

Comments on design doc

- Purpose
 - Good choice of problem that does not have a good existing solution
 - Good consideration / classification of audience: supervisors & students, and within the student category, you are especially concerned about freshmen due to the initiation barriers they face
- Goals
 - Your goals are approximately feature descriptions.
 - A goal is something a bit more high-level: something you want to do right, something you can look back on and ask, "Did I achieve this goal?" For example, one goal could be "To increase the number of freshmen who find and stick with UROPs" or "To increase students' satisfaction rates with their UROPs."
- Concepts
 - Good, concise descriptions of concepts. Since your audience is MIT only, your users will have no trouble grasping these concepts.
 - Perhaps UROP itself doesn't need to be a concept within your app, since Posting and Application describe everything the app does in relation to UROPs.
 - Are reviews associated with postings or supervisors? (Make it clear here.)
- Feature descriptions
 - Good choice of features. Descriptions are crisp and brief -- very nice.
 - When you say "previous UROP experiences," under "Review UROP experiences"--does this include UROP experience prior to the creation of your app, for which there are no postings?
- Security concerns
 - For some of your security concerns you give mitigations; for others you do not.
 - Behavioral security concerns are more important than the standard technical ones, since for the latter the mitigations are already provided by Rails.
 - To organize and better understand your security concerns, you should lay out an explicit threat model. This allows you to list potential threats, think about which ones can be mitigated and to what extent, and decide how you want to mitigate them.
 - "Impersonation of roles" might not just apply to students impersonating faculty--what about students impersonating other students, etc?
 - You left out an important security concern -- spam! Don't put it past the MIT community to post inappropriate messages. More on this below.
- Design challenges
 - Anonymous reviews & verification
 - If you are allowing anonymous reviews, you need to give serious consideration to the possibility of spam. Will there be moderators (unbiased parties who are neither students nor supervisors) who can see the authors of anonymous posts?
 - If so, who will do the moderating, and what design decisions will

you have to make so that your site can incorporate moderation?

- If not, there are other questions. Does a user have to be logged in to make an anonymous post? Is there a limit to the number of anonymous posts a user can make in a given amount of time? If a professor has two UROP students per semester, do you expect there to be fewer than two spam posts per semester? If there is no way to track down spammers, what other measures will you use to eliminate potential spam if the need arises?
- Why allow sign-up with MIT email addresses rather than using certificates? Students will know they're being identified either way. Do you plan to allow multiple accounts per student? Do you intend to allow mailing lists (a possible source of puppet accounts) as email addresses?
- You said in your Key Concepts section that reviews are only viewable by students, but I assume that's just an artifact you forgot to update.
- Who should see the reviews?
 - It sounds like your challenge of whether to allow supervisors to view reviews boils down to two different goals that are to some degree at odds with each other: to promote honest feedback from students (for the sake of other students), and to allow supervisors to receive feedback from students. These are at odds because students know that harsh feedback may taint their relationships and future interactions with professors.
 - You may not be able to have your cake and eat it too; you might have to choose a side.
 - Personally I disagree with your assumptions about what usually happens when a student is having a bad UROP experience. I think often the student does not let on that they are not satisfied (in the interest of saving face with the professor), and even when they do, they do not say quite how much they hate the UROP. So if the comments coming in via reviews are harsher than the professor has ever heard before, the comments may still offend. But again, you may be willing to accept that if it is in line with your other goals.
 - On the flip side: if you prevent supervisors from seeing reviews, can you stop a supervisor from creating a student account and seeing the review anyway?
- Should the reviews be project, or supervisor focused?
 - Good idea to think about these issues. It would be good to leave the door open on this issue -- if your site grows, you may want to revise and improve your surveys, or make more department-specific surveys.
- New concerns which we suggest for you
 - Site purpose hijacking
 - What will you do if your users start to get side-tracked from the intended purpose of your site? For example, what if students start using it like rate-my-teacher.com where they just rate professors on a scale of 1-5

and possibly talk smack about them (and therefore not necessarily give much useful feedback to professors)? Or what if "supervisors" sign up and start advertising things other than UROPs?

- Convenience
 - Do you intend for your site to replace other media? Which other media -- web sites, posters, departmental listings?
 - Does the professor herself enter info into the site? Or, should departmental secretaries be the ones who enter information into this database to save the professor work? (If so, you should update the context diagram)

Comments on Context Diagram

- There are a lot of players -- good job tackling the complexity of the problem.
- It looks like you missed some interactions -- communication between the UROP office and the department (since direct funding comes from department finances); communication between the registrar and the department. Also, perhaps students interact with the other students in their research group.
- You've forgotten an important player -- **graduate students!** Often UROPs are done under a graduate student, and though the "official" supervisor is a faculty member, practically all the physical supervising is done by the graduate student (or postdoc). In these cases, who will use the app -- the professor, the graduate student, or both?

Comments on Data Model

- What does the relation reader: Supervisor → Review represent? Are you intending each review to have its own viewability settings? In your design document, you said all supervisors would be allowed to read all reviews.
- How about the relation reader: Student → Posting? Shouldn't all students be able to "read" a posting?
- The review system you outlined in your design doc is more complex than this! The existence of surveys, ratings, and free-form comments should be indicated in the data model, as there is a nontrivial design choice to make as to how these are stored.
- Similarly, the data model should make clear what sorts of information is involved in a posting. Is it just a flat text description of the job? Or will you store prereqs or special requests to applicants as separate data fields, so that they can be searched/sorted by easily? Is it associated with a department?
- Are reviews about postings? About supervisors? Both? There should be some relation saying what a review is about, so that people can look up reviews rather than having to read through the flat list of all reviews every time.
- What happens to an Application when it is accepted? How about when the student starts working on a UROP? Or if he rejects?
- Do you intend for students to only be able to write about UROPs they were actually involved in? If so, will your data model incorporate some way to keep track of which

students have which UROPs (i.e. which applications were accepted, which students started working with whom, and when the UROP ended)?

Comments on State Machine Diagram

- It appears that the Application page serves both as a listing of applications and as a view page for a single application. Is there an AJAX / dynamic view that supports submission? Either way, some sub-states inside the Application box would make site flow clearer.
- Same comment for the Review page. Especially since there *do* exist separate boxes for “Postings” and “Single posting.”
- If the Student Profile only allows you to go to the Application page, why include it at all? Why not just route the student straight to the Application page?
 - Perhaps you want a student to be able to easily use the same resume for multiple applications, and therefore have the ability to upload documents to his profile as on CareerBridge? If so, changes will be needed to both your data model and your site flow.
- Clicking "view my profile" from Postings can send a user to either Student or Supervisor Profile, based on context; is there a clearer way to convey that you can't take both of these actions?
- Your diagram does not include any way to create a posting. Presumably there should be some place where a supervisor can enter a new posting?

Comments on Wireframes

- We found your wireframes (located in a different directory than the rest of your docs) after the rest of this document was written.
- Your wireframes suggest that you are intending to store lots of data that is not mentioned in your data model (sometimes not even in your design doc).
 - How will all this data get populated? E.g., on a supervisor's profile page, are research interests entered manually, or do you plan to scrape them from departmental websites?
- Your “Home page” wireframe shows some content, in addition to the option of signing in. What are the “Features” shown on that page? What actions and views are available to users who are not signed in?
- In your “Project show” wireframe, what reviews are shown under a project listing? Are they reviews of the professor supervising the UROP?