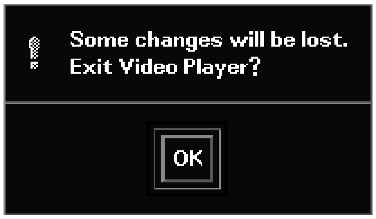
ICS 105: Project in HCI

Design Process

bad design is all around…



Some changes will be lost. Exit Video Player?

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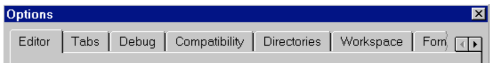

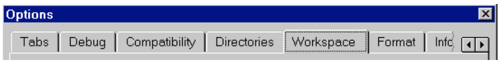

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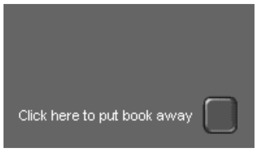

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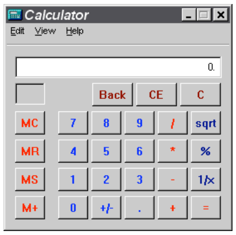

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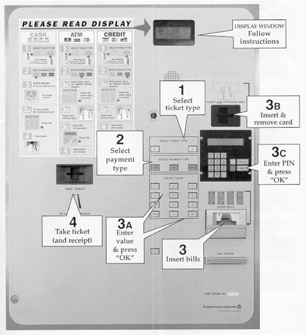
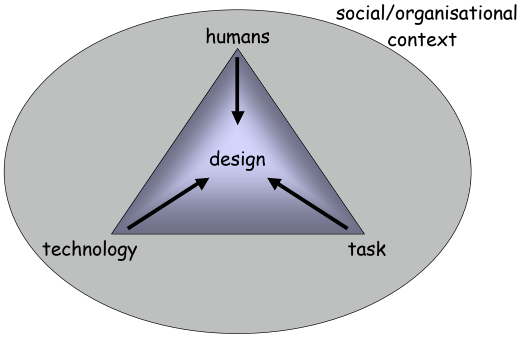


what is HCI?



social/organisational context

humans

design

technology

task

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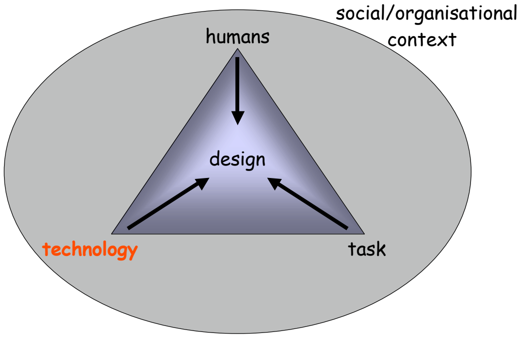

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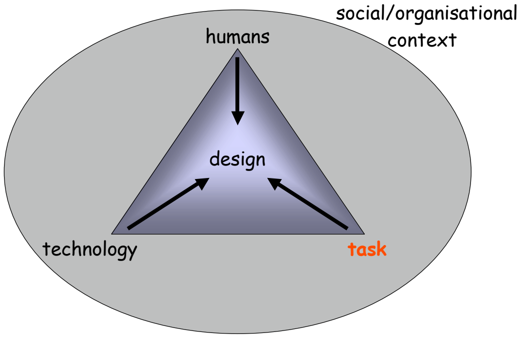

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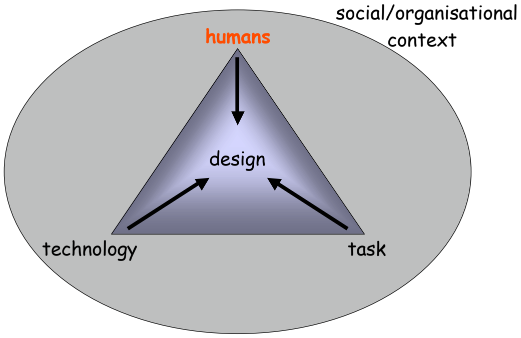

