COURSE SYLLABUS AND LAUNCH WEEK

219348 WORKGROUP SOