Speak↑

"Better lectures, powered by real-time student data"

Team

Name	Email	Role
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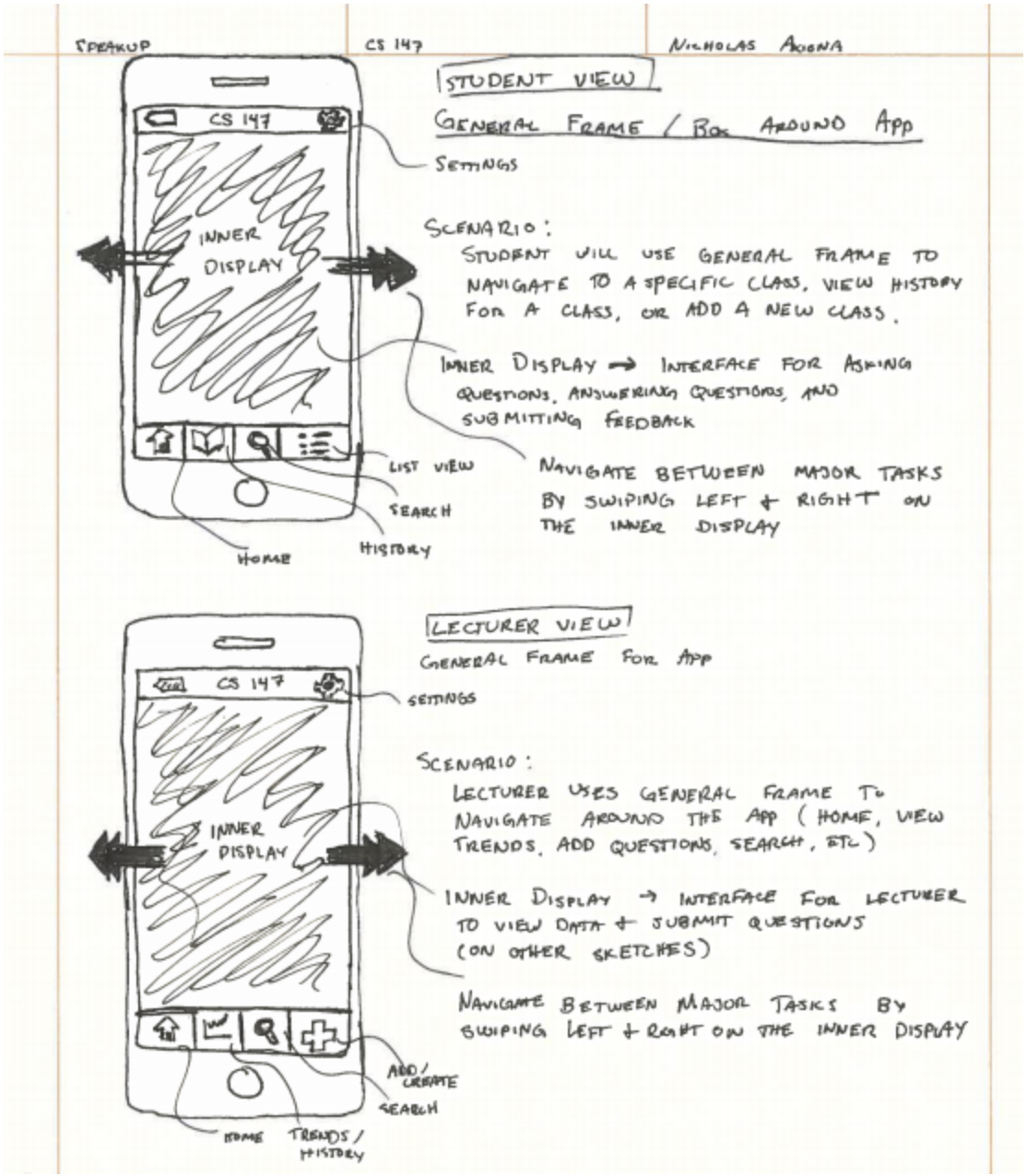
Project Summary

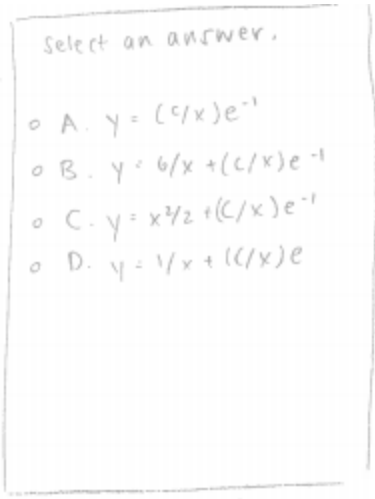
Giving an engaging, interesting, and effective lecture to more than 50 students isn't easy. Lectures occur infrequently, and most instructors don't get actionable feedback when students are confused. This problem can be equally frustrating for students, who become bored when they feel confused by lecture content.

