# Knowledge Compass

*School of Information*
*University of California, Berkeley*
*Final Project Report*
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Many thanks to Professor Robert J. Glushko, our advisor

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# Executive Summary

# Introduction

This report describes the *Knowledge Compass* project carried out during the 2008-2009 academic year at the University of California, Berkeley to satisfy course requirements and as a final project in lieu of a thesis at the School of Information (I School). The report outlines the project's motivation, its key activities and work products, as well as recommendations.

We conducted the project in two phases. The first phase was more technical in focus, seeking to design and implement new technology-based services that would increase the extent and effectiveness of alumni communication and alumni-student interactions. Work on this phase revealed some organizational and structural obstacles to a successful deployment of these services. We thus pursued a second phase to understand these obstacles. Taken together, these two phases yielded a more complete and robust understanding of the problem and suggested recommendations that enhances the chance of success than the initial proposal.

I School currently lacks effective mechanisms for addressing alumni-student interactions. In fact, both the I School and the university at large are looking into online community building efforts. While the I School intranet has an Alumni Network, one can only guess whether the available contact information is current or even if the alums listed are open to student contact. Likewise with the I School LinkedIn group, it's unknown how alumni perceive "cold e-mail contact." In any case, it places the burden and discomfort on students wondering if alumni welcome contact. Many abandon the risky venture and miss an opportunity to interact with alumni. While I Schoolers possess the technical aptitude to create a solution, implementation success entails overcoming numerous organizational barriers.

The primary motivation for Knowledge Compass came from the career [1] and internship [2] surveys sent by the School of Information (I School) *Student Affairs* administrators for students to fill out. When students complete a survey, the response document is transactional in nature; however, the survey results are published as a narrative document in Adobe PDF format. Not only does the PDF format offer limited meaning for users, but the data collection and analysis is also static. For example, data were not cumulated to allow insights about multi-year trends.

Knowledge Compass aims to create a living dynamic information repository about current and past students that would support a range of services that would build a stronger community at the I School. Some of the services would be targeted to alumni, others to students, and some would jointly target both groups. Given the diverse backgrounds of the I School student body and the interdisciplinary curriculum, we also wanted to help current students successfully navigate towards their academic and professional goals. This report is a first phase of a multi-phase project.

As a proof of concept, Knowledge Compass addresses the organizational strategy needed to overcome such barriers to successfully implement solutions. We also conducted a competitive analysis of alumni and student services at four peer institutions and found that the I School's offers are inferior and non-competitive in many respects. Our recommendations in this report are designed to help the I School achieve parity at least and perhaps exceed the comparable services at these other institutions.

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[1] Career Placement Survey, I School, UC Berkeley http://www.ischool.berkeley.edu/careers/placementsurvey

[2] Summer Internship Survey, I School, UC Berkeley http://www.ischool.berkeley.edu/careers/internsurvey

## Stakeholders

*Primary Stakeholders* We originally considered alumni and students as the primary stakeholders. However, administrators ultimately decide on the adoption and implementation of an information system that affects students and alumni. (For the purposes of this report, "administrators" or "administration" refers to staff administrations with the dean as the final decision maker.) Their buy-in lends credibility and leads to more successful execution. As a result, they are our primary stakeholders and users.

*Secondary Stakeholders* Critical mass among students and I School alumni is a key metric for information system implementation. As end users, both parties exert some influence on the adoption of new systems. Understanding both their stated and latent needs increases the probability of successful adoption.

## Phase I: Key Activities

### *Qualitative Interviews*

We conducted 16 interviews with the following stakeholders: current students, alumni and administrators. Affinity diagrams captured the results. The findings included a list of services that stakeholders sought. We identified the following four areas that needed further analysis:

*Jobs* Career advice/tips/recommendations
*Courses* Course recommendations
*Expertise* Subject matter expertise
*Projects* Potential class/final projects and also project partners

### *Competitive Analysis*

We analyzed four educational institutes based on their public web sites with respect to career guidance, alumni relations, course recommendations, outreach efforts and employment surveys. Two of these were schools of information, one was a business school and the last a human computer interaction institute. On evaluating the leaders in terms of services offered, we identified opportunities for I School, UC Berkeley.

## Phase I: Key Findings

### *Service Design*

*Prioritization of Services* Based on the qualitative interview results, we prioritized a list of services. We identified the top service as *Recommending courses for given job categories*. Our next step was embarking upon service design.

The first phase also revealed organizational and structural issues that would have obstructed successful deployment of these services. Hence, we pursued a second phase to first identify the collaboration barriers before continuing with the service design.

### *Organizational Issues*

I Schoolers currently share information in a variety of unstructured ways, but there are obstacles to embracing new information system and service design.

*Many Stakeholders, With Somewhat Incompatible Perspectives* There are numerous top-down and grassroots networks developed or built, but they fail to forge a community. Often such functions are either ad hoc, incremental, or independently developed solutions lacking strategic planning.

*Insufficient Resources To Undertake A Comprehensive Solution* Both the School of Information and the *Knowledge Compass* faced limitations in time and budget. Such limitations forces the former to rely

on legacy tools. Our project team consists of two members who embarked on this project in November 2008 with initial plans to build a technical platform from which to build services. After we identified key areas however, we recognized the need to take a comprehensive outlook since a technical solution cannot address problems such as collaboration barriers.

*Underestimation And Misperception About The Scope Of The Problems* There is a pervading misperception that the alumni participants on e-mail distribution list discussions (fun/noise@ischool) represent the entire alumni population; therefore, there exists a widely-used forum for information exchange. In reality, the alumni participants represent less than 25% of the total alumni population[3]. Out of the minority alumni subset, an even smaller number actively participates on a regular basis.

*Weaknesses In Current Communication Mechanisms* In spite of being commonly cited as the main communication portal with alumni, many feel informal fun/noise@ischool exchanges lack the relevance students need to achieve professional goals. The signal to noise ratio is often perceived to be low thus making it difficult for students to gain credibility from their interactions with alumni.

Taken together, these revealed some organizational and structural obstacles to a successful deployment of services; so, we embarked on Phase II to understand these obstacles.

## Phase II: Key Activities

### *Barriers to Collaboration - Survey Design*

To identify the barriers to collaboration between students and alumni specifically with regard to the four areas identified in our qualitative interviews, we designed a survey that 38 current students at I School responded to. This confirmed our hypothesis that searching for the right information and the right people was the biggest barrier to collaboration**.** Further**,** there existed other barriers to collaboration such as**,** not-invented-here and transfer of complex knowledge.

### *Functional Design of Services*

To address the search barrier for career guidance and jobs, we identified a service to organically show what courses alumni found most useful for the career path they chose. The idea was to demonstrate how such a service could be built on the data platform that we were modeling.

The main features for such a service are:

**MULTI-FACETED NAVIGATION** The same view should allow search by different facets such as job category, graduation years of the alumni whose data is displayed, their prior experience, their prior degrees, their job titles and the academic departments offering the courses.

**OVERVIEW AND DETAIL** While the main view is an overall aggregated view, the service should allow for drilling into the details. For example, upon selecting a specific person's name, the courses that this person found useful can be highlighted. For privacy concerns, alumni should be given the option to hide their name if they so deem appropriate.

**REUSABLE COMPONENTS** Gather relevant data from external sources and ask alumni to verify it, instead of filling in all information afresh. This would reduce the burden to enter large amounts of information. For

[3] Findings based on data analysis of I School Alumni Network and mailing lists (alumni@ischool, fun@ischool, noise@ischool,

example, job related information can be brought from LinkedIn[4] and course related information from the Courseland [5] project.

## Phase II: Key Findings

### *Collaboration Barriers*

Because of the organizational issues for service design, we hypothesized that the I School faced collaboration barriers. We formulated the following research question:

What are the barriers to collaboration[6] between students and alumni, specifically when seeking help with respect to the four areas uncovered during our Qualitative Interviews conducted in Phase I: Jobs, Courses, Expertise, and Projects.

In order to answer this question, we customized a survey that 38 I School students completed. While a similar exercise could be done for the alumni, that was out of scope for this phase of the project. The data collected was then mapped to the benchmark scale[7] to identify the barriers and the extent to which they existed. The findings of this exercise were as follows:

*Search Barrier* Searching for the right information and alumni to answer questions is the biggest barrier to collaboration for all four areas.

*Transfer Knowledge Barrier* There is difficulty in communicating best practices or working together to share information. While this was observed to be more of a problem for career guidance, course recommendations and seeking projects, it was perceived as a smaller problem for communicating subject matter expertise. Lack of a common frame or weak ties exacerbates this problem.

*Not-Invented-Here (NIH) Barrier* NIH is a barrier when people do not want to reach out to others for support. While this could be due to a notion of self-reliance, it could also be due to an insular culture where communication remains confined to a group. We found that students are willing to seek support for guidance related to jobs and subject matter expertise, and not so much for course recommendations and projects.

*Hoarding Barrier* We found that this was not a problem for any of the above four areas. Students were willing to share if they had the appropriate information.

Although the data was self reported and subjective, it indicates that searching is the biggest problem. Knowledge transfer and not-invented-here are also a problem, while hoarding is not important. For ability barriers such as search and transfer barriers, overcoming these requires building nimble networks to make it simpler to identify opportunities and capture value. NIH is motivational in nature, and can be overcome by unifying people. Doing so involves crafting a unifying goal and cultivating an emotional bond with the alumni. The recommendations section offers specific recommendations for these findings.

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[4] http://www.linkedin.com/

[5] http://courseland.net/

[6] Collaboration: How Leaders Avoid the Traps, Create Unity and Reap Big Results by Morten T. Hansen

[7] Ibid, Chapter 3 “Spot the Four Barriers to Collaboration”

## Recommendations

In order to build a stronger student-alumni community, we offer recommendations which when applied strategically, would enable building emotional bonds between students and alumni thus creating a "lifetime commitment" for students beyond matriculation. Applying guidelines for reducing collaboration barriers, we categorized our recommendations on a spectrum from *Identifying Opportunities* that facilitate collaboration towards *Capturing Value* once collaboration occurs, to have the greatest effect on lowering the respective barrier.

*Social Networking Presence* Even with busy schedules between work and family, alumni still want to maintain at least a passive connection. There are approximately 400 alumni and 100 current students at I School. From these groups, less than 200 are on LinkedIn or Facebook. With no official Facebook page, no official I School news feeds can be published to I School social network users. I School news and events feeds already exist, so publishing them on a Facebook page may not take too much effort. Also, our competitive analysis shows other schools' sites highlighting their network connections on their websites, thus encouraging participation from the community. [Barrier Addressed: *Search*]

*Recommending Courses for Jobs Categories* Information schools are uniquely characterized by interdisciplinary courses. While some schools (refer to Phase I: Key Activities Competitive Analysis Pg. 17) have specialized tracks, I School does not. The advantage of not having specialized tracks is that it lends flexibility to the program and can be tailored uniquely to each individual's needs. Using the career goals and useful courses taken by alumni as the data repository, a service can be built which shows current students what coursework aligns well with their career choices. Being organic in nature, such a repository would self adjust with changing career trends and the courses offered. Phase II: Key Activity – Functional Design of Services (Pg. 45) shows mockups for such a service. [Barrier Addressed: *Search*]

*Data Archive* While the I School staff archives some forums, archiving does not exist for the noise @ischool list. Noise has both current students and alumni and it's widely considered the place to go to for information and expertise. In spite of its frequent usage, it is not archived. This leads to redundant discussions year after year. We need a more structured way to search and retrieve meaningful exchanges.

In addition, final projects and course deliverables (papers, projects, etc.) lack effective archiving. When searching for a final project, unless the exact year and name of the final project is known, it is a painstaking process checking each year for every project delivered that year to find the one of interest. Likewise with course deliverables, instead of static course descriptions, understanding the amount and quality of work involved in previous iterations of a course helps people understand the demands of the course and program as a whole. Archiving such materials delivers immense value to current students and prospective students debating the merits of the program. Rather than talk about what the students can do via occasional announcements, allow the products to serve as a testimonial to the caliber of skill-sets students applied. We believe that if asked, many students would "opt in" to archiving these as institutional resources. [Barrier Addressed: *Search*]

*Career Services Resources* Rather than rely on the Campus Career Center, turn to alumni for list of recommended resources or invest in a career library. In addition, have a Career Services page on the intranet with tips written with an I School lens. Even a simple static list will do to save students valuable search time. (Example: Tips from an I School alumni on what makes a good portfolio.) Allowing I School community contributions via comments provides an archive of valuable feedback that can be incorporated into future revisions of the list. As a result, the static data becomes dynamic thus transitioning the data from information to knowledge. [Barrier Addressed: *Search, Transfer*]

*Distinguished Lecture Seminars* Establish a 7 pm lecture once a month to accommodate alumni work schedules. Schedule a mixer at 6 pm to encourage social exchange between students, alumni, faculty, and

guest lecturers. Build a long-term emotional bond that allows the school to construct a nimble network. [Barrier Addressed: *SEARCH, TRANSFER*]

*WELCOME BACK DAY* Alumni occasionally are invited back to talk to I School courses; the most systematic and regularly scheduled event is *202 Alumni Day*, that has been the last week of class. A more broad-based approach effort would have these advantages: alumni can speak to students in class about their career; students welcome guest lecturers in class; and alumni speakers have a built-in target audience—enrolled students. [Barriers Addressed: *SEARCH*, *TRANSFER*, *NIH*]

*EXECUTIVE EDUCATION WORKSHOPS*– The I School can offer short two to three day workshops on emerging technologies. UC Berkeley's advantage of being in close proximity to the Silicon Valley offers easy access to entrepreneurs who may be interested in the current topics I School faculty cover. This presumably can be a revenue source for the school. Software companies often have policies to fund conferences and workshops, so the financial onus need not be bourn directly by the attendees. Further, it would also provide reasons for alums to return as students of the executive education program and help foster a stronger I School community. [Barrier Addressed: *TRANSFER*]

*ADVISORY PANEL* Alumni can participate on an advisory board counseling students and even fellow alumni in the following areas: resume critiques, interviewing tips specific to a company or industry, class recommendations from recent graduates, etc. The entire I School community benefits from building a diverse network of both weak and strong ties while exchanging expertise. Most importantly, it needs to be communicated to alumni their need to get involved with current students. Involvement does not limit itself to charitable donations, but also availing themselves to students who have questions for a class, project, or informational interview. [Barrier Addressed: *TRANSFER*]

# Stakeholders

There are numerous top-down and grassroots networks developed or built, but they fail to forge a community. Often such functions are either ad hoc, incremental, or independently developed solutions lacking strategic planning. As a result, we carefully evaluated the primary, secondary, and tertiary stakeholders in both phases of our project.

**Primary Stakeholders** In our initial phase, we saw alumni and students as key stakeholders and primary end-users of our information platform (Figure 1). However, administrators ultimately decide on the adoption and implementation of an information system that affects students and alumni. (For the purposes of this report, "administrators" or "administration" refers to staff administrations with the dean as the final decision maker.) Their buy-in lends credibility and leads to more successful execution. As a result, they are our primary stakeholders and users (Figure 2).

**Secondary Stakeholders** Critical mass among students and I School alumni is a key metric for information system implementation. As end users, both parties exert some influence on the adoption of new systems. Understanding both their stated and latent needs increases the probability of successful adoption.

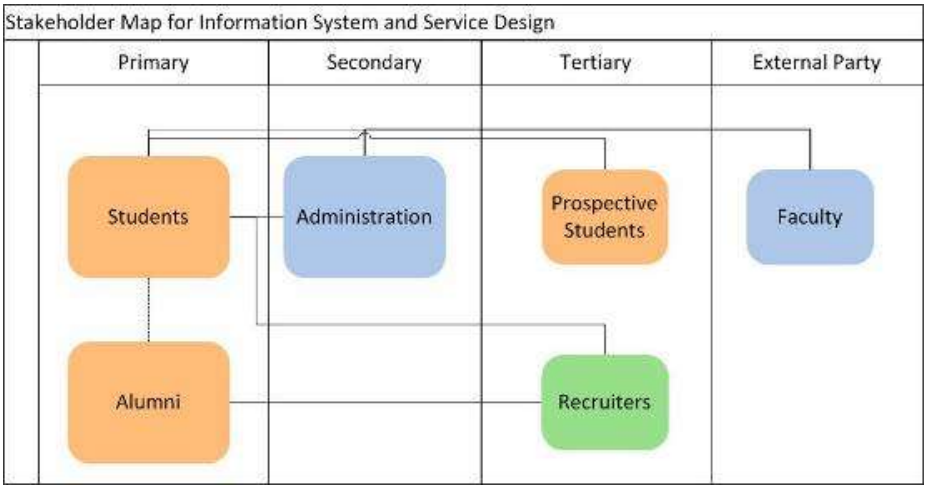


*Figure 1 Stakeholder Map for Phase I*

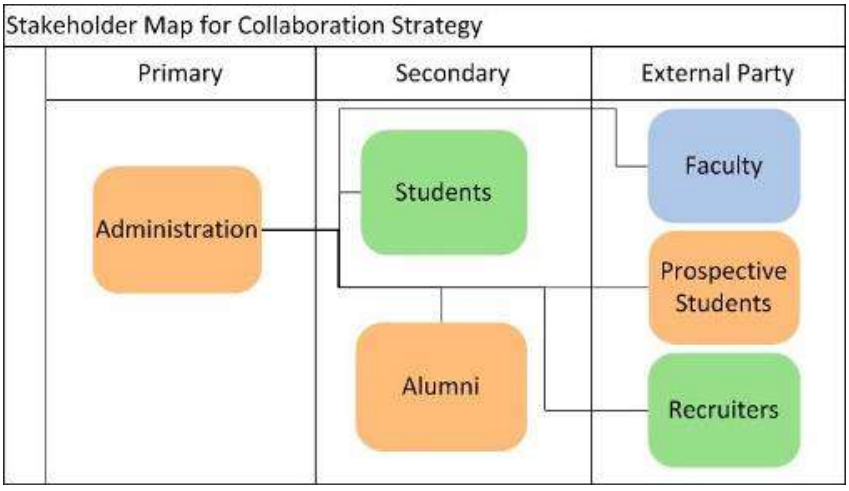


*Figure 2 Stakeholder Map for Phase II*

# Phase I:
# Key Activities

# Qualitative Interviews

We conducted 16 interviews with the following stakeholders: current students, alumni and administrators. Affinity diagrams captured the results. The findings included a list of services that stakeholders sought. We identified the following four areas that needed further analysis:

*JOBS* Career advice/tips/recommendations
*COURSES* Course recommendations
*EXPERTISE* Subject matter expertise
*PROJECTS* Potential class/final projects and also project partners

We applied the qualitative interview methodology outlined.

