Introduction to Human-Centered Design

CS 88SA | Kevin Tan | Lecture 3

What is Human-Centered Design?

The Hawaiian False Missile Alarm

 On January 13, 2018, somebody pushed a button in Hawaii that sent an "Emergency Alert" text message to cell phones statewide:



Notes

This discussion is based on the article https://medium.com/@scottrob/human-centered-design-and-the-missile-false-alarm-in-hawaii-6b2d76ac2db

The Key Issues

- 1. The accident occurred at a **shift change**.
- 2. During the shift change, there is a **routine run-through** of the alert procedure.
- 3. In an actual alert, there is a **button** to click on the screen that will cause the warning to be generated.
- 4. There is a **confirmation dialog box** that follows the button press.
- 5. There is no standardized false alarm alert mechanism.

Notes on Key Issues

- 1. How do you feel at the end of your shift? Tired? Worried about picking up the kids? **No focus**.
- 2. The human brain is an **automated routine learner**. Since the run-through is so similar to the actual procedure, the mistake was probably made almost subconsciously.
- 3. Mismatch between simplicity of the action (button press) and the magnitude of the consequence: **poor mapping**
- 4. How many times have you just routinely checked "I agree to the terms and conditions?" Confirmation dialogs are **not enough** for error prevention.
- 5. No error handling.

What is HCD?

- Develop solutions to problems by involving the human perspective in all steps of the problem-solving process
- Prioritize the experiences of people who will be using the product
- Focus on users' wants and needs while being cognizant of human capabilities and limits.

Is Bruin Walk a good place to hand out flyers?

Pros

- Highest volume of traffic on campus
- The target market (students) are there
- Central/iconic place on campus

Cons

- Think of the people that are on Bruin Walk (from an HCD perspective):
 - Late to class/exam
 - Just woke up (no attention)
 - Don't want to interact with people
 - Don't want flyers
- Trash cans everywhere; bike route/alternative routes to avoid people flyering
- Not everyone on Bruin Walk is a student

Alternatives

- What's the purpose of a flyer? To advertise your club/ get people to come out to events
- Flyer somewhere where people want to be flyered, like the Enormous Activities Fair
- Invest your time and resources into other, more effective forms of advertisement

HCD and Product Development

HCD Process

Research Ideate Implement

Research

- Who is your target market?
- What needs does your product address?
- How will users be using your product?

Research

- Research the problem you want to solve, and what's potentially wrong with existing solutions.
- Observe and interview users to learn more about their behaviors and needs.

Ideate

- Make sense of what you've learned and identify opportunities for design.
- Design a product/brainstorm new features that prioritize the needs and wants of users.

Implement

- Interface with engineers to build prototypes and bring your solution to life.
- Think of Key Performance Indicators (KPIs) that demonstrate how effective your product is.
- Test the prototypes with real potential users and gather feedback.
- Repeat!