SpeakUp aims to provide real time data about student understanding to lecturers, and offer concrete ways for lecturers to keep students interested. SpeakUp allows students to easily indicate their confusion when watching lectures, respond to "clicker questions" in real time, and helps instructors improve their course content with real time feedback on engagement and clicker questions.

UI Sketches - Design 1

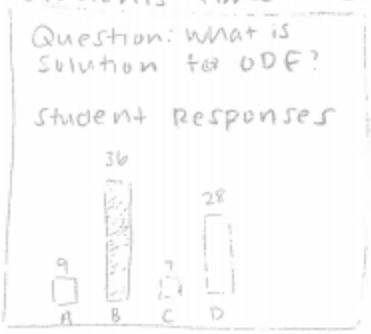


The professor can pose a question during lecture and give the students time to respond.



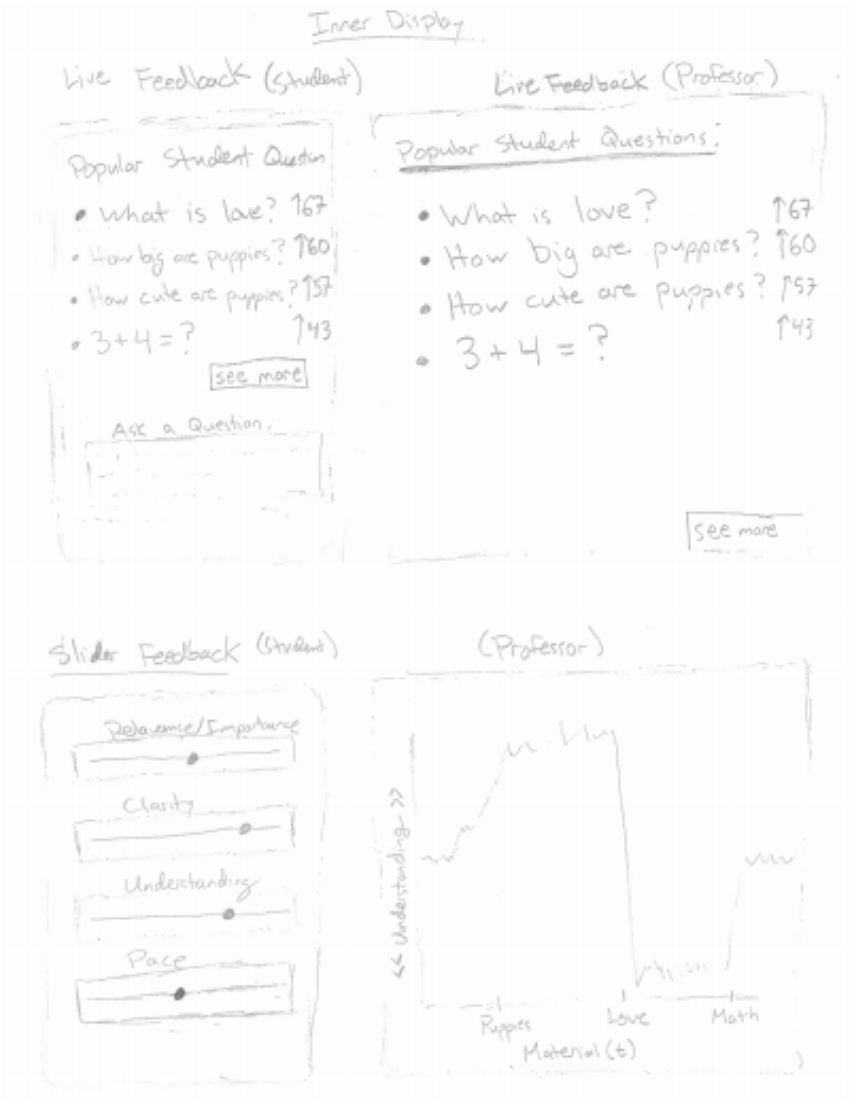
Student view

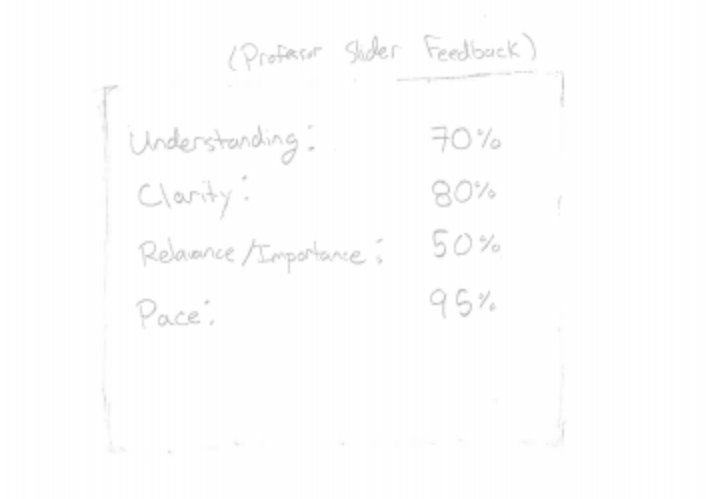
The student can view the choices and select an answer by clicking the bubble next to each choice.