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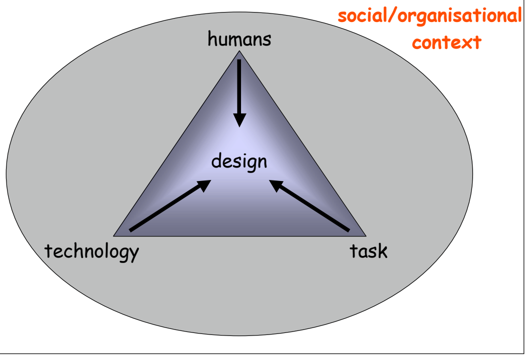

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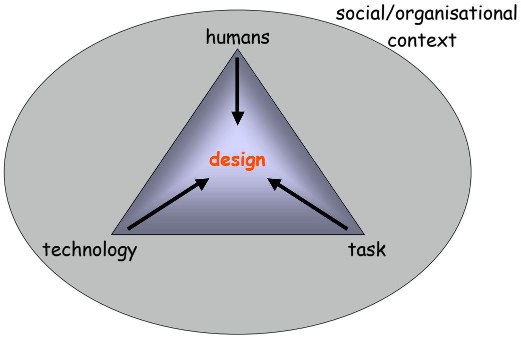

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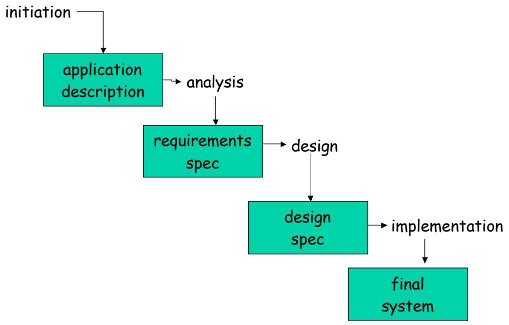
engineering for usability

- usability doesn’t just happen by accident
- usability as a feature of the engineering process
  - design process to ensure usable software
  - take usability as central, not tacked-on
    - remember, usability != interface

usability

- ease of learning
  - do it faster the second time around…
- recall
  - remember how to do things from one session to next
- productivity
  - perform tasks quickly and efficiently
- minimal error rates
  - reduce number
  - if they occur, good feedback for better recovery
- high user satisfaction
  - users confident of success

waterfall model



initiation

application description

analysis

requirements spec

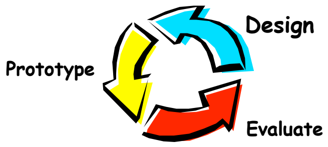
design

design spec

implementation

final system

user-centered design



Design

Prototype

Evaluate

comparing the approaches

- waterfall
  - structured
  - customers, not users
  - limited feedback
    - errors carry forward
    - expensive to fix
- iterative
  - focused on users
  - continual evaluation
    - finds errors sooner

prototyping approaches

- rapid prototyping
  - build, test, throw it away
  - key focus: collecting requirements information
- incremental prototyping
  - building large systems in stages
  - key focus: reducing delays
- evolutionary prototyping
  - “design in place”
  - key focus: balancing prototyping with development
- the problems of premature commitment

prototyping

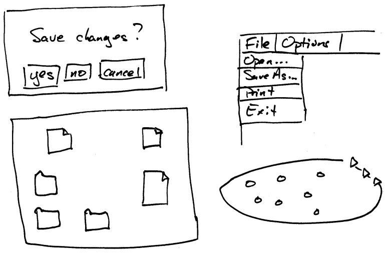
- the central problems of prototyping
  - the system is incomplete
    - what parts to build and use?
    - how to make them “work”?
  - getting to real user experience
    - creating a persuasive situation

prototyping

- degree of integration
  - horizontal prototype
  - vertical prototype
- interaction style
  - chauffeurred prototype
  - wizard-of-oz
- how polished?
  - low-fi prototype
  - high-fi prototype

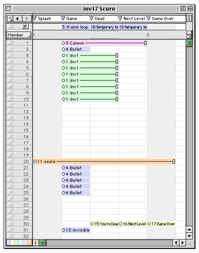
prototyping

- “low-fi” prototypes



prototyping

- high-fi prototypes
  - computer-based prototypes
  - Macromind Director
    - commonly used at Apple
    - basic metaphor
      - stage
      - actors
      - score

