

High Level Description

Topic Area

Track the location of family members and/or friends.

Functional Scope

Show the general location of a family member/friend on an easy to read clock display. Allow friends/family to know where you are too.

What makes it useful

Know where a family member/friend is without being too invasive by knowing exact locations. I got the idea from the Weasley Clock in Harry Potter which shows what each family member is doing:



So it is a bit of a fan tribute too. I also got the idea because I would always forget to text my mom that I got home safely, resulting in frantic texts from her followed by scolding.

Goals

Features that must exist for the app to make any sense:

- A main clock display that shows where members of the clock are.
- Ability to add friends to the main clock and access their locations
- Ability to set user's location areas as 'home', 'work', etc.
- Change the user's location to one of these areas based on whether the user has entered the geolocation
- Change the user's state to 'traveling' if the user's phone is going more than X miles per hour (not sure what an appropriate X is yet).

- Change the user's state to 'out of town' if the user is outside their specified hometown.

Example:

Work: MIT Lincoln Laboratory

School: Harvard University

Home: Waltham, MA

Exercising: Tennis Court- Nipper Maher Park

Out of Town: Town is general Boston area

Traveling: Anytime phone is going over X mph.

So everytime I enter the geolocation for MIT Lincoln Laboratory, my clock will change to 'Work', while if I flew to London for vacation, my clock will change to 'Out of Town' since I won't be in the general Boston area anymore. There will need to be some sort of hierarchy too, so 'Out of Town' should probably trump 'Traveling'. My clock changing will reflect on anyone who has added me as a friend's clock too.

Reach Goals

Additional features:

- Find friends via contacts or social media- haven't learned this yet but I imagine a lot of apps do this
- Ability to add as many friends as you want but only choose 6 to show on the clock at a time- I think this should be doable with my experience so far...
- Some sort of security for adding friends to clocks (send request, approve)- not sure how to do this with current knowledge
- Ability to add multiple locations for one topic, for example if someone has two jobs there can be two places set for 'work'- need to understand MapKit more to know how difficult this might be.
- Add profile pictures to appear on the clock (need to learn how user can add pictures)

Kits and iOS Functionality Needed

- MapKit (for setting your locations)
- Data storage (grab other people's clock info- where would this data be stored? some sort of database?)
- Social media integration (maybe)

How it will involve...

Navigation

The entry view will show the clock display for friends. From there, can navigate to user's own clock and then navigate to another screen to set their locations. From the main screen, can also navigate to another screen to add friends.

Persistence

Retrieve other friends/family members' data from some remote, web based, data store.

Background tasks off the main thread

Retrieving the data may take longer since it'll probably be web based, so this should go on a background thread.

Custom views or images

There will be a custom clock view to display the hands of the clock depending on where members of the clock are. There will also be an image of a clock to start with and possibly have users able to upload profile pictures.

Physical Sensing

Needs to know the location of the user. Also needs to know how fast the user is moving in order to determine if they are traveling.

Classes

I think there needs to be two data models- one for the user's personal data, and one for the user's friends' data.

The user's personal data will probably be a struct with properties like:

- Work location
- Home location
- School location
- Exercise location
- Home Town
- Profile Picture

We'll call this struct 'UserInfo'.

Then, the second data model will probably be something like:

- UserInfo1
- UserInfo2
- UserInfo3
- UserInfo4
- UserInfo5
- UserInfo6

Which means 6 people can be displayed on the clock at one moment and who these people are must be set by the user, with the ability to delete some people and add others.