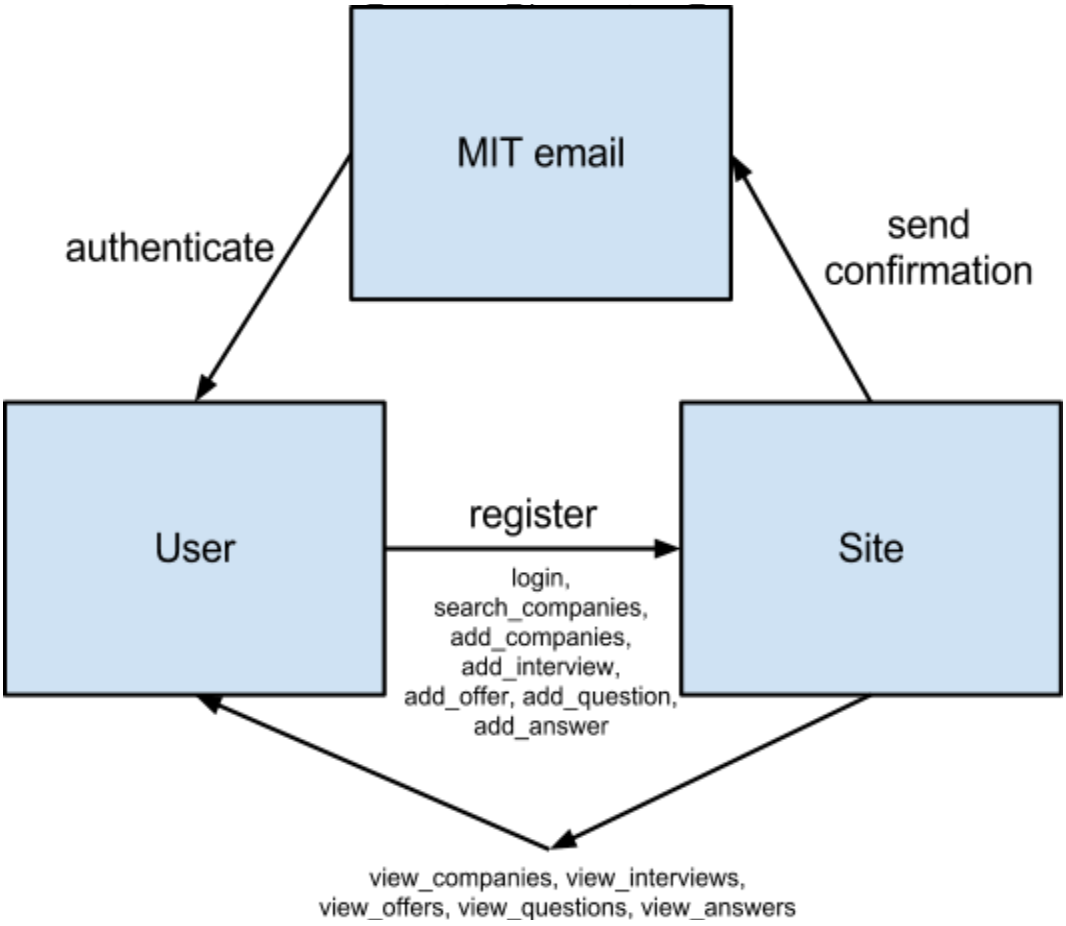
PROBLEM ANALYSIS

Overview

Purpose and goals
We would like to develop a job forum for the MIT community, where student can openly share their interview and work experiences, ask questions, and better understand the job market. Websites like Glassdoor are incredibly popular, and a great way to get a quick snapshot about the hiring practices of a company. However, these sites are targeted towards all careers, and MIT students are for the most part more interested in technical roles.

