Questions?

• Check your grades!

• Project #4 due in one week!
Growing up
(From The Invisible Computer, Don Norman)

• Technology
• Customers
• Product development
Technology: the need-satisfaction curve

High technology. Consumers want more technology, better performance

Transition point where technology delivers basic needs

Consumer commodity. Consumers want convenience, reliability, low cost...

Technology is "good enough" and therefore irrelevant. User experience dominates.
Examples

• Photography
  – Easy to process film (Kodak)

• Car
  – Affordable and easy to fix Ford-T (Ford)

• Radio
  – Extensive use of transistors (Sony or is it the Regency TR-1 from I.D.E.A.)

• Personal computers
  – Easy “on your desk” printing (Apple Mac)

• Internet
  – Easy access from your home computer (AOL)

• Digital music
  – Integrated hardware/content experience (iPod/iTune)
Price-indignation curve

(Paul Safo in Bringing design to software)
Customer: adopter categories

The chasm

Relative % of customers

Innovators, technology enthusiasts

Early adopters, visionaries

Early majority pragmatists

Late majority conservatives

Laggards, skeptics

Time

Customers want technology and performance

Customers want solutions and convenience
Examples

• Xerox Star
  – Targeted casual users, but lacked necessary performance

• Cellular phones
  – Almost at the laggards stage

• Personal computers?
From one cycle to the next

- Beware of the underdog
  - Cellphone (?) vs Personal computers vs Large mainframes
  - Small Japanese car versus Large American car
  - More example in the “Innovator Dilemma” by Clayton M. Christensen
The 3 legs of product development

The product

Technology
Marketing
User experience

The business case

The invisible computer, Don Norman

The inmates are running the asylum, Alan Cooper
Examples
(from The inmates are running the Asylum, Alan Cooper)

• Microsoft
  – Good value, lot of features but how many loyal customers?

• Apple
  – Saved by its design of the user experience!