

# Simulation Software

1/30/2009

# Opening Discussion

- Do you have any questions about the quiz?
- Do you have any questions about the assignment?
- What did we talk about last class?
- Our single server queue code works. We validated the outputs.

# Software Packages

- Simulation software packages have certain advantages and disadvantages compared to general purpose programming languages.
- Advantages
  - Less programming required, natural framework, easier to modify, better error detection
- Disadvantages
  - Learning curve, speed, flexibility, costs

# General-Purpose vs. Application-Oriented

- Simulation languages and application-oriented simulators have merged over time.
- The main distinction now is one of flexibility.
- Event-driven languages

# Process Approach

- Instead of thinking of the simulation as just events, you can think of it as processes.
- A process follows an entity through the system.
- A process has multiple entry and exit points for when the entity is waiting, generally on some queue.

# OO Simulation

- OO programming was born from simulation.
- Tracking entities as objects and using the process style approach could have certain benefits to it in an OO based system.
- One advantage might be that we could reuse certain constructs more.

# Writing a Complex Simulation

- I still want to write one of the more complex models on our own.
- I'm even tempted to build up a process based OO framework for us to use and see if that works better than the purely event driven model we have been working with so far.

# Minute Essay

- Have you thought at all about your project and what you might want to simulate?
- Assignment #1 is due on Monday.