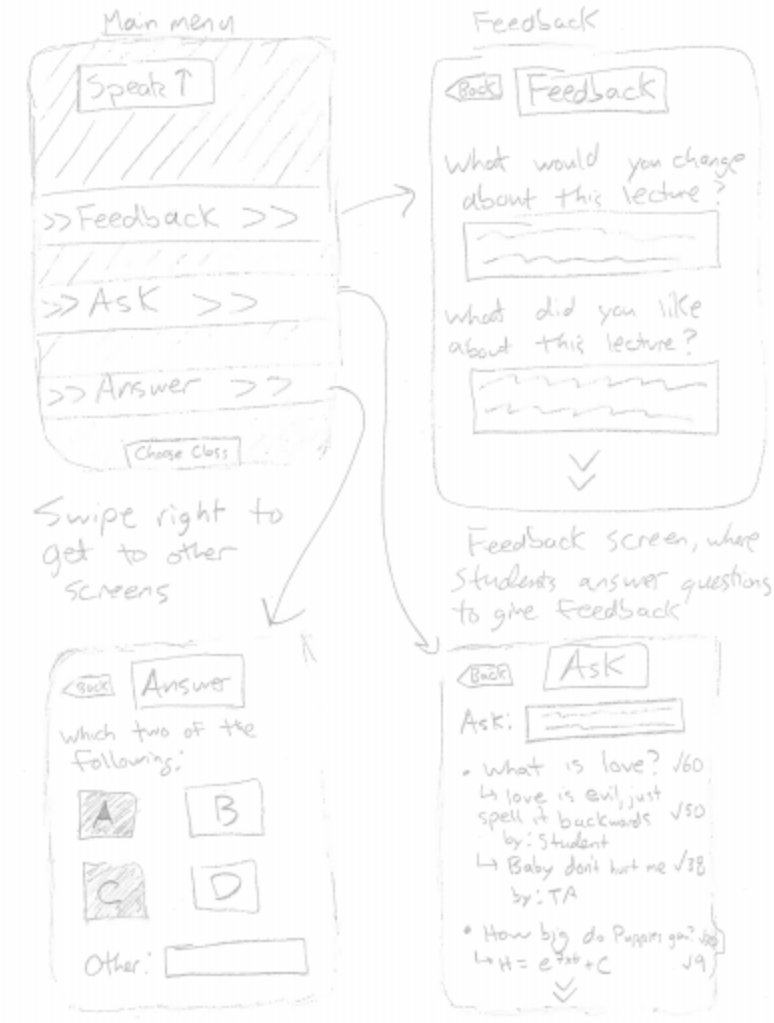
Professor View

Professor can easily see how many students chose each answer


Inner Display
Live Feedback (Student)
Popular Student Question
• What is love? 167
• How big are puppies? 160
• How cute are puppies? 157
• 3+4=? 143
see more
Ask a Question.
Live Feedback (Professor)
Popular Student Questions:
• What is love? 167
• How big are puppies? 160
• How cute are puppies? 157
• 3+4=? 143
see more
Slider Feedback (Student)
Relevance/Importance
Clarity
Understanding
Pace
(Professor)
<< Understanding >>
Puppies
Love
Math
Material (t)


(Professor Slider Feedback)
Understanding: 70%
Clarity: 80%
Relevance/Importance: 50%
Pace: 95%

UI Sketches - Design 2



Selected Interface Design (½-1 page)

After reviewing both of our sketched user interface designs, we have decided to continue developing Design 1. The navigation interface in Design 1 is cleaner and more intuitive than the interface of Design 2, and it allows for a wider range of actions to be performed by the user. Also, our goal for our mobile application is to be as easy to navigate as possible so more attention can go to the lecture, and although Design 2 is easy and simple, Design 1's navigation can get to any screen without having to go "back." We felt that Design 2 offered less overall value to the lecturer and had a number of impractical features.

The slider interface of Design 1 allows for the quick submission of feedback from the student to the professor. In addition, the simplistic nature of the information allows for automated

processing of information from a large number of students. This is a huge advantage over Design 2 which would require manually processing of all reviews. In the instance, more value is derived from the whole of information being processed rather than individual instances of feedback.

