

Volun-T

A Volunteer-Based Community Outreach Android App

Final Group Report

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Problem Statement

Dr. Aina Koren had noticed in her Lowell community meetings that some people were having difficulty finding and coordinating rides to various meetings. Most of the people that had this issue were either elderly or disabled, so they might not have a vehicle or they had a tough time finding someone that did.

Our app, Volun-T, aims to assist in this issue. Like an Uber for volunteers, clients can create an account, login, and post a request on our platform with necessary information like description, time, date, and location. Volunteers can then sign in and find all the requests in their area, and assist where they can. Either party is allowed to cancel if need be, and there's also a system in place to let the client know their ride is there without needing to exchange personal information like phone numbers. We also added a small incentive for volunteers to help out by adding a points system that could be redeemed for special prizes later down the line.

Alternative App Analysis

Now that the app is completed under Android, going forward into the future we would implement a version for iOS and a version for the web. The aim for this is to expand upon the number of people that can access the app, since it is currently only available for Android. Our clientele most likely either has access to an iOS device or at least has access to an internet browser; therefore, continuing on with iOS and the web would be essential to seeing this app take off into the community.

Additions that we would make to the app would include but not limited to the following: ratings and reviews of volunteers, a more expanded profile section that would include a picture, repercussions for continually cancelling plans on a person in need, etc. These additions would allow for a more robust and safer app for users in the community to utilize.

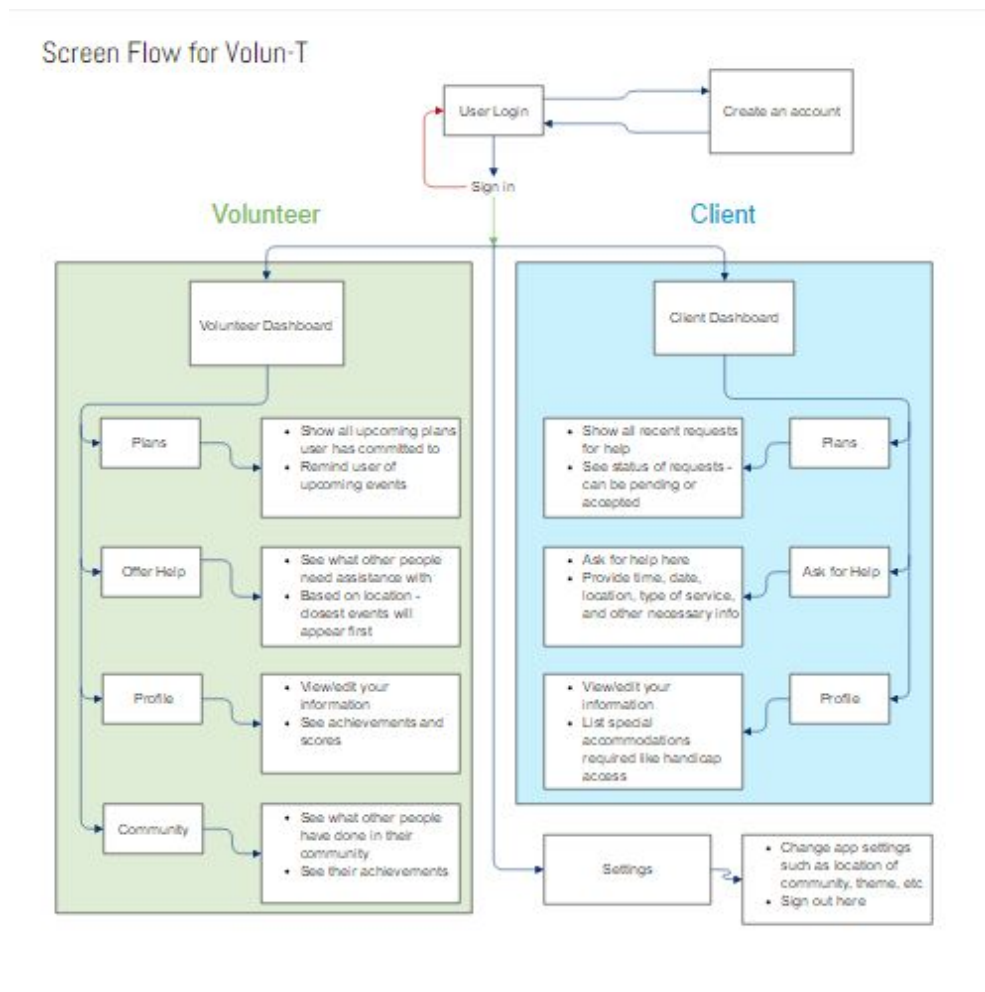
Architecture Design

The most vital design point we wanted was for the app to stay simple and clean in design. Since our targeted clientele would include elderly folks we decided keeping the UI simple and the text and buttons large would make it easier for the elderly clients to navigate through the app. That is also why the client (those in need of transportation) side of the app has a lot less visually than the volunteer.

For the volunteer side of the app we wanted to give the volunteers some incentive to regularly use the app. That's why we put the start of a leveling-type feature on the volunteer dashboard. For every 10 client requests the volunteer completes they will go up a level. This leveling feature will also tell others how experienced and reliable the volunteer is. We hope to add more depth into this feature in the future.

We wanted the app to look and feel familiar to the user which is why we used icons and colors often used by common Android apps such as the blue pencil-icon to indicate editing and the red

“X”-icon to indicate wanting to cancel the current task. In addition we designed the app to be easily navigable for those not too familiar with the Android system by adding back buttons to every screen that was not the home screen.



Code Responsibilities

Adam:

- Backend work
 - Firestore
 - Google Cloud Platform (App Engine) for messaging service
 - User authentication
 - Real-time database management
- Some layout design
 - View profile activity
 - User dashboards

Ashley:

- Profile page
 - Editing
 - Layout
- Animation
 - When user accepts a post
 - When user cancels a post
- Worked on some XML
 - ViewPost Activity
 - AskHelp Activity
- Java
 - ViewPost Activity
 - AskHelp Activity

Tim:

- UX Design
 - XML and Java for activities
 - Sign-in
 - Profile Editing
 - Some Layout
- Bug Squashing

Reflection on External Project with Clients

Our meetings with our development team, Dr. Koren, and Dr. Chen went very well. We met for every major version in the app, and each time we had constructive criticism to base the rest of our changes on. She was so happy with the final product that she pitched the idea to the Greater Lowell Health Alliance, and they are interested in funding us!

As a learning experience, we learned a lot with how to work with clients to solve a real world problem. Going from the very beginning stages of development (UX design, flow diagrams, etc...) to going to pre-alpha, alpha, beta, and then to final created a learning experience that is hard to recreate in other textbook and lecture based classes. These are the type of skills that employers will look for when we graduate, and having Volun-T on our resumes will certainly look impressive. We know that typically this whole process takes years instead of just three months, but we are very proud with what we accomplished. In fact, there was a GoFundMe crowd source out for an app similar to ours, but after raising thousands of dollars over two years, they haven't produced anything to show for it. A hard-working group of three college students developed an application in three months that a team of software engineers with plenty of money and years of time couldn't do. Overall, we would highly recommend this project sequence to anyone looking to further their programming skills beyond just sitting behind a computer. This is an important skill that should not go unnoticed.