Team 7

Project Name:	Meadle
Members:	David Tschida, Eric Templin, Tylor Garrett, Michael Hockerman, Kyle Potts, Jeremy Meyer
Repository:	https://github.com/vidia/meadle https://github.com/vidia/meadle-android https://github.com/mhoc/meadle-backend

Problem Statement

There is a need for multiple parties to be able to meet in a common location without exchanging sensitive details, such as their current location. This “common location” needs to be at the approximate midpoint between the two parties’ locations.

Background Information

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There are a few applications in this domain, but none which encompass all of the goals we are attempting to achieve. “Meet Me Halfway” is an application on the Google Play Store that has a lot of features that we find appealing, however in order to find a midpoint, one party must share their address with the other party. There is a website, MeetWays.com that essentially does the same as Meet Me Halfway, however, it does not have mobile capabilities and again, parties must share the address in order to find a midpoint.

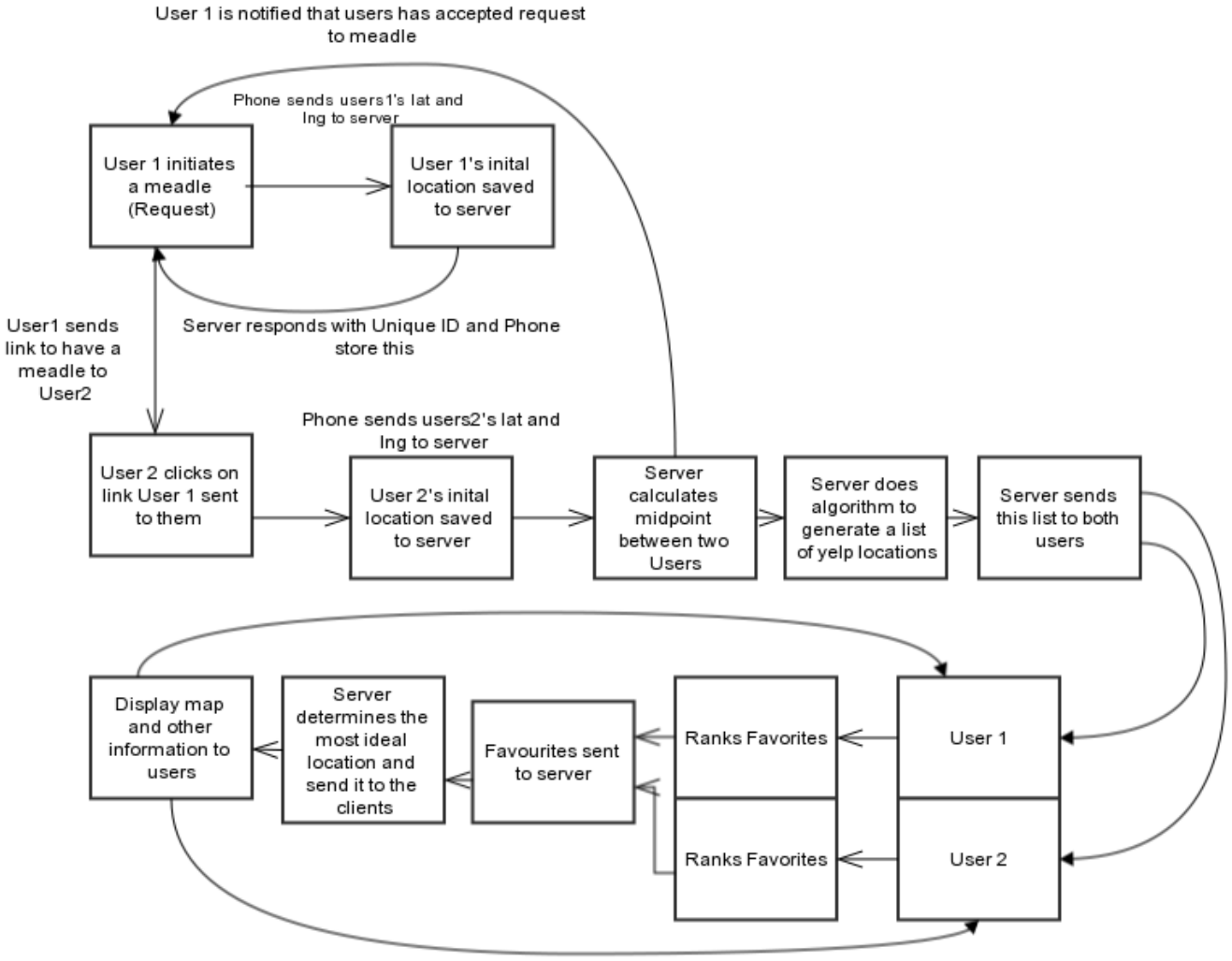
Finally, many of the apps in this domain are very poorly designed. User experience is an important part in driving user adoption. We will put a large focus on designing a beautiful, stable application that users want to install and find appealing.

