## HCI Design Process

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HCI Design and Creativity

- Design is a creative act
  - No algorithm, fixed recipe for success
- Blank canvas block
  - Takes courage to make choices
- HCI Process models set stage for creative acts
  - Help get past BCB
  - Help find and correct mistakes
  - Make it easier to dare, to try and try again
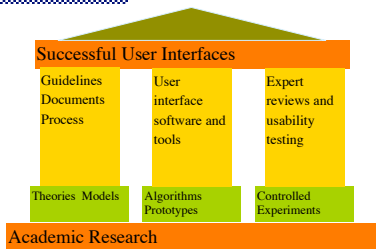
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Kai's Power Tools
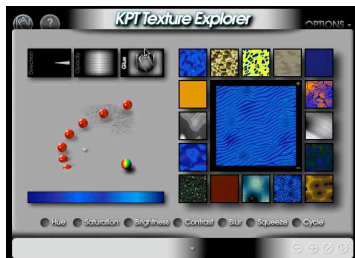
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Key Idea - User Centered Design

- Focus is on user goals and tasks
- Focus is not on
  - Technology
  - Programmer
  - Organizational priorities
- Software engineering lite
  - More user/interface analysis, 37% less programming
  - More emphasis on documenting HCI, not code

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Shneiderman's
Three Pillars of Design

Successful User Interfaces

Guidelines Documents Process	User interface software and tools	Expert reviews and usability testing
Theories Models	Algorithms Prototypes	Controlled Experiments

Academic Research

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Our Design Activities

- Establish process
- Task analysis

- Interface design

- Evaluation

- LUCID process model
- Ethnographic observation
- Scenario development
- Guideline development
- Prototyping
- Heuristic expert evaluation
- Usability testing
- GOMS KLM analysis

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Logical User-Centered Interactive Methodology (LUCID)

- Who?
  - Cognetics http://www.cognetics.com/
  - Dr. Charles Kreitzberg
- What?
  - An integrated process model for design
  - A mix of academic and corporate priorities
- Why?
  - Early attention to users early in analysis pays off

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LUCID (DTUI version)

- Stage 1: Develop product concept
- Stage 2: Perform research and needs analysis
- Stage 3: Design concepts and key-screen prototype
- Stage 4: Do iterative design and refinement
- Stage 5: Implement software
- Stage 6: Provide rollout assistance

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Work-along Worksheet

- Rough version of LUCID steps
- For group to fill out as we go along in class
  - Everyone has they own copy for speed
- Intentionally speeded - force you to choose quickly, reduce inhibitions, blocking
- Choose most likely topic of group project, or any you wish - no commitment today

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Stage 1: Product Concept

- Create high concept
- Set up team
- Identify user population

- Deal with budget, schedule, business and technical environment

Stage 2: Perform Research/Needs Analysis

- Partition user population
- Break job into tasks
- Conduct needs analysis through scenarios
- Sketch process flow
- Identify major objects in interface

- Research technical issues

Stage 3: Design concepts

- Create usability objectives
- Initiate guidelines and style guide
- Select navigational model and design metaphor
- Identify and prototype key screens
- Conduct initial review and usability tests

Stage 4: Do iterative design

- Expand key screen into full prototype
- Conduct heuristic and expert reviews
- Conduct full-scale usability tests
- Deliver prototype and specification

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Stage 5: Implement software

- Development standard practices
- Manage late stage change
- Develop help

- Pretty light, huh?
- Implement, my ...

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Stage 6: Rollout assistance

- Provide training
- Ongoing tracking of HCI performance

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Assembling the team

- Who would you want?
- Sociologists - study of organizations
- Psychologists - study of individuals
- Usability experts
- Graphic artists
- Who else?
- HCI job postings -what are the jobs like?

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