Today

- Why study HCI
- Topic overview
- Introduction of instructors
- Course mechanics
- Project

Why Study HCI?

- Computers are awesome tools
- BUT...

Technology is only as good as its interface

- Ferrari Enzo.
- Goes 200 MPH
- Costs $2 Million
- But, takes trained technician "five helpers, a dozen timber ramps, and countless 20-point turns" to park.

Bad HCI Can Turn Good Technology Bad.
HCI Manifesto

• HCI is devoted to improving the interface between human and computer
• Five ways this has been done

(1) creating new tools based on current or proposed new technology (bottom-up)

• Computers are or will be {smaller, faster, cheaper, store more, network more, have displays, …}. That will enable …..
• Many of Vannevar Bush’s visions are of this form (reading for next week)

(2) envisioning new tools, and working backwards from that to needed new technology (top-down)

• Examples: Kay’s Dynabook vision, Engelbart’s knowledge augmentation, Bush’s memex
• Next week

(3) repurposing, or extending, an existing artifact (sideways).

(4) Evaluating/Comparing interfaces

• Are mice a good idea?
• How many buttons should they have? Should those be chorded?
• How big should they be?
• Go beyond “tis-tisn’t” arguments – do real science.
• Regrettably, often ignored – e.g. making hyperlinks blue.

(5) Understanding users and their tasks

• Ethnography
• Participatory design
• Design experiments
• Consider the user and the task – not just the technology
A Digression

- Why is HCI so separated from
  - HAI – Human-Auto interface design
  - HBI – Human-Building interface design
  - HCI – Human-Clothing interface design
  - HFI – Human-Furniture interface design
- Time permitting, we will revisit this later.

From: http://mediax.stanford.edu/documents/MediaX_v2.pdf

This Course

- This is not a survey course - HCI is too big
- Instead, we will focus on 4 themes
  - Berkeley spends a semester on one of these themes
  - we will take "day trips" out from them as appropriate
- Guest lecturers aplenty

Theme 1 – Visualization

- There is an immense (and ever-growing) amount of data in the world.
- How do you display it? How do you make sense of it? How do you query it? How do you do this in a world-wide way?

Theme 2 – Physical UI

- Most of the world is not a desktop PC. What about HCI in the physical world?
  - Tangible UI (repurposing)
  - Augmented Reality/Wearables
  - Ubicomp (Star Trek doors)

Theme 3 – Educational Technology

- Use of technology to support education
  - Multimedia
  - Use of archival materials
  - Video conferencing
  - Feedback systems
  - Computer Supported Cooperative Work (CSCW)

Theme 4 – Pen Computing

- Stylus based input
- Handwriting recognition
- Form factor and mobility
Instructors

- Richard Anderson
  - UW CSE (Since 1986)
  - Current research emphasis
    - Educational Technology
- Ken Fishkin
  - Intel Research (Since 2002)
  - Previously at Xerox PARC, Pixar, SoftBook
  - Current research emphasis
    - Physical UI: Ubicomp for Alzheimer's

Richard Anderson

- Background in theory of algorithms
- Working on Educational Technology for the last six years
  - PMP/Distance education
  - Tutored Video Instruction
  - Microsoft Distributed Classroom

Ken Fishkin

- Background in UI, 2D Computer Graphics
- UI focus on tangible UI
  - How small and unobtrusive can a wearable system be? (work done w/Kurt Partridge and Saurav Chatterjee of UW).
  - What if we added (tilting, shaking, squeezing, etc.) to the gesture set we use in HCI?
  - What if we added (books, posters, photos, fountains, etc., etc.) to the object set we use in HCI?

Course mechanics

- Syllabus, slides, readings, etc.
  - www.cs.washington.edu/education/courses/510/
- Workload
  - Readings, short assignments, project
- Office hours
  - By appointment
    - anderson@cs.washington.edu
    - kfishkin@intel-research.net

Ken Fishkin

- IRS – using Ubicomp to aid people with Alzheimer's and their caregivers
- SoftBook – eBook startup. Bought by TV Guide. Don't get me started....
- Xerox PARC – UI work from previous slide
- Pixar – 2D graphics/color. Before they became a success. Yes, it was a great place to work.
Project

- Independent projects related to course
- Implementation or user study or literature based
- One or two person projects
- Topics will be suggested in lectures
- Details TBA

For Wednesday:

- We will investigate some great leaps in HCI.
- Readings:
  - Vannevar Bush, "As We May Think".