

6.170 Final Project Teamwork Plan

Maddie Dawson, Heeyoon Kim, Lynda Tang, Jennifer Wu
Project Cintern

S1. Stakeholders

Students: Students would use Cintern to apply to summer internships, Cintern will help students find internships and also easily apply to them. Furthermore, the site also offers students a way to keep track of which internships they have applied to, and also should be very easy to figure out and use in order to attract as many students as possible.

Employers: In order for our web app to be useful to students, we need to be able to attract employers to sign up and post internship openings. Ideally, Cintern will provide employers a centralized hub, where they can easily advertise their internship listings and screen applicants. It is important that the site is easy for employers to use and that the process of posting open listings and screening applicants can occur be performed quickly by employers.

Admins (Maddie, Heeyoon, Lynda, Jennifer): As admins, our role is primarily to ensure and guarantee that employers on our site are in fact real employers. Our main job will be to review any new employer accounts within 24 hours of account creation.

Developers: We chose this project (Cintern) because we found it very applicable to MIT and other college students. Therefore, we plan to invest a lot of efforts to see the project to success. Not only that, doing well on this project would help us learn to be better web developers, as well as help us get a good grade in the class, and so we definitely hold high stakes in the project.

Test Users: Once at least a prototype of the app is done, we may ask friends or other 6.170 students to test our app, and give us feedback.

6.170 Staff: The TA's and Professors of 6.170 will be guiding the developers along the process. We will ask them questions during office hours, piazza, or through email when deemed necessary. Their role will be to mentor us, give us feedback during each checkpoint, and later, grade our project.

S2. Tasks

Week 2 (11/15 - 11/21)

Due Date	Assignment	Assigned to
11/16/2015	Application Schema/Model/Controllers/Tests	Jennifer
11/16/2015	Question Answer Schema/Model/Controllers/Tests	Jennifer
11/16/2015	Listing Schema/Model/Controllers/Tests	Heeyoon, Maddie

11/16/2015	Student Schema/Model/Controllers/Tests	Lynda
11/16/2015	Employer Schema/Model/Controllers/Tests	Lynda
11/16/2015	Coming up with consistent routing	Maddie
11/19/2015	Application Routing	Jennifer
11/19/2015	Question Answer Routing	Jennifer
11/19/2015	Listing Routing	Heeyoon, Maddie
11/19/2015	Student Routing	Lynda
11/19/2015	Employer Routing	Lynda
11/19/2015	Code Review	Everyone
11/19/2015	Revised Design Due	Everyone
11/21/2015	UI Pages <ul style="list-style-type: none"> • Home Page • Student/Employer Sign Up Display • Student/Employer Login Display • Employer Create Listing Display 	Lynda
11/21/2015	UI Pages <ul style="list-style-type: none"> • Student Application Not Started Display • Student Application Submitted Display • Employer Applicant Display 	Jennifer
11/21/2015	UI Pages <ul style="list-style-type: none"> • Student Dash Page • Employer Dash Page • Employer Delete Listing Display 	Heeyoon
11/21/2015	UI Pages <ul style="list-style-type: none"> • Employer Listing Applicants Page • Student View Internship Listings Page • Student Internship Listing Description Display 	Maddie

Week 3 (11/22 - 11/28)

Due Date	Assignment	Assigned to
11/22/2015	MVP Deliverable/Upload to Github	Everyone
11/23/2015	MVP Implementations	Everyone

11/24/2015	MVP Reflections	Everyone
------------	------------------------	----------

Week 4 (11/29 -12/5)

Due Date	Assignment	Assigned to
11/30/2015	Deleting/Withdrawing/Rejecting Applications	Jennifer
11/30/2015	Handing Deadlines	Jennifer
11/30/2015	Additional Types of Questions	Heeyoon
11/30/2015	Security (spam logins and employer verification)	Lynda
12/1/2015	Filter and Sorting	Maddie
12/2/2015	Finalize and polish UI	Lynda
12/3/2015	Demonstration (almost final)	Everyone

Week 5 (12/6 - 12/12)

Due Date	Assignment	Assigned to
12/6/2015	Final Version of Code	Everyone
12/7/2015	Demonstration	Everyone
12/7/2015	Reflections	Everyone

S3. Expected Effort

We expect everyone to do their best on this project; everyone has agreed to aim for an A and put in the effort required for that grade, if not more. Everyone should put in equal amounts of work per week, with an expected average of 10 hours.