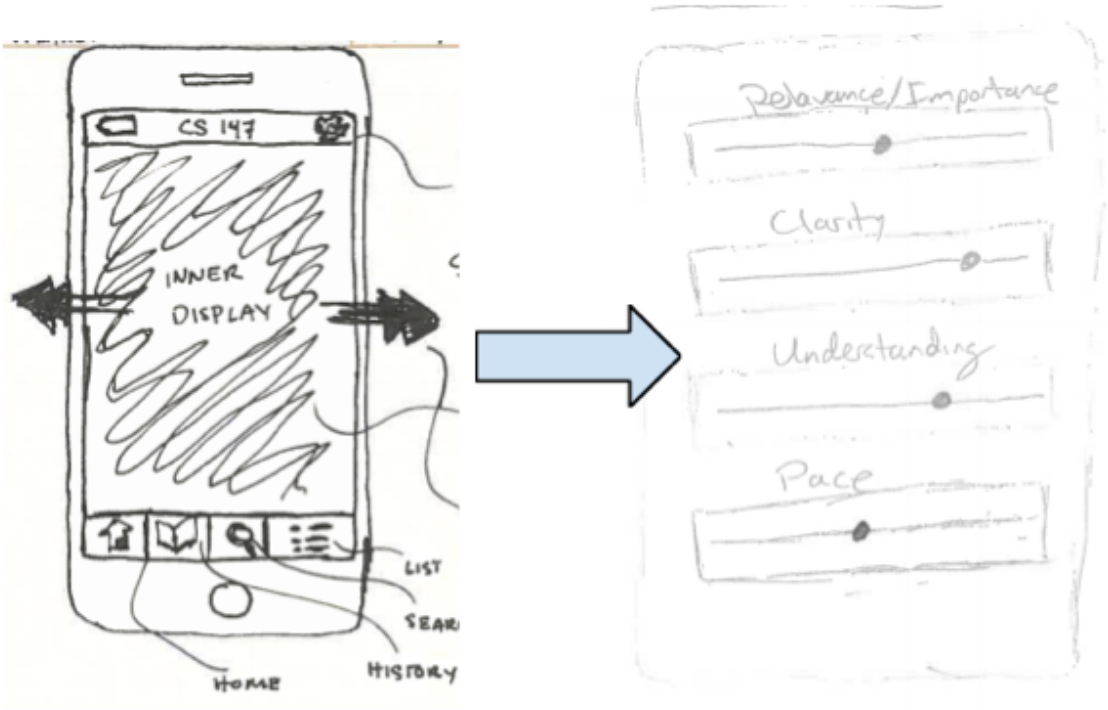
We toyed with the idea of allowing students to input multiple answers as shown in Design 2, which is what makes it different than Design 1. However, we didn't think that this idea was better than having the questions appear on the student's screen as shown in Design 1, making it easy to read and quickly accessible to students.

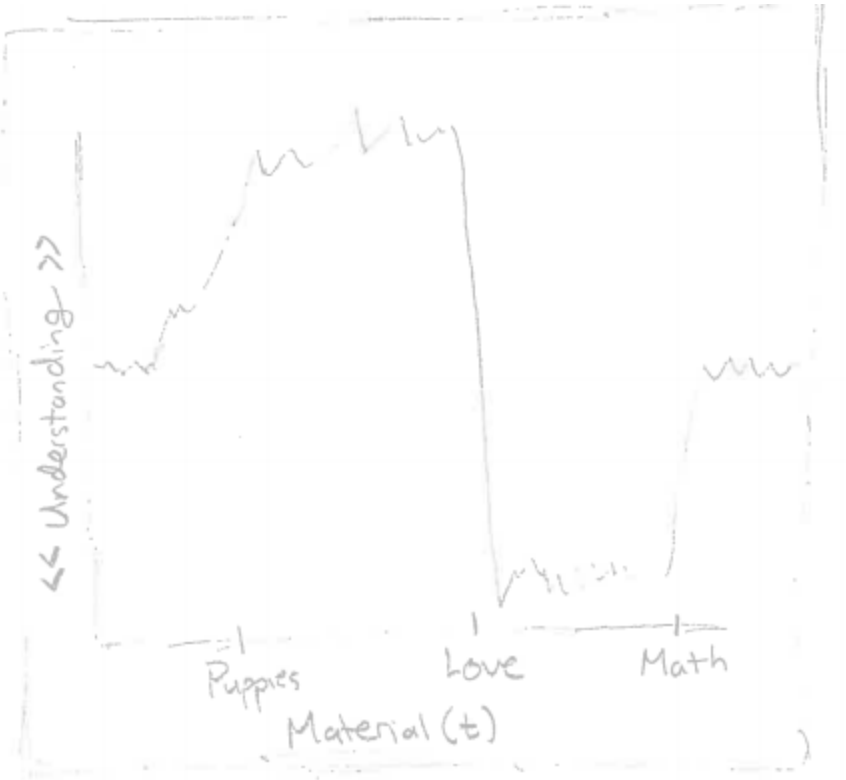
Asking the lecturer questions is also much more intuitive in Design 1. Students scan over the top questions that are in the queue before inputting their own question, rather than inputting a question initially and later reading the the same question has already been asked. Although we had a nifty feature in design 2, which let students and/or TA's answer questions posed by other students, we found this design was noble yet inherently flawed since it would distract the student even more by trying to answer other student's questions. Overall, we believe that Design 1 represents a far more powerful, practical, and desirable product than Design 2.

