DESIGN AT LARGE

real-world, large scale

...and sometimes disruptive

Scott Klemmer
Experience Interaction #1

Rubric Item 1 – Connection to the Point of View

**APP INTERACTOR** – I talked to Aovek Bivas, a former Teaching Assistant of CSE 8A class wherein his duties revolved heavily around basic student interactions in the form of in-class discussion section quizzes.

**DESCRIPTION OF APP IDEA** – A web application that would work similar to iClicker for in-class voting. The two differences are that it can have any type of questions and not just 5 option MCQs. Additionally, the TA or Professor would see insights of the class quiz results at the end in an intuitive way.

Rubric Item 2 – Execution and Features

**STEPS REQUIRED IN PLANNING** – The facilitator behaves as the application itself. The user flow of interaction in this app for an instructional staff is:

- Login Screen ➔ Classroom creation ➔ Viewing Participants ➔ Create a Question ➔ Get Responses ➔ Freeze Voting ➔ Repeat (Create, Get Responses, Freeze) for another question ➔ Stop Classroom ➔ Save Results ➔ Get Insights.

**EXECUTION** –

- Aovek wanted the interaction with the application to be smooth and quick. However, he mentioned that security is important, and login would have to involve SSO. When asked by the app to create a classroom, he created a classroom with a unique code and share it with students. Moreover, he wanted an additional layer of security wherein only students in his geographical proximity could join the classroom.
- In the classroom view mode, he mentioned that he was seeing information about the student’s grade/performance so far in the class which would help to calibrate the in-class questions that would be subsequently asked. He asked the Yes/No question “Does any one know about cookies?” to the class and decided to skip the topic based on the responses of the students in the app.
- For a couple of other questions, after freezing the responses - the app showed him the subjective responses in the form of word clouds and multiple choice questions in the form of bar graphs. Aovek was satisfied by this and said that this is good for interpretation by the students at a quick glance. Lastly, the most important thing that he mentioned is that teachers should only be able to view demographic aggregated statistics after class ends whereas students should have all questions and responses saved on their app for a quick reference in the future.

Rubric Item 3 – Insights from feedback

**OVERALL FEEDBACK** –

- I asked Aovek how this application could make things better for students. He gave an example of an experience interaction where he creates a question and students vote individually. Then instead of freezing the question, he continues it and asks them to vote again after discussing with their neighbors. He feels that the capabilities of a web application would be helpful in showing the difference of how opinions changed post discussion.
- The application interface described to him in the experience interaction was complex involving details of the classroom, student, time remaining etc. Feedback obtained was that this would be too cluttered and would distract the students from the task at hand.
- Most importantly he said that by using the power of web applications we can have all the settings that are available in iPhone such as bold text, enlarged font, night mode to make the experience more accessible to everyone.

The feedback obtained about reducing design complexity and incorporating accessibility was immediately used for in the planning steps of the next experience interaction.
Neve

1) Reddit

For my target user population (busy college students who do not follow news), Reddit is the best app so far. Learning about news is not overwhelming because the writing is in short segments. It does not require effort to use and find interesting content, and there's a great variety of content. Users can decide whether they are interested in seeing content that is personalized to them or content that is popular (determined by upvotes). It falls short however because users often can't remember information they read and the information isn't the most reliable for news. There are many reasons that a post could be upvoted (ex. Wholesome Funny, ironic), meaning the post does not have to be accurate or reliable to be Popular.

+ It's an app that is not overwhelming to use. All of the posts are typically short; you don't have to do any customization. The feed is determined for the user.
- I wish that there was reinforcement to remember what the user reads. Because the user never sees the post again, they will likely forget what they read.

2) Feedly

+ Allows user to decide how much information they want to see about the topic.
- I wish the app required less customization and effort from the user. A user can add the article to different “boards” (which the user has to make), save for later, share, like. This app
## Evan Barosay (Previous quarter)

<table>
<thead>
<tr>
<th></th>
<th>simplicity</th>
<th>Calculation accuracy</th>
<th>Organizational</th>
<th>gratuity-inclusive</th>
<th>Availability</th>
<th>Shareable</th>
<th>Splits the bill</th>
<th>Payment method built in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evan's Tool</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TAB</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Paper Napkin</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Venmo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excel</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calculator</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
from the Lab...
An anomaly or a strategy?