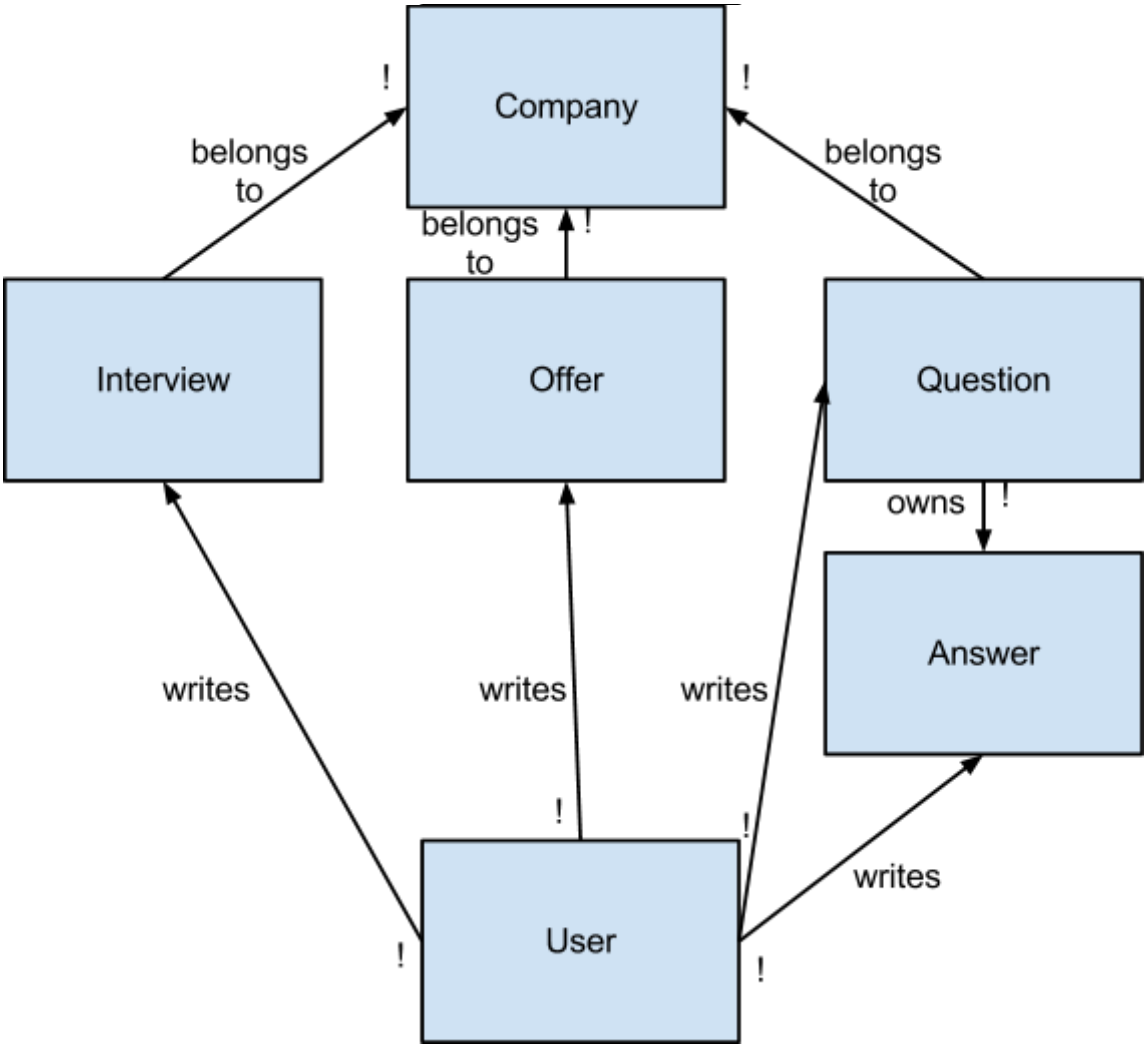
In light of our recent class discussion on many students' hesitation about asking for higher salaries, our site will be particularly useful. While some people may be uncomfortable asking about salaries in person, many more people are comfortable sharing, and thus our site will fill an existing void and provide students' with a valuable resource when negotiating with companies.