Feature	Description
Lecturers can ask students questions	Lecturers can pose questions to students who answer through the app. The app collects the data and interprets it for the lecturer.
Students can give feedback	Students can submit feedback on the lecture during class. Lecturer can view the current levels of attentiveness and understanding of students during a lecture.
Students can ask questions	Students can submit questions during lecture for the lecturer to answer or clarify.
Student: Question History	Students can see their answers and all of the correct answers for questions that were asked during previous lectures.
Lecturer: Trends	Lecturers can view trends of student attentiveness and feedback between lectures.

UI Storyboard - Scenario 1 (Student gives feedback during lecture)

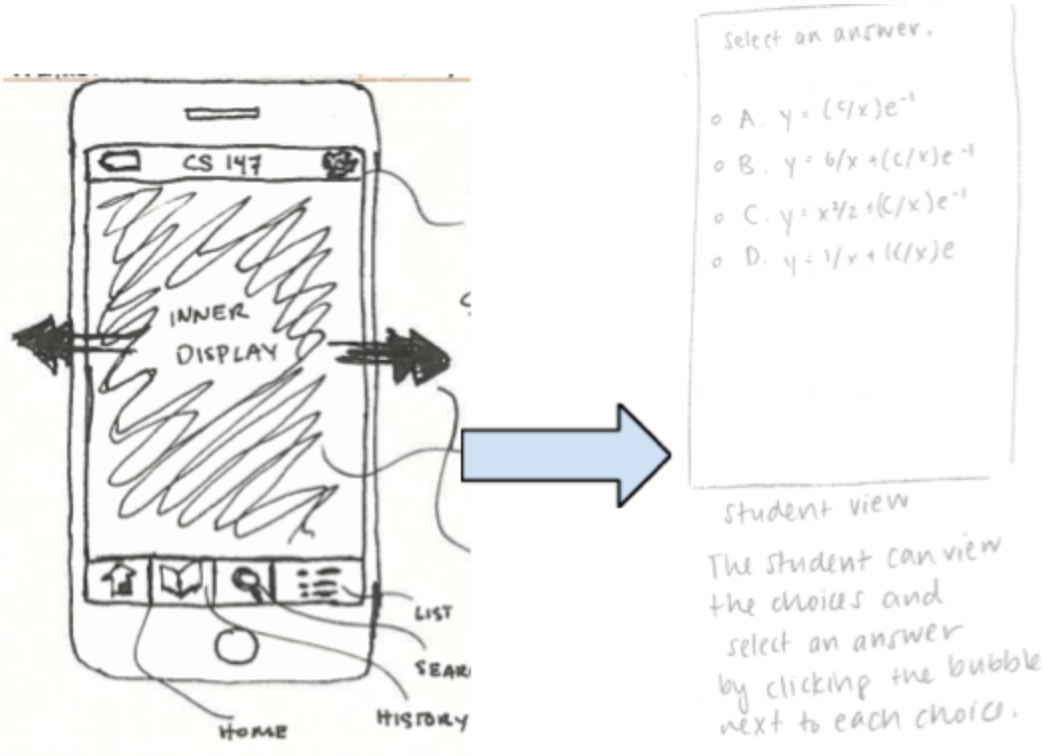
In this scenario, the student opens up the app and gets to the menu. By swiping to the desired screen for feedback, a student can change the sliders to share their current feelings about the lecture.