The journey to 8 million users begins with a block of wood
In 2000, Palm sold nearly 8 million units and had a 76% share of the PDA market.
Plywood Experience Sampling

“If I wanted to check the calendar I’d take it out and press the wooden button.”

-Jeff Hawkins

Computer History Museum in Mountain View, CA courtesy of Michael Hicks’s image on flickr
How do you ‘sketch’ a social computing environment? Mike’s Burbn experience
If at first you don’t succeed…
From MVP to >400m active users
An anomaly or a strategy?

Starting Up with Design Thinking: The Story of LinkedIn’s Pulse

We met Akshay Kothari, one of the two co-founders of Pulse, a business reader app that was famously displayed by Steve Jobs at the Apple Worldwide Developers Conference in 2010 and was later acquired by LinkedIn for 90 Million Dollars. Akshay and his business partner Ankit...
Prototypes are postcards from the future
“Everyone designs who devises courses of action aimed at changing existing situations into preferred ones.”

– Herb Simon
Prototyping in real life

James Landay: The prototype turns! Johan Lundin: Cooking and raising children is constant prototyping of methods.

Maryanna Rogers: Contracting as a prototype for working at a company full time.

Maryanna Rogers: Prototyped living with my man for 3 months (in Berlin) before moving in together.

Meenal Lele: Oh and I have hacked a standing desk, which taught me that I like sitting.
"I went with the whole parachute idea and what I had from the beginning...

This is the best approach for such a design...

I am not a very good outside-the-box thinker, so I kinda just had one idea and I was going to try to make it work...

No... for some reason... this seems to be the only idea. There needs to be a platform and then as good of cushion as possible... I don't see any other way.

Participants picked their concept early

"I think this is what's going to work... I've tried a lot of things... but this is the only one that seems to be working... I'm going to try to make it work... I don't see any other way."
Design melds physical, digital, and social worlds

A atoms

B bits

C culture
Hollan & Stornetta (1992) Beyond Being There
What is Design at Large? Three principles

• Traditional design makes things: teacups and brochures. With Design at Large, the thing is only a piece of the experience.

• With traditional design, we don’t know what happens when it leaves the factory. With Design at Large, we do.

• With traditional design, the object stays the same forever. Design at Large is magic, creating always evolving prototypes.
• Because solutions live in the real-world, **Start with observation (define your system)**
• Because what people say is different than what people do, **Use that observation to uncover/articulate the real problem**
• Because no one person has all the knowledge, **Engage diverse stakeholders (all the people)**
• Because the first idea is rarely the best, **Encourage wild ideas: brainstorm widely w/multidisciplinary teams**
• Because there’s no oracle for complex systems and solutions emerge from surprising places, **Get real quick, test and iterate**
• Because designs change the setting, **Prototype fast and furious, trying ideas in real situations**
• Because what we see depends on what we know, **Embrace Practice based evidence & Evidence based practice**
1. Wow! They look so cool... I want to start dancing!

2. Hmm... it's too hard to learn by myself...

3. Dance class
   This is too hard! I still can't keep up...

4. How do I start?!? What should I do?!
   Whoa... so many resources. A progress bar, daily goals, class suggestions... This is perfect for someone like me!
A3 Prototype: Zehua Chen, Vanessa Wong, Nessa Vu
drawing star people
Ten Design Heuristics

**UNDERSTANDING**
- Consistency
- Use Familiar Metaphors & Language
- Clean & Functional Design

**ACTION**
- Freedom
- Flexibility
- Recognition Over Recall

**FEEDBACK**
- Show Status
- Prevent Errors
- Support Error Recovery
- Provide Help

My somewhat revised names for Jacob Nielsen’s heuristics: http://www.nngroup.com/articles/ten-usability-heuristics/
Clearer choices
Consistency

Are you sure you want to change the extension from “.png” to “.jpg”?
If you make this change, your document may open in a different application.

Keep .png  Use .jpg
Click here to watch Scott Klemmer talk to BBC News about Cloud Education.

Jim Hollan Earns Lifetime Achievement Award

Metaphors

Familiar metaphors & language
Metaphors
Familiar metaphors & language

Images courtesy of SAP
to be continued...