## Corpus

To better assess stakeholder needs prior to designing an information system and its associated services, we interviewed relevant stakeholders. Knowledge Compass stakeholders included: Current Masters and PhD students, Alumni, and Administrators. When we interviewed subjects at the start of our project, we focused on Alumni as primary stakeholders while Current Students were secondary stakeholders. A more complete understanding of how administrators interact with students and alumni required interviewing a few tertiary stakeholders: I School Administrators.

The pool of interview subjects reflects a corpus that captures appropriate levels of demographic diversity for the various stakeholders. We interviewed a total of 16 people. Table 1 reflects the demographic information for the interviewees. For the purposes of maintaining anonymity, we gave all interview subjects an ID number and provided limited demographic information.

## Interview Subject Selection

We arranged all interviews via e-mail and attached our project proposal for informational purposes. We first interviewed Alumni then Students and Administrators.

*ALUMNI:* We targeted certain alumni for interview requests based on the following criteria: on-campus Alumni Panel participation; e-mail distribution list discussion participation (fun/noise @ischool); or advisor recommendation.

*STUDENTS:* Students, on the other hand, voluntarily responded to our e-mail interview request sent to the current student e-mail distribution list (students@ischool); hence, the random current student interview subject selection.

*ADMINISTRATORS:* Given the limited number of I School administrators, we specifically interviewed the ones who interact with the student body before, during, and after I School matriculation.

## Interview Structure

While estimating one hour for each interview, our semi-structured open-ended interviews actually ranged in duration from 30-90 minutes. Each interview began with a brief description of the Knowledge Compass project, its inspiration and goals. We met with most interviewees in South Hall for interviews, either in an office or a reserved classroom to ensure privacy and minimize interruptions. For those unable to meet in person, we conducted interviews over the phone and reserved both classroom and teleconference

equipment. Barring technical difficulties, we requested permission to record interviews while we also ensured participant confidentiality. Extending confidentiality allowed participants to freely express their thoughts without fear of negative repercussions.

*Table 1*

**Interview Subject Demographic Profiles**

| ID | Pool | Degree | Grad Class | Domestic? | Gender | Years of Work Experience |
|---|---|---|---|---|---|---|
| 1 | Alumni | MIMS | 2006 | Domestic | M | 5 |
| 2 | Alumni | MIMS | 2007 | Domestic | M | 22 |
| 3 | Alumni | MIMS | 2006 | Domestic | M | 12 |
| 4 | Alumni | MIMS | 2003 | Domestic | M | 4 |
| 5 | Administrators | -N/A- | -N/A- | | | |
| 6 | 1st yr | MIMS | 2010 | International | F | 7 |
| 7 | Administrators | -N/A- | -N/A- | | | |
| 8 | PhD /MIMS Alumni | MIMS, PhD | 2008; 20?? | Domestic | F | 10+ |
| 9 | 2nd yr | MIMS | 20?? | Domestic | M | 10 |
| 10 | 1st yr | MIMS | 2010 | Domestic | M | 12 |
| 11 | 2nd yr | MIMS | 2009 | Domestic | F | 0 |
| 12 | 1st yr | MIMS | 2010 | Domestic | F | 5 |
| 13 | 1st yr | MIMS | 2010 | Domestic | M | 7 |
| 14 | PhD/MIMS Alumni | MIMS, PhD | 2005; 20?? | Domestic | M | 3 |
| 15 | Administrators* | -N/A- | -N/A- | | | |

**Group interview with two administrators*

## Interview Topics

Table 2 outlines how we organized questions for each of the interview pools. The initial interview questions that guided our first interviews with alumni covered the key topics indicated. Subsequent interviews incorporated new questions that emerged from the initial interviews. Interviews started in January and ended in March.

*Table 2*

**Interview Topics**

| Alumni | Students | Administrators |
|---|---|---|
| • Background<br>• Coursework<br>• Career Services<br>• Information Sharing<br>• Participation Incentives<br>• Demographics | • Background<br>• Coursework<br>• Career Services<br>• Alumni Interactions & Information Sharing<br>• Participation Suggestions<br>• Demographics | • Background<br>• Recruitment<br>• Career Planning/Services<br>• Alumni Services<br>• Administrative Concerns |

We asked alumni and students for detailed descriptions of their I School experience with regards to the respective interview topics. Since we could not observe their actions, especially alumni, interviewees relied on memory to describe situations, scenarios, and lessons learned. Interviews with administrators, on the other hand, focused on how they organize and administer current I School services for students and alumni ("As Is" process). Administrative background questions traced the history and evolution of current administrative processes. We embraced comments on the processes people experienced and also welcomed their "wish list" for services and improvements at I School. All interviews ended with demographic questions not answered during the interview.

We asked alumni about their I School coursework with hopes of discovering information requirements for designing an information service for current students based on coursework, its categorization, and eventual career path. We directed similar coursework-related questions to current students to compensate for gaps in alumni recollection of their academic workload. Over the course of the interviews, we solicited personal opinions of the I School course selection process to identify opportunities for service design.

## Data Analysis - Affinity Diagram

After each interview, we met briefly to discuss general impressions of the interview process and the interviewee. Doing so transformed the interview topics as needed to address new questions for subsequent interviews. The second step involved summarizing notes using a shared document tool — Acrobat Buzzword. The tool allowed us to make comments along the margin that served as the initial starting point to generate concepts, categories (higher level, more abstract concepts), and possible relationships among categories. Based on these initial stages of analysis, we used the results to revise the interview guide for subsequent interviews.

Once we completed all interviews and summarized interview notes, we looked for significant concepts, their characteristics and dimensions. We captured each characteristic and dimension onto a Post-It note. Each Post-it also included the interview subject ID for traceability. As identified concepts merged into categories, we systematically explored the properties and dimensions of each one. While Figure 3 is a sample of the affinity diagram, Appendix 1 replicates the data analysis process as consolidated affinity notes.


*Figure 3 Affinity Diagram for Knowledge Compass Interview Analysis Process*

*JOB FAIR* Students and alumni extremely appreciate I School's very own Job Fair since it becomes unnecessary to explain the unique nature of the I School program. Plus, it offers students a chance to interact with alumni. Ideally alumni recruitment equates to a referral thus lending more credence than an online job application.

> *I want to know my resume won't go into a drawer. ~ Interview ID 12*

Unfortunately, the Job Fair is not the ideal situation for a student meeting alumni for the first time. Lacking previous positive interactions, the student's relationship is no stronger than with generic recruiters. In addition, the student's goal of securing a position directly conflicts with the alumni's goal of filtering resumes. Such divergent goals damages efforts at establishing a strong connection between both parties.

*ALUMNI NETWORK* Students find alumni in a variety of forums, but the quantity of forums does not translate into effective communication with alumni. The alumni@ischool list offers limited value since it's not only a crude list of e-mail addresses, but it's also difficult to determine identities based on e-mail alone (Example: albacore55).

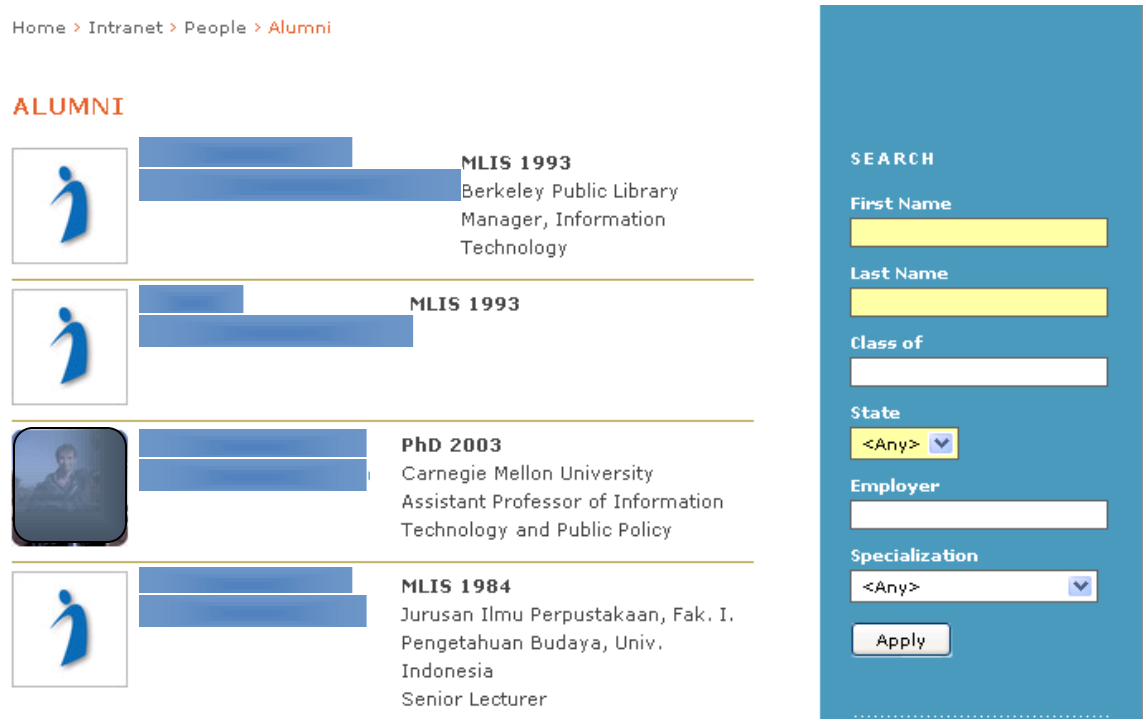


*Figure 4 I School Alumni Network Partial Screenshot (Personal Data Omitted)*
*Source: www.ischool.berkeley.edu/intranet/people/alumni*

As Figure 4 shows, attempts to trace an e-mail to an individual becomes painstaking, repetitive, and tedious when there is no e-mail search field for the I School Alumni Network. One would have to use a browser's *Find* function repeatedly for each page until the e-mail match gets found. In addition, students can only guess the last time alumni updated their contact information and if they welcome student contact.

> *I don't really know many alumni and have not been especially close to any during my time at the iSchool. […] If I had questions I wouldn't know who to ask. ~Interview ID 10*
>
> *The current Ischool's almuni list on the web includes such sparse data that we can't get what areas alumni have really strong experience and expertise in. ~Interview ID 6*

*SOCIAL NETWORKING* LinkedIn users simply have the I School group appear on their LinkedIn page as a logo for their degree. Upon cursory review, the I School LinkedIn group is not 100% I Schoolers. Unlike other LinkedIn groups, no communication exchanges occur between members whatsoever. But similar to the I School Alumni Network, it's unknown whether people welcome "cold e-mail contact". In any case, it places the burden and discomfort on students wondering if alumni welcome contact. Many decide to avoid the risk entirely and miss an opportunity to interact with alumni.

*JOBS* All interview subjects expressed the challenges of job hunting for I School students given the curriculum's interdisciplinary nature. Except for companies recruiting the School of Information, students and alumni find themselves repeatedly explaining the unique nature of the curriculum. Many recruiters simply recognize UC Berkeley, but not the School of Information. Marketing proves problematic and repetitive.

*CAREER SERVICES* The campus Career Center's services apply primarily for undergraduates and offers generic advice when I Schoolers crave customized advice unique to multi-disciplinary students or career changers.

> *The generic resume critique session at the career center was not helpful. I need specific advice on framing my previous experience and I School courses for my resume. ~ Interview ID 11*

Career changers do not know how to make their previous work experience and current coursework relevant for their new career choice. Novice portfolio creators do not know what to include, whether their portfolio needs work, or how to make improvements. While faculty can help locate positions or provide feedback, prospective job interviewers don't know how to prepare for their interviews. Some successfully land a position, but they have no idea what the position entails, what the responsibilities are, or how to evaluate their offer for fairness. This leads to stress and frustration as time and energy gets diverted from schoolwork to job hunting resources.

*COURSE SELECTION GUIDANCE* The interdisciplinary curriculum is both a blessing and a curse. Several commented on how "serendipity" played a role in their course selection. However, others related haphazard course selection during their first year to discover themselves. They gained momentum the second year only to have the final project monopolize their final semester and quell their drive. Many wished for recommended tracks with the option to follow them.

*PROJECTS* While students cited difficulties finding project ideas or subject matter expertise regarding their projects, alumni wanted to know about current projects or recruit students to work on their projects part-time.

> *I'd like to know what students are working on, if it's something I'm looking for. It'd be great if there was something like LinkedIn for students to indicate "open to internship or project or part time job." ~ Interview ID 3*

## Competitive Analysis

We compared and contrasted the public websites of four other schools relative to I School pertaining to student-alumni connections. Two of these are Schools of Information, namely, University of Washington and University of Michigan. We chose the Human Computer Interaction Institute at Carnegie Mellon University as the third school since this core HCI program is often a place where potential I School students also apply to. The fourth school that we chose was the Haas School of Business at UC Berkeley. We targeted Haas not only because it is also at UC Berkeley, but also for its non I School curriculum. In addition, many I School students take Management of Technology courses at Haas. We also believe that business schools have greater resources to dedicate to alumni relations worthy of examination. This study analyzed the gaps and opportunities for I School.

### Information School (iSchool), University of Washington

Founded in 1913 as a Library School, it was renamed as the Information School (iSchool) in 2001. While it also offers a BS in Informatics and a Master of Library and Information Science (MLIS) degree, we concentrated on the Master of Science in Information Management (MSIM) program for this analysis. The MSIM daytime program has about 65 students[8] , while the evening and weekend program has about 43 students. The MLIS program within the school has the highest enrollment of approximately 450 students

*Table 3*

**Analysis of Information School, University of Washington**

| Area | Services | Value | Comments |
|---|---|---|---|
| *Career Guidance* | Job Listings | Yes | • HuskyJobs online resources is a university-wise system that can be used to find jobs [9]<br>• Iprojobs mailing list to find iSchool specific jobs<br>• 35 companies visited the last career fair [10] |
| | Tips | Yes | 10 Career Search Strategies for MSIM students [11] However, not easily navigable (Student Resources → Student Services → Career Resources) |
| | Past Employers | Yes | A static list of past employers |
| | Listing of Professional organizations | Yes | 26 iSchool related professional organizations |

[8] MSIM, Information School, University of Washington http://en.wikipedia.org/wiki/University_of_Washington_Information_School#Master_of_Science_in_Information_Management

[9] HuskyJobs, UW Career Center http://careers.washington.edu/Students/HuskyJobs

[10] Participating Employers, Information School, University of Washington http://www.ischool.washington.edu/resources/employerfair/participants.aspx

[11] MSIM Resources - Career Resources – Student Services, Information School, University of Washington http://www.ischool.washington.edu/resources/career/msimcareer.aspx

| Area | Services | Value | Comments |
|---|---|---|---|
| | Service for recruiters/alumni to post job opportunities | No | Not available on public website. |
| *Courses* | Mapping courses with career goals | No | |
| | Course recommendations | Yes | Course map as a visual representation of the coursework [12] |
| *Alumni* | Searchable alumni database | No | Cannot tell from publicly available data |
| | Info for alumni | Yes | • Alumni links section easily navigable.<br>• Not only are recent events posted on the Alumni page such as a recent career panel, but alumni are also provided links to the audio and encouraged to submit a "hot topic" to an alumni email address. They explicitly state "we're always looking for hot topics to share with current students." |
| | Alumni profiles | No | Not on the public website |
| *Outreach* | Social networking presence | Yes | • Official Twitter and Facebook presence<br>• Twitter:<br>  • Alumni are invited to "follow us for updates" and to "connect with other alumni"<br>  • Follow the iSchool Dean<br>• Facebook:<br>  • Become a fan of the iSchool to get announcements on upcoming events or to track active faculty.<br>  • 661 fans—ability to have outreach beyond the iSchool community.<br>  • Calendar RSS feed directly into the Facebook page-- send updates to where the audience is. |
| | Feeds | Yes | Two feeds - Events and News |
| | Blogs | Yes | iPrep blog on the intranet (link from main site) |
| | e-Newsletter | Yes | • Content is not duplicated from the website. Published every semester.<br>• The e-newsletter features articles, an exclusive interview, and opinion/editorials on current topics (Example: whether copyright belongs in the iSchool curriculum where two students submit their opinions on each side, respectively). |

[12] MSIM Curriculum, Course map, iSchool, University of Washington http://www.ischool.washington.edu/msim/docs/course-map-0809.pdf

| Area | Services | Value | Comments |
|---|---|---|---|
| | Events calendar | Yes | • One can subscribe to the calendar RSS feed; add the calendar to Outlook/iCal or Google calendar<br>• One can also post a new event from the same page. |
| *Career Survey 2008* | Placement report | No | Data not available on the public website |
| | % of respondents | NA | Data not available on the public website |
| | Average salary of the program | NA | Data not available on the public website |

## School of Information (SI), University of Michigan

Re-chartered by the Board of Regents in 1996, SI offers a Master of Science in Information (MSI) degree. Students can choose to specialize in one or two tracks (from a list of ten) or earn the degree without a specialization. SI has a total of 345 master's students and 46 doctoral students (Fall 2008) [13]. It had 117 graduating students in the batch of 2008.