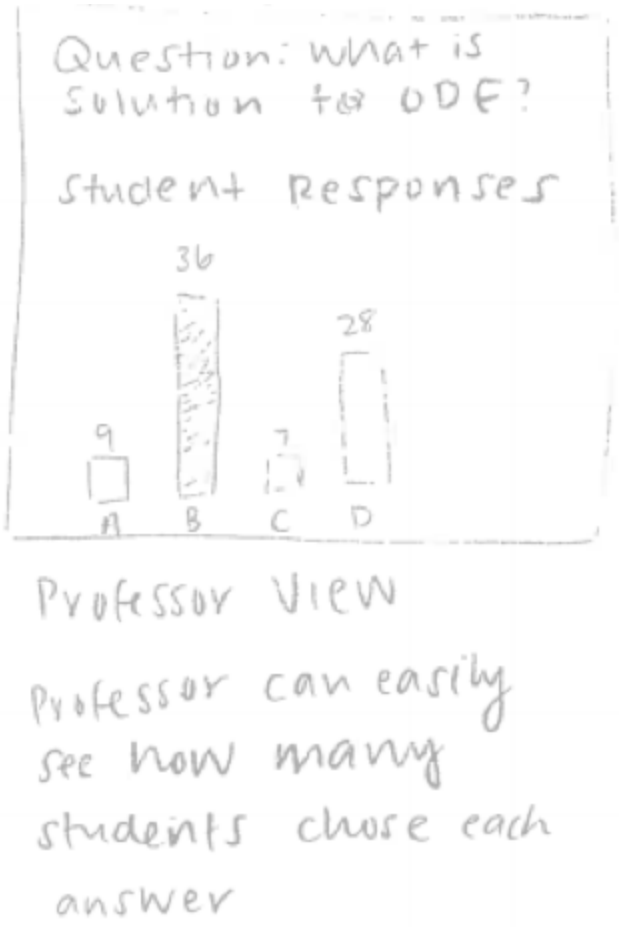




The lecturer can then see current understanding or other feelings about the students during lecture and has the power to accommodate this feedback in the current lecture or future lectures.

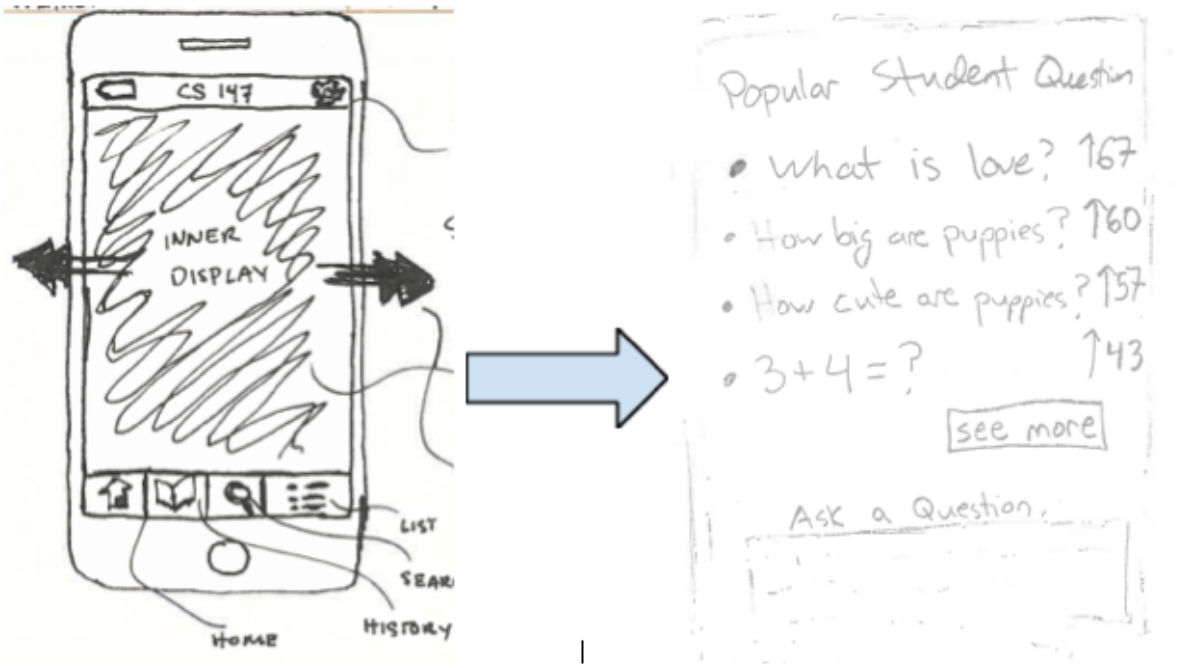
UI Storyboard - Scenario 2 (Student answers question)

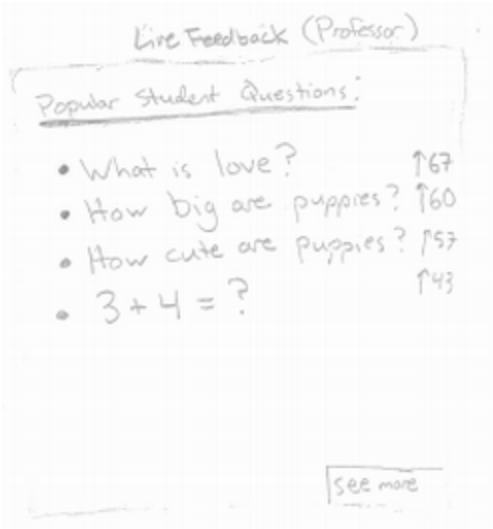




In scenario 2, a student answers a question asked by the professor. The student goes to the main menu again and swipes the screen until the student gets to the question. The student selects an answer by touching it, and the lecturer can view the results as answers come in.