Context diagram



Domain

Object model (for MVP)



Note:

- Interview is a general text description about the interview (samples will be provided in our app); we will provide a text prompt that reads as follows: “Describe your interview experience: walk through the process, the questions, impressions about the interviewer, and any other relevant information.”
- Offer is a figure of the yearly salary that a company has offered to a user. We will anonymize these data entries by not displaying any individual entry, but rather an amalgamation of all the entries.
- Question is a question posed by a user about the company in almost a forum-style. Answers are written also in forum-style.
- A User is identified in our MVP. Moving forward, a user may have the option to be identified by username because of the (hopeful) use of certificates or with the option of an anonymized contact me button

- privacy is the level of privacy the User has opted for (beyond MVP)

Event model

Login: using certificates, so no registration process
View Profile
Edit Profile
Search companies
Add company
View company
View interviews
View offers
View question/answers
Add interview example
Add offer example
Add question
Add answer

JobTalk ::= Login (ViewProfile | EditProfile)* (SearchCompany | AddCompany* | ViewCompany) * (ViewInterviews | AddInterview*)* (ViewOffers | AddOffer*)* (View QAs | AddQuestion* | AddAnswer*)*

Behavior

Feature descriptions

- Certificate login: instead of having a registration, we will allow users to login using MIT certificates and edit profile information post login for a more streamlined process
- Company search: an autocomplete search bar will allow users to query for companies, and if an entry doesn't already exist, to make a new company instance
- Interview examples: aggregated by date and sortable by job type
- Offer examples: aggregated in graph form, similar to Glassdoor
- Question and answers: tagged and searchable, with the potential to add upvoting similar to Project 3

Security concerns

Our biggest concern is user privacy. For every information submission a user makes, they will have multiple options regarding how much of their identity they would like to expose (full name, initials, or anonymous). We want to be sure that this information is not leaked in any way, once a user chooses their setting.

We will be using certificates to verify a user's status as an MIT student, which we trust to be secure. We will also use certificates to identify individual users.

We are also concerned about the possibility of spam. We want to ensure that all information and data are accurate. There are number of specific places where this comes into play. First, addressing company duplicates. A user will only be allowed to add another company when it is clear from their search query that the particular company does not yet exist. Second, editing company information - not even the user who made the entry may edit company information to avoid confusion. Third, editing interview, offer, Q&A information, which is possible, but only by the original author. Fourth, to encourage accurate offer data, we will display the information such that outliers are very obvious. Finally, beyond our MVP, we would like to have upvotes for Interviews and Answers so that users can decide the best information.

We also plan to get data from the Career's Office to populate our site and create a baseline dataset. The intention of this is to encourage accurate data submission and increase the user's comfort with the product.

Operations

Login
- pre: MIT certificate holder
- post: logged in
- frame: certificate valid

View Profile
- pre: logged in
- post: in profile view
- frame: logged in

Edit Profile
- pre: logged in
- post: edits saved
- frame: logged in

Search companies
- pre: logged in
- post: company name or create new company
- frame: logged in

Add company
- pre: logged in
- post: company created
- frame: company of same name not created

View company
- pre: logged in, company exists
- post: in company view
- frame: company exists