*Table 4*

**Analysis of School Of Information, University Of Michigan**

| Area | Services | Value | Comments |
|---|---|---|---|
| *Career Guidance* | Job Listings | Yes | Via the iTrack online system to find jobs |
| | Tips | Yes | • Extensive generic tips as well as tips specific to a focus area;<br>• Outline of how to conduct an informational interview and its benefits<br>• The section called 'What can I do with a career interest in…' shows a listing of tracks with the following information:<br>  • description<br>  • recent jobs obtained by students<br>• The site offers the following resources for internship/career guidance differentiated by specializations:<br>  • Job sites<br>  • Professional organization<br>  • Listservs and Newsletters<br>  • Blogs and forums<br>  • Student organizations pertaining to that area<br>  • Potential Employers<br>  • Sample Job Titles<br>  • Recruiter information<br>  • Related websites<br>• Other career tips include a PDF containing the benefits of an informational interview and guidelines on how to conduct one [14] |
| | Past Employers | Yes | |
| | Listing of Professional organizations | Yes | |

[13] SI, University of Michigan http://www.si.umich.edu/about-SI/default.htm

[14] SI Careers job and internship search guide, School of Information, University of Michigan http://www.si.umich.edu/careers/docs/SI_Career_Services_Job_Internship_Search_Guide.pdf

| Area | Services | Value | Comments |
|---|---|---|---|
| | Service for recruiters/alumni to post job opportunities | Yes | iTrack – an online system for recruiters/students/alumni to post job openings |
| *Courses* | Mapping courses with career goals | Yes | MSI Pathway to Success – On selecting a desired career goal(e.g.: Information Architect), it shows: [15]<br>• recommended set of courses within the school<br>• recommended courses outside the school<br>• research, service and activities<br>• places where past students have done internships in that area<br>• places where past students have taken up full time positions in that area<br>• links to some profiles of students with similar career goals |
| | Course recommendations | Yes | Outside courses – Students can recommend outside courses in this section. They include the following information: [16]<br>• Course title<br>• Recommender's Specialization<br>• Term Taken<br>• Instructor taken<br>• Comments |
| *Alumni* | Searchable alumni database | Yes | Link on public site, requires login to access |
| | Info for alumni | Yes | Portal page for Information for Alumni easy to find. Has information about:<br>• alumni clubs<br>• alumni events<br>• alumni news<br>• alumni connections area to fill out profiles/ find other alumni<br>• information about LinkedIn group |
| | Alumni profiles | Yes | All profiles follow a similar format:<br>• student name<br>• year of graduation<br>• current title<br>• company/organization name<br>• before/at/after SI sections<br>• student quote<br>• student photo |

[15] Pathway to success, SI, University of Michigan http://www.si.umich.edu/pathways/
[16] Cognate Courses from elsewhere at University of Michigan, Student Recommendations, http://www.si.umich.edu/msi/cognates.htm

| Area | Services | Value | Comments |
|---|---|---|---|
| *Outreach* | Social networking presence - FB, LinkedIn | Yes | • Only the Linked In network is highlighted<br>• *Executive Education Program* – SI's faculty offer an executive education program to the CEO's, CIO's, COO's and other top level managers in the industry. For example, Making Social Computing Work in Your Enterprise [17] is a three day program with the Enterprise 2.0 theme, charging a registration fee of $3600. |
| | Feeds | Yes | Event feed |
| | Blogs | Yes | SI News blog - 11 posts in the last 10 days [18] |
| | e-Newsletter | Yes | Alumni newsletter published thrice a year<br>The yearend newsletter includes a wish-list of areas seeking external funding. For example: 'Send a student to a national conference - $1000; Create a faculty teaching prize: $1000 [19] |
| | Events calendar | Yes | Google calendar mashup, including calendars from student organizations within the school. |
| *Career Survey for 2008* | Placement report | Yes | • Published as a PDF.<br>• As an incentive to fill the survey, the school offers a $10 Amazon gift card. |
| | % of respondents | 96/119 or 81% | Career survey for MSI 2008 |
| | Average salary of the program | $56,000 | Range: $30,000 to $115,000 |

[17] Making social networking work in your enterprise, University of Michigan School of Information Executive Program http://www.si.umich.edu/executive/

[18] SI News Blog, SI, University of Michigan http://blog.si.umich.edu/

[19] SI@UMich Newsletter, Summer/Fall 2008, University of Michigan http://www.si.umich.edu/alumni/archive/SI@umichfa08.pdf

## Haas School of Business, University of California at Berkeley

Founded in 1898, Haas is also the oldest business school at a public institution in the United States. While it offers six degree programs, we are interested in the Full Time (FT) MBA program for this analysis. This program currently has 480 students. Haas has a strong alumni base with over 30,000 members.

*Table 5*

**Analysis of Haas School of Business, UC Berkeley**

| Area | Services | Value | Comments |
|---|---|---|---|
| *Career guidance* | Job Listings | Yes | Link on public site, need to login to intranet. |
| | Tips | Yes | • Haas Career Services offer both formal and informal ways to connect with potential recruiters. [20]<br>• Formal on campus recruitment includes:<br>  • On campus interviews<br>  • Corporate presentations<br>  • Career fairs<br>• Informal job search services include:<br>  • Networking events<br>  • Industry clubs<br>  • Firm nights<br>  • Industry courses |
| | Past Employers | Yes | List of recent employers |
| | Listing of Professional organizations | Yes | |
| | Service for recruiters/alumni to post job opportunities | Yes | Via Haas@Cal. Requires intranet access. |
| *Courses* | Mapping courses with career goals | Yes | Mapping your success section – this section shows how the school courses are mapped to the career goals. For the three goals (Consulting, Brand Management and Investment Banking), a recent (2007) alum's [21] following information is shown:<br>• student's picture<br>• year of graduation<br>• job title<br>• location<br>• key quotes<br>• course listing<br>• previous degree<br>• prior work experience |

[20] Career Services, Haas School of Business, UCB http://www.haas.berkeley.edu/groups/careercenter/ocr_guide.html

[21] Mapping your success, Haas School of Business, UC Berkeley http://mba.haas.berkeley.edu/curriculum_09.html

| Area | Services | Value | Comments |
|---|---|---|---|
| | Course recommendations | Yes | There are well-defined Areas of Specialization and Certificate Options |
| *Alumni* | Searchable alumni database | Yes | Link on public site, need to login to intranet |
| | Info for alumni | Yes | Link on public site, need to login to intranet |
| | Alumni profiles | Yes | Alumni profiles follow the format:<br>• student name and picture<br>• year of graduation<br>• job title<br>• location<br>• key quotes |
| *Outreach* | Social networking presence - FB, LinkedIn | Yes | Haas Alumni page has a section on 'Haas Connections' which lists Haas' (official) presence on social networking sites such as LinkedIn, FB, Twitter etc. |
| | Feeds | Yes | News feed |
| | Blogs | Yes | Admissions, Students and International Business Development Blogs [22] |
| | e-Newsletter | Yes | Several newsletters. For example: HaasWeek (students' monthly newsletter), eHAN (Haas Alumni Network Newsletter) etc. |
| | Events calendar | Yes | Available in Calendar and List format [23] |
| *Career Survey for 2008* | Placement report | Yes | On website and as a downloadable PDF. Website has several tables to show aggregates for transactional-level data. |
| | % of respondents | NA | While the no. of graduates were 230; cannot tell how many submitted responses to the survey [24] |
| | Average starting salary | $108,578 | Median: $110,000 (class of 2008) |

[22] Blogs, Haas School of Business, UC Berkeley http://mba.haas.berkeley.edu/blogs.html

[23] Event Calendar, Haas School of Business, UC Berkeley http://www.haas.berkeley.edu/calendar/

[24] http://www.haas.berkeley.edu/groups/careercenter/Haas_FTMBA_08_EmploymentRpt.pdf

## Human Computer Interaction Institute (HCII), Carnegie Mellon University (CMU)

The masters program at HCII has been around since around 1995. HCII also offers programs for Undergraduates and PhD candidates. The school currently has about 42 students enrolled in the HCII program at Pittsburgh and 15 students at Madeira.[25]

*Table 6*

**Analysis of Human Computer Interaction Institute, Carnegie Mellon University**

| Area | Services | Value | Comments |
|---|---|---|---|
| *Career guidance* | Job Listings | Yes | While there is a section for job posting, there are currently only three full time job postings. One can, however, subscribe to the job posting feed. [26] |
| | Tips | No | |
| | Past Employers | No | |
| | Listing of Professional organizations | No | |
| | Service for recruiters/alumni to post job opportunities | No | Point of contact to email about job posting |
| *Courses* | Mapping courses with career goals | No | |
| | Course recommendations | Yes | • List of electives grouped by subject [27]<br>• Sample plan of study offered as a guideline |
| *Alumni* | Searchable alumni database | No | While there is an alumni listing, it is not searchable. Further, the listing is not comprehensive. |
| | Info for alumni | Yes | • While there is a section for alumni, it has information about :<br>  • school member listings<br>  • research projects and publications<br>  • job postings<br>  • giving to HCII<br>  However, this information is very generic and does not seem to cater to specific interests of alumni.<br>• The 'Giving' section has no information. It appears to be a placeholder. |
| | Alumni profiles | No | A listing of alumni, some of theses have links to their websites. |
| *Outreach* | Social networking | No | No information on public site |

[25] HCII Masters Students, CMU http://www.hcii.cmu.edu/people/mhci/

[26] Job postings, HCII, CMU http://www.hcii.cmu.edu/careers/joblist

[27] Masters Program Curriculum, HCII, CMU http://www.hcii.cmu.edu/masters-hci-curriculum

| Area | Services | Value | Comments |
|---|---|---|---|
| | presence - FB, LinkedIn | | |
| | Feeds | Yes | News feed only (no events feed) |
| | Blogs | No | No information on public site |
| | e-Newsletter | No | No information on public site |
| | Events calendar | Yes | Google calendar mashup |
| *Career Survey for 2008* | Placement report | No | No information on the public website |
| | % of respondents | NA | No information on the public website |
| | Average salary of the program | NA | No information on the public website |

## School of Information (I School), University of California at Berkeley

The School of Information is both UC Berkeley's newest and its smallest school. A graduate school offering both a professional master's degree and a research-oriented Ph.D. degree, it currently houses about 65 master's students. Created in 1994, it came to be called the School of Information since 2006. Its roots trace back to UC Berkeley's School of Librarianship founded in the 1920s.

| Area | Services | Value | Comments |
|---|---|---|---|
| *Career guidance* | Job Listings | Yes | • Career Center is a university-wise resource to also find jobs.<br>• Public site does not mention the jobs@ or internship@ mailing list. |
| | Tips | No | No information on the public website |
| | Past Employers | Yes | Only 7 companies from the private sector and 7 public sector employers listed on the public page. However, past employers mentioned in the surveys. [28] |
| | Listing of Professional organizations | No | No information on the public website |
| | Service for recruiters/alumni to post job opportunities | No | Point of contact to email about job posting |
| *Courses* | Mapping courses with career goals | No | |
| | Course recommendations | No | |

[28] Career Paths, School of Information, http://www.ischool.berkeley.edu/careers/paths

| Area | Services | Value | Comments |
|---|---|---|---|
| *Alumni* | Searchable alumni database | Yes | • Requires login to the intranet.<br>• However, not too many facets provided to search on.<br>• Further, the listing is not comprehensive.<br>• Data at several instances is incomplete/out of date. |
| | Info for alumni | Yes | There is a section for the alumni network providing alum with access to the I School intranet. . |
| | Alumni profiles | Yes | • Currently, there exist 6 alumni profiles only.<br>• No direct way to navigate to them - while they follow the breadcrumbs: *People › Profiles › Alumni Profiles,* there is no way to reach the profiles from the People link on the navigation menu.<br>• The content on the profiles does not follow the same format. For example, while one profile has content about: *About My Work, My I School Experience*; another has content about: *What I studied at the I School, What I do now…* etc. |
| *Outreach* | Social networking presence - FB, LinkedIn | No | No information on public site |
| | Feeds | Yes | On home page:<br>• News and events feed mixed up.<br>• While the feed is sorted in reverse chronological order of the date the item was posted, the event listing is reverse sorted by date of occurrence of the event, which creates a more confusing effect.<br>• Further, the Special Event section does not appear to be part of the feed.<br>On News & Events page:<br>• The two individual feeds are better designed and do not suffer from the above concerns.<br>• The feed icon on the Events page appears out of place on this page [29] |
| | Blogs | No | No information on public site |
| | e-Newsletter | No | No information on public site |
| | Events calendar | No | No calendar available on the public site. |
| *Career Survey for 2008* | Placement report | Yes | PDF versions downloadable from public website. |

[29] Events, School of Information, UC Berkeley http://www.ischool.berkeley.edu/newsandevents/events

| Area | Services | Value | Comments |
|---|---|---|---|
| | % of respondents | 22/31 = 71% | No. of graduates: 31 |
| | Average salary of the program | $84,077 | Median: $90,000 (class of 2008) |

## Comparison of Schools

Table 6 demonstrates the different services offered by four leading schools relative to the I School. Two of these are Information schools, one HCI school and one Business school.

*Table 7*

**Comparison of Schools**

| Area | Services/ Schools | iSchool, University of Washington | SI, University of Michigan | Haas, UC Berkeley | HCII, CMU | I School, UC Berkeley |
|---|---|---|---|---|---|---|
| *Demo-graphics* | Age of Program (approx.) | 9 yrs | 12 yrs | 111 yrs | 13 yrs | 15 yrs |
| | No. of students in Program (approx.) | 62 | 250 | 480 | 45 | 65 |
| *Career Guidance* | Job Listings | Yes | Yes | Yes | Yes | Yes |
| | Career guidance tips | Yes | **Yes*** | Yes | No | No |
| | Past Employers | **Yes*** | Yes | **Yes*** | No | Yes |
| | Listing of Professional organizations | **Yes*** | Yes | Yes | No | No |
| | Service for recruiters/alumni to post job opportunities | No | Yes | **Yes*** | No | No |
| *Courses* | Mapping courses with career goals | No | **Yes*** | **Yes*** | No | No |
| | Course recommendations | Yes | **Yes*** | Yes | Yes | No |
| *Alumni* | Searchable alumni database | No | Yes | **Yes*** | No | Yes |
| | Info for alumni | Yes | **Yes*** | **Yes*** | Yes | Yes |
| | Alumni profiles | No | **Yes*** | **Yes*** | No | Yes |
| *Outreach* | Social networking presence - FB, LinkedIn | Yes | Yes | **Yes*** | No | No |
| | Feeds | **Yes*** | Yes | Yes | Yes | Yes |
| | Blogs | Yes | **Yes*** | **Yes*** | No | No |
| | e-Newsletter | **Yes*** | **Yes*** | **Yes*** | No | No |
| | Events calendar | Yes | Yes | **Yes*** | Yes | No |
| *Career Survey for 2008* | Placement report | No | Yes | Yes | No | Yes |
| | % of respondents | NA | 81% | NA | NA | 71% |

**Yes***Indicates institutes that currently have the competitive advantage in the identified service offering

We also ranked each of the services provided for areas analyzed based on criteria such as functionality, dynamic vs. static information available, and volume of resources (1 = Poor; 5 = Excellent). Our analysis shows UCB I School ranking either at the bottom or near bottom with respect to all areas in our competitive analysis (Figure 5).

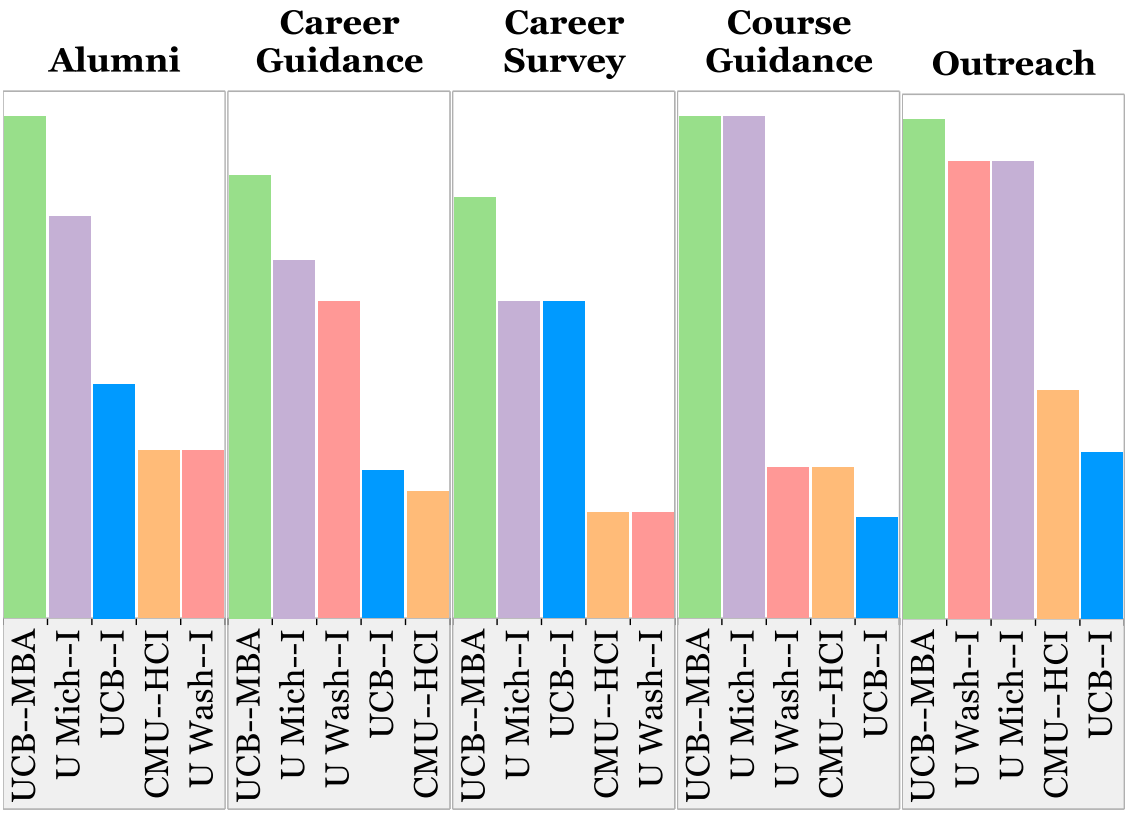


*Figure 5 Ranking of Services by Area for Each Program*

## Opportunities for I School

As observed above, some of the institutes have well established processes for providing services like career guidance, course recommendations, maintaining alumni relations and the school's outreach efforts. While information schools are new relative to business schools and smaller in size, there exist gaps that I School can reduce and opportunities that I School can learn from. We have identified several opportunities for I School.

