



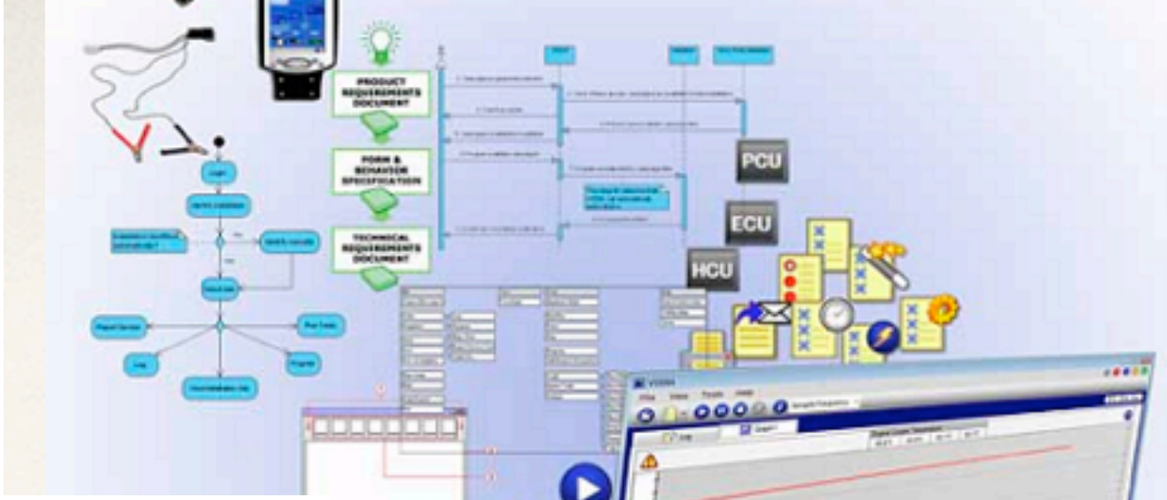


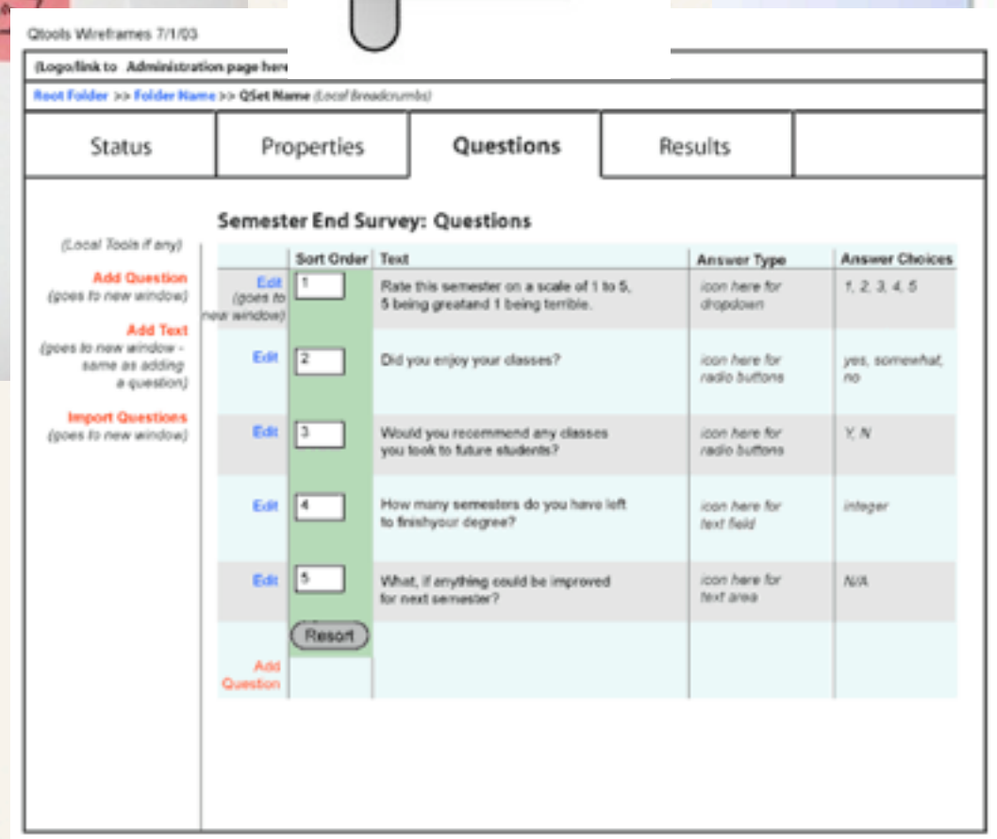


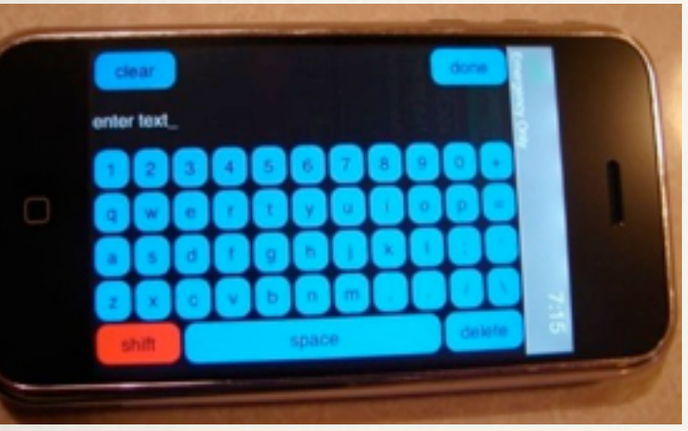




# What is HCI?

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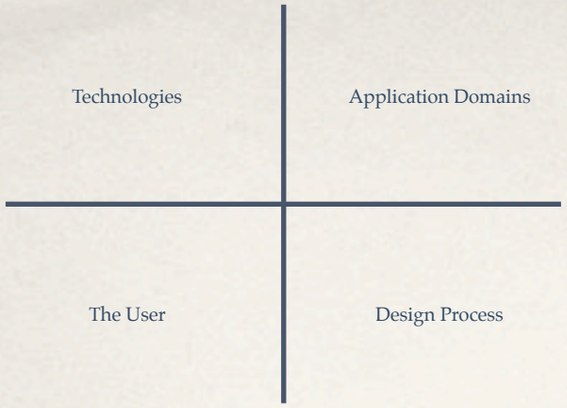
Technologies

Application Domains

The User

Design Process


Technologies
Application Domains
The User
Design Process

# Technologies

## Input Technologies

Keyboard, mouse, touchscreen, natural inputs, sensors

## Output Technologies

Large-screen displays, mobile displays, tabletop interaction, ambient displays, tactile feedback

# Technologies

## Input Technologies

## Interaction Paradigms

## Output Technologies

# Technologies

Windows, Icons, Menus, Pointing Devices (WIMP)
Virtual, mixed, alternate reality
Web 2.0 / social media
Robotics
Pervasive computing
Tangible and haptic interaction
Shareable user interfaces
Multimodal user interfaces
Transmedial interaction
Ambient computing
Context-aware computin
... etc. ...

## Interaction Paradigms

# The User

Behavior
Cognition
Populations
Groups
Affect
Experience

# The User

**Behavior**
Cognition
Populations
Groups
Affect
Experience

- Task sequences
- Information seeking
- Predicting performance times

# The User

Behavior
**Cognition**
Populations
Groups
Affect
Experience

- Elements of cognition (perception, thinking, evaluating, remembering, learning)
- External cognition
- Cognitive modeling

# The User

Behavior
Cognition
**Populations**
Groups
Affect
Experience

- The elderly
- Children
- People with disabilities
- People in the developing world

# The User

Behavior
Cognition
Populations
**Groups**
Affect
Experience

- Distributed cognition
- Social behavior
- Collaboration
- Teams

# The User

Behavior
Cognition
Populations
Groups
**Affect**
Experience

- Systems that recognize emotion
- Systems that express emotion
- Human emotional responses to systems

# The User

Behavior
Cognition
Populations
Groups
Affect
**Experience**

- User engagement
- Aesthetics
- Play

# HCI Application Domains

Workplace productivity
Computer-Supported Cooperative Work (CSCW)
Health
Ubiquitous computing
Creativity support
Persuasive computing
Data visualization
Domestic interaction design
