Lecture 1: Introduction

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Tom Yeh
Project Sikuli

Welcome to Project SIKULI

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Picture-driven computing

New research could enable computer programming based on screen shots, not just code

Larry Hardesty, MIT News Office

Until the 1980s, using a computer program meant memorizing a lot of commands and typing them in line by line, only to get lines of text back. The graphical user interface, or
Sikuli project: Bejeweled (running on Macbook air, video fast forwarded)
What is HCI?

- Human-computer interaction is a discipline concerned with the design, evaluation and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them.
Humans and Computers

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How do computers and users interact and for what?

Computers \textit{Interact} Users

User Interface

\textit{Solve} Tasks
Why you’ll love a Mac.

It’s gorgeous. Inside and out.

Since the software on every Mac is created by the same company that makes the Mac itself, you get a completely integrated computer that’s as secure, stable, and powerful as it is elegant and easy to use.

Brains...

What’s inside a Mac? Only the world’s most advanced operating system and a suite of software that’s just as brilliantly designed as the computer itself. Watch the video ▶

…and beauty.

Recyclable glass and aluminum. A trip-proof power cord. A stunning display. Even the keyboard is beautiful. Get a closer look at a few of the design details that make a Mac a Mac. View gallery ▶
In the beginning ...

**Computers**

**User Interface**

ENIAC

**Tasks**

Ballistic computation

**Users**

Military

- switches
- cables
- Tapes
Now

Computers

Everywhere

User Interface

Tasks

Everything

Users

Everyone
Who make all this possible?

Computers

Build

Engineers
Scientists

User Interface

HCI Experts

Users

Study

Psychologists
Ethnographers
Three Aspects

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Lectures

Three aspects

• Design x 10
• Evaluation x 5
• Implementation x 4
Design

Goal
• L2: Usability

Principles
• L10: Visibility
• L11: Visual Design
• L12: Learnability
• L13: Memory
• L16: Efficiency
• L17: Errors
Design

Process

• L5: User centered design
• L6: User and task analysis
• L7: Generating designs
Evaluation

• By experts
  – L3: Cognitive walkthrough
  – L4: Heuristic evaluation
  – L18: Human models

• By users
  – L19: Controlled experiments
  – L20: Statistical analysis
Implementation

- L8: UI architecture
- L16: UI building tools
- L9: Paper prototype
- L15: Computer prototype
Applications

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Lectures

• L21: Search & InfoVis
• L22: Accessibility & Universal Design
• L23: Mobile & Game Interfaces
• L24: AI, Robots & Multi-modal Interfaces
• L25: Futuristic Interfaces
• L26: Social Networks & CSCW
• L27: Crowd & Cloud Computing
Search & InfoVis

Search By Name or E-mail

Person's Name or E-mail: [Input Field]  Search by Name or E-mail

Classmate Search

School Name: [Input Field]  Class Year: [Dropdown]
Person's Name: [Optional Input Field]  [Search for Classmates]

Search by Company

Company: [Input Field]  Person's Name: [Optional Input Field]  [Search for Coworkers]
Accessible & Universal Design
Mobile & Game Interfaces
AI, Robot & Multimodal Interfaces

Say Where to which site?

- Directions
  - Google Maps
- Business search
  - Google Maps
  - Yellow Pages
- Reviews
  - Yelp
- Traffic
  - Traffic.com
Futuristic Interfaces
Social Networks & CSCW
Crowd & Cloud Computing
Practices

• Class activities

• Homework
  – 4 implementation
  – 3 design
  – 3 evaluation

• Term project
  (Design $\rightarrow$ Implementation $\rightarrow$ Evaluation) $\times$ 2
Activity: Me vs. Users

1. IDE or Command line?
2. Default or personalization?
3. On-access or on-demand virus scan?
4. Show or hide captions?
5. Folders or search?
6. Speed or stamina?
7. Browser default page?
Our best educated guesses are often not good enough!!
What’s going to happen to you by taking this course?
You’ll be picky about UI.
You’ll sympathize with users!
You can help improve bad user interfaces.
You’ll build a cool web app and put it to your resume.
You’ll be pleasant to work with for people in other fields.

• Four communities in HCI
  – Design
  – Engineering
  – User Experience
  – Management
You’ll find tech-support jokes no longer funny!

Tech support: Are you sure you used the right password?
User: Yes, I'm sure. I even wrote it down.
Tech support: Can you tell me what the password was?
User: Five dots.
Course Wiki


• Grading
• Office hours
• Contact
• Other information
Homework 0

• Get access to the course wiki
  – Create a new account
  – Email TA with your account ID to become an editor

• Create a personal wiki page

• Due: 1/29 (Next class)
Next lecture

- Usability

- Bring a laptop with WiFi access