*RECOMMENDED COURSES ALIGNED WITH CAREER GOALS:* Information schools are uniquely characterized by interdisciplinary courses. While some schools (Page 20) have specialized tracks, I School does not. The advantage of not having specialized tracks is that it lends flexibility to the program and can be tailored uniquely to each individual's needs. However, this has the disadvantage that students often lack clear direction when it comes to course selection.

> *"I am a little lost right now about what courses to take." ~Interview ID 6*

As a workaround, we recommend having a service that suggests courses for a given career goal. SI at University of Michigan offers a service for the same (MSI Pathways, Page 20). However, instead of being top-down like MSI Pathways, we recommend this service to be bottoms up. Using the career goals and

useful courses taken by alumni as the data repository, a service can be built which shows current students what coursework aligns well with their career choices. Being organic in nature, such a repository would self adjust with changing career trends and the courses offered.

*WISH-LIST FOR GIVING TO I SCHOOL* Instead of asking old students to write a one-time check to the school, the iSchool at University of Washington includes a wish-list that alumni can contribute against. (Page 17). For example: 'Send a student to a national conference - $1000; Create a faculty teaching prize: $1000' [30]. We recommend creating buckets that alumni can donate for. Allowing alumni to fund areas that they are passionate about would be a good way to incent them to donate. It would personalize the 'giving'. They would also be able to see the impact that their donation has on the intended recipient.

*CAREER GUIDANCE SECTION* -While UC Berkeley has a career services center, the services offered are very generic. There is a need for the tips section to be written with an I School lens. Similar to SI at University of Michigan[31], we recommend adding a section on the I School intranet about career guidance tips.

*EXECUTIVE EDUCATION WORKSHOPS*– The I School has an opportunity to conduct short two to three day workshops on emerging technologies. UC Berkeley's advantage of being in close proximity to the Silicon Valley offers easy access to entrepreneurs who may be interested in the current topics I School faculty cover. This presumably can be a revenue source for the school. Software companies often have policies to fund conferences and workshops, so the financial onus need not be bourn directly by the attendees. Further, it would also provide reasons for alums to return as students of the executive education program and help foster a stronger I School community.

[30] SI@UMich Newsletter, Summer/Fall 2008, University of Michigan http://www.si.umich.edu/alumni/archive/SI@umichfa08.pdf
[31] SI Careers job and internship search guide, School of Information, University of Michigan http://www.si.umich.edu/careers/docs/SI_Career_Services_Job_Internship_Search_Guide.pdf

# Phase I: Key Findings

## Service design – Prioritization of Services

Based on the results of the qualitative interviews and the survey on barriers to collaboration, we prioritized a list of services (MoSCoW principle applied). MoSCoW prioritization principle is defined as follows:

M: Must Have
S: Should Have
C: Could Have
W: Would Have

Based on this principle, services prioritized as M or S have higher priorities than optional ones like C or W.

We identified the following as the top services: 1) Recommending courses for given job categories; 2) Alumni profiles.

*Table 8*

**MoSCoW Prioritization of Services**

| Service | Comments | User | Priority |
|---|---|---|---|
| Recommended courses for given job category | Dynamic, living repository of recommended courses by the alumni, relevant to their job area. An aggregate multi-faceted view. Allows for drill down to address the search barrier - identify the 'right' person who matches your area of interest. | Students | M |
| Alumni Profiles | Include the following information: Before/At/After I School; person's picture; key quote | Prospective students, Students, Alumni, Recruiters | S |
| Recommended outside courses | Dynamic, living repository of recommended courses offered outside the school. | | M |
| Other matching up services | E.g. : resume critique, finding potential project partners; companies to call for job fairs | Students, alumni | S |
| Location on map - mashup | Show the location of alumni on a map, with other information like salary buckets - to show a) where alumni are located b) how salaries vary over the continent | Prospective students, Students, Alumni, Recruiters | C |
| Skills inventory - tag cloud | Create a tag cloud of the skills inventory for a student's profile. Can use NLP techniques to mine the profile. | Students | C |

| Service | Comments | User | Priority |
|---|---|---|---|
| Search for related courses via free text or tags | Visualize the connections between different courses and how they relate. Allow search for courses by free text search or via tags. Use NLP techniques. | Students | C |
| Information alerts | Minimize burden of maintaining multiple profiles by alumni. Allow for automatic information alerts to be sent out to subscribed users. | Students, alumni | W |
| List of go-to software and tools | Organic repository of the 'go-to software' and the areas they have been found to be most useful | Alumni, students | W |

## Organizational Issues

I Schoolers currently share information in a variety of unstructured ways, but there are obstacles to embracing new information system and service design.

**Many Stakeholders, With Somewhat Incompatible Perspectives** Table 9 provides examples of existing top-down and grassroots networks developed or built due to the many stakeholders and incompatible perspectives. Often such functions are either ad hoc, incremental, or independently developed solutions lacking strategic planning.

*Table 9*

**Grassroots vs. Top-Down Community Building Efforts**

| | Grassroots | | Top-Down |
|---|---|---|---|
| | Students | Alumni | Administration |
| Efforts | I School Wiki<br>IMSA Projects<br>• Knowledge Base<br>• Course Recommendations<br>Final Projects<br>• Corpus Project [32]<br>• ProjectPeopleMatch [33] | LinkedIn<br>Facebook | noise@ischool<br>fun@ischool |
| Perspective | *I don't know who to ask!* | *What's in it for me?* | *Why adopt something with an undetermined shelf life?* |

**Insufficient Resources To Undertake A Comprehensive Solution** This leads to a wide spectrum of tools such as e-mail distribution lists, wikis, and social network presence with overlapping user pools and inadvertent information silos (Table 4). This in turn leads to redundant conversations repeated each year that new students are unaware of. So instead of learning from best practices from previous classes, current students adopt their own tool and create a new information silo. It becomes an endless cycle of a growing number of incomplete projects aimed at addressing unused tools each new class revisits yet never resolves.

**Underestimation And Misperception About The Scope Of The Problems** There is a pervading misperception that the alumni participants on e-mail distribution list discussions represent the entire alumni population; therefore, there exists a widely-used forum for information exchange. In reality, the alumni participants represent less than 16% of the total alumni population that includes I School and Library School alumni (Table 9). Students interact at most with a fraction of the 16% – the ones who actively participate on a regular basis.

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[32] Corpus Project, Masters Final Project, 2004
[33] ProjectPeopleMatch, Masters Final Project, 2005

*Table 10*

**I School E-Mail Distribution Lists by Subscription Group**

| | Subscribers | % Subscribed | % Alumni Population |
|---|---|---|---|
| alumni@ischool | | | 0 |
| Alumni* | 500 | 97% | 97% |
| Students | 12 | 2% | |
| Faculty | 3 | 1% | |
| Alumni Mailing List Total | 515 | 100% | |
| | | | |
| fun@ischool | | | |
| Alumni | 182 | 61% | 36% |
| Students | 108 | 36% | |
| Faculty | 6 | 2% | |
| Fun Mailing List Total | 296 | 100% | |
| | | | |
| noise@ischool | | | |
| Alumni | 80 | 45% | 16% |
| Students | 77 | 44% | |
| Faculty | 20 | 11% | |
| Noise Mailing List Total | 177 | 100% | |

** % Alumni Population= # of Alumni subscribers for respective list ÷ Alumni Population (500)*

**Weaknesses In Current Communication Mechanisms** In spite of being commonly cited as the main communication portal with alumni, many feel informal *fun/noise@ischool* exchanges lack the relevance students need to achieve professional goals. The signal to noise ratio is often perceived to be low thus making it difficult for students to gain credibility from their interactions with alumni. Many do not perceive e-mail lists as appropriate forums for career advice. Both *fun and noise @ischool* were meant for "frivolous" discussion topics; therefore, recipients must filter through a great deal of "noise" to find non-trivial information.

> *Noise – has a lot of information overload too – too 'noisy'. [I]t becomes more of an entertainment channel, not a place to go to in order to get 'real information'. ~Interview ID 1*

# Phase II:
# Key Activities

## Barriers to Collaboration

Because of the organizational issues for service design, we hypothesized that the I School faced collaboration barriers. We formulated the following research question: What are the barriers to collaboration between students and alumni, specifically when seeking help with respect to the four areas uncovered during our Qualitative Interviews conducted in Phase I: Jobs, Courses, Expertise, and Projects.

In order to answer this question, we customized a survey [34] that 38 current I School students completed. While a similar exercise could be done for the alumni, that was out of scope for this phase of the project. The data collected was then mapped to a benchmark scale to identify the collaboration barriers and the extent to which they existed.

### Survey Subject Selection

To draw meaningful conclusions, we set a target of collecting data from 35-40 current students. As an incentive for participation, we included a raffle for five $10 Amazon gift certificates (courtesy of IMSA) draw from the pool of respondents. We sent e-mails to the Masters09, Masters10 and the PhD e-mail distribution lists to solicit survey response. We personally reminded students and followed up with group and personalized further emails as the response deadline approached.

While we wanted to get alumni's thoughts on the same topics, it was out-of-scope.

### Survey Corpus

Appendix 2 details the demographic data for the 38 respondents. For the purposes of maintaining anonymity, we gave all survey respondents an ID number and provided limited demographic information. As Table 11 and Figure 6 show, 63% of our respondents were male and 37% were females. While 37% of the candidates would graduate in 2009 (most likely second year graduate students), 58% would graduate in 2010 (most likely first year graduate students) and 5% would graduate beyond 2010(most likely PhD candidates). As for age, 24% of the candidates were between ages 20 and 25; 37% of the candidates were between 26 and 30 years; 24% were between 31 and 35 years; and 16% of the candidates were over 35 years.

*Table 11*

**Survey Demographics Summary by Age, Graduation Year, and Gender**

| Age | Graduation Year | F | M | Total |
|---|---|---|---|---|
| 20-25 yrs | 2009 | 21% | 4% | 11% |
| | 2010 | 7% | 17% | 13% |
| | ***Total*** | ***29%*** | ***21%*** | ***24%*** |
| 26-30 yrs | 2009 | 7% | 17% | 3% 13% |
| | 2010 | 29% | 17% | 21% |
| | ***Total*** | ***43%*** | ***33%*** | ***37%*** |
| 31-35 yrs | 2009 | | 17% | 11% |
| | 2010 | 7% | 17% | 13% |

| Age | Graduation Year | F | M | Total |
|---|---|---|---|---|
| | ***Total*** | ***7%*** | ***33%*** | ***24%*** |
| >35yrs | | 7% | | 3% |
| | 2009 | | 4% | 3% |
| | 2010 | 14% | 8% | 11% |
| | ***Total*** | ***21%*** | ***13%*** | ***16%*** |
| **Grand Total** | | **100%** | **100%** | **100%** |

## Survey Structure

As previously mentioned, we analyzed the student's perspective to determine the barriers to collaboration between students and alumni, specifically looking at the four areas mentioned above. We grounded this research on Prof Morten Hansen's[35] framework for barriers to collaboration. In particular, we customized the corporate framework of the *Barriers To Collaboration Present In A Company* survey[36] to align with the academic nature of the I School while keeping in mind that respondents were current students, not corporate employees.

We used Lime Survey as the tool. For each of the four barriers, we formulated 1-3 questions and solicited responses in each of the four areas that emerged from our qualitative interviews, namely, jobs, courses, expertise and projects. These were further organized in a matrix using the Likert scale as columns. (Refer to Appendix 5 for the survey questions). The Likert scale was on a scale of 1-7 with 1 representing 'Strongly Disagree' to 7 representing 'Strongly Agree'. All questions were mandatory, so an option for 'No Opinion' was also provided as an alternative to "No Answer" with a value = 0.

In addition to the above survey questions with respect to the four areas uncovered from our qualitative interviews, we also included demographic questions and created open-textboxes for comments or "Other" responses when the provided answer choices did not apply.

## Survey Topics

Following are the four barriers to collaboration that we tested with respect to each of the four contexts (jobs, courses, expertise, and projects).

1. Not-Invented-Here (NIH): NIH is a barrier when people do not want to reach out to others for support. While this could be due to a notion of self-reliance, it could also be due to an insular culture where communication remains confined to within a group.

2. Hoarding: The hoarding barrier exists within a group if people have the capacity to offer help, but they do not offer it. This could be due to competition with colleagues and other units in an organization or narrow incentives that only reward one's individual goals. Probable causes vary from being too busy, with no time to help other people or simply out of the fear of losing their apparent power through knowledge sharing.

3. Search – The search barrier concerns the inability to find information and people in a company. While this could be due to information overload that can potentially worsen search, it could also be due to a poverty of networks.

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[35] Collaboration: How Leaders Avoid the Traps, Create Unity, and Reap Big Results, Morten T. Hansen, 2009.
[36] Ibid, pg. 64.

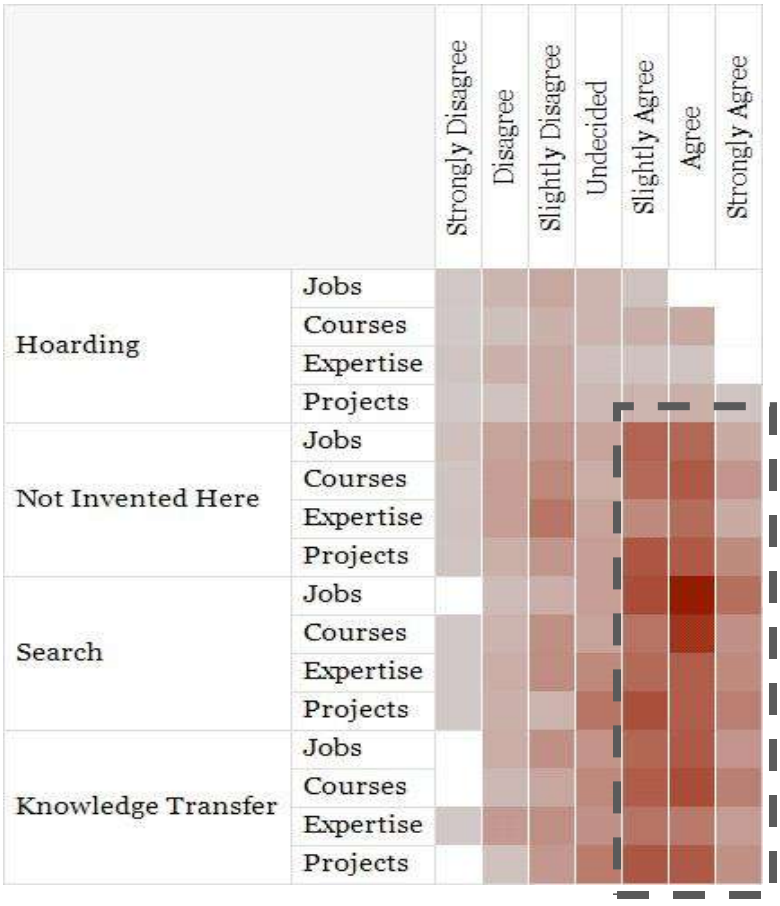
4. Transfer Knowledge – This occurs if people are not able to transfer best practices or complicated and tacit knowledge from one group to the other. Organizational units without a common frame lose common grounding and find it difficult to transfer knowledge. Existence of weak ties further aggravates the problem.

## Data Analysis

The numbers on the Likert scale were converted to a scale of 1-100 from a scale of 1-7 in order for our aggregate scores to correspond with the benchmark data provided for 107 companies. [37] After downloading the data collected from Lime Survey into Excel, we normalized the data and created an Access database.

We used Tableau to create a heat map visualization to eyeball the barriers to collaboration (Figure 6). The richer the color in the heat map, the stronger the respective barrier. The "heat" is determined by the following formula: Likert Rating Value * # of Responses. We weighted each response to correspond with the value of the response; so, Strongly Agree (value = 7) has a higher weight than Agree (value = 1).

Since it has the "hottest" area , the heat map confirmed our initial hypothesis that the search barrier was a big problem at I School. Also, there is a high level agreement regarding barriers for Knowledge Transfer and NIH, while hoarding appears to be of minimal concern. The highlighted region in the heat map points to areas with the most "heat" or agreement with a collaboration barrier.



## DATA ANALYSIS BY BARRIER

**HOARDING** – Overall this was not a problem as can be seen in Table 12 and Figure 8 below. Students like to share their information with others, especially when it comes to jobs and subject matter expertise.

*Table 12*

**Hoarding Barrier**

| Area | Total | Implications |
|---|---|---|
| Courses | 50 | Barrier not a problem |
| Expertise | 36 | Barrier not a problem |
| Jobs | 38 | Barrier not a problem |
| Projects | 50 | Barrier not a problem |

*Note: Data is from a total score of 100 for each area.*

Figure 7 shows a visual representation of the above data. The four colors represent the four quartiles of data, with varying levels of the barrier presence. One can see that I School student values for hoarding (blue bars) lie well within the '*Barrier not a problem*' region.