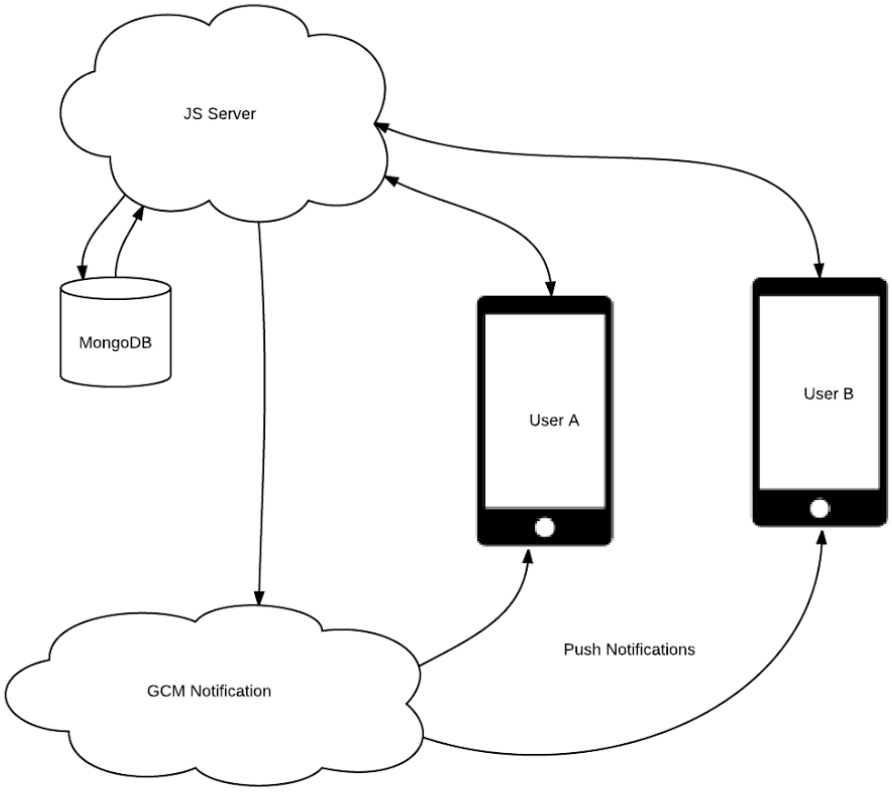
- Domain

  Location sharing, ride-sharing, Lifestyle applications

- Targeted Users
  Students, couples, groups of friends, groups of strangers, and business owners.

System Model


User 1 is notified that users has accepted request to meadle
Phone sends users1's lat and lng to server
User 1 initiates a meadle (Request)
User 1's inital location saved to server
User1 sends link to have a meadle to User2
Server responds with Unique ID and Phone store this
Phone sends users2's lat and lng to server
User 2 clicks on link User 1 sent to them
User 2's inital location saved to server
Server calculates midpoint between two Users
Server does algorithm to generate a list of yelp locations
Server sends this list to both users
Display map and other information to users
Server determines the most ideal location and send it to the clients
Favourites sent to server
Ranks Favorites
Ranks Favorites
User 1
User 2



Requirements

1. Must Be Done
    a. Functional
        i. As a user, I would like to be able to start a meadle on my android phone.
            1. Create a button to send the meadle invite via a sharing intent.
            2. Create a database entry on the server to correspond to this id.
            3. Create a function on the backend to send a unique link for other users to join the meadle.
        ii. As a user, I would like to be able to join a meadle.
            1. Clicking the link should open the app or direct the user to the play store to download it.
            2. Create a server api endpoint to receive a join request.
            3. Update the database with the new joiner.
        iii. As a user, I would like to be able to receive a list of locations to meet.
            1. Server calculates midpoint after all users have joined meadle.
            2. Server queries yelp api to find locations around that midpoint.
            3. Server queries parse to send a push notification to users to let them know they can vote.

4. Server sends location data to users as JSON.
5. App decodes JSON and displays it to the user.

iv. As a user, I would like to be able to vote on a list of locations that I find acceptable to meet at.
1. The server has sent the list of locations to both users.
2. The list of locations exists on all phones.
3. The users can rate the locations from least acceptable to most acceptable.
4. Each user will press a send button which sends their preferences to the server.
5. The server will send a response saying that it has received the data from the phone.

v. As a user, I would like to be able to receive a mutually acceptable location to meet at.
1. After all users have ranked the locations, the server should take all ranking information, and using a specific set of guidelines, find a location that all parties have agreed on.
2. If no location can be agreed on, the server must come up with more locations for both parties and send those options to them, restarting the voting process.

vi. As a user, I would like to be able to easily navigate to the location.
1. Once a mutually agreeable location is determined, it should be sent in such a way that map/navigation applications on any phone can use it.

vii. As a user, I would like to be notified when another user joins the meeting I have set up.
1. Once the meadle link has been shared, when another user clicks on the link and opens the app, the user who created the meeting should get a notification that the other person has joined.

b. Non-Functional

i. As a developer, I would like to be able to use GitHub to store our code and git version control while developing Meadle.

ii. As a developer, I would like our main Meadle github repository to be updated to reference the most recent versions of our Android or Backend repositories when they are updated.

iii. As a user, I want my current location to be private.
1. When a user sends his or her location, it should store the location but the data should expire (eg be deleted) from the database after a certain period of time.

iv. As a user, I don't want my personally identifiable information to be available to anyone else but me.
1. Only the user who made the meeting/ the user who was invited should be able to access information about that particular meeting.

v. As a user, I would like the list of possible locations to be close to the midpoint of my and all other attendee's current locations.
    1. We want the location that we choose for the users to be as accurate as possible and as close to the midpoint (smallest radius) as possible. Our algorithm should favor distance over other factors.
vi. As a user, I would like the locations to be highly rated.
    1. We want to choose locations that are highly rated and have good reviews over locations with poor reviews. The heavy lifting for this will be done by the yelp api.
vii. As a user, I would like the Android app to not consume a lot of battery.
viii. As a user, I would like the Android app to be friendly and intuitive to use.
    1. If the app is not easy to use, many users will find it pointless to use our app.

2. Will Be Done If Time Allows
    a. As a user I would like to meadle with any number of other friends.