View interviews

pre: logged in, company exists
post: in interview view
frame: company exists

View offers

pre: logged in, company exists
post: in offers view
frame: company exists

View question/answers

pre: logged in, company exists
post: in q/a view
frame: company exists

Add interview

pre: logged in, company exists
post: interview added
frame: company exists

Add offer

pre: logged in, company exists
post: offer added
frame: company exists

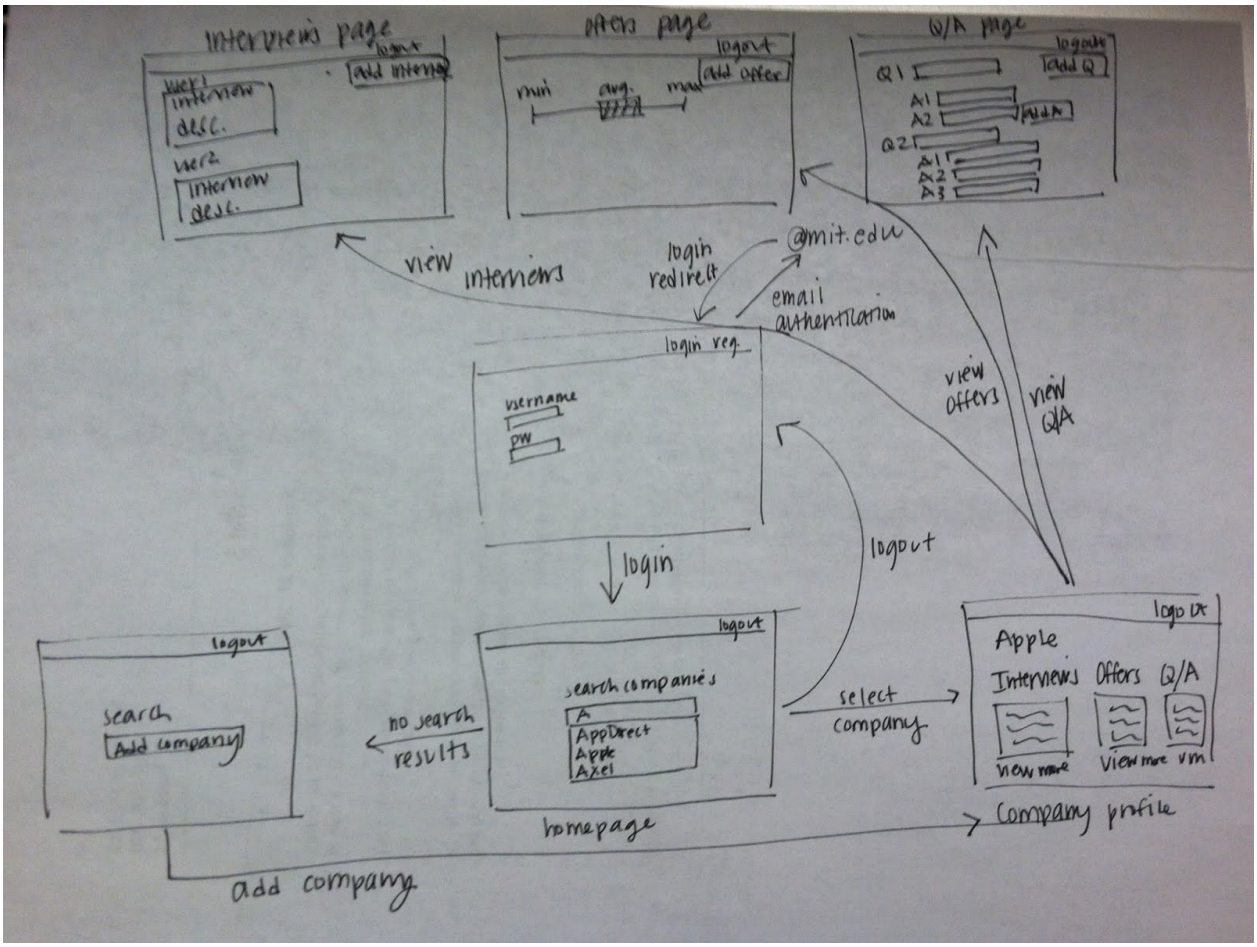
Add question

pre: logged in, company exists
post: question added
frame: company exists

Add answer

pre: logged in, company exists, question exists
post: answer added
frame: question exists

User interface



TEAMWORK

Plan

Goals

We would like to develop a job forum for the MIT community, where students can openly share their interview and work experiences, ask questions, and better understand the job market. Thus, we have designed a system the focuses around company objects and querying amongst them. Information is organized by company, not by user contribution, such that users can remain anonymous if they please.

Stakeholders

Currently we are the biggest stakeholders in this project since we are building this independently from any organization.

Resources

We imagine our final product not being resource intensive, but we can imagine that processing all of the submitted data and generating dynamic graphs/diagrams could be our most demanding operation.

Tasks

- Design analysis, all members, Thursday Nov. 15
- Create basic framework, all members, Friday Nov. 16
- Certificate login, Timmy, Monday Nov. 19
- Interview forum, Timmy, Tuesday Nov. 20
- Offers forum, Mari, Tuesday Nov. 20
- Q/A forum, Josh, Tuesday Nov. 20
- Search by company, Timmy, Friday Nov. 24
- Sort interview examples, Josh, Friday Nov. 24
- Multiple answers for questions, Mari, Friday Nov. 24
- Graphics for offers, ???
- Upvote answers, ???
- UI polish, ???
- UI details, ???
- Security concerns, ???