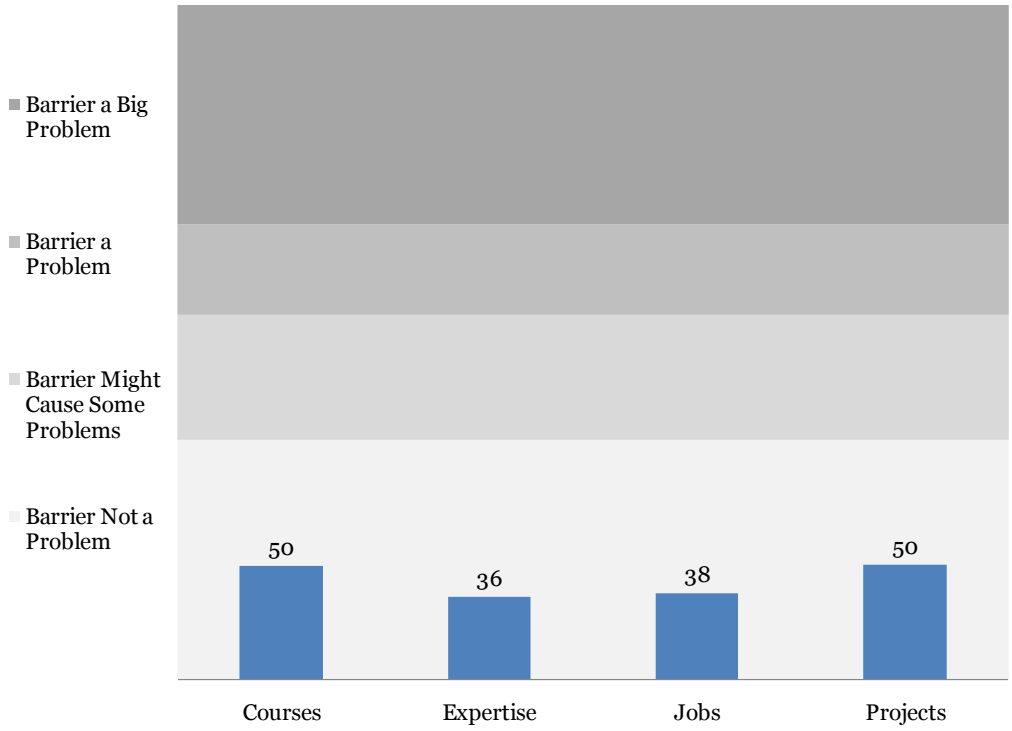



*Figure 6 Hoarding Barrier is not a problem in our case as can be seen by all the blue bars as they all lie in the region on 'Barrier not a problem'*

**Search** – Given the high scores, Search was the biggest barrier with respect to all four areas as Table 13 and Figure 9 demonstrate.

*Table 13*

**Search Barrier**

| Area | Total | Implications |
|---|---|---|
| Courses | 182 | Barrier a big problem |
| Expertise | 181 | Barrier a big problem |
| Jobs | 217 | Barrier a big problem |
| Projects | 191 | Barrier a big problem |

*Note: Data is from a total score of 300 for each area.*

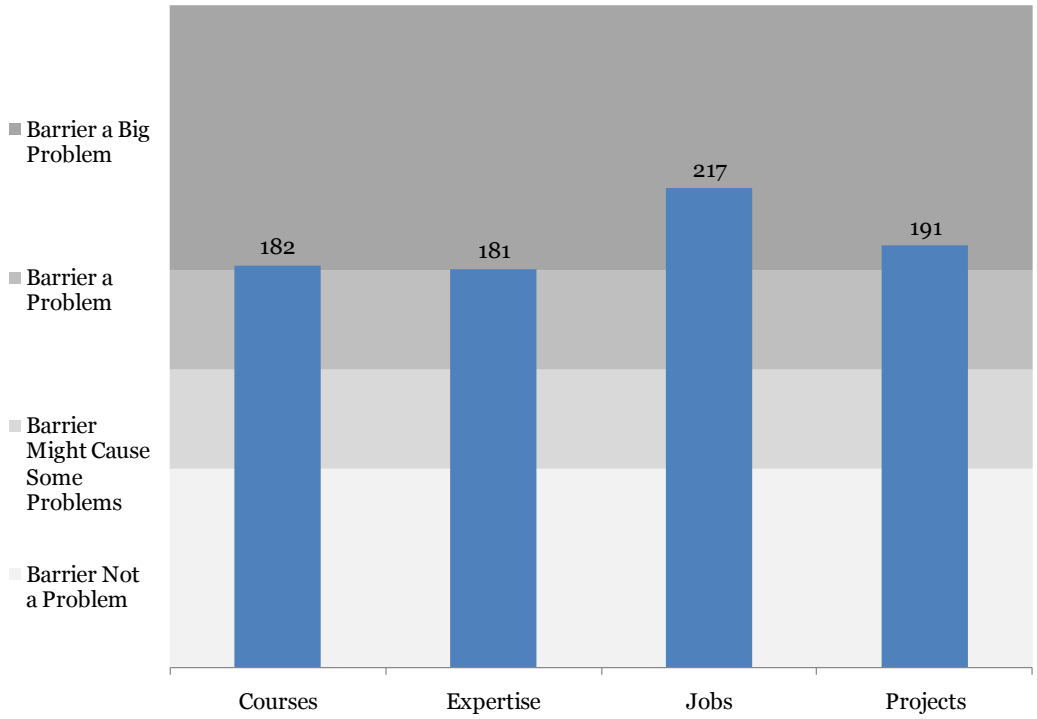



*Figure 7 Search barrier is the biggest barrier to collaboration, especially for career guidance.*

Many students commented on not being able to identify alumni to answer questions. Alumni also echoed the sentiment.

> *I don't really know many alumni and have not been especially close to any during my time at the iSchool. […] If I had questions I wouldn't know who to ask. ~Survey User ID 34*

**Knowledge Transfer** – This was found to be a problem primarily for career guidance, course recommendations and projects; however, it was perceived as a smaller problem for communicating subject matter expertise, as can be seen by Table 14 and Figure 10.

*Table 14*

**Knowledge Transfer Barrier**

| Area | Total | Implications |
|---|---|---|
| Courses | 185 | Barrier a problem |
| Expertise | 159 | Barrier might cause some problems |
| Jobs | 172 | Barrier a problem |
| Projects | 181 | Barrier a problem |

*Note: the following data is from a total score of 300 for each area.*

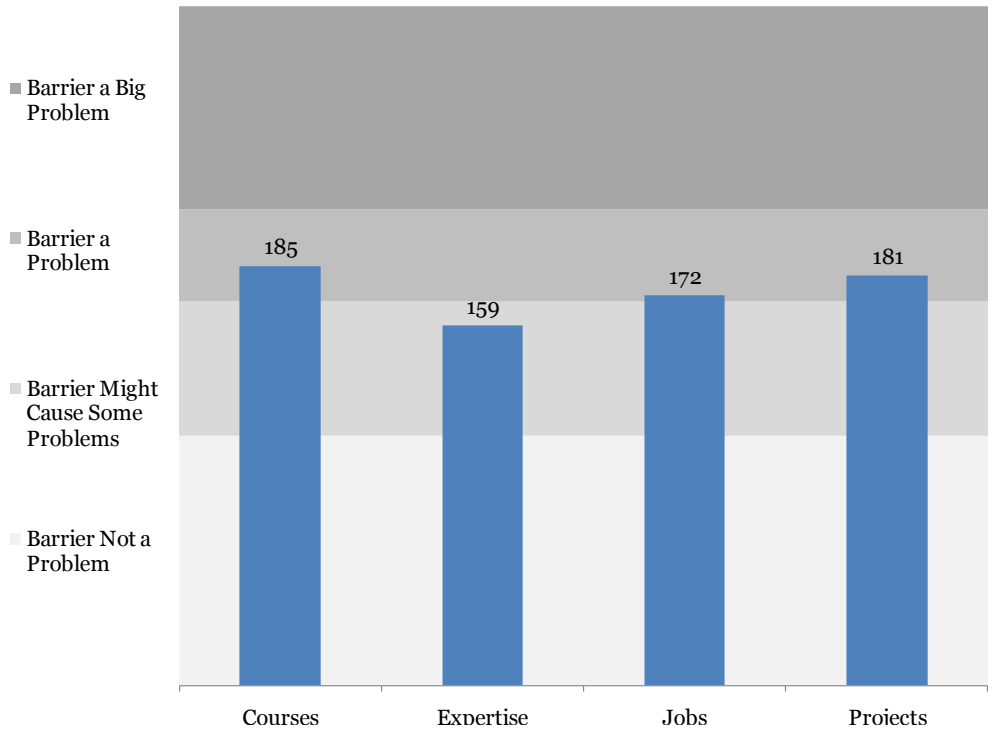



*Figure 8 Knowledge Transfer Barrier*

**Not Invented Here** – This was found to be somewhat of a problem as can be seen Table 15 and Figure 11. Again, it is more of a problem when related to course and project recommendations.

*Table 15*

**Not Invented Here Barrier**

| Area | Total | Implications |
|---|---|---|
| Courses | 172 | Barrier a problem |
| Expertise | 155 | Barrier might cause some problems |
| Jobs | 159 | Barrier might cause some problems |
| Projects | 180 | Barrier a problem |

*Note: Data is from a total score of 300 for each area.*

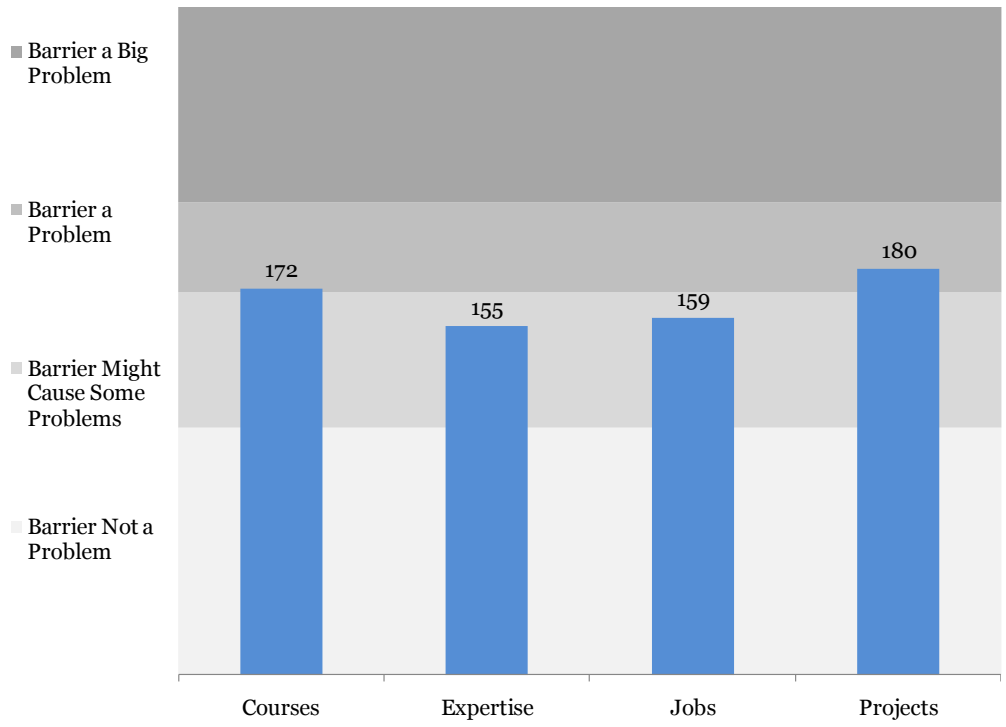



*Figure 9 Not Invented Here Barrier*

# Functional Design of Services - Recommending Courses for Job Categories

Following a bottoms-up approach, this service organically shows what courses alumni found most useful for the career path they chose. After storyboarding the idea, we created paper prototypes. This was followed by a low fidelity prototype showing the basic functionality. Conducting usability tests and modifying the designs accordingly were left for a future phase of the project since it was outside the project scope.

## Information Architecture

We created the information architecture for the proposed solution based on the findings from the qualitative interviews and the survey on barriers to collaboration. This service also addresses the search barrier for course recommendations and career guidance.

Figure 12 shows how alumni can go to the I School intranet and visit their profile which is pre-populated with the job category and the list of courses the person had undertaken while at I School. In order to minimize the burden of data entry on the user, this service pulls in data from relevant sources. Alumni can then verify this information and submit it to the I School database. When students login to the same application, they get an aggregate view of the courses recommended by the alumni for the given job category. They can further drill down to see individual data items (e.g. courses recommended by a specific person).

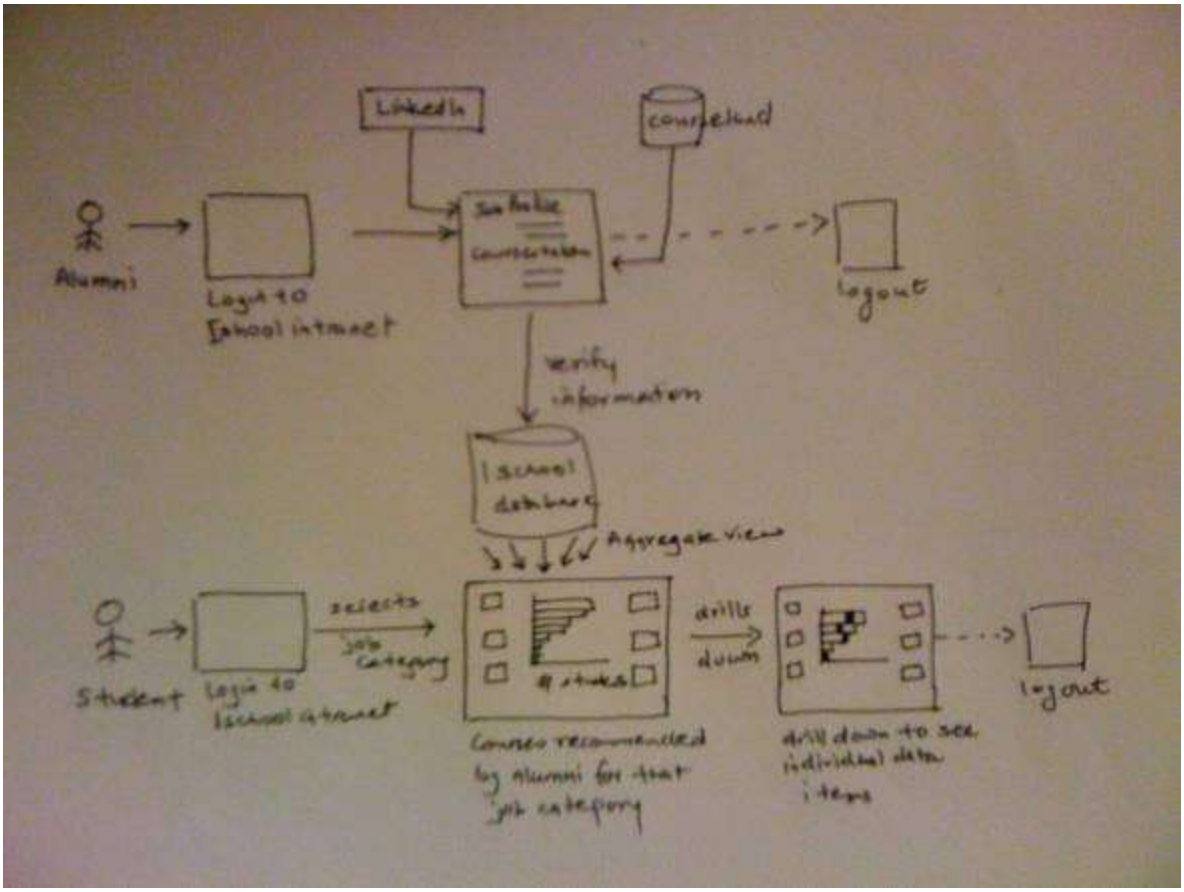



*Figure 10 Storyboard for service: Recommending courses for given job category*

## Feature List

*MULTI-FACETED NAVIGATION* The same view should allow search by different facets such as job category, graduation years of the alumni whose data is displayed, their prior experience, their prior degrees, their job titles and the departments offering the courses.

*OVERVIEW AND DETAIL* While the main view is an overall aggregated view, the service should allow for drilling into the details. For example, on selecting a specific person's name, the courses that this person found useful can be highlighted. For privacy concerns, alumni should be given the option to hide their name if they so deem appropriate.

*REUSABLE COMPONENTS* Gather relevant data from external sources and ask alumni to verify it, instead of filling in all information afresh. This would reduce the burden to enter large amounts of information. For example, job related information can be brought from LinkedIn[38] and course related information from the Courseland [39] project.

## Mockups

After creating the sketches (**Error! Reference source not found.**) on the chalkboard following a brainstorming session, we created mockups. Along with demonstrating the functionality, the mockups also show the design look and feel. As part of future work, user testing can be conducted on the mockups and design modifications be made accordingly.

*MOCKUP 1: FOR ALUMNI TO CONFIRM THE DATA IN THEIR PROFILE* Figure 13 shows Mockup 1. This view is for the alumni when they sign into their profile section on the I School intranet to confirm the pre-fetched data in their profile. The following functionalities are offered:

- User sees the course information and the job related information already available for them to verify. These pieces of information are mashed up from other sources, e.g. LinkedIn for job information and Courseland for course related information.
- The job information is mined by a text parsing natural language processing tool to infer what job category the current job belongs to. This is the default category shown to the user. The user can however, change the job category and choose the appropriate one from the drop down list.
- The user can then select the courses that he/she found useful that helped them move forward towards their career goal. These are the classes they would still take if given a chance to do so.
- To aid memory:
  - Courses are grouped by semester.
  - Courses are color coded based on the department that offered the course.

