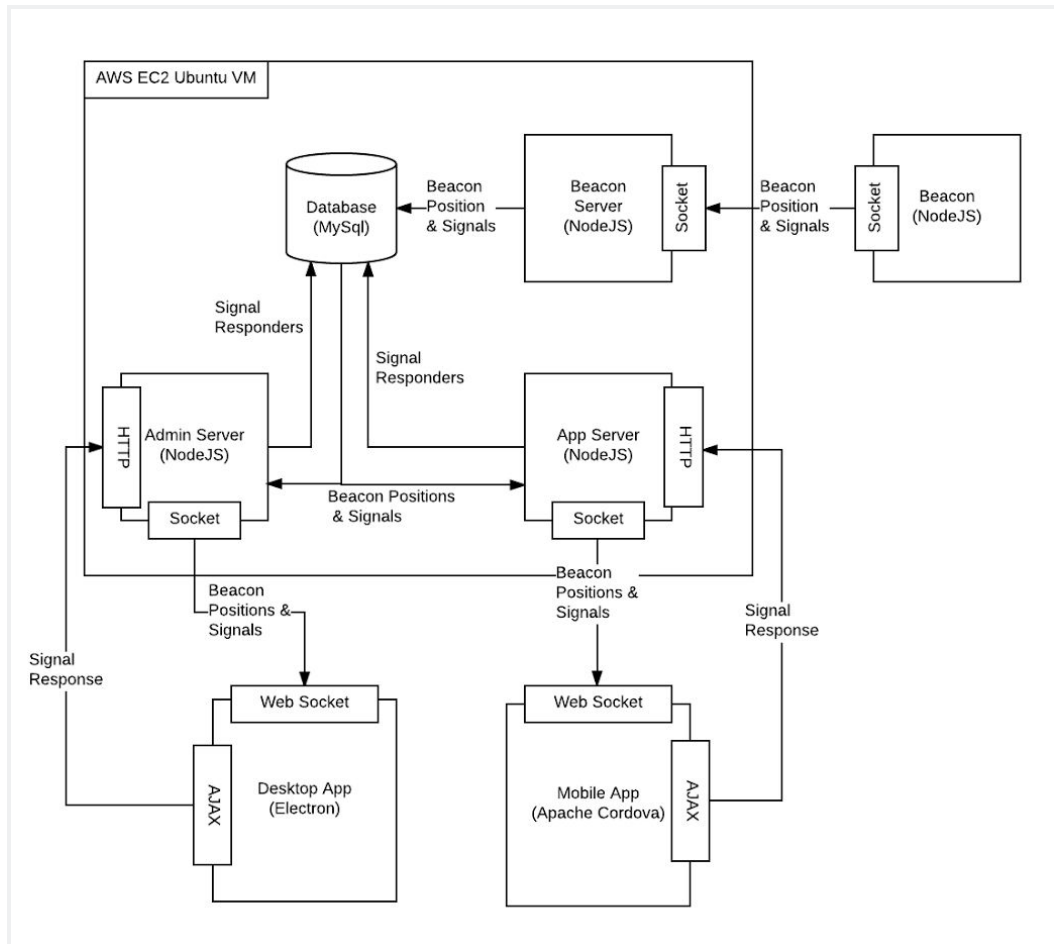
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Abstract

The following report details the final version of the Trillium Beacon network. The system architecture was changed to allow a separate administrative program. The two apps, the desktop one and mobile one, have several features that allow users to view signalling beacons and provide assistance and supplies. The next main step is to create the actual hardware device to replace the simulator.

System Architecture



The system architecture changed somewhat during the course of development. It was decided a separate administrative desktop program would be helpful rather than just a mobile app. A separate server was also added to handle administrative users.

Implemented Feature List

- Admin Desktop App
 - Beacon position viewable on map
 - The positions of all beacons are viewable on a map via pins
 - Beacon signals are viewable
 - All beacons signals are viewable by looking at the pin colors as well as by clicking the beacon and seeing the individual signals in the details pane
 - Create and register new beacons
 - New beacons can be created and registered if you're an administrative user
 - Admins can login and signup
 - Admins can only sign up if they have an invitation code
 - Per-city admins
 - Admins and beacons are separated per city
- Consumer Mobile App
 - Signalling beacons are viewable on the map
 - Nearby beacons are viewable on the map
 - Can confirm delivery
 - Users can click a button to confirm they have delivered food/water/clothing and get credit for it
 - User can view their profile and number of deliveries
 - Users can sign into facebook

Planned But Not Implemented Feature List

- Ability for consumer users to signup with a username and password
 - This was dropped because facebook was decided to be a safer way to login. Because facebook has so much data attached to accounts, police could potentially use this information to track down perpetrators who are using the app unethically or criminally. This would be harder with just a username and password.

Next Steps

There are several potential next steps.

1. Create actual hardware beacon to replace simulator
2. Create a promotional/informational website for the system
3. Add more types of analytics
4. Get funding to continue development and operations
5. Try to contact city officials to launch pilot program

Known Bug list

- No known bugs

Team Member Work Estimate

Ben Lrantfy	40 hours	• everything
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Appendix

Test Plan

Admin App			
Test Number	Instructions	Expected Results	Actual Results
1	Try logging in as existing user	User can log in	User can log in
2	Try signing up as a new user using an invitation code	User can sign in	User can sign up
3	Try signing up with an existing username	System stops user from signing up	System stops user from signing up
4	Try adding a new beacon	System adds new beacon	System adds new beacon
5	Try clicking a beacon pin	System shows beacon details	System shows beacon details

Mobile App			
Test Number	Instructions	Expected Results	Actual Results
6	Try logging in with facebook	User can log in	User can log in
7	Try clicking a beacon pin	System shows beacon details	System shows beacon details
8	Try confirming a delivery	System tells user delivery has been confirmed and number of deliveries increases by 1	System tells user delivery has been confirmed and number of deliveries increases by 1

Demonstration Plan

Part 1

1. Log into Admin App as an existing user
2. Show pins and different colors
3. Show beacon list
4. Click specific pin
5. Show beacon details
6. Click map to go back to beacon list
7. Click "Add Beacon"
8. Enter beacon details
9. Jot down id and key
10. Create new simulator with id and key
11. Show beacon appears on map
12. Logout
13. Show ability to signup as a new user, using an invitation code

Part 2

1. Log into mobile app using facebook
2. Show different pins on map
3. Show profile
4. Click pin
5. Show pin details
6. Click confirm delivery
7. Show delivery has been confirmed
8. Show profile again and note number of deliveries has increased