Entertainment and leisure computing
Sustainable interaction design
Usable security
Information communication technologies for developing countries
<< etc. >>

# The HCI Design Process

General process strategies

User research

Needs and requirements

Information architecture

Sketching and prototyping

Interface evaluation

# The HCI Design Process

## General process strategies

User research
Needs and requirements
Information architecture
Sketching and prototyping
Interface evaluation

- Traditional design process
- Iterative design (waterfall)
- Participatory design
- Agile computing
- User-centered design
- Science of design
- “Designerly” interaction design

# The HCI Design Process

General process strategies

**User research**

Needs and requirements

Information architecture

Sketching and prototyping

Interface evaluation

- Qualitative and Quantitative user research methods
- Focus groups
- Interviews
- Surveys
- Cultural probes
- Experience sampling
- Rapid ethnography

# The HCI Design Process

General process strategies
User research
**Needs and requirements**
Information architecture
Sketching and prototyping
Interface evaluation

- Scenario development
- Use cases
- Personas
- Needs and requirements documentation

# The HCI Design Process

General process strategies
User research
Needs and requirements
**Information architecture**
Sketching and prototyping
Interface evaluation

- Card sorting
- Labels
- Wireframes
- Flow model diagrams

# The HCI Design Process

General process strategies

User research

Needs and requirements

Information architecture

**Sketching and prototyping**

Interface evaluation

- Sketches
- Storyboards
- High-fidelity prototypes
- Low-fidelity prototypes
- Experience prototypes

# The HCI Design Process

General process strategies
User research
Needs and requirements
Information architecture
Sketching and prototyping
**Interface evaluation**

- Designer-based (heuristics, crits)
- User-response-based (cognitive walkthroughs, Geneva emotion wheel)
- Physiological (GSR, heart and respiration rates)
- Behavioral (usability tests, Wizard of Oz technique, eye tracking)

Technologies

Application Domains

The User

Design Process