Found you! A Compass To Your Friends

Saverna Ahmad   Eric Beikman   Mike Marchand

Computing Technology, University of New Hampshire
Faculty Advisor: Dr. Mihaela Sabin
URC 2013

Problem

Locating friends and family members
for activities can be difficult for various reasons:

- Cannot locate friends and family easily in a crowd.
- Organizing directions for many people can be difficult, overwhelming, and time consuming.
- Friends may be unfamiliar with the area surrounding the meeting point.
- Attempting to meet in a location surrounded by large crowded can make finding the designated venue difficult.
- People can be traveling from many different directions to a single point.

Solution

- Android Application to allow users to find each other.
- App uses the built-in phone GPS locator to determine its exact latitude and longitude.
- This data is sent via the onboard wireless data connection to a remote centralized database.
- On App startup, each phone contacts the database and assigns itself a unique identifier tag.
- User will be prompted to join a group if they have not already done so. All users who wish to track and find one another must join the same group.
- Group membership data consists of a list of associated phone identification tags .
- Once phone assigns itself a tag and joins a group, the phone will regularly provide location and status updates to remote database.
- Status updates includes the phone's tag, a timestamp, the phone's GPS sensor's current accuracy and the phone's latitude and longitude.
- The phone will regularly download status updates from each group member.
- Location data from each group member is compared with the phone's present location to generate a bearing and distance.

Design & Implementation
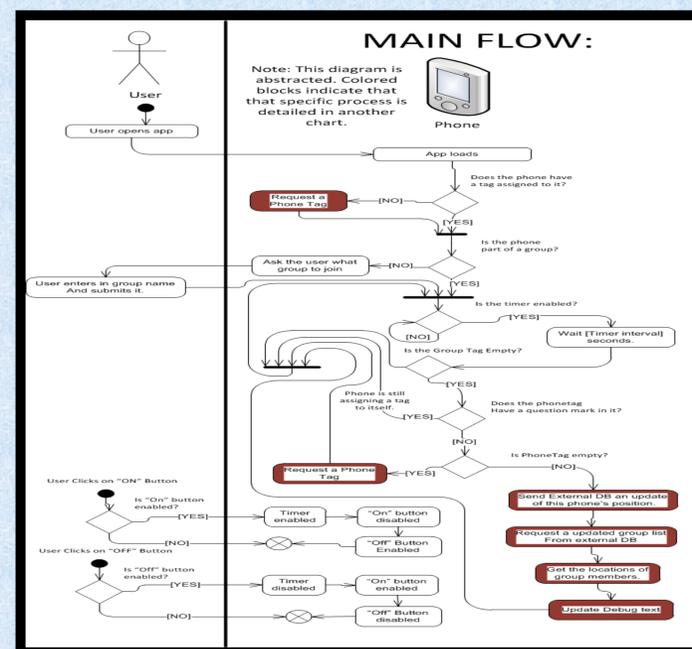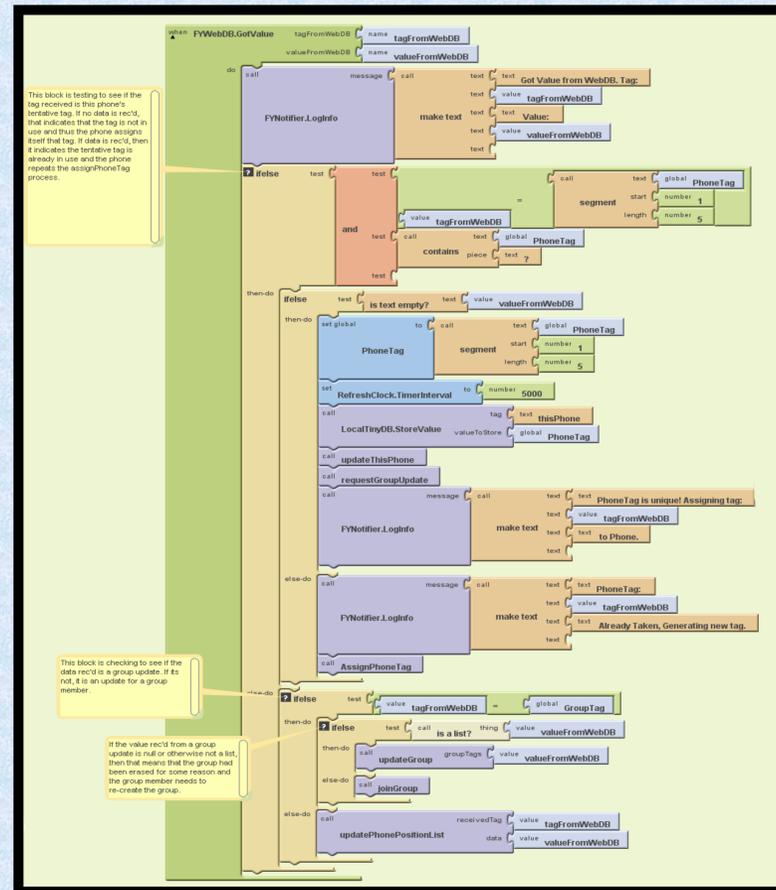
Objectives

- Facilitate individuals or groups of individuals to find each other.
- Enable each user to receive a relative bearing and approximate distance to each friend or family member that is participating in joint tracking.
- Each active group member can track every other active group member.
- Location and distance information is required to be accurate and updated on a regular basis the while tracking is active.
- Only a specific amount of users can be tracked.

Resources

- MIT App Inventor.org
- Remote Tiny DB database hosted by Google App – Engine.
- Smartphones running the Google Android platform
- Motorola Droid X smartphones

Conclusion

- The app will point in the direction where friends and family are located.
- Users will save time and suffer from less confusion traveling to each other.
- This "Compass to your Friends" makes it easy to locate your friends and family and vice-versa.