

Danielle Man  
Software Studio  
October 14, 2014  
Project 3

## Group Finder

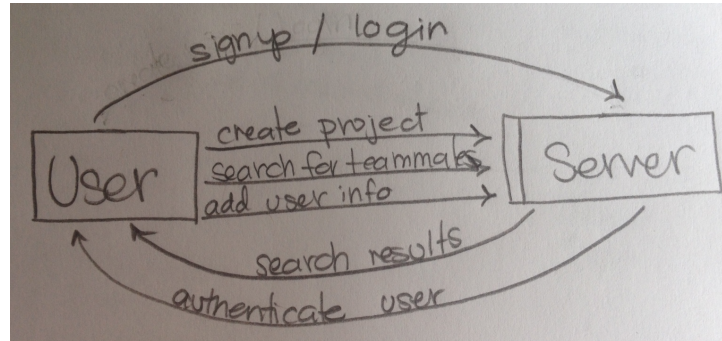
### **Purpose**

We have decided to create a group finder application, which facilitates the process of forming groups for projects in big classes. We realized this problem when we were tasked with finding groups for this project. I noticed numerous emails to sponge-talk, etc, asking for one or two more group members. People don't usually want to work with strangers on projects, but rather acquaintances, or at least faces they know. It's always a gamble when you just let a class assign you to a group arbitrarily. People also usually want to form groups with those of similar work styles, complementary skills, and locational convenience - thus we have tasked ourselves with creating a web app that will allow people to find their friends or acquaintances, meeting such requirements.

1. The main purpose of the app is to be able to connect students to other students that are looking for a group for a particular class project. This would minimally mean providing a list of users with their corresponding schedule, skillset, and contact info, so that other users can more easily see who's available and connect with them.
2. The next most important purpose of the app is to be able to connect users who have compatible schedules, work ethics, and locational proximities. When a class assigns students to other students (seemingly arbitrarily) for group projects, sometimes you end up having to work with someone on the other side of the river and with a completely different schedule from you. This is always very unfortunate, and is something we would like to help avoid.
3. Additionally, it's important to be able to find users with complementary skill sets, so that you do not end up with a group that completely lacks technical ability in one part of the project. This is also something we would like to support.

This problem has been solved in the past by classes allowing students to fill out a google form (if they were not able to find a team on their own) and allowing the class staff to assign them to other teams. I witnessed this in 6.005: people were writing Kerberos names on the board and yelling to find other people who they had never met before but were now about to work on a big project with. I have described the deficiencies of this system above, but it mainly boils down to leaving something extremely important, which is group dynamics for a big class project, to chance. For this project I also saw many sponge-talk emails to my dorm, where people were asking for one or two more group members for this project and just hoping that someone would respond. We would like for this process to not have to be left to chance.

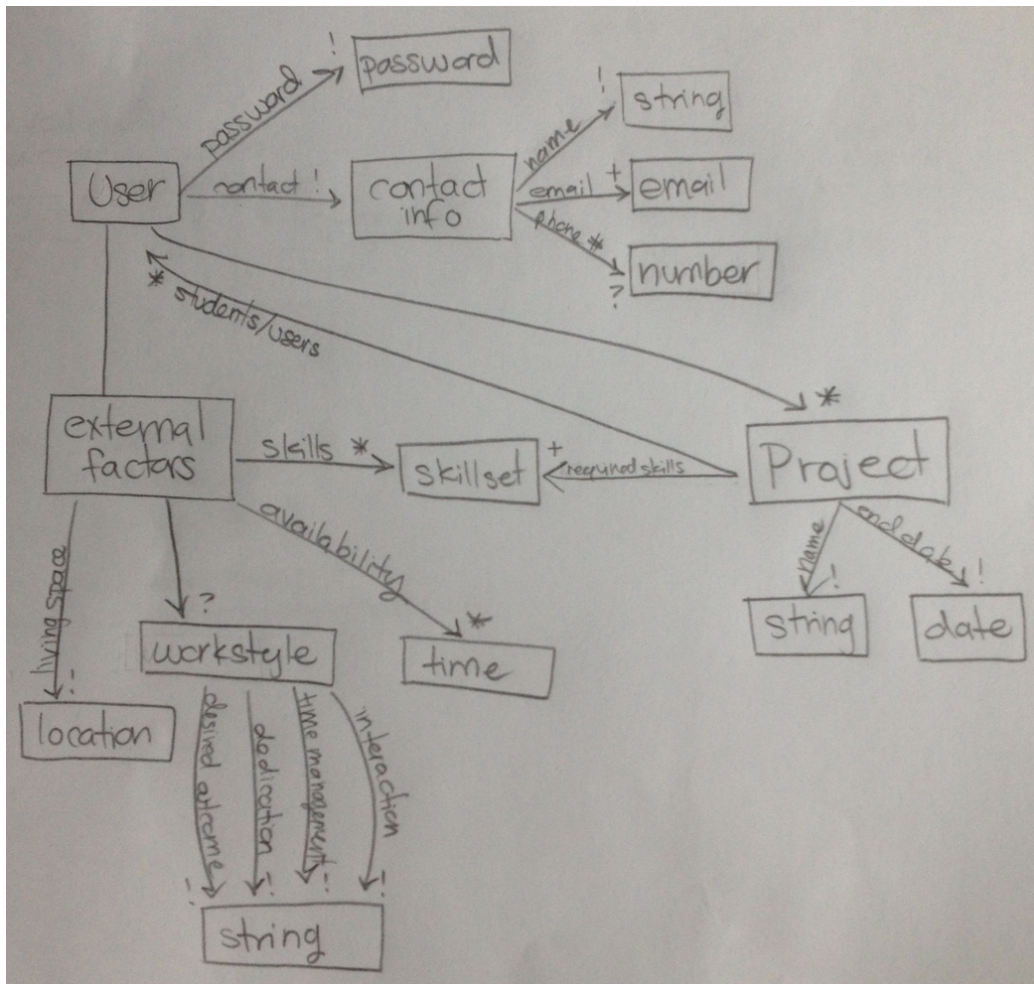
### **Context**



## Concepts

The concepts that we have for this project are a 1) Project, which is created by a user and contains a list of other users, 2) Filtering, which is how users find those that are compatible with their schedule, skills, etc. 3) Matches, which represent when there is a user whose external factors are a good fit for another user, and 4) External Factors, which are a user's schedule, skills, and work ethic, and

## Data Model



## Challenges

There are many challenges that will come with this project, such as implementing a compatible scheduling algorithm, determining distances between 'locations' once you start considering users outside of a specific building, etc.

1. The biggest challenge I foresee is determining how to create projects. A student could create projects, but when a project is created it requires a lot of detail to be inputted. A student might not have the patience for that. We could have a subset of users be 'Class Admins' (professors or TAs for the class to which the project belongs) and they can create the project for all of their students. This would seriously complicate the data model and UI implementation though, because they would need a separate portal.
2. How do we authenticate users to be MIT specific? We could use certificates, but users might see that as an invasion of their privacy, as there is a lot of information available through certificates. Thus we will probably use email authentication, and only allow MIT emails. Certificates would have a security advantage though, because then we would be able to see the user's class list instead of letting them input it themselves, and thus users would be unable to add themselves to (or mess with) projects that are in classes to which they do not belong.
3. How do we retrieve MIT data, like class numbers and dorm locations? We could hard code this ourselves in the app, we could ask users to input it as they go, or we could pull from one of IS&Ts resources. The cleanest way would probably be to pull from IS&Ts resources, but that would expand the scope of the app quite significantly. Else we would have to ask for a lot of information from users, which significantly takes away from the experience of the user.