HCI 1/16

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More History Stuff

- Doug Enbelbart - Augmentation Research Center at Standford Research Institute
  - He presented the "Mother of all Demos" in the 1960's
  - He showed off things like hyperlinks, stuff that didn't start to be in the world until the 1990's really
  - There is a giagantic list of things that he demoed in the slides, I'm not typing all of that
  - Credited with being the inventor of the mouse
  - "Cool that one team came up with a lot of the stuff that we use in HCI today" - Weaver said something along those lines
  - The mouse that he showed us is upside down, the wheels aren't meant for finger scrolling
    - Wheels are orthogonal to each other so it'll drag and have a lot of resistance- not a great mouse to use
- Ivan Sutherland - MIT Lincoln Labs
  - He created the sketchpad (1963) and the "ultimate display" (1965)
  - How do you present modern graphics on a non-modern display? The sketch pad!
    - Created to display modern graphics, avoid flickering/moving images
    - Attempt to work in monitors in such a way that images were stable to help conserve things like geometry
    - Demo was mostly about having an input device similar to a tablet and a light pen that allowed you to "draw" on the screen
  - The Ultimate Display inspired something from Star Trek..?
    - Realistic environments, controlled based on touch and body position
    - eye tracking, gaze tracking
    - tbh kinda looks like VR
- Xerox PARC (Palo Alto Research Center)
  - Xerox Star - 1981
  - Used for a lot of the GUI research that gave us the Mac in the 90's
  - Desktop is similar-ish to what we see on our own devices today
    - Desktop icons (shortcuts, folders, etc)
    - Windows (multiple at a time)
    - Scroll bars
    - Toolbars that coincide with windows
    - Overall toolbar for the computer
  - It's in black and white, tbh I thought it was a printed piece of paper when I first saw it

User Centered Design

- Good design often takes more time and effort than implementation
- User Centered Design is:
  - A philosophy
  - A framework
  - A process
  - The foundation for current best practices in UI development
- You want to focus on human-centric issues

  - There's a bunch of stuff (algorithms, network processing, etc), but humans should always be at the core of development
    * We look at human preception, cognition, physical attributes/condition, and the working environment
  - Your goal should be to make systems more **useable** and **useful**
  - You need to understand the primary stakeholders and users

HCI Projects

- The approach is to progress in our understanding of interactive utility and usability
  - This is done through discover, development, and evaluation
  - Path from concept to implementation, but it's not always clear
  - We can't expect the same things from our users that we expect from ourselves
    * We're already experts - we need to be able to "dumb down" our designs
  - Need to plan in time to evaluate and iterate designs
- Common Qualities:
  - Iterative
  - Non-linear
  - Evolving - new goals, new designs, new users
  - Indefinite
- Discount Usability Engineering (DUE)
  - There's a preception that design methods are too expensive
  - BUT, good news- if you do user testing, you can spend less money
  - You can have test prototypes- they don't even need to be functional. Just needs to look like it should do something
    * Create mini-prototypes and scenarios: design, test, toss, repeat. Quick and dirty (weavers words - not mine)
    * Simplified thinking aloud is an informal version of a psychology protocol
      · Users talk through tasks
      · Only need a handful of particpants, takes only 4 users to spot 75% of problems
- Common Styles of HCI Projects
  - Design projects: designing a user interface. sometimes new, sometimes redone
    * radial layout for Xbox onscreen keyboard
    * a UI to play musical chords using Kinect
  - Application, like a game or app
    * tower defense RPGs
    * poker on mobile phones
    * homework scheduling calendar
  - Evaluation, like an evaluation of an existing UI
    * layout/organization of one.ou.edu
  - Analysis, analyzing the use of an existing UI
    * visits to pages using Google Analytics
- Organizing, Scaling, and planning a Team Project
  - Planning and reporting
  - Observation and elicitation
  - Design and implementation
  - Evaluation and analysis
  - Documentation and demployment
    * Each style of project has different proportions of these activities
      · i.e. an application such as a game uses more design and implementation than an evaluation
  - Our projects are a little less than half of the work for the class, we need to make sure our project is proportional to our time, effort, and skills

- We need to figure out:
  - the overall process
  - our goals
  - group roles
  - tasks
  - timetable
  - risks
  - implementation
  - deliverables
  - training and maintenance
  - evaluation
  - future directions