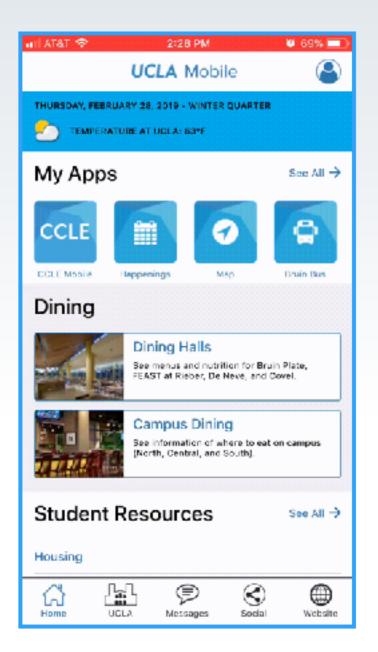
Notes on Implement

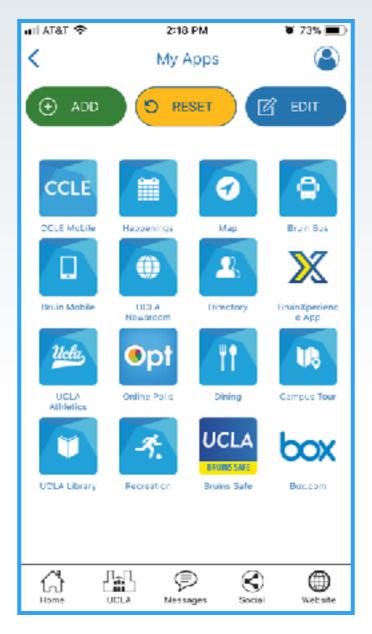
- The design process is never finished. You should constantly iterate to make your product even better.
- KPIs allow you to objectively measure how effective your prototype/design is.
 - For example, an inappropriate KPI for flyers is number of flyers handed out.
 - An appropriate KPI is number of attendees at the next club event.

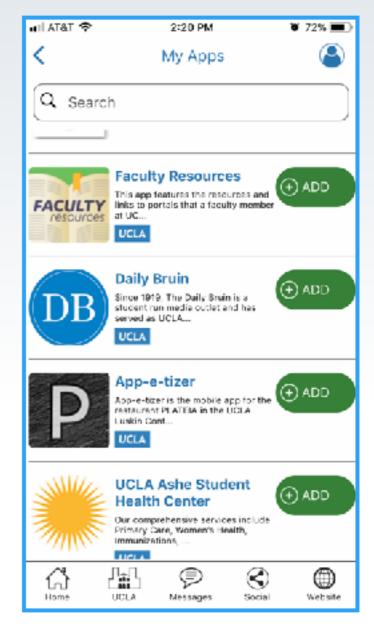
The UCLA Mobile App



Home







Problems?

- The app is essentially just a collection of links—why download the UCLA app when I can just use Safari?
- It is up to the user to exert the effort necessary to figure out which apps are relevant to them.
- There are a large number of apps with few being what students actually want.

For You to Answer:

- What are some struggles you have as a student?
- Are there campus resources (i.e. CCLE, BruinBill) you wish were easier to access?
- What features would be most important to you in a UCLA mobile app?

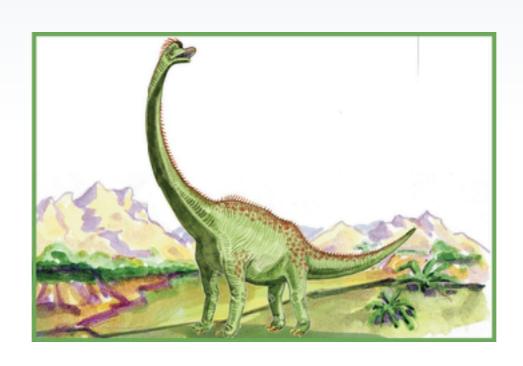
HCD Caveat

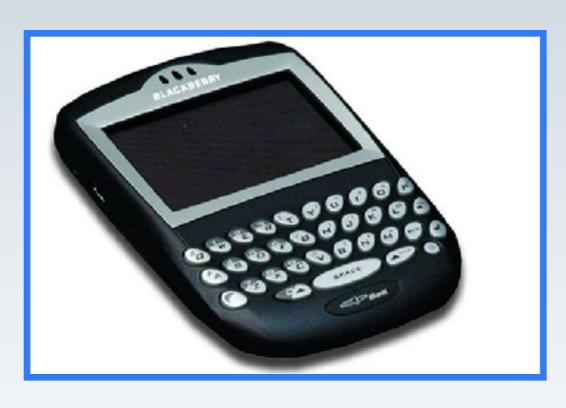
- Parent/Child relationship
- You prioritize the user's interests first, however you still use your expertise in necessary cases.

Notes on HCD Caveat

- As a parent, you always put your child's best interests first. However, if they tell you they want to touch the stove, you step in because you know better.
- Similarly, you should prioritize your user's best interests first. However, you should use your discretion when it comes to product feasibility, safety, etc.

