CS599 Software Process Modeling

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Outline

- Class Overview, Schedule and Logistics
- Basic Terminology
- Software Process Modeling Overview
- Model Building Demonstration
- Potential Conferences
- Homework

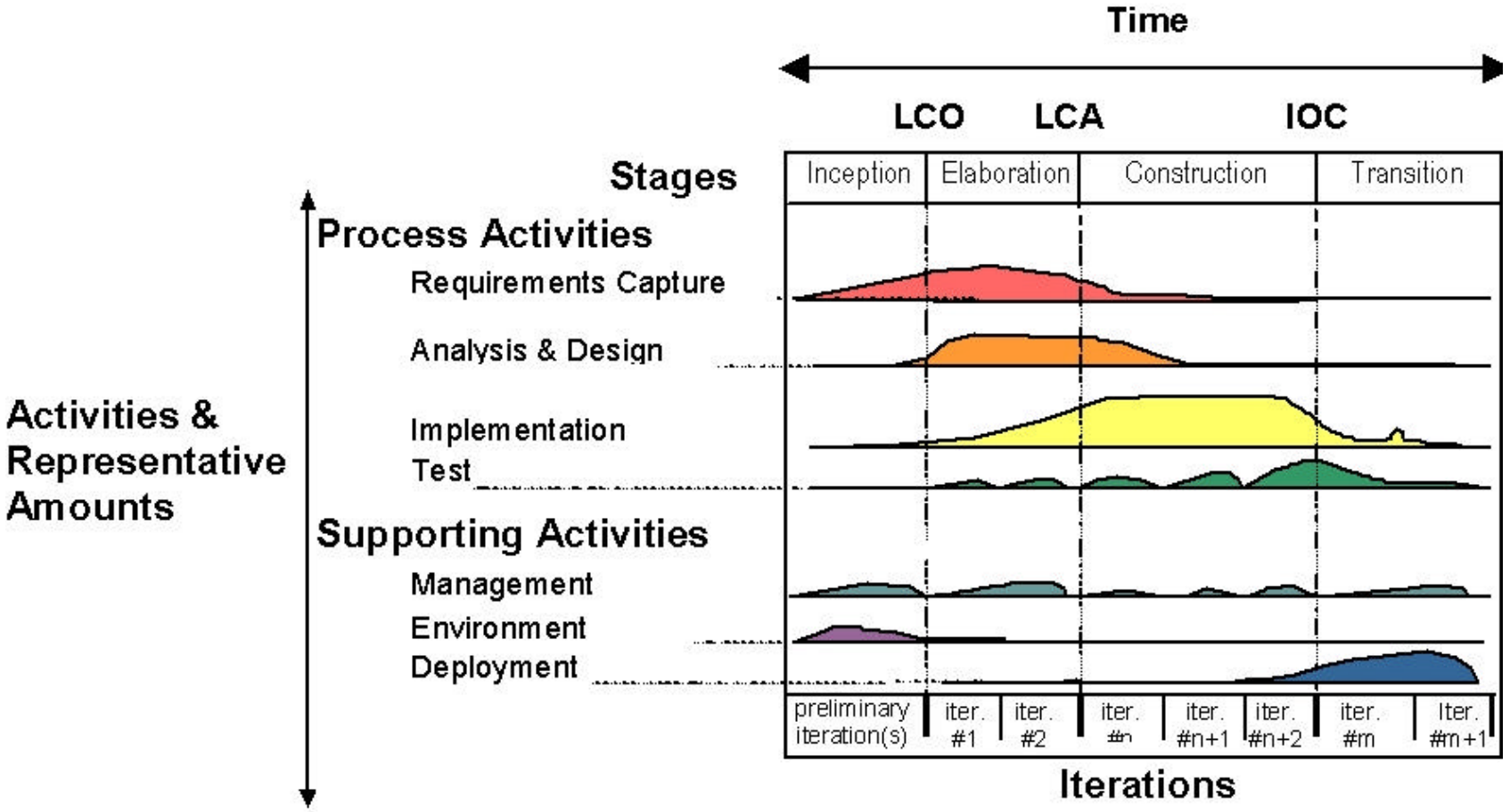
Logistics

- Ordering class software and documentation
  - Please contact High Performance Systems directly. Order the "Ithink Analyst" product at a student discount of about $100. You can choose the PC or Macintosh platform as you wish. Do not order the more commonly used education package called "Stella" because it comes with physics/chemistry/biology applications instead of business applications.
  - Their phone # is 800/332-1202. Contact Jeff Hawkins at ext. 144 or Debra at ext. 165 to order. They are expecting you.
- Class times

Terminology

- System
  - open, closed
- Software process
- Model
  - static, dynamic
- Simulation
- System dynamics

A Software Process



Process Modeling Characterization Matrix and Examples

Scope / Purpose	Portion of lifecycle	Development project	Multiple, concurrent projects	Long-term product evolution	Long-term organization
Strategic management			product-line reuse strategy		projected headcount, business growth
Planning	stage-based cost/schedule estimation	project cost/schedule /quality estimation	reuse costs		projected workload
Control and operational management	stage tracking	earned value tracking	product-line change control		
Process improvement and technology adoption	RAD process tradeoffs peer review optimization phase defect levels	peer review effects on project RAD process tradeoffs	inter-project reuse processes	product-line reuse strategies	
Understanding	overtime effects				
	process concurrence	rework levels	resource sharing tradeoffs cycle times	maintenance size and effort trends	organizational behavior
Training and learning		managerial metrics training			

Modeling Demonstration

Potential Conferences

- ICSE
- ProSim
- SEPG Conference
- STC
- International Software Process Workshop
- System Dynamics Conference
- Many other software conferences and workshops

Homework

- Reading:
  - *Introduction to Systems Thinking and Ithink* Chapters 1-2
  - *Software Process Dynamics* handouts:
    - Preface
    - Sections 1 - 1.2.1.2
  - Kellner et al., *Software Process Simulation Modeling: What, Why, How*
- Problem due next week:
  - model your degree progress using a time rate of credit hours or classes completed
  - use actual data for courses completed in the past
  - also show your planned completions from this point
  - graph your results