S4. Risks

Implementation Risks

One implementation risk relates to how we save the state of an application (i.e. not started, in progress, submitted, or rejected; starred or unstarred). State must be consistent for employers and applicants; for example, if an employer rejects an application, the applicant sees the application as rejected. Relatedly, not all states are visible to both types of users; applicants cannot tell whether their applications are starred, and employers cannot view applications that have not been submitted (i.e. not started or in progress). To ensure that all states are properly saved, we will be careful in our database design, and also ensure that we prevent any code injection attacks where queries for the wrong application state types occur.

Another concern relates to the process of verifying employers. Unfortunately, if we have no process of verification, users could pose as fake employers and could either post fake listings (wasting applicants' time) or fish for applicants' personal information. We want to ensure that employer accounts are legitimate and that companies do not create multiple employer accounts. Our current solution is to manually verify employers within a day of their account creation; although this method makes it tedious to filter through fake requests, it also ensures that employer accounts are legitimate and unique.

User Experience Risks

Our major concern is that users' assumptions about our app will differ from our design. For example, users may expect to be able to edit their common application after submission. When users sign up for Cintern, we will have to make it extremely clear that users will not be able to edit their common application. Another design decision that users must be notified of is the cap on the number of companies they can apply to.

Furthermore, the interaction between starred applications and application withdrawals may be confusing for employers. We have decided that if an employer stars an application but the application is withdrawn, the starred application is no longer visible to the employer. The reason why we believe this is the best way to mitigate the confusion is because we follow the standard that the withdrawing an application prevents it from continuing to be reviewed.

Our strategy for purging stale applications and postings for each new hiring season is to delete all applications and postings once per year. Cintern's main goal is to help students find summer internships; therefore, we would like to schedule the purge for when companies have finished hiring summer interns. This will most likely fall within the first few weeks of summer--after that point, employers can begin to create new postings. However, we will need to make sure to inform users of this process so that they are not surprised when their old applications and postings are gone.

Teamwork Risks

One possible risk is that a team member becomes absolutely unable or unwilling, either through sickness or other incapacitation, to complete their assigned tasks. In the case that the out-of-commission member's work is essential to the completion of our app, the remaining team members will have to divide up the work. If the work is a non-essential extra feature, the feature could be scrapped depending on its significance.

Another risk is that we spend too much time designing and implementing non-essential features that dilute the purpose of the original app. Whenever we decide on a feature, we should have a thoughtful discussion on whether the feature is actually relevant to the app and useful for users.

S5. Minimum Viable Product

Identification

Our goal in building the minimum viable product phase of our project is to create the basic foundation to support any of the fancy features that we want to add.

On the employer end, we want to support the following:

- Signing Up, Logging in, Logging out
- Creating job postings
- Creating custom form questions for each job posting
- Viewing all applicant submissions to a particular job posting
- For each applicant submission, viewing both the common and custom portion

On the applicant end, we want to support the following:

- Signing Up, Logging in, Logging out
- Submitting a common application via the Sign Up process
- Viewing all job postings
- Adding a job posting to the applicant's list
- Applying to job postings via submission of a custom application

On security, we want to support the following:

- Mitigating code injection attacks
- Mitigating cross site scripting attacks

Concepts Included

The concepts included in the minimum viable product include Common Application, Custom Application, and Job Posting.

The concept that will be postponed for the next iteration of the project is Star.

Issues Postponed

As mentioned, in the second phase of the project, we plan to build upon the basic foundation and add more advanced features.

On the employer end, we have postponed the following:

- Setting a deadline for job postings
- Deleting a job posting
- Rejecting an applicant to a job posting
- Starring an applicant for a job posting
- Filtering and sorting through applicants
- Offering additional types of questions for custom application generation (i.e. checkboxes, checklists, optional questions)

On the applicant end, we have postponed the following:

- Filtering, and sorting through job postings
- Saving half finished custom applications
- PDF support
- Deleting/withdrawing applications

On security, we have postponed the following:

- Mitigating brute-force login
- Mitigating cross-site request forgery
- Mitigating network eavesdropping
- Verifying employer accounts

Value to Users

We believe that the features we have decided to include in our minimum viable product will be enough for potential employers to begin to interact with applicants; however, because we need to establish both user bases, we really believe that the advanced features added in the second portion of the project will be what can help us attract these users.