Discrete Event ("Network") Modeling in AnyLogic

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Hands on Model Use Ahead
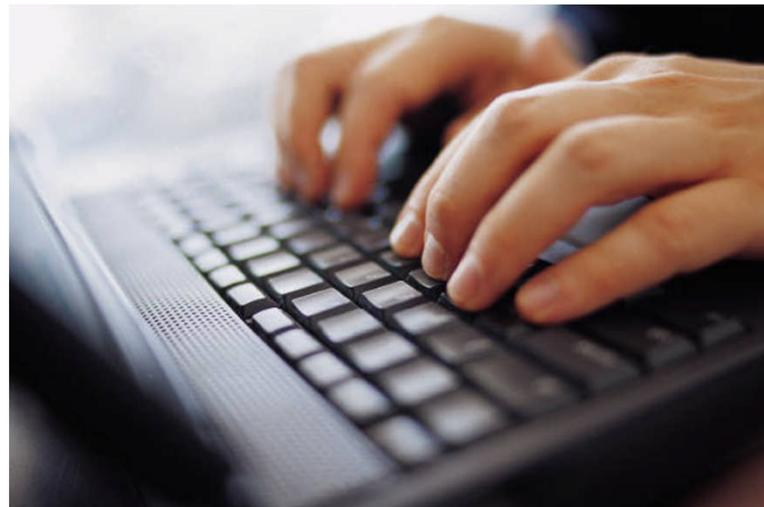

Load model:
Emergency Department Tulsa.alp

Recall: "Network Modeling"
Irregular Spatial Embedding
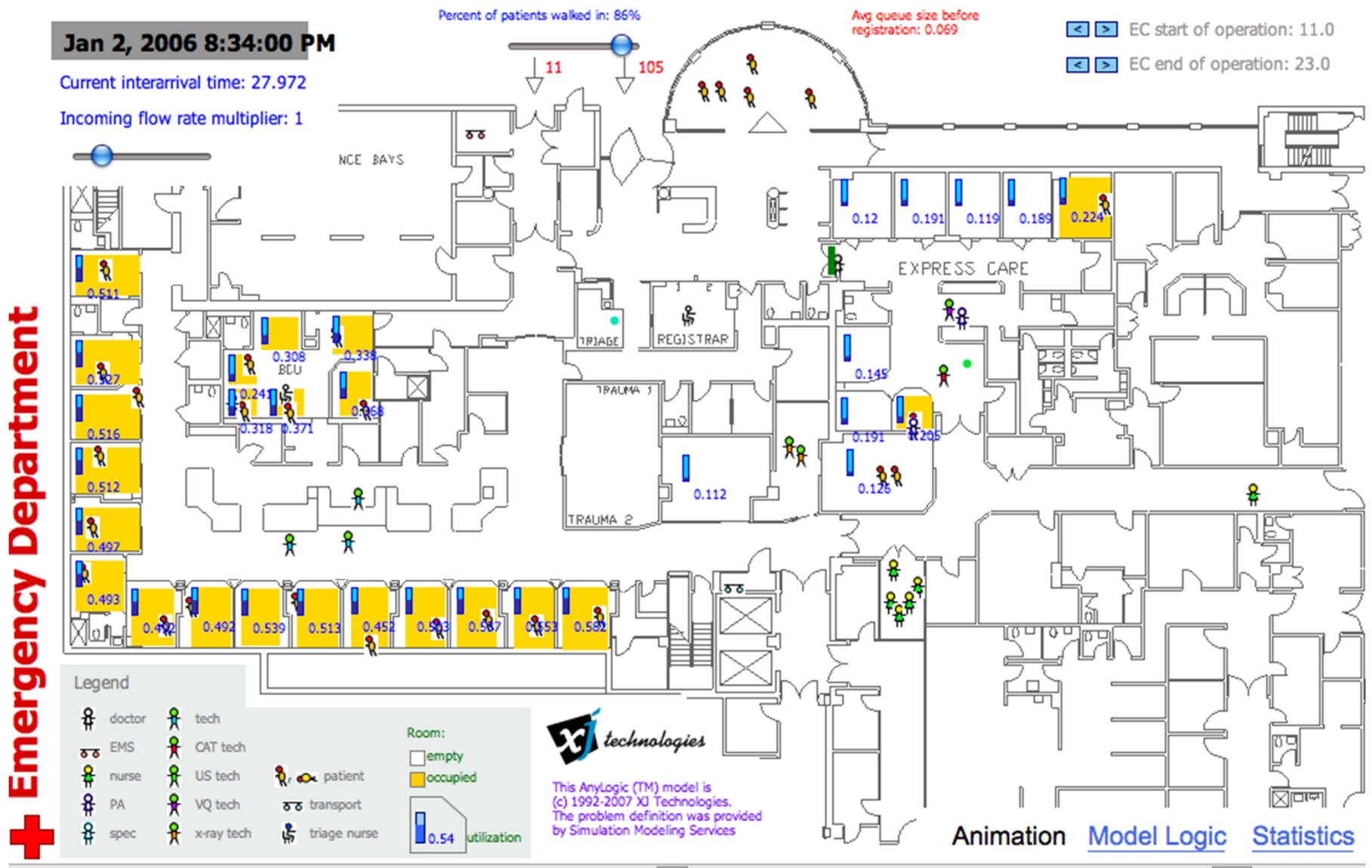
Discrete Event Modeling