[38] http://www.linkedin.com/

[39] http://courseland.net/

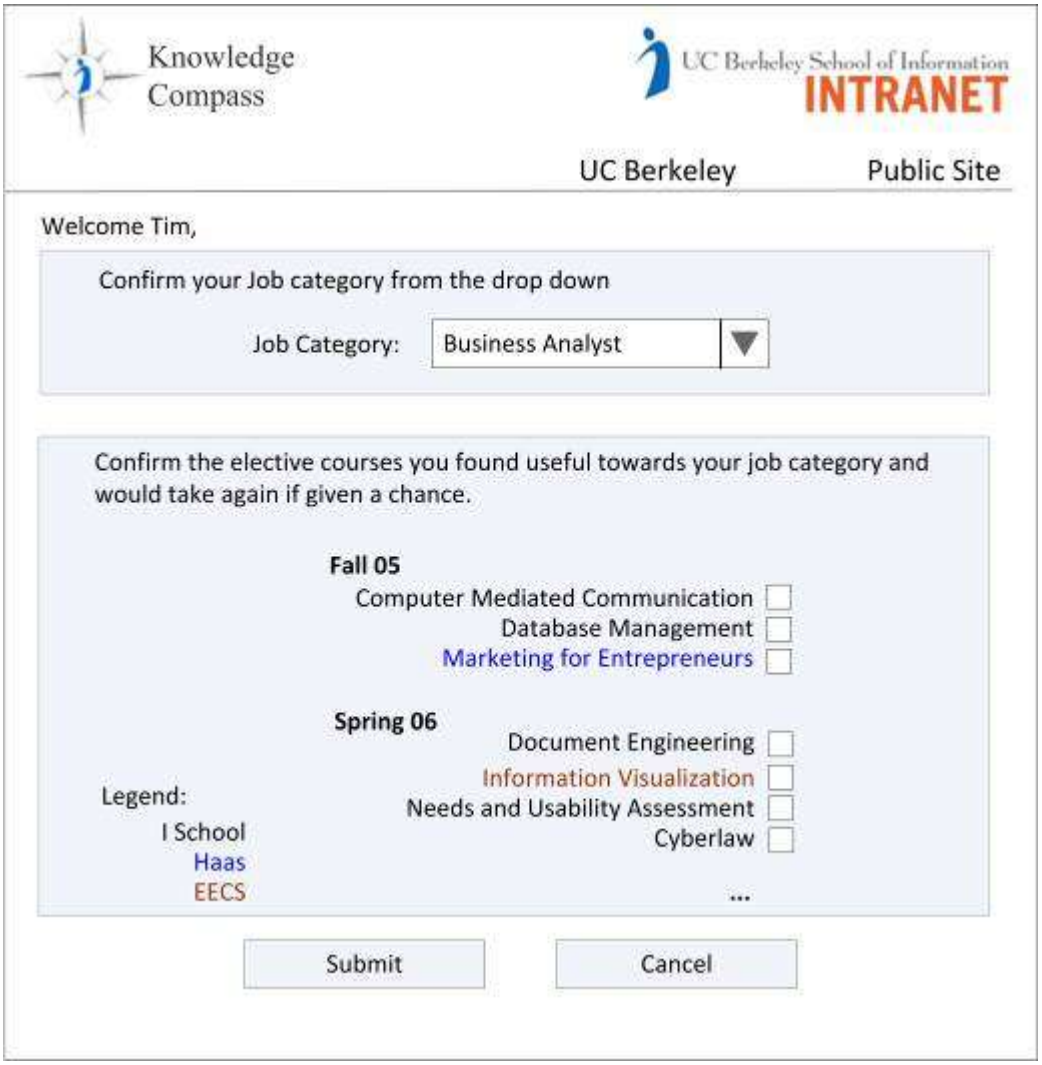



*Figure 11 Mockup 1: For alumni to confirm the data in their profile*

*MOCKUP 2: RECOMMENDED COURSES FOR JOB CATEGORY* Figure 14 shows Mockup 2. This view is for students when they login to the intranet and visit the Knowledge Compass application. They are brought to this screen on first selecting the job category they are interested in. The following functionalities are offered:

- The default screen shows the list of recommended courses for the given job category by the number of students.
- Each bar comprises of individual data items that have been aggregated.
- Each bar is organized chronologically from left to right. So, a person who took the same course in Fall 2007 is organized to the left of a person who took the same course in Fall 2008. This shows individual course trends too. So, in case a course has been discontinued, one can mouse over the last data item to see the last semester it was offered in.
- The text of the course titles is color coded to show the departments that offered these courses.
- Multi-faceted navigation is provided. Thereby, students can slice and dice through the data in various ways. They can choose the graduation year to select the alumni whose data is represented; their prior

experience, their prior degree; their job titles; the department that offered the course; and also the names of the alumni who took those courses.

- The above allow for several match making services.
- Students can easily find alumni who are practicing in the students' areas of career interests.
- They can see the various job titles associated with the same job category. Over time, as the job titles and their semantics change, so will this aggregation.
- They can identify people with similar backgrounds, for example, alumni with similar prior education or similar number of years of work experience. One can see how the different courses taken by students point to different career paths; hence, 'Knowledge Compass'.

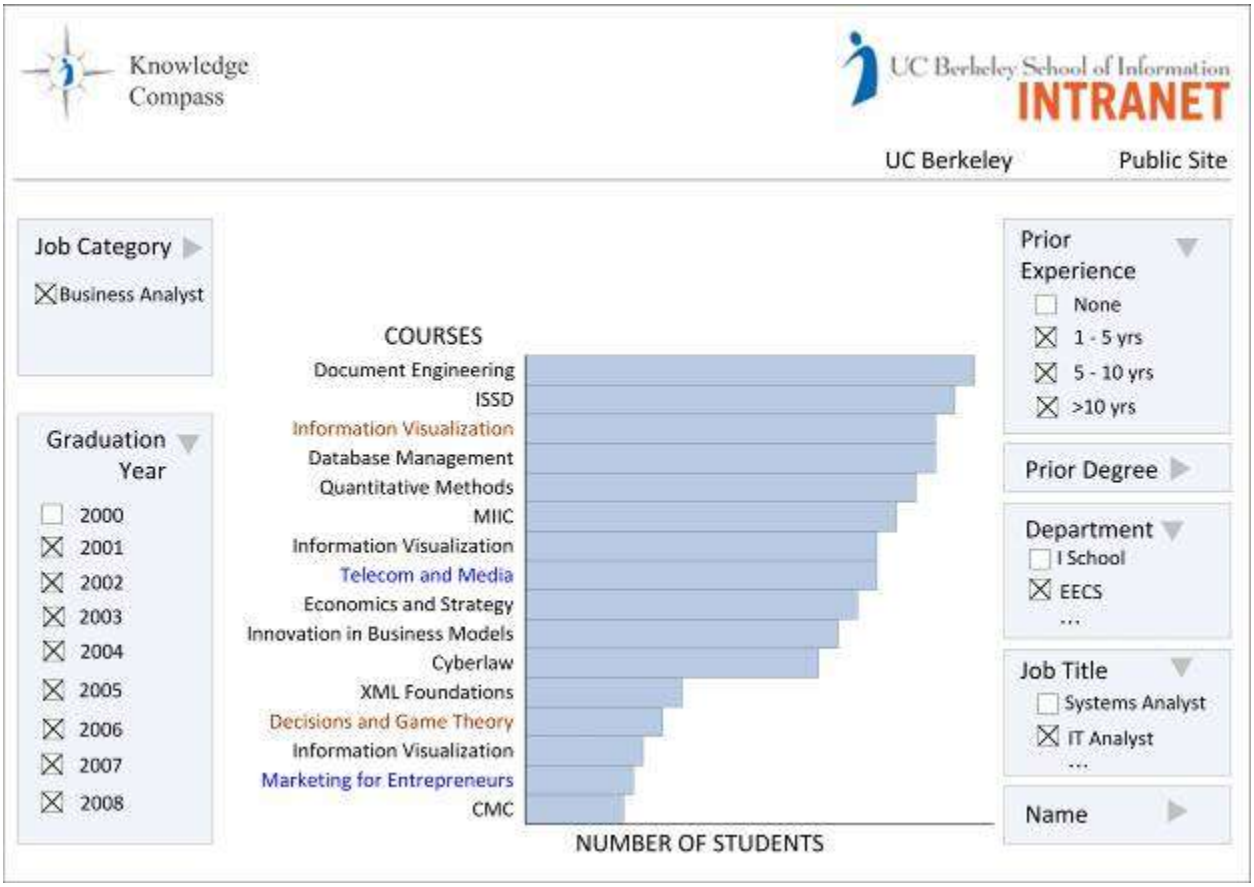



*Figure 12 Mockup 2: Recommended courses for job category*

*MOCKUP3: FOR DRILLING DOWN INTO DETAILS FROM THE AGGREGATE VIEW* Figure 15 shows Mockup 3. This allows a drill-down view from the above aggregate view. The following functionalities are offered:

- As the different selections on the facets change, so does the list of names that correspond to the selection criteria. This is displayed in the 'Name' facet. By default, all names that match the job category and the graduation year selection are shown.
- Changing any of the other filters also changes the list of names. This selection can be narrowed down and the details of a particular person can be viewed. On selecting a specific person's name, the courses that this person found useful are highlighted. The option to display/hide the name rests with the owner of the information. Alumni can thus hide their names if they so deem appropriate.

- Further, on hovering over the data item that is highlighted, a popup shows the name and the specific semester that that course was undertaken.
- The name (in both the popup and the facet) is a link that refers to that alumni's profile page. This link provides more details about that specific person.

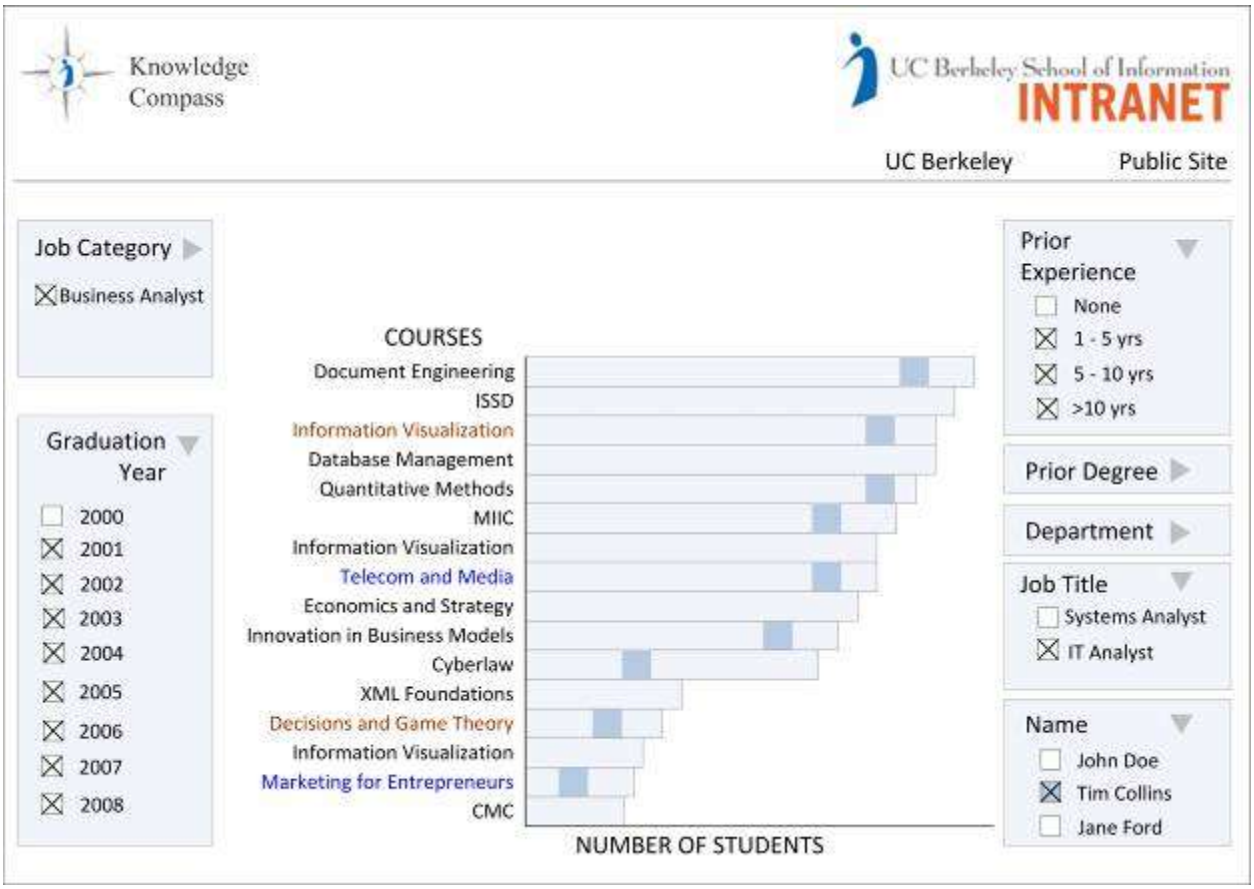



*Figure 13 Mockup 3: For drilling down into details from the aggregate view*

## Future Work

The above describes the function design of the technology based service. Its implementation and roll out was left to a future stage. Following is a list describing future work for the implementation of this service:

*User Testing* The above mockups should to be tested on a user audience.

*High Fidelity Prototypes* The design modifications resulting from the user testing should be used to create high fidelity prototypes.

*Schema Design* Complete the schema design. For areas pulling in data from external sources, verify their validity.

*Implementation* Implement the code into a working application and integrate the back end and the front end.

# Phase II: Key Findings

To identify the barriers to collaboration between students and alumni specifically with regard to the above four areas, we designed a survey that 38 current students at I School responded to. This confirmed our hypothesis that while searching for the right information and the right people was the biggest barrier to collaboration, there existed other barriers to collaboration like not-invented-here and transfer of complex knowledge.

Subsequent sections outline findings of survey conducted on identifying barriers to collaborations.

## Survey Findings

*OVERVIEW* Figure 16 shows the barriers to collaboration between students and alumni at I School. The four colors represent the four quartiles of data with respect to each barrier based on a benchmark scale we followed. The blue horizontal bars represent the I School survey response values.

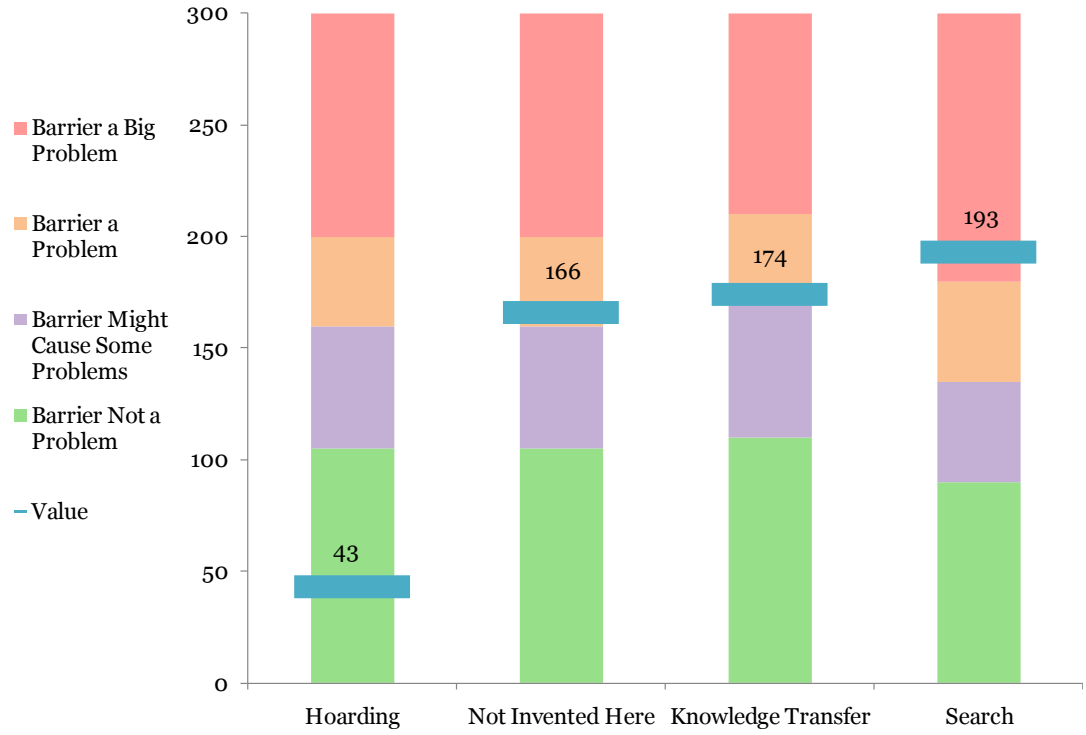



*Figure 14 Survey Values for Each Barrier to Collaboration*

Although the data was self reported and subjective, it indicates that searching is the biggest problem. Knowledge transfer and not-invented-here are also problematic, while hoarding is not important. For ability barriers such as search and transfer barriers, overcoming these requires building nimble networks to make it simpler to identify opportunities and capture value. NIH is motivational in nature, and can be overcome by unifying people. Doing so involves crafting a unifying goal and cultivating an emotional bond with the alumni. The recommendations section offers specific recommendations for these findings.

*SEARCH BARRIER* Searching for the right information and finding alumni to answer questions is the biggest barrier to collaboration for all four areas (jobs, courses, expertise, and projects). Clearly, searching for the right information and people to provide career guidance is the biggest problem. While scores were high

overall, Jobs received the highest score thus illustrating current student obstacles when it comes to career guidance. This is true in spite of the forums I School currently has at its disposal such as the Alumni Network, LinkedIn group, and fun/noise@ischool discussions.

The number of forums clearly does not add up to a solution to a larger problem: there is a lack of interaction between students and alumni primarily because students either cannot or do not know how to find the information they seek. The ability to find and utilize information about jobs, courses, expertise, and projects proves alarmingly disappointing under existing I School tools and resources. This leads to a great deal of frustration and unintentional information silos between current students and alumni who have the advantage of cumulative forum discussions. Students desire a more structured forum than e-mail discussions, or at least an archive with added functionality such as filtering.

