

FlunkLess

Executive Summary

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Key Problems Addressed

Our initial problem was the lack of a single platform that could support academic needs such as group management, class discussion, teaching staff accessibility, sharing of material, etc. We found that students and teaching staff currently juggle multiple platforms such as TED, Google Docs, Piazza, ThisCourse, Facebook, Doodle, WhenIsGood, DropBox, etc. Through a series of interviews and after developing a prototype, we reframed our problem to address the issue of interaction between a professor and students in a large classroom setting. Most classes at large universities average between 150 - 500 students, which often prevents deeper engagement of the material during class time. Our new problem is to facilitate real-time communication and interaction in a large classroom setting between students and the teaching staff. This platform would encourage active learning and participation instead of the typical passive "content delivery" strategy in which the instructor delivers material and students take notes without asking questions or engaging in discussion. The use of digital devices in lectures is becoming increasingly common as many students find it difficult to take effective notes by hand. While digital devices may be used with the intent to take better or more complete notes, most students often use the devices to visit unrelated sites during lectures. This leads us into our second problem of how we can utilize digital devices to complement lectures rather than a distraction.

Description of Data Collection

To explore our project focus, we conducted two rounds of interviews to gather data from our typical users. We targeted three job roles - instructors, teaching assistants, and students. Prior to conducting each round of interviews, we established our interview protocol. Our first round of interviews consisted of 12 interviews (2 Professors, 4 TAs, 6 students), each of which lasted about an hour. In all sessions we took field notes supplemented by video, audio, and/or screen recording. The questions we focused on addressed the use of communication platforms for academic purposes. Our goal was to understand how and what technology is currently used by our three target groups to support classroom communication, discussion, and sharing.

After our first round of interviews (each of which was followed by an interpretation session and creation of affinity notes), we built our affinity wall to understand the primary issues our users had. We gained valuable insights which helped us narrow down our focus and create possible design solutions. Our design solutions led to the development of our prototypes which we took to our second round of interviews. The second round of interviews consisted of 6 interviews with the paper or digital prototype (2 professors, 1 TA, 3 students) and followed a new interview protocol. Each interview averaged about 30 minutes during which time we took field notes and screen/audio recording.

Important Findings

From our first round of interviews, we discovered three primary findings:

1. Users do not want to mix personal and academic information (Students were concerned with their private/social Facebook profiles being accessed by the teaching staff)
2. Users are supportive of providing means to share information, course material, related links etc.
3. Teaching staff (professors, TAs) wanted to support and improve student engagement with course material both inside and out of the classroom

From our second round of interviews:

1. Original platform for out-of-class course management was not supported. Students felt it was more of a nuisance than aide and teaching staff felt it was unnecessary and would not be used by students

2. Professors prefer face-to-face interaction
3. "Content delivery" strategy : in large lecture halls students tend to be passive and ask only the most pressing or troubling questions, while letting other thoughts and questions go by; we refer to this form of one-way interaction as the 'content delivery' strategy, where the professor simply delivers the class material to the students without encouraging participation.
4. Students often interact with their digital devices during lecture

Data-Driven Design Ideas and Prototypes

Some of our design ideas were as follows:

First-Round

- Separating academic and personal notifications and creating an "academic-mode" on Facebook
- Providing an "upload" button that would make sharing easier (allow for students to upload directly from DropBox, Google Drive, etc.)
- Creating a chat box to encourage communication outside of class between students and teaching staff to encourage additional dialogue and learning

Second-Round (Reframing)

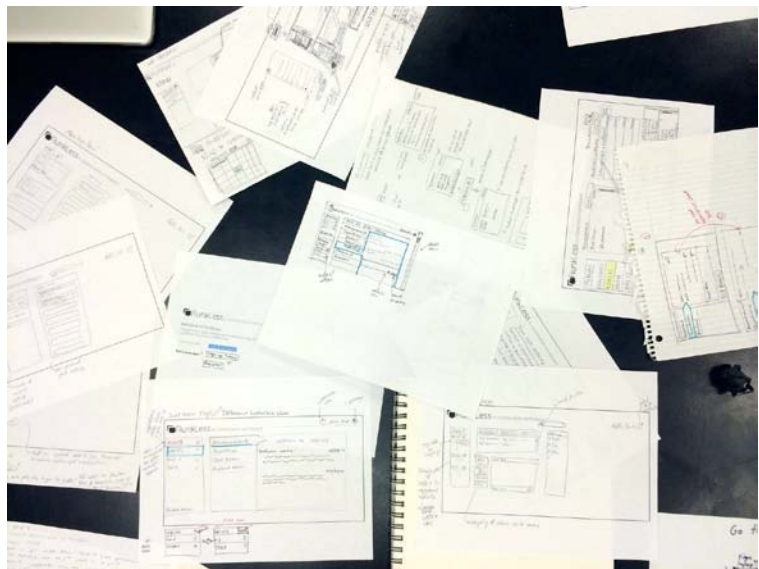
Make this product something to be used DURING lecture rather than outside of lecture

- Ask Away: Allow students to post their questions as they come to mind during lecture; inspired by Twitter and questions for TED Talks
 - S01: "Sometimes the class is ending or the professor is not welcoming. Asking questions can get tricky"
- Just Share It: Allow users to share related links, notes, class materials, etc.; inspired by Facebook's sharing option
 - S03: "I like sharing links to related material"
- Vote: Rather than having multiple students asking the same questions which may overburden TAs/professors, allow for students to upvote questions that they also have which will allow the teaching staff to see what areas most students are unsure about, creating a priority ranking and preventing important questions from being buried by a high influx of activity; inspired by Reddit's upvote system
 - TA01: "I have to keep scrolling down to find important issues"
- Checkpoints: These will allow the instructor to gather instant feedback on the students' progress; inspired by iClickers
 - P02: "I want to know how my students are doing"

Future Directions

Some of the future directions to further this project would be:

- More in depth ethnographic study of the student's use of digital devices during lecture
- Working with a professor to utilize prototype in their class (UI/UX research)
- Incorporating quizzes and exams into digital form
- Syncing FlunkLess to lecture slides
- Putting data traces from students to good use



Pictures

