Questions?

- Homework #3 out
- Project #2
Human Information Processor II
(Card, Moran, Newell)
Put it together: basic reaction time
Put it together: Fitts’ law (tapping task)
Hick’s law

- Cost of taking a decision
Scope and Caveats

• Only a model

• Focus on low level phenomenon
  – Can be dwarfed by other considerations
    • Learning,
    • Task compatibility

• Questions?
Human interaction loops (Newell)

- Social Band
- Rational Band
- Cognitive Band
- Biological band: $10^{-4}-10^{-2}$ s

- System loop: $10^8$ s (years)
- Design loop: $10^5$ (days)-$10^7$ s (months)
- Task loop: $10^2$-$10^4$ s (weeks)
- Unit task loop: 10 s
- Operator loop: 1 s
- Motor loop: 0.1 s
- Evaluation
  - Execution
Task structure
Learning
(“Learning and memory” Anderson)

• Power law of learning

Problem solving

Manual skill

Writing books
Stages of skill acquisition
(“Learning and memory” Anderson)

Example: Using a manual transmission

• Cognitive
  – Verbal representation of knowledge

• Associative
  – Proceduralization
    • From rehearsal to recognition

• Autonomous
  – More and more automated
  – Faster and faster
  – No cognitive involvement
    • Difficult to describe what to do
Implications: confirmation steps

• Pros and Cons?

• See also “The humane interface” Raskin, p23
Implications: dynamic menus

- Pros and Cons