SENG 310 Human – Computer Interaction

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Topics

- Course overview
- History of HCI
- A taste of HCI research

Course Outline

- Web page:
  - http://www.cs.uvic.ca/~gtzan/seng310/
- Bookmark and check frequently
- Office hours: MR 10:00-11:00 ELW216
  - otherwise by appointment (email)
- Who am I ?
  - Music Information Retrieval, Signal Processing, Machine Learning
  - Human Computer Interaction
    - Audio and Music Visualization
    - Content and Context Aware User Interfaces

Course Objective

To provide a comprehensive overview to the field of human computer interaction (HCI)

Secondary objective: to learn the specifics of how to DESIGN, implement and EVALUATE user interfaces

Evaluation

- 3 midterms 45%
- 3 assignments 25%
- Project 30%
- You must pass the combined midterm score in order to pass the class

Project

- Done in groups of 3-4 students
- Phases
  - Requirements gathering
  - Design
  - Implementation
  - Evaluation
  - Final report
- Multi-group multi-phase projects
- Each member contribution clearly described
- More information will be posted shortly

Assignments

- Late assignments will not be accepted without a doctor's notice
- Answers to the assignments do not have a right or wrong answer – therefore marking is subjective
- Good command of English required in this course and as specified by University policy

Goals

- Human-Computer Interaction Design is
  - Important
  - Multidisciplinary
  - Big business
- Learn about:
  - Design specification
  - Important of cognition and psychology
  - User-centered design
  - Participatory design
  - Evaluation
  - How to express your thoughs about HCI
  - Sense of history

Programming Environment

- Any platform/operating system/programming environment will be allowed for the project and the assignments
- If you are not interested in HCI beyond the scope of this course – Java
- Otherwise try to do Java + at least another environment

How is this course different ?

- Less emphasis on coding
- No hard complex algorithms
- Understanding tradeoffs rather than simple solutions and answers
- Design and evaluation can be as rigorous, chanllenging and rewarding as programming
- WRITING AND PRESENTING IDEAS

Historical perspective

- Initial access to computers was expensive and restricted
- 1980's personal computers pervasive
- 2000's ubiquitous
- Current frontiers: portable devices, virtual reality, collaboration, communication, inter-operability

History of HCI

- Check Brad Myers article on HCI History (linked from the webpage)
- Graphical User Interfaces
- Commercial
  - Microsoft Windows
  - Macintosh
- Academic/research
  - Xerox Parc
  - SRI
  - MIT

Direct Manipulation

Visible screen objects directly manipulated by pointing device

Ivan Sutherland – 1963 MIT Phd
Direct manipulation using light-pen

Xerox Parc in the 70s
Icons – Xerox Star
WYSIWYG – Bravo text editor,
Draw drawing program – Xerox Parc

Ben Shneiderman coined the term “Direct Manipulation” in 1982 and identified the components and psychological foundations

Mouse

Stanford Research Laboratory (now SRI) 1965
cheap replacement for light-pens

Doug Engelbart

Xerox PARC 1970s
Xerox Star 1981

Apple Lisa 1982
Apple Macintosh 1984

Windows

Tiled Windows

- Stanford COPILOT (1974), MIT Emacs text editor (1974)

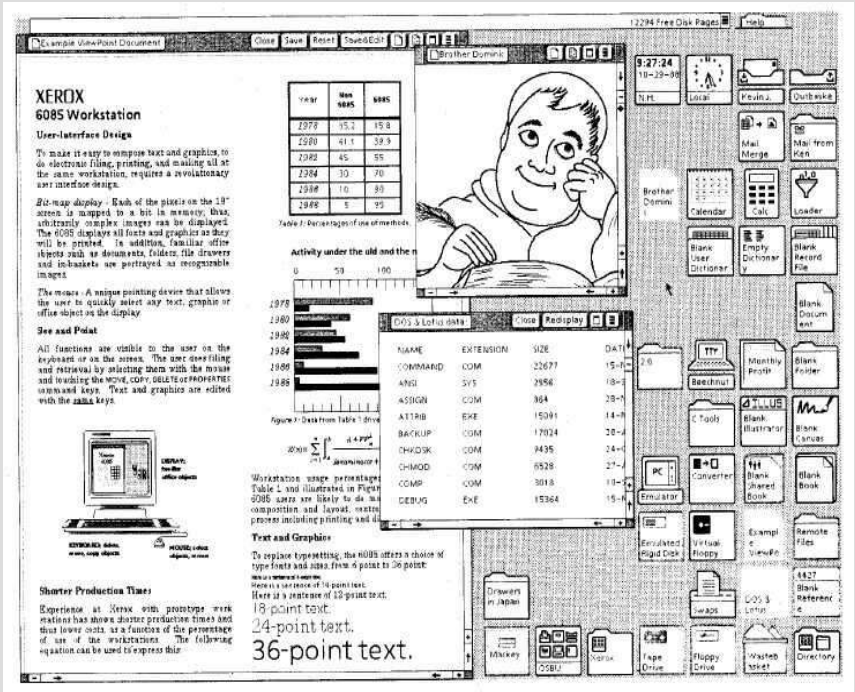
Overlapping Windows

- Alan Kay PhD thesis U. Utah 1969

Early version of Star and Microsoft Windows were tiled

Lisa, Macintosh overlapping windows

X Window System MIT 1984



Hypertext

- 1945 Memex (Vanevvar Bush)
  - As we may think (linked from the webpage)
- NLS (Engelbart 1960)
  - Augment knowledge worker
  - Mouse
  - Interactive full screen CRT
  - Earlist hypertext system
- WWW (CERN physics laboratory)

Videos

- CHI- the major HCI conference
- 1984 videos
- 2003 videos