Let's take a journey back in time...





Blackberry



Nokia N93

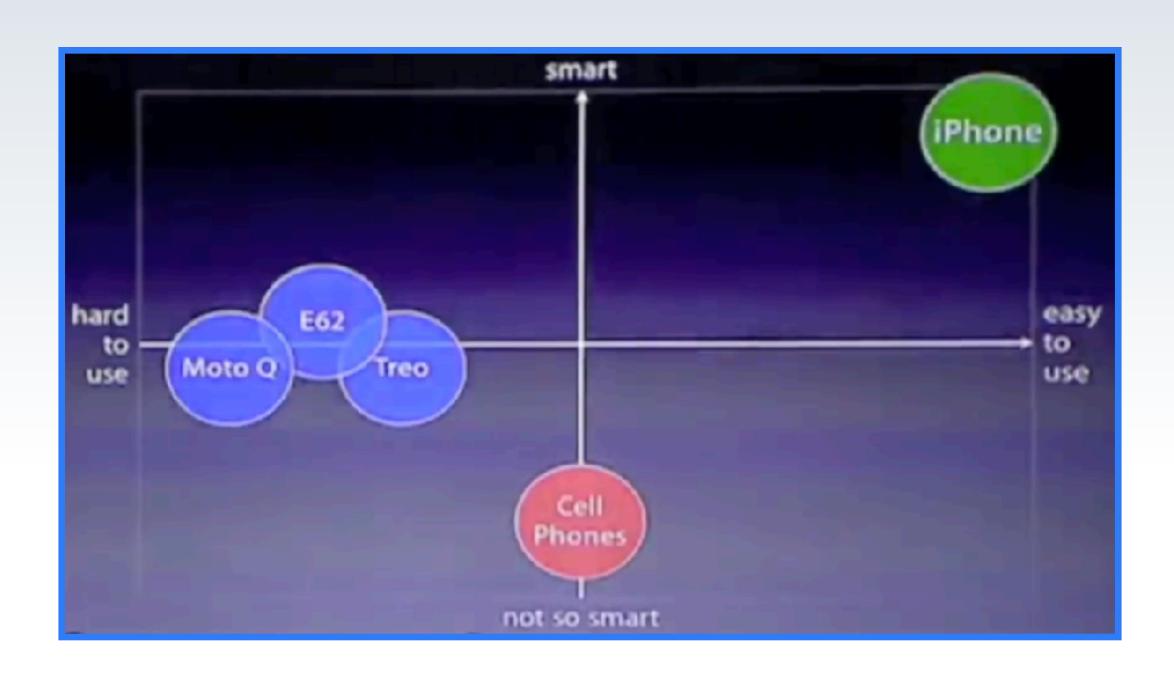


Motorola Razr

https://www.youtube.com/watch?v=x7qPAY9JqE4&frags=pl%2Cwn

Thoughts?

Paradox of Technology



Notes on iPhone Keynote

- Apple was the first to solve the paradox of technology for the mobile phone.
- HCD who are the users? People are still getting used to technology; the product needs to be as simple and easy to use as possible
- Good design was integral to the success of the iPhone

Revolutionary products are created at the intersection of design and engineering.

Discussion Post

Write a few sentences analyzing this product's design.

- What is the purpose of the product? Is its design conducive for that purpose?
- How could the user misuse the product? Does the design take this into account?
- What do you like about the design? What does it do well?
- How could it be improved?

Waze



Waze

- Waze's target market (their users) are people with mobile devices who drive
- Targeted towards younger people, as there is a social aspect to it (see other Wazers around you)
- Takes into account user-reported accidents, police car sightings, traffic, etc. to determine routes (unlike Apple/Google Maps).

Reading for Next Week

- Interaction Design Foundation What is Skeumorphism? (~1 page)
- Alan Sien Wei Hshieh In Defense of Skeumorphism (~2 pages)