> *[A] more structured way of contacting alums and a more searchable database would be great. [T]he same questions are asked on noise every year and then [a student] forwards the old thread. ;) what if [the student] actually leaves? ~Survey ID 13*
>
> *I like the noise list and feel that it's currently an important part of the ischool community - but it's sort of a firehose and I'm not sure once I leave whether it will make sense to read/contribute as much as I do now. I'm not on facebook and don't want to be. It would be nice to have an ischool-only online community like the noise list but with more archives and filtering. ~Survey ID 43*

*TRANSFER KNOWLEDGE BARRIER* There is difficulty in communicating best practices or working together to share information. While this was observed to be more of a problem for career guidance, course recommendations and seeking projects, it was perceived as a smaller problem for communicating subject matter expertise. Lack of a common frame or weak ties exacerbates this problem. Most students cited the fun/noise@ischool distribution lists and the I School Job Fair as their ways of interacting with or meeting alumni; however, students do not feel such arenas of debate and resume-filtering allow them to develop a strong or positive connection with alumni.

> *Please more in-person networking opportunities! It seems that our only opportunity to chat with alumni is over noise and that's usually a debate or at career fairs where they are supposed to be filtering resumes. I want to discuss topics of interest with alumni face-to-face and show them who I am outside of noise and career fairs. I want to feel like I can contact an alum at any organization and chat with them about their experiences. I feel that some alumni are happy to do this but the ischool doesn't provide them an easy way to show their willingness nor provide students an easy way to meet them. I have to cold-email alumni when I come upon their information (like in LinkedIn) which is not optimal.. ~Survey User ID 7*

*NOT-INVENTED-HERE (NIH) BARRIER* NIH is a barrier when people do not want to reach out to others for support. While this could be due to a notion of self-reliance, it could also be due to an insular culture where communication remains confined to a group. We found that students are willing to seek support for guidance related to jobs and subject matter expertise, and not so much for course recommendations and projects. Our findings correspond with our initial hypothesis that the I School does not lack motivation to share information and collaborate. However, the higher scores in jobs and subject matter expertise do not surprise us since comments in interviews and surveys alluded to problems. Given the limited tools and functionality available, many choose to abandon the tedious effort required to not only research and find the right alumni, but then also wonder if alumni would even welcome correspondence. As a results,

students become self-reliant and thus more insular, especially when it comes to career guidance. The I School administration needs to communicate a unifying goal between students and alumni to increase student-alumni interaction either in person or online.

> *Resume guidance would help, but people seem to figure it out on their own. ~Interview ID 14.*

*HOARDING BARRIER* We found that this was not a problem for any of the above four areas. Students were willing to share if they had the appropriate information.

# Recommendations

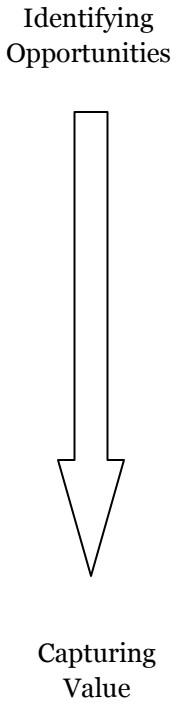
In order to build a stronger student-alumni community, we offer recommendations which when applied strategically, would enable building emotional bonds between students and alumni thus creating a "lifetime commitment" for students beyond matriculation. Applying guidelines for reducing collaboration barriers, we categorized our recommendations on a spectrum from *Identifying Opportunities* that facilitate collaboration towards *Capturing Value* once collaboration occurs, to have the greatest effect on lowering the respective barrier.

Table 16 outlines recommendations we've identified from our interviews, survey, and competitive analysis. Since the I School revealed a high barrier for search, the three recommendations only identify opportunities to reduce the search barrier at I School.

*Table 16*

**Recommendations for I School**

| Recommendation | Who Benefits | How Benefit/Areas Addressed* | Barrier Reduced |
|---|---|---|---|
| Social Networking Presence | I School Community | Jobs, Courses, Expertise | Search |
| Recommending Courses for Job Categories | Students | Courses, Jobs | Search |
| Data Archive | Students, Prospective Students | Expertise, Projects | Search |
| Career Services Resources | Students, Alumni | Jobs, Expertise | Search, Transfer |
| Distinguished Lecture Seminar | Alumni | Expertise | Search, Transfer |
| Welcome Back Day | Students, Alumni | Jobs, Courses, Expertise, Projects | Search, Transfer, NIH |
| Executive Education Workshops | Alumni, Public | Jobs, (Outreach) | Transfer |
| Advisory Panel | Students, Alumni | Jobs, Courses, Expertise, and Projects | Transfer |




**Jobs, Courses, Expertise, Projects*

SOCIAL NETWORKING PRESENCE Even with busy schedules between work and family, alumni still want to maintain at least a passive connection. There are approximately 400 alumni and 100 current students at I School. From these groups, less than 200 are on LinkedIn or Facebook. With no official Facebook page, no official I School news feeds can be published to I School social network users. I School news and events feeds already exist, so publishing them on a Facebook page may not take too much effort. Also, our competitive analysis shows other schools' sites highlighting their network connections on their websites, thus encouraging participation from the community. [Barrier Addressed: SEARCH]

*RECOMMENDING COURSES FOR JOBS CATEGORIES* Information schools are uniquely characterized by interdisciplinary courses. While some schools (refer to Phase I: Key Activities Competitive Analysis) have specialized tracks, I School does not. The advantage of not having specialized tracks is that it lends flexibility to the program and can be tailored uniquely to each individual's needs. However, this has the disadvantage that students often lack clear direction when it comes to course selection.

> *"I am a little lost right now about what courses to take." ~Interview ID 6*

As a workaround, we recommend having a service that suggests courses for a given career goal. SI at University of Michigan offers a service for the same (MSI Pathways, Page 20). However, instead of being top-down like MSI Pathways, we recommend this service to be bottoms up. Using the career goals and useful courses taken by alumni as the data repository, a service can be built which shows current students what coursework aligns well with their career choices. Being organic in nature, such a repository would self adjust with changing career trends and the courses offered. Phase II: Key Activity – Functional Design of Services (Pg. 45) shows mockups for such a service. [Barrier Addressed: *SEARCH*]

*DATA ARCHIVE* While the I School staff archives some forums, archiving does not exist for the noise @ischool list. Noise has both current students and alumni and it's widely considered the place to go to for information and expertise. In spite of its frequent usage, it is not archived. This leads to redundant discussions year after year. We need a more structured way to search and retrieve meaningful exchanges.

In addition, final projects and course deliverables (papers, projects, etc.) lack effective archiving. When searching for a final project, unless the exact year and name of the final project is known, it is a painstaking process checking each year for every project delivered that year to find the one of interest. Likewise with course deliverables, instead of static course descriptions, understanding the amount and quality of work involved in previous iterations of a course helps people understand the demands of the course and program as a whole. Archiving such materials delivers immense value to current students and prospective students debating the merits of the program. Rather than talk about what the students can do via occasional announcements, allow the products to serve as a testimonial to the caliber of skill-sets students applied. We believe that if asked, many students would "opt in" to archiving these as institutional resources. [Barrier Addressed: *SEARCH*]

*CAREER SERVICES RESOURCES* Rather than rely on the Campus Career Center, turn to alumni for list of recommended resources or invest in a career library. In addition, have a Career Services page on the intranet with tips written with an I School lens. Even a simple static list will do to save students valuable search time. (Example: Tips from an I School alumni on what makes a good portfolio.) Allowing I School community contributions via comments provides an archive of valuable feedback that can be incorporated into future revisions of the list. As a result, the static data becomes dynamic thus transitioning the data from information to knowledge. [Barrier Addressed: *SEARCH, TRANSFER*]

*DISTINGUISHED LECTURE SEMINARS* Establish a 7 pm lecture once a month to accommodate alumni work schedules. Schedule a mixer at 6 pm to encourage social exchange between students, alumni, faculty, and guest lecturers. Build a long-term emotional bond that allows the school to construct a nimble network. [Barrier Addressed: *SEARCH, TRANSFER*]

*WELCOME BACK DAY* Alumni occasionally are invited back to talk to I School courses; the most systematic and regularly scheduled event is *202 Alumni Day*, that has been the last week of class. A more broad-based approach effort would have these advantages: alumni can speak to students in class about their career; students welcome guest lecturers in class; and alumni speakers have a built-in target audience—enrolled students. [Barriers Addressed: *SEARCH*, *TRANSFER*, *NIH*]

*EXECUTIVE EDUCATION WORKSHOPS*– The I School can offer short two to three day workshops on emerging technologies. UC Berkeley's advantage of being in close proximity to the Silicon Valley offers easy access to entrepreneurs who may be interested in the current topics I School faculty cover. This presumably can be a revenue source for the school. Software companies often have policies to fund conferences and workshops, so the financial onus need not be bourn directly by the attendees. Further, it would also provide reasons for alums to return as students of the executive education program and help foster a stronger I School community. [Barrier Addressed: *TRANSFER*]

*ADVISORY PANEL* Alumni can participate on an advisory board counseling students and even fellow alumni in the following areas: resume critiques, interviewing tips specific to a company or industry, class recommendations from recent graduates, etc. The entire I School community benefits from building a diverse network of both weak and strong ties while exchanging expertise. Most importantly, it needs to be communicated to alumni their need to get involved with current students. Involvement does not limit itself to charitable donations, but also availing themselves to students who have questions for a class, project, or informational interview. [Barrier Addressed: *TRANSFER*]

# Appendix 1: Consolidated Affinity Notes

| ID(s) | Key Findings |
|---|---|
| | 1) Information Services |
| | A. Personas (describing what that person did before, at and after I School) |
| 3,6,8 | 1. Job Descriptions |
| 10 | 2. Job Duties |
| 6 | 3. A Little About Their Personal Lives - Commute Etc. |
| 6 | 4. Hours They Actually Put In |
| 6 | 5. Team Size |
| 6 | 6. Individual Contributor vs. People Manager |
| 6,10,12 | 7. Background Before I School |
| 6,8 | 8. Courses |
| 6 | 9. Who Their Faculty Advisers Were |
| 6,10,11 | 10. Courses They Would Definitely Take If Asked To Do The Program Again |
| 6,10 | 11. Courses They Did Not Take But Should Have Taken |
| 8 | 12. Courses That Should Be Offered at I School |
| | B. Recommended tracks |
| 6,8,11 | 1. Useful For Guidance, But Not Mandatory |
| 5,13 | 2. Links Between Courses--Tags |
| 11,13 | 3. Recommended Sequence Of Courses (Ex: For Specific Field) |
| | C. Information want to know about alumni (or I Schooler) |
| 10 | 1. Companies Worked At |
| 10 | a) job title: current |
| 10 | 2. Topics Studied |
| 10 | 3. Relevant Courses |
| | a) classes taken |
| 3 | i. most helpful ones towards job |
| 6,8,11 | ii. if given a chance, would take again |
| 9,10,11 | b) classes wish had taken |
| 10 | c) schools attended |
| 3,10 | d) location |
| | e) salary |
| 2 | i. ranges, not data points |
| 1,2,3 | ii. no personally identifiable information |
| | f) qualitative job description |
| 3 | i. how fits into organization |
| 6,11,12 | ii. company culture |
| 6 | iii. job satisfaction |
| 6 | iv. work life balance |
| 6 | v. commute |
| 6,10 | vi. scope of responsibilities |
| 10 | g) interviewing tips |
| 11 | h) informal gossip |
| 11 | i. who's hiring |

| ID(s) | Key Findings |
|---|---|
| | D. Recommendation engine |
| 11 | 1. Relationships Between Courses And Jobs (E.G.: People Who Are Working as <profession> Found Courses A,B,C Especially Useful) |
| 9 | 2. Tools To Search For Outside Classes |
| 9,11,12,13 | a) Value recommendations by peers/like-minded individuals |
| 14 | b) Stronger problem for PhD students |
| | E. Courses |
| | 1. Multi-Faceted Search Criteria For Course Selection |
| 8,9 | a) quality |
| 6,8,9 | b) relevance |
| 6,8,9 | c) technical requirements |
| 4,8,9,10 | d) usefulness to future career |
| 8,9 | e) professor |
| 6,8,9,10 | f) interest |
| 8,10 | g) project focused vs theoretical approach |
| 10 | h) degree/certificate requirements |
| 9,14 | 2. Free Text Search |
| | 3. Non-I School Courses |
| 8,9,11 | a) I School classes vs. non I School classes--what's the difference/similarity |
| 8,11,12 | b) non I School related branches of courses relevant to I Schoolers |
| 8,11,12,14 | c) hard to find out information about such courses |
| | F. Mentorship |
| | 1. What Mentors Can Help With |
| 10 | a) resume critique workshop specific to I School |
| 14 | i. post model resume |
| 10,14 | b) how frame strengths/weaknesses for resume |
| 10,11 | c) interviewing tips |
| 10,11 | i. questions/feedback specific to co/industry |
| 9,10,11 | d) class recommendations from recent graduates |
| 10 | e) work-life balance |
| | i. non-traditional students |
| | 2. How Mentors Can Maintain Communication |
| 1,2,3,4 | a) trade emails |
| 1,2 | b) twitter updates |
| 4 | c) go out for beer/coffee |
| 9,10,11 | d) TT--last TT of the month = "Alumni TT" |
| | G. Location on Map |
| 10 | 1. Specific Location For Job Hunting |
| 2 | H. Tag clouds |
| 2,9 | 1. Skills Inventory |
| 13 | 2. Class Matching |
| 13 | 3. Job Title Matching |
| 2 | 4. Prior Work Experience |
| 2,12 | 5. Projects |
| 10 | 6. Publications |
| 5 | 7. Influential People |

| ID(s) | Key Findings |
|---|---|
| | I. Projects |
| 2 | 1. Calendar Aggregation--Looking For Projects |
| 12,13 | 2. History Of Past Projects |
| 12,13 | a) MIMS final projects |
| 12,13 | b) Class projects |
| | J. Information alerts |
| | 1. Instant Updates: Similar To Twitter, Linkedin/Facebook Email Updates |
| 10 | a) milestones |
| 10 | i. academic appointments |
| 10 | ii. publications |
| 10 | iii. major round of funding |
| 10 | iv. promotions |
| 10 | v. company acquisition/merger/going public |
| 4,12,1 | 2. Passive Connections |
| 13 | 3. Instant Comments |
| | K. List of go-to software, tools, and languages |
| 13 | 1. What Each Tool Is Useful For; In What Context |
| | L. Finding companies for I School job fair |
| 9 | 1. Digg--Organically Vote For Companies (+/-): Companies We'D Like To Be At |
| | 2) Incentives for participation |
| 1,2,3,4 | A. Address "What's In It For Me?" |
| | B. Social Benefits To Participation |
| 9 | 1. Alumni Of The Month |
| 9 | 2. Job Profile Of The Month |
| | Alumni "Refresher" Day--Update Alumni On New Areas In Information |
| 9,13 | 3. Management |
| 13 | a) interesting questions alumni need help with |
| 10 | b) Alumni Reunion "Comeback" (homecoming) day |
| | Social Pressure--"You'Re The Last Person In The X. Please Update Your |
| 1 | 4. Profile..." |
| 1,3,4 | C. Re-Use Existing Profiles (In Linkedin, Courseland, Etc) |
| 6,9 | D. Fun And Engaging |
| 1 | E. Amazon Gift Cards |
| 1 | F. Curiousity Factor |
| 1 | 1. Sneak preview (Ex: glassdoor.com) |
| 1 | G. Re-Use Existing Profiles (In Linkedin, Courseland, Etc) |
| | Alumni |
| | 3) Panel |
| | A. Panel topic coverage under 1) C. |
| | 4) Challenge Areas |
| | A. I School |
| 4 | 1. Distinct Divide Between Student Interests |
| 4,5 | 2. Phd vs Professional track |
| 8 | 3. Public vs. Private Sector |
| | a) Assumption: graduates pursue private sector only |
| 9,13 | 4. Noise Mailing List |

| ID(s) | Key Findings |
|---|---|
| | filters information with an I School lens, but signal to noise ratio |
| 9,13 | a) fluctuates |
| 8,14 | 5. HCI: Lack Of A Usability Lab |
| 14 | 6. No Phd Classes For I School |
| 5 | 7. Limited Accord Between Diverse Faculty |
| 5,11 | 8. Limited GSR Positions--Search Problem |
| | B. Courses |
| 5 | 1. Class Work Changes |
| 5 | 2. Faculty Changes |
| 5 | 3. Seminars Fluctuate |
| 5 | 4. Difficult Record Keeping |
| 5,8 | 5. Hard To Codify Course Tracks |
| 5 | 6. Re-Classification Required In Graduate Division |
| | disparity between UCB vs. I School: university requires incoming application form reflects 2 tracks not reflected in actual course |
| | a) curriculum |
| | 7. Classes Cancelled |
| | C. General |
| 6,10,13 | 1. Job Titles Vary Across Environments/Industries |
| 6,8,13 | 2. Hard To Capture Trends For Jobs |
| | D. Project (us) |
| 1, 3 | 1. Minimize Data Entry And Maintenance Burden (To Increase Response Rate) |
| 1, 3 | a) re-use existing profiles (in LinkedIn, Courseland, etc) |
| 5 | 2. Who Will Access/Maintain The Database (After Us)? |
| | E. Survey (comments) |
| 5,7,13 | 1. low response rate |
| 5,6,7 | 2. no follow-up to non-responders (lack of accountability/no consequences) |
| | 5) Recommendations to I School |
| 8 | A. structuring classes more organically to cover topics of interest |
| 14 | B. Brown Bag Lunch |
| 6,8,11,13 | C. Strategic sequencing of classes |
| 6,8,11,13 | 1. Ex: systems/dbase/web/info architecture classes heavier in Fall vs. Spring |
| 6,8,13 | D. Beginner vs. Advanced courses |
| 6,8,13 | 1. Intro topics hard to find |
| 9,13 | E. filter courses by metadata |
| | 6) Incoming Student's Questions |
| | A. FAQs |
| 5,7 | 1. repeat Web site information |
| 5,7 | 2. visit I School |
| 5,6,7 | 3. manageable stress load? |
| | 7) GSRs/Internships |
| | incorporate internshare.com: similar to ratemyprofessor but specifically for |
| | A. internships/GSRs |
| 11 | B. limited GSR options--search problem |
| 11 | 1. Workload unknown |
| | 8) I School Strengths |

| ID(s) | Key Findings |
|---|---|
| 6,11 | A. Flexibility |
| 5,8,14 | B. Serendipity of taking classes |
| 11 | C. students |
| | D. team aspects |
| 3,4 | E. Bob's friends |
| 3,4 | F. interactions w/faculty |
| 5,6,9,11,14 | G Interdiciplinary program |

# Appendix 2 Survey Questions

Refer to subsequent pages for survey print-out.

