

Welcome to My E-campus Course

- CS 352: Introduction to Usability Engineering



Welcome to CS 352

- Who am I?
 - Brief bio
 - Research interests:
 - HCI, end-user programming
 - Favorite course to teach:
 - This one!
 - Hobbies:
 - Dancing, reading, puzzles, bike-riding
 - [My home page](#)



Logistics and Mechanisms

- The course design:
 - A mix of lectures, activities, readings, quizzes, assignments. (See syllabus)
 - Expectation 1: Stay up-to-date!
 - Expectation 2: Be good to your team!
- You'll often work together:
 - Most assignments are in teams/pairs
 - Collaboration beyond teams too
 - Quality of participation is a factor in your grade
- The project:
 - Try to choose one of personal interest

What is Usability Engineering?

Usability Engineering is the process of **Methodically** designing systems which are

- Useful
- Usable

Which includes

- Determining **what is useful**
- Determining **what is usable**
- **Evaluating** these two factors **empirically**

Where is Usability Engineering?

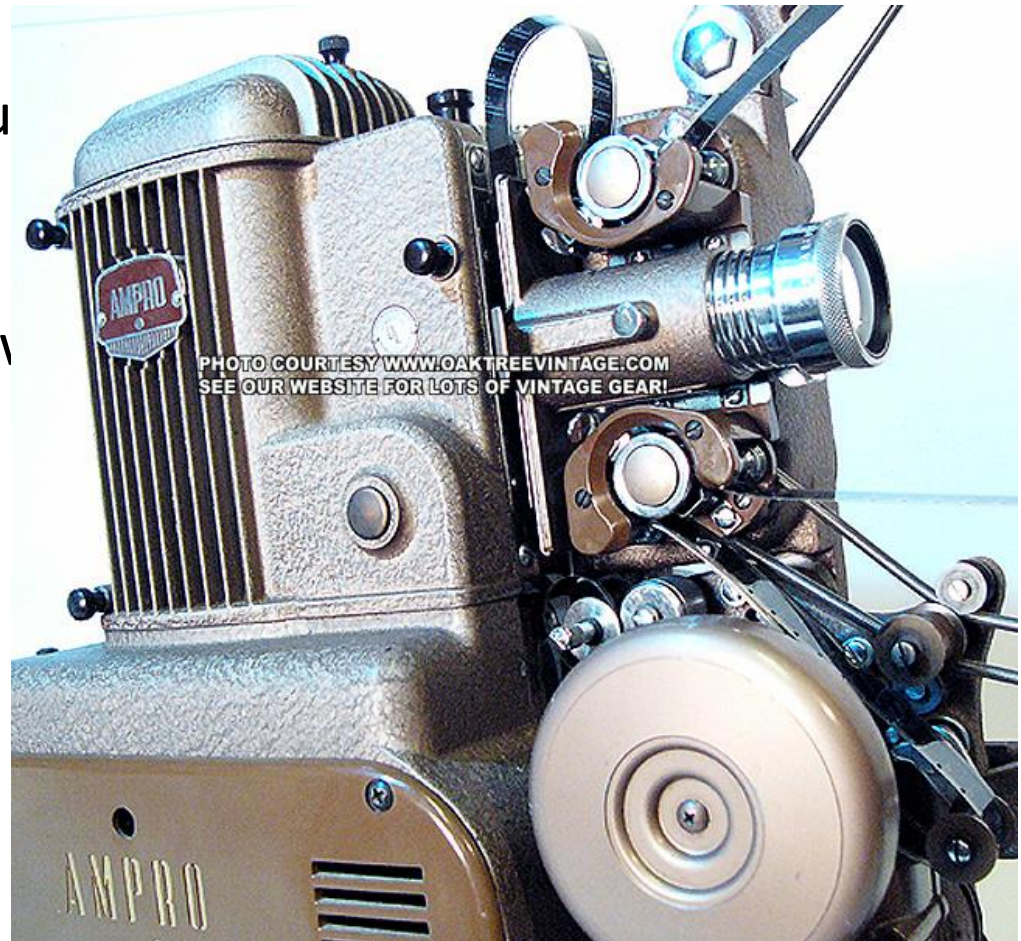
- Names that mean “usability engineering”:
 - Usability engineering
 - Human-computer interaction
 - Ergonomics
 - Interaction design
 - User-interface design
 - User-centered design
- In these fields:
 - Computer science
 - Informatics/information systems/library science
 - Psychology/cognitive science
 - Ergonomics
 - Industrial engineering/design
 - Architecture
 - Art
 - Social sciences

Why bother with usability engineering?