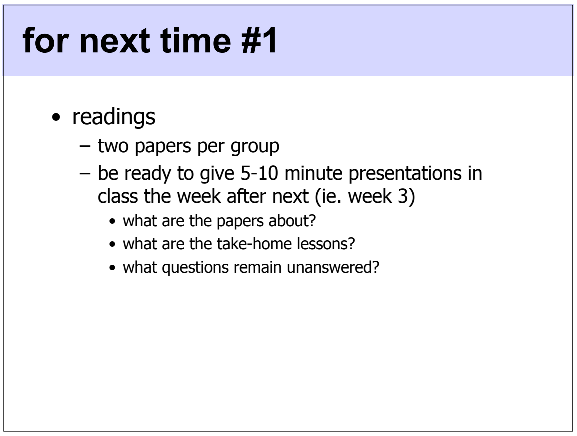


prototypes

- trade-offs
  - “high-fi” prototypes can be more impressive
    - getting customer buy-in
      - note – this is NOT the purpose of UI prototypes!
    - more persuasive
      - good: users don’t need to suspend belief
      - bad: too “polished” can make people less critical
  - “low-fi” prototypes are easier to build
    - faster iteration

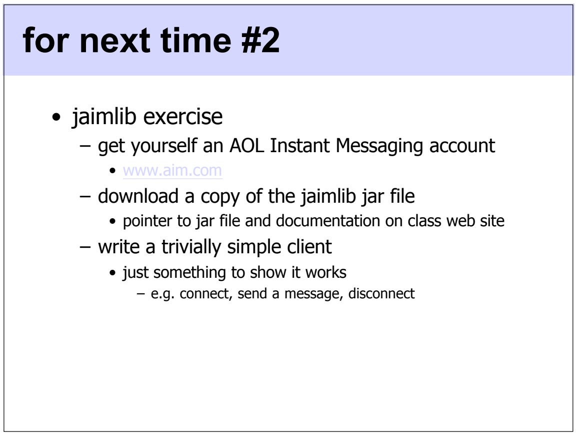
immediate relevance…

- we don’t have the luxury of time in 105
  - 10 weeks is very short
  - but iteration is critical
    - we need to create more than one system
    - we need some evaluation input
  - so we’ll do some lo-fi prototyping
  - timetable:
    - week 2 -- swing fundamentals (and reading)
    - week 3 -- ideas, analysis (and discussion of readings)
    - week 4/5 -- designing and prototyping



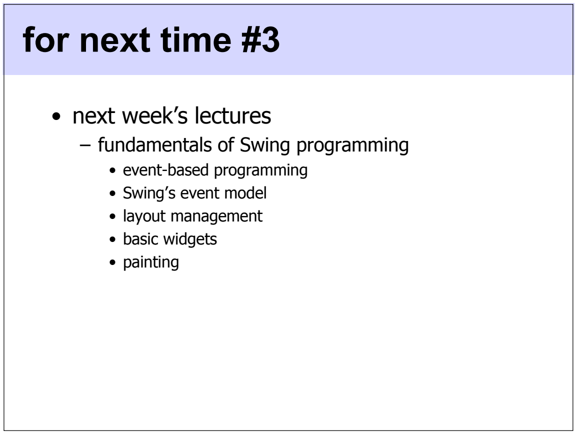
for next time #1

- readings
  - two papers per group
  - be ready to give 5-10 minute presentations in class the week after next (ie. week 3)
    - what are the papers about?
    - what are the take-home lessons?
    - what questions remain unanswered?



for next time #2

- jaimlib exercise
  - get yourself an AOL Instant Messaging account
    - www.aim.com
  - download a copy of the jaimlib jar file
    - pointer to jar file and documentation on class web site
  - write a trivially simple client
    - just something to show it works
      - e.g. connect, send a message, disconnect



for next time #3

- next week's lectures
  - fundamentals of Swing programming
    - event-based programming
    - Swing's event model
    - layout management
    - basic widgets
    - painting