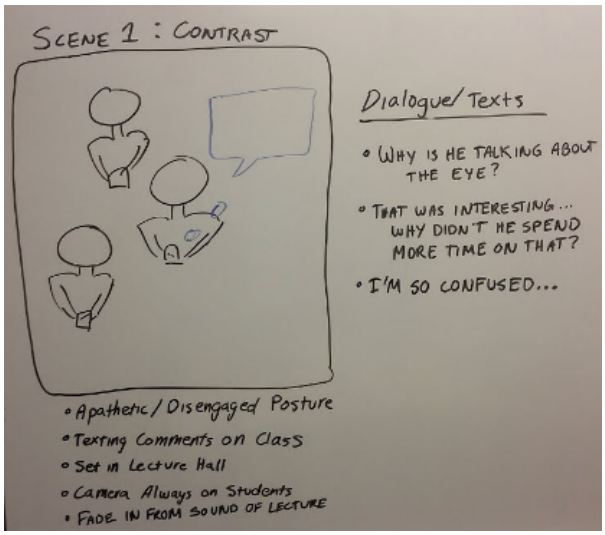
UI Storyboard - Scenario 3 (Student asks questions)

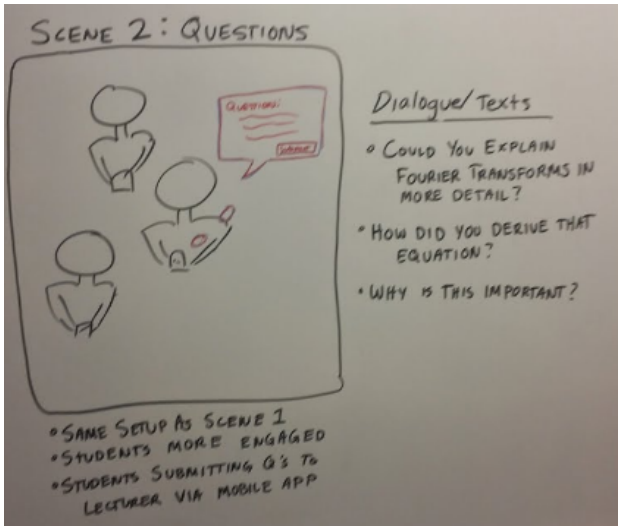


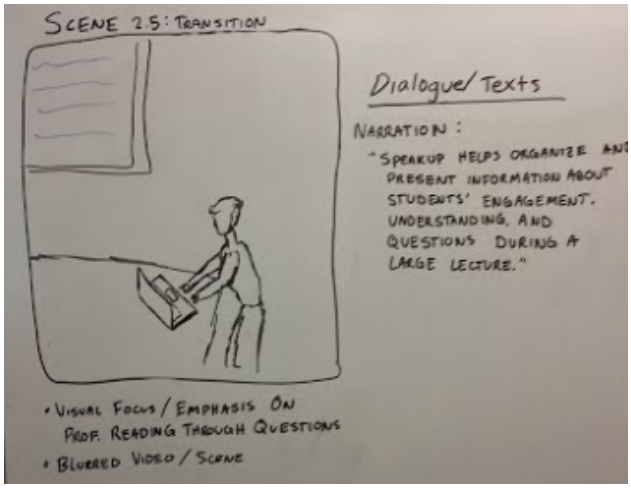


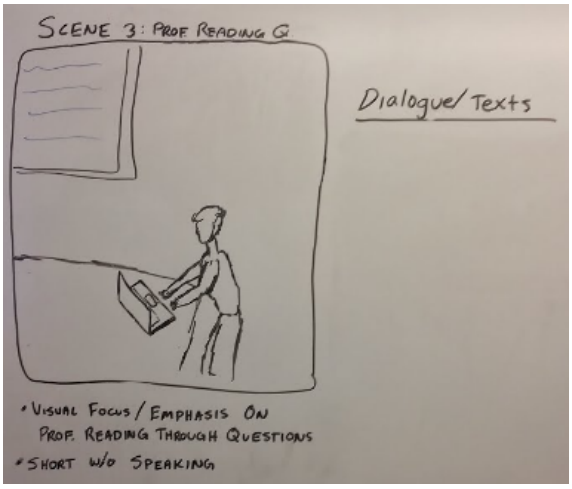
A student can go the menu screen and swipe across the screen until he or she gets to the desired location, which is the screen that allows students to pose a question to the lecturer. The student can read through questions posed by other students and can upvote certain ones so there are no duplicate questions. The professor will see the most popular questions asked.