- Resource-based modeling
  - Queues
  - Processes
  - Flow charts
  - Capacitated resource pools
  - Send to
  - Attachment/detachment
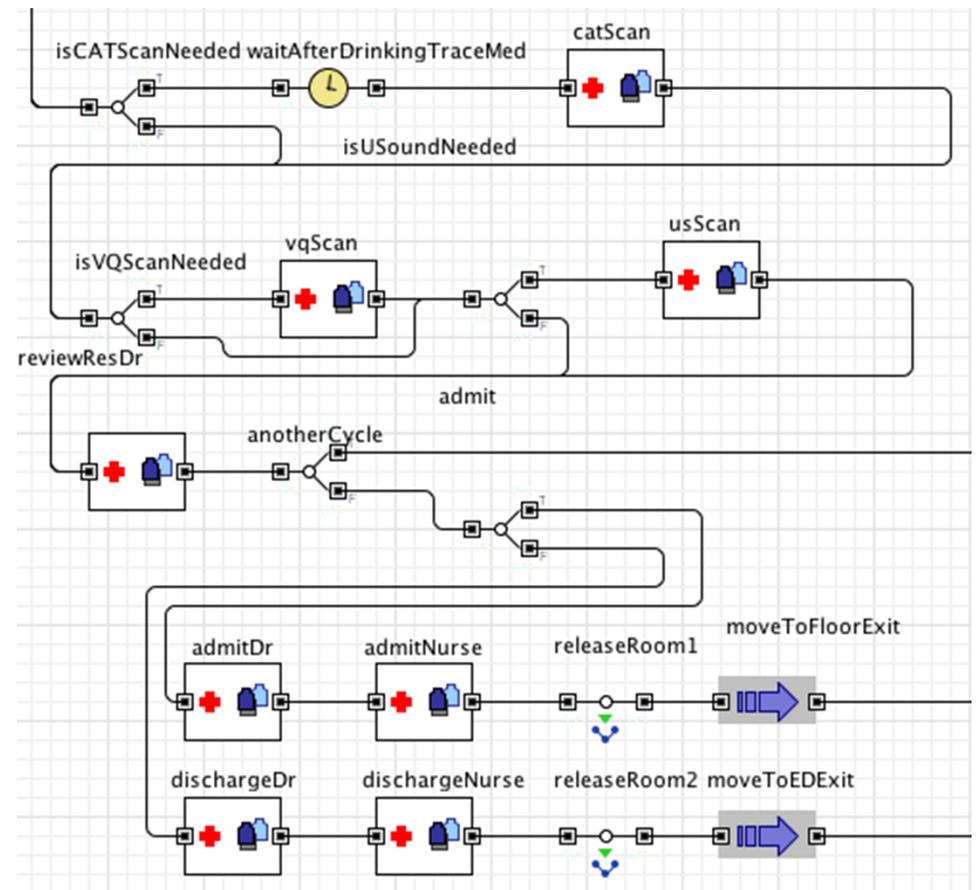
Central Concepts in Discrete Event Modeling

- Entities flowing through processes & being processed at successive stages
- Flow charts guide entity progress
- Resources required for processing
  - Queues for waiting entities
- Capacitated resource pools from which resources are drawn
- Entity interaction with resources
  - Attachment/detachment
  - Seizing
- Physical "homes" for resources
- Movement paths (via polygons)

Entities

- Entities are the central parties on which the processes take place
  - Cf patients in a hospital or clinic
- Primarily passive – things happen "to them"
- "Flow through" (are routed around) the flow charts associated with the system
  - Only exist for the duration of time that are in the system
  - Are "injected" into the system
- Multiple entities can be in the system at one time
- If wish to maintain extra information on an entity, can "subclass" the Entity class
- Entities are often associated with a physical representation, which can travel around