- Most software is supposed to help people be productive.
- Build better software.
- Help people like it enough to buy it (keep your job!).
- Avoid fatal flaws in software, like Norman's 2 gulfs:
 - Gulf of execution
 - Gulf of evaluation

Why bother with usability engineering?

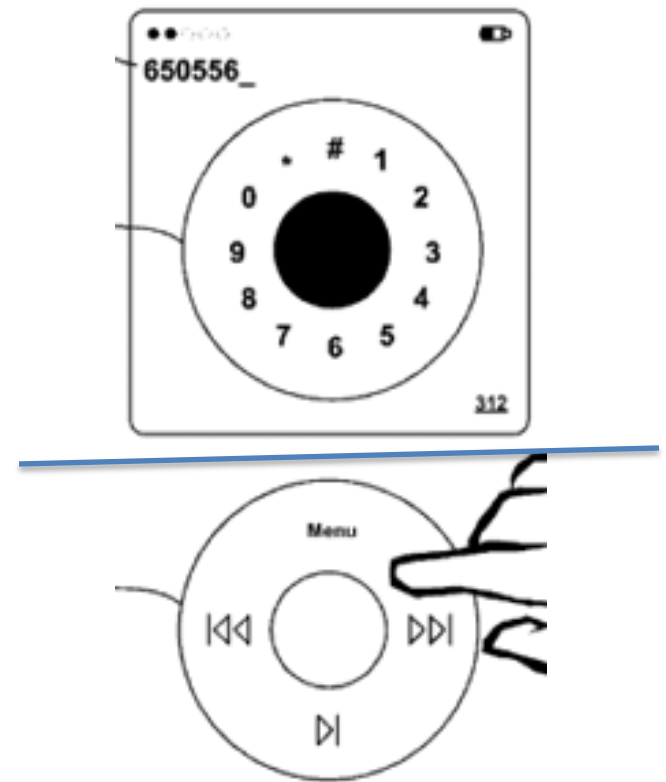
- Most software is supposed to help people be productive.
 - Build better software.
 - Help people like it enough
-
- Avoid fatal flaws in software like Norman's 2 gulfs:
 - Gulf of execution
 - Gulf of evaluation



Goals of Usability Engineering

(See ch. 1):

- effectiveness at task
 - eg, the nurses
- safety
 - eg, privacy, losing work, mistakes that endanger
- utility
- learnability
- memorability
- efficiency
 - differences among last 3



Design Principles: (Some tools for achieving goals)

- Visibility of user's options/actions.
- Feedback
- Constrain
 - (making certain errors impossible)
 - eg: menus vs typing to prevent syntax errors.
- (Internal) consistency
- Affordance
 - makes clear what I can do with an object



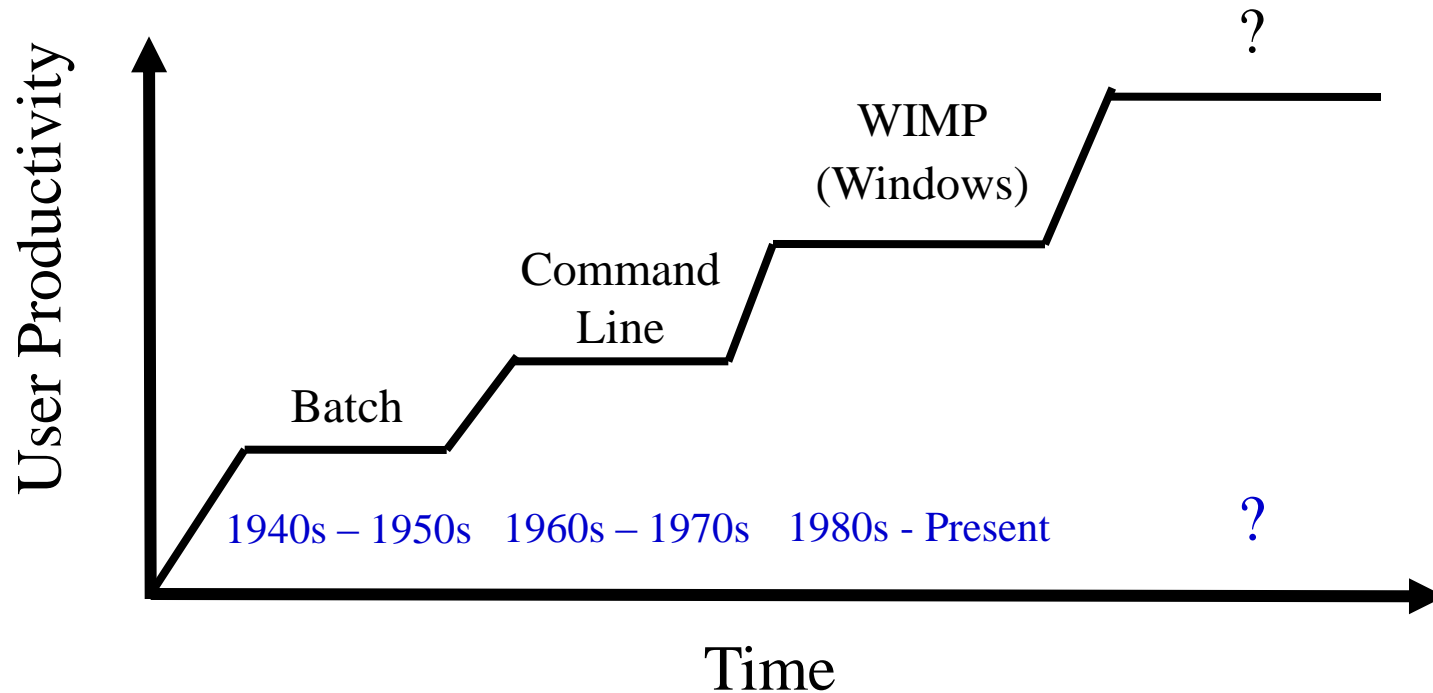
How to do interaction design/usability engineering