Risks

We expect the biggest risk will be individual accountability. We have divided deadlines into individual and group components, and obviously if one individual does not meet their deadline, the group deadline will be late. To mitigate this, we will meet regularly and well before deadlines are due. If one group member is seriously struggling to keep up with the workload, we will reassign tasks.

For this to be viable we will also need some initial data. Not having already acquired the data could be slightly risky in terms of the success of the project.

Minimum viable product

Our minimum viable product will be mainly an implementation of our object model. It should allow users to:

1. Search for companies and create companies if they don't already exist
2. Add interview and offer examples for each company
3. Add questions for particular companies and answer questions for particular companies
4. View interview, offer, and Q/A information
5. Login with MIT email addresses

Team Contract

Each team member is expected to complete the tasks by the day previously assigned, and no later. Work will be divided as evenly as possible, so there is really not a lot of room for flexibility in terms of deadlines. Granted, we will discuss and create deadlines far in advance to give everyone fair notice.

Mari:

> I want to make a product that people actually use. Ultimately, Facebook integration would be nice. I'm also hoping that we will be able to effectively divide the work, as that has always been a challenge for me in group projects in the past.

Timmy:

> I really want to be able to tie in everything I've learned from the past three projects and make something I'm proud of. I'm hoping my teammates can help make up for my lack of front-end skills. As with most projects at MIT, I'm concerned the work distribution won't be even, but our team has gotten the ball rolling early to ensure there is a fair division.

Josh:

> I think this is a project that could actually be useful for a good chunk of MIT. Hopefully user engagement will allow us to get a decent chunk of statistics and discussion that will prove useful to the rest of the MIT community. While individual accountability is always a concern for group projects, I think the key to a successful group project is constant communication between the members. This way, everyone can be on top of their work, and also be on the same page as to what direction the project is moving and the end design goals we have in mind as a team.

Team meetings will be held twice a week, on Tuesdays and Fridays, at the student center. Here, we will discuss progress on tasks, any challenges we are running into, and upcoming deadlines. Meetings will hopefully be no longer than 45 minutes.

We all have goals to get high marks in this class, so we hope that quality will be maintained by our individual standards. However, we will also try an informal code review scheme where during our Friday meetings, we each look at another member's code and give brief feedback.

If a deadline is missed, the other team members may need to do extra work to compensate. This is far from ideal, and the other member would potentially have to do extra work during a later component of the project to make up for their tardiness.

Minor design decisions will be left up to the person writing the code for that particular section, but all major design decisions (i.e. those that are not isolated to one section) must be discussed with the group via email or in person. We hope to entertain all opinions, but in an effort to be

efficient, all decisions will be decided by majority.

Meetings

November 11

Progress Report

- Working on problem analysis and thinking about slides
- Plan to meet and finish problem analysis/slides by deadline

Agenda

- Discuss problem analysis, particularly question areas
- Times for meetings in the future

Notes

- Adjust minimal viable product
- Rework OM
- Ensure good communication and teamwork

November 19

Notes

- company duplicates, ui details, security details, wireframes, only person who creates company can edit name or no one?, elegant error messages, confirm positive figure, alphabetize companies, ensuring accurate information

November 25

Agenda

- Demo our app as it is now and discuss what needs to be done for Tuesday
- Talk about security design decisions
- Discuss user control over editing information
- Go over edited design docs

Notes

Josh

- company search
- offer graphics

Timmy

- manual testing
- small ui tweaks
- hide pw from url
- mitjobtalk@mit.edu

Mari

- **fix paths**
- placeholders for interview

- email careers office (data)
- ui tweaks
- redo wireframes

- user making other user
- pre-populate - population script?
- use placeholders, scales for interview, did you get the job or not
- different positions (use hashtags), benefits, background (BS, MEng)
- how to create positions - pre-populate? or moderator (admin console)?