Video Planning Storyboard









Scene 4: Prof. Ans. Question

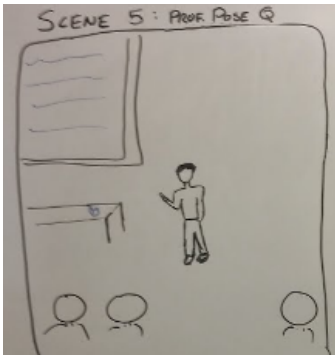
Dialogue/Texts

"So I looked over the questions you've been submitting and there are a few I really want to cover..."

"Mainly, one of you asked: Why do we need to use Fourier transforms?
Well let's talk about that..."

- Prof. Responds To Questions Submitted By Students During Lecture

Scene 5: Prof. Pose Q

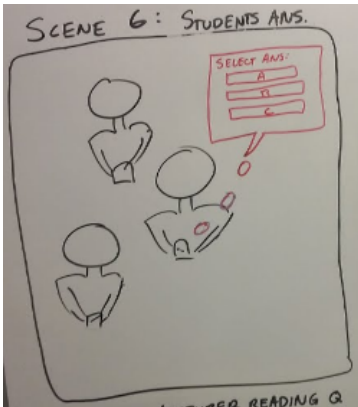


Dialogue/Texts

"Now that I've answered a few of your questions I'd like to ask one of my own to measure your understanding of the material."

- Prof. Asking Students A Question
- In order to measure student understanding

Scene 6: Students Ans.

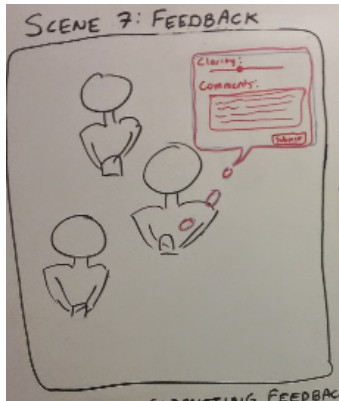


Dialogue/Texts

- Which of these is the correct solution to the ODE?

- Voice of Lecturer reading Q
- Action of Student Answering Question on phone

Scene 7: Feedback



Dialogue/Texts

- The slides on the eye didn't feel relevant
- I enjoyed the takeaways on how to use colors... spend more time on use than theory.

- Students submitting feedback on lecture
- Tone is very positive

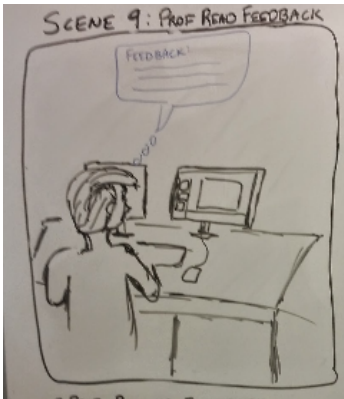
Scene 8: End of Lecture

Dialogue/Texts

"That's the end of lecture for today... Thanks for coming and for all the feedback. See you next time."

- End of Lec
- Blurr Out Trangition

Scene 9: Prof Read Feedback



Dialogue/Texts

Impose feedback from scene 7

- Prof. Reading Feedback From Students

Concept Video Description

This project required extensive planning before any filming could actually be done. This made the planning stages of the project the most time consuming and rigorous part of the assignment. More specifically, constructing the video storyboard and sticking to it during shooting was more difficult than we anticipated. It was especially stressful when we had to take multiple shots of certain scenes since we knew we would not have time to reshoot any scenes on later days. Another difficulty in the assignment was the fact that none of our group members had any extensive video editing experience. Our lack of experience with WIndows Movie Maker caused the editing process to be slower than anticipated.

We caught a break when one of Nick's friends knew how to use Final Cut Pro, which made the video look much more polished and professional than its original state, which was made from Windows Movie Maker. The storyboarding session also went smoothly because our tasks and scenarios could all be easily incorporated into one story and video without feeling forced or awkward. Since we rely on narration for a large portion of the video, we were able to find a great recording tool and a friend with a much better narration voice than any of the group members, again adding to the polished quality of the video.

Design prep took the longest of any phase in this assignment. UI designs and UI storyboard took approximately three hours while storyboarding for the concept video took about two hours. Shooting was relatively short thanks to the concept video storyboard, as it took about an hour and a half. Editing took about five hours between the unpolished version we made in Windows Movie Maker and the adjustments and polishing we did to it in Final Cut Pro.

Link to our video!
https://www.dropbox.com/s/cuvmj51qoudmt72/SpeakUp%20Demo.mov?dl=0