- Process activities (See ch. 1)
 - Identifying needs/requirements
 - of the user experience.
 - Developing many alternative design ideas
 - that meet the requirements.
 - Building interactive versions of the designs
 - to communicate/assess.
 - Evaluating
 - throughout the process.

When to do interaction design

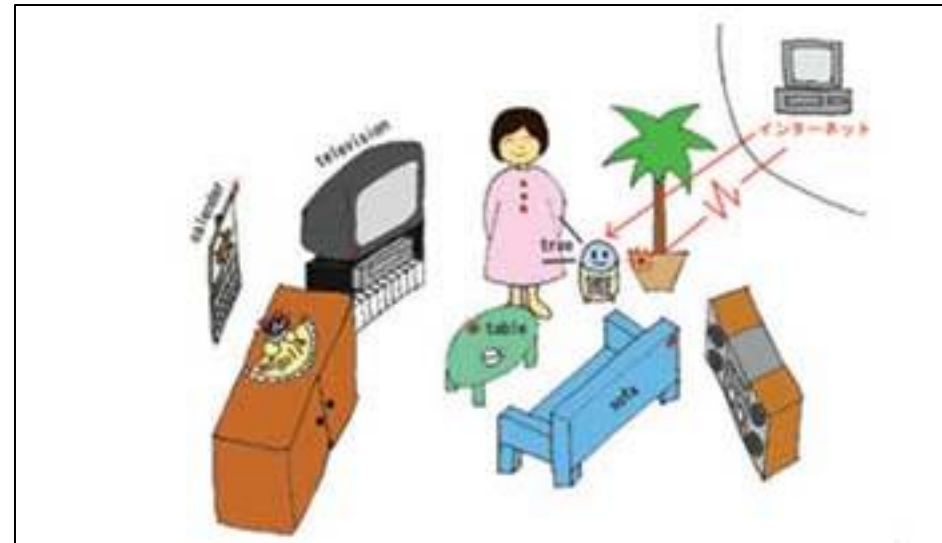
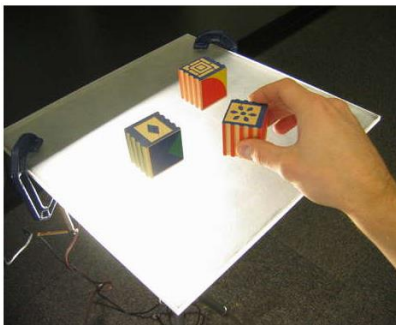
- At beginning of software project:
 - to help establish needs/requirements correctly in the first place
- During design/implementation:
 - to continuously evaluate/monitor
- During testing.
 - to evaluate.

Where is interaction design going?



Examples of new paradigms

- Mobile computing
- Wearable computing
- Tangible computing
- Ubiquitous computing
 - and many more....



Getting started

- Readings, HW 1
 - For Ecampus CS352, HW1 is an individual homework, not a pair homework.
- Introduce themselves:
 - CS interests, hobbies, career aspirations...?