

Marauder's MIT Teamwork Plan

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Stakeholders

This app is centered on MIT's campus, and access to the application requires login with an MIT certificate, so our stakeholders will be members of the MIT community and more specifically, students who live or spend most of their time on campus. This app will be more useful to people who spend a lot of leisure time on campus. Faculty and staff who are generally around to do their job and will not require the use of this app as much.

Resources

We plan to use MongoDB for our database and Heroku to host our app. We also plan to use Meteor to build our app. If we implement real time location tracking, we might use the HTML5 geolocation feature. We may also need to use an API that lets us authenticate using MIT web certificates.

Tasks

Each coding task has an implied testing component. The person assigned to the coding task is expected to complete writing, running, and debugging the tests as well. These tasks are what we expect to complete for our Minimum Viable Product. Members can work on parts of the code in parallel and push their working and updated code to our github repository.

Team members who complete their tasks ahead of schedule should help other members or start working on the features we would like to complete beyond the MVP. There is a separate table for those tasks and the effort expected to complete them in the "Issues Postponed" Section.

| Task | Assigned to | Expected Effort | Deadline |
|------------------------|-------------|-----------------|----------|
| Design Document | Everyone | 3 days | R 11/12 |
| Overview | Tiffany | 30 min | R 11/12 |
| Problem Statement | Tiffany | 30 min | R 11/12 |
| Design Criteria | Caitlin | 1 hour | R 11/12 |

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|---------------------------|------------------|-----------|---------|
| Concepts | Linda | 1.5 hours | R 11/12 |
| Data Model | Connie | 30 min | R 11/12 |
| Risks & Mitigation | Aradhana | 1 hour | R 11/12 |
| Security | Tiffany | 1 hour | R 11/12 |
| User Interface | Connie & Caitlin | 4 hours | R 11/12 |
| Diagrams | Connie & Caitlin | 1 hour | R 11/12 |
| | | | |
| Teamwork Plan | Tiffany & Linda | 4 hours | F 11/13 |
| | | | |
| Revised Design | Everyone | 2 days | R 11/19 |
| | | | |
| MVP Implementation | All | 10 days | M 11/23 |
| 1. Backend | | | |
| User Model | Linda | 15 hours | M 11/16 |
| User Controller | Tiffany | 15 hours | M 11/16 |
| User Routing | Aradhana | 15 hours | M 11/16 |
| Friending feature | Linda | 12 hours | F 11/20 |
| GeoLocation | Tiffany | 12 hours | F 11/20 |
| Status | Aradhana | 12 hours | F 11/20 |
| | | | |
| 2. User Interface | | | |
| Displaying Users on Map | Caitlin | 20 hours | W 11/18 |
| User Fade-out | Connie | 15 hours | F 11/20 |

Risks

One risk that we might experience is not having enough users join our app. The success of our app is dependent on having enough people involved in the app to make it attractive for new users to join. This means that joining the app should be simple and hassle-free. Additionally, it should be easy for users to connect with each other. We hope to achieve this by either integrating the app with Facebook or suggesting friends that the user might know.

Another risk is that users won't check-in due to laziness. We hope to combat this issue with a stretch goal that allows for automatic location tracking. This will make it so that users no longer need to manually check-in to locations. Another stretch goal that could combat the issue is allowing users to input their future schedules. If the app is able to sync with a user's calendar, the user also does not need to take the time to manual check-in to locations.

Along similar lines of user misuse, users may also fail to update location when they leave. This will make it appear as if they are in the same location much longer than they are, causing miscommunication with their friends. To mitigate this problem we will have a default time limit of 2 hours set for every location check-in. The user can also input a custom time limit if they know they will be there for a longer or shorter time than before.

Stalking or harassment can also happen among users. To prevent this from happening, we will implement a report feature that allows users to report any users that are harassing other users.

Two other issues that we might run into are related to the UI display. If there are a lot of people in the same location, we might run into a clown car problem, where the UI is too cluttered to display information accurately. To mitigate this issue we hope to implement a zoom feature. It might also be difficult to describe which floor a user is on using a 2D map. After the MVP another reach goal is to display different elevations that a user is on using either WiFi routing or mobile elevation detection and having the floor level displayed next to a user's name.

Minimum Viable Product

Our minimum viable product will implement the following concepts:

- **Apparition** - When a user checks in, he or she is known to have “apparated”. This concept allows users broadcast to their friends where they currently are, or where they plan on being in the future. The main purpose of the Marauder’s MIT application is to broadcast a user’s location, and the concept of Apparition is how we are getting information about a user’s location.
- **Friends** - Since people may not want everyone on the MIT campus to know where they are, we employ the concept of “Friends”. Users can send a friend request, accept or ignore a friend request, or block other users. Location information can only be exchanged between friends. This means that when a user apparates to a location, the event is shared only with other users on their friends list. Likewise, when a user checks their Marauder’s MIT map, they can only see the profiles of where their friends are located. The motivation behind the friends concept is to allow users to know and choose exactly with whom they are sharing their location information.
- **Status** - MIT students are known for their collaborative spirit, and students often love working together on psets, even if it’s not necessarily the same pset. To distinguish between broadcasting your location in order to hang out, and letting people know where you are if they want to work together, we will allow a user to have two states - available and busy. In addition to a state, a user’s status will include a text, which is defaulted to an empty string. A user has the option to edit this text to show a bit of personality or elaborate on their state: e.g. “working on 170 pset, anyone wanna join? :)”

It will include the following features:

- **Map display** - The map display feature presents all of the information about a user’s friends and their location in a clear organized way. Each of a user’s friends will be represented on the map with a profile picture and an accompanying status that identifies if a person is busy or available.
- **Add/remove friends** - Adding and removing friends allows the user to control the amount of data that s/he shares with people and the amount of data that is displayed on their map. Friends are the only ones who can see your location and vice versa.
- **Password protection** - Password protection lets our users protect sensitive information such as their name and their location. This information will only be available to people who are friends with the user in question.

Issues postponed:

These are features that we would like to implement after completing our Minimum Viable Product. As mentioned before, if a team member is able to finish their assigned task ahead of time, they should start working on implementing these features.

| Task | Expected Effort |
|---------------------------------------------|-----------------|
| MIT Certificate Authentication | 10 hours |
| Time Travel | 10 hours |
| Schedule Integration (e.g. Google Calendar) | 15 hours |
| Facebook Integration | 20 hours |