PDF Export

# Collaboration

**Page 1 of 4**

For subsequent questions, "following areas" refers to:

- Jobs: career-related information (resume, portfolio, etc.)
- Courses: course selection/recommendations
- Expertise: subject matter expertise (Ex: coding problems; laptop recommendations)
- Projects: project ideas/partners (for courses, research, or final project)

*** N_ALUM1: When faced with questions, students seek guidance from alumni for the following areas:**

Please choose the appropriate response for each item:

| | Strongly Disagree | Disagree | Slightly Disagree | Undecided | Slightly Agree | Agree | Strongly Agree | No Opinion |
|---|---|---|---|---|---|---|---|---|
| Jobs | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Courses | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Expertise | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Projects | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

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*** N_ALUM2: When faced with questions related to the following areas, I School students strive to solve them on their own.**

Please choose the appropriate response for each item:

| | Strongly Disagree | Disagree | Slightly Disagree | Undecided | Slightly Agree | Agree | Strongly Agree | No Opinion |
|---|---|---|---|---|---|---|---|---|
| Jobs | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Courses | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Expertise | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Projects | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

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*** N_ALUM3:**
**There is a prevailing attitude in I School that people ought to fix their own problems in the following areas:**

Please choose the appropriate response for each item:

| | Strongly Disagree | Disagree | Slightly Disagree | Undecided | Slightly Agree | Agree | Strongly Agree | No Opinion |
|---|---|---|---|---|---|---|---|---|
| Jobs | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Courses | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Expertise | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Projects | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

---

*** H_ALUM1:**
**Alumni share their expertise and information with students when it comes to the following areas:**

Please choose the appropriate response for each item:

| | Strongly Disagree | Disagree | Slightly Disagree | Undecided | Slightly Agree | Agree | Strongly Agree | No Opinion |
|---|---|---|---|---|---|---|---|---|
| Jobs | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Courses | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Expertise | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Projects | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

---

*** H_ALUM2:**
**Which of these communication methods do you use to communicate with alumni?**

Please choose *all* that apply:

- ☐ E-mail/E-mail Distribution List
- ☐ Over the Phone/IM Chat
- ☐ In Person

Other: ____

---

**Page 2 of 4**

For subsequent questions,"following areas" refers to:

- Jobs: career-related information (resume, portfolio, etc.)
- Courses: course selection/recommendations
- Expertise: subject matter expertise (Ex: coding problems; laptop recommendations)
- Projects: project ideas/partners (for courses, research, or final project)

*** S_ALUM1:**
**Students often complain about the challenges they have locating alumni who can offer guidance in the following areas:**

Please choose the appropriate response for each item:

| | Strongly Disagree | Disagree | Slightly Disagree | Undecided | Slightly Agree | Agree | Strongly Agree | No Opinion |
|---|---|---|---|---|---|---|---|---|
| Jobs | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Courses | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Expertise | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Projects | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

---

*** S_STUD2:**
**Students find it hard locating the information they need for the following areas:**

Please choose the appropriate response for each item:

| | Strongly Disagree | Disagree | Slightly Disagree | Undecided | Slightly Agree | Agree | Strongly Agree | No Opinion |
|---|---|---|---|---|---|---|---|---|
| Jobs | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Courses | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Expertise | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Projects | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

---

*** S_ALUM3:**
**Identifying alumni who can guide students in the following areas is difficult**

Please choose the appropriate response for each item:

| | Strongly Disagree | Disagree | Slightly Disagree | Undecided | Slightly Agree | Agree | Strongly Agree | No Opinion |
|---|---|---|---|---|---|---|---|---|
| Jobs | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Courses | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Expertise | | | | | | | | |
| Projects | | | | | | | | |

---

*** K_ALUM1:**
**I School alumni do not know the appropriate ways to share information with students about the following areas:**

Please choose the appropriate response for each item:

| | Strongly Disagree | Disagree | Slightly Disagree | Undecided | Slightly Agree | Agree | Strongly Agree | No Opinion |
|---|---|---|---|---|---|---|---|---|
| Jobs | | | | | | | | |
| Courses | | | | | | | | |
| Expertise | | | | | | | | |
| Projects | | | | | | | | |

---

*** K_ALUM2:**
**Students often communicate with alumni in the following areas:**

Please choose the appropriate response for each item:

| | Strongly Disagree | Disagree | Slightly Disagree | Undecided | Slightly Agree | Agree | Strongly Agree | No Opinion |
|---|---|---|---|---|---|---|---|---|
| Jobs | | | | | | | | |
| Courses | | | | | | | | |
| Expertise | | | | | | | | |
| Projects | | | | | | | | |

---

*** K_ALUM3:**
**Students find it difficult to get useful information from alumni in the following areas:**

Please choose the appropriate response for each item:

| | Strongly Disagree | Disagree | Slightly Disagree | Undecided | Slightly Agree | Agree | Strongly Agree | No Opinion |
|---|---|---|---|---|---|---|---|---|
| Jobs | | | | | | | | |
| Courses | | | | | | | | |
| Expertise | | | | | | | | |
| Projects | | | | | | | | |

---

**Page 3 of 4**

For subsequent questions,"following areas" refers to:

- Jobs: career-related information (resume, portfolio, etc.)
- Courses: course selection/recommendations
- Expertise: subject matter expertise (Ex: coding problems; laptop recommendations)
- Projects: project ideas/partners (for courses, research, or final project)

*** O_ALUM2: Over the course of the previous semester, how many times did you want to contact alumni regarding the following areas:**

Please choose the appropriate response for each item:

| | Less than 1 Time | 1-3 Times | 4-6 Times | 7-9 Times | 10+ Times |
|---|---|---|---|---|---|
| Jobs | | | | | |
| Courses | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Expertise | ☐ | ☐ | ☐ | ☐ | ☐ |
| Projects | ☐ | ☐ | ☐ | ☐ | ☐ |

---

*** O_ALUM1: Over the course of the previous semester, how many times did you get in touch with alumni regarding the following areas?**

Please choose the appropriate response for each item:

| | Less than 1 Time | 1-3 Times | 4-6 Times | 7-9 Times | 10+ Times |
|---|---|---|---|---|---|
| Jobs | ☐ | ☐ | ☐ | ☐ | ☐ |
| Courses | ☐ | ☐ | ☐ | ☐ | ☐ |
| Expertise | ☐ | ☐ | ☐ | ☐ | ☐ |
| Projects | ☐ | ☐ | ☐ | ☐ | ☐ |

---

*** O_ALUM3: What methods did you use most often?**

Please choose *all* that apply:

- ☐ E-Mail/E-Mail Distribution List
- ☐ Over the Phone/IM Chat
- ☐ In Person
- ☐ Other

Other:

---

**O_OpenQ: When you become an alumni, how would you like to stay connected with I School?**

Please write your answer here:

---

**Page 4 of 4**

Demographic Information

**DEMO1: What is your gender?**

Please choose *only one* of the following:

- ☐ Female
- ☐ Male

---

**DEMO2: What year are you graduating?**

Please choose *only one* of the following:

- ☐ 2009
- ☐ 2010
- ☐ Beyond 2010

---

**DEMO5: What is your age?**

Please choose *only one* of the following:

- ☐ 20-25yrs
- ☐ 26-30yrs
- ☐ 31-35yrs
- ☐ >35yrs

---

**DEMO_Open: How would you improve collaboration between students and alumni? We welcome your ideas!**

Please write your answer here:

---

**Raffle: Submit your email address to enter the raffle for a $10 Amazon gift certificate.(Five winners will be chosen)**

Please write your answer here:

---

**Submit Your Survey.**
Thank you for completing this survey..

# Appendix 3 Survey Demographic Information

| ID | Gender | Graduation Year | Age |
|---|---|---|---|
| 1 | M | 2010 | 26-30yrs |
| 2 | M | 2009 | 31-35yrs |
| 3 | F | 2010 | 26-30yrs |
| 4 | M | 2010 | 31-35yrs |
| 5 | F | 2009 | 20-25yrs |
| 6 | F | 2010 | 26-30yrs |
| 7 | F | 2010 | 26-30yrs |
| 8 | F | 2009 | 20-25yrs |
| 9 | F | Beyond 2010 | >35yrs |
| 10 | F | 2010 | >35yrs |
| 11 | M | 2010 | 20-25yrs |
| 12 | M | 2009 | 26-30yrs |
| 13 | M | 2010 | >35yrs |
| 14 | F | 2010 | >35yrs |
| 15 | M | 2009 | 26-30yrs |
| 16 | M | 2010 | 26-30yrs |
| 17 | M | 2010 | 20-25yrs |
| 18 | F | 2010 | 26-30yrs |
| 19 | M | 2010 | 26-30yrs |
| 20 | M | 2010 | 31-35yrs |
| 21 | M | 2010 | >35yrs |
| 22 | F | 2010 | 31-35yrs |
| 23 | M | 2010 | 31-35yrs |
| 24 | F | 2009 | 20-25yrs |
| 25 | M | 2009 | 26-30yrs |
| 26 | M | 2010 | 20-25yrs |
| 27 | M | 2010 | 26-30yrs |
| 28 | F | 2010 | 20-25yrs |
| 29 | M | 2009 | 31-35yrs |
| 30 | M | 2010 | 31-35yrs |
| 31 | M | 2009 | 31-35yrs |
| 32 | M | 2010 | 20-25yrs |
| 33 | M | 2009 | 26-30yrs |
| 34 | M | 2009 | 20-25yrs |
| 35 | F | Beyond 2010 | 26-30yrs |
| 36 | M | 2009 | 31-35yrs |
| 37 | M | 2009 | >35yrs |
| 38 | F | 2009 | 26-30yrs |

# Appendix 4 Survey Results

| | Area | Question | No Answer | Strongly Disagree | Disagree | Slightly Disagree | Undecided | Slightly Agree | Agree | Strongly Agree | Grand Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Hoarding | Jobs | Alumni share their expertise and information with students when it comes to the following areas: | 1 | 5 | 11 | 13 | 6 | 2 | | | 38 |
| | Courses | Alumni share their expertise and information with students when it comes to the following areas: | 2 | 3 | 6 | 9 | 6 | 6 | 6 | | 38 |
| | Expertise | Alumni share their expertise and information with students when it comes to the following areas: | 1 | 6 | 13 | 12 | 3 | 2 | 1 | | 38 |
| | Projects | Alumni share their expertise and information with students when it comes to the following areas: | 2 | 2 | 5 | 13 | 5 | 5 | 5 | 1 | 38 |
| Knowledge Transfer | Jobs | I School alumni do not know the appropriate ways to share information with students about the following areas: | 5 | | 5 | 5 | 9 | 3 | 8 | 3 | 38 |
| | | Students find it difficult to get useful information from alumni in the following areas: | 3 | | 2 | 5 | 3 | 12 | 9 | 4 | 38 |
| | | Students often communicate with alumni in the following areas: | 1 | | 9 | 11 | 3 | 8 | 5 | 1 | 38 |
| | Courses | I School alumni do not know the appropriate ways to share information with students about the following areas: | 5 | | 4 | 3 | 8 | 5 | 9 | 4 | 38 |
| | | Students find it difficult to get useful information from alumni in the following areas: | 4 | | 2 | 5 | 5 | 9 | 7 | 6 | 38 |
| | | Students often communicate with alumni in the following areas: | 2 | | 3 | 5 | 5 | 12 | 9 | 2 | 38 |

| | Area | Question | No Answer | Strongly Disagree | Disagree | Slightly Disagree | Undecided | Slightly Agree | Agree | Strongly Agree | Grand Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Expertise | I School alumni do not know the appropriate ways to share information with students about the following areas: | 5 | | 4 | 6 | 7 | 7 | 6 | 3 | 38 |
| | | Students find it difficult to get useful information from alumni in the following areas: | 2 | | 5 | 9 | 6 | 7 | 5 | 4 | 38 |
| | | Students often communicate with alumni in the following areas: | | 1 | 17 | 7 | 3 | 6 | 4 | | 38 |
| | Projects | I School alumni do not know the appropriate ways to share information with students about the following areas: | 5 | | 3 | 4 | 10 | 4 | 8 | 4 | 38 |
| | | Students find it difficult to get useful information from alumni in the following areas: | 4 | | 1 | 5 | 8 | 11 | 5 | 4 | 38 |
| | | Students often communicate with alumni in the following areas: | 2 | | 1 | 9 | 4 | 12 | 9 | 1 | 38 |
| Not Invented Here | Jobs | There is a prevailing attitude in I School that people ought to fix their own problems in the following areas: | | 3 | 5 | 6 | 5 | 9 | 8 | 2 | 38 |
| | | When faced with questions related to the following areas, I School students strive to solve them on their own. | 3 | 1 | 6 | 4 | 2 | 9 | 10 | 3 | 38 |
| | | When faced with questions, students seek guidance from alumni for the following areas: | | 8 | 11 | 9 | 3 | 6 | 1 | | 38 |
| | Courses | There is a prevailing attitude in I School that people ought to fix their own problems in the following areas: | | 3 | 6 | 9 | 3 | 9 | 6 | 2 | 38 |

| Area | Question | No Answer | Strongly Disagree | Disagree | Slightly Disagree | Undecided | Slightly Agree | Agree | Strongly Agree | Grand Total |
|---|---|---|---|---|---|---|---|---|---|---|
| | When faced with questions related to the following areas, I School students strive to solve them on their own. | | 2 | 7 | 7 | 2 | 6 | 8 | 6 | 38 |
| | When faced with questions, students seek guidance from alumni for the following areas: | | 1 | 11 | 8 | 3 | 7 | 8 | | 38 |
| Expertise | There is a prevailing attitude in I School that people ought to fix their own problems in the following areas: | | 6 | 4 | 12 | 3 | 4 | 7 | 2 | 38 |
| | When faced with questions related to the following areas, I School students strive to solve them on their own. | | 2 | 5 | 9 | 4 | 7 | 8 | 3 | 38 |
| | When faced with questions, students seek guidance from alumni for the following areas: | | 2 | 15 | 11 | 4 | 3 | 3 | | 38 |
| Projects | There is a prevailing attitude in I School that people ought to fix their own problems in the following areas: | | 3 | 7 | 5 | 2 | 11 | 8 | 2 | 38 |
| | When faced with questions related to the following areas, I School students strive to solve them on their own. | | 1 | 3 | 6 | 3 | 11 | 7 | 7 | 38 |
| | When faced with questions, students seek guidance from alumni for the following areas: | 2 | 3 | 5 | 8 | 7 | 5 | 7 | 1 | 38 |
| Search | Jobs | Identifying alumni who can guide students in the following areas is difficult | | | 4 | | 3 | 10 | 16 | 5 | 38 |
| | | Students find it hard locating the information they need for the following areas: | | | 1 | 6 | 3 | 8 | 13 | 7 | 38 |
| | | Students often complain about the challenges they have locating alumni who can offer guidance in the following areas: | 1 | | 3 | 4 | 6 | 12 | 9 | 3 | 38 |

| Area | Question | No Answer | Strongly Disagree | Disagree | Slightly Disagree | Undecided | Slightly Agree | Agree | Strongly Agree | Grand Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Courses | Identifying alumni who can guide students in the following areas is difficult | 2 | | 4 | 4 | 2 | 6 | 15 | 5 | 38 |
| | Students find it hard locating the information they need for the following areas: | 1 | | 4 | 10 | 3 | 8 | 11 | 1 | 38 |
| | Students often complain about the challenges they have locating alumni who can offer guidance in the following areas: | 5 | 1 | 4 | 8 | 6 | 6 | 5 | 3 | 38 |
| Expertise | Identifying alumni who can guide students in the following areas is difficult | | | 6 | 5 | 3 | 8 | 11 | 5 | 38 |
| | Students find it hard locating the information they need for the following areas: | 1 | | 4 | 9 | 6 | 9 | 6 | 3 | 38 |
| | Students often complain about the challenges they have locating alumni who can offer guidance in the following areas: | 2 | 1 | 6 | 9 | 9 | 5 | 4 | 2 | 38 |
| Projects | Identifying alumni who can guide students in the following areas is difficult | 1 | | 4 | 1 | 5 | 10 | 11 | 6 | 38 |
| | Students find it hard locating the information they need for the following areas: | 1 | | 2 | 5 | 9 | 11 | 6 | 4 | 38 |
| | Students often complain about the challenges they have locating alumni who can offer guidance in the following areas: | 2 | 1 | 8 | 2 | 11 | 8 | 4 | 2 | 38 |
| Grand Total | | 65 | 55 | 226 | 278 | 198 | 299 | 288 | 111 | 1,520 |

# Appendix 5 Brainstorming Service Design

The following images capture our brainstorming session during the design activity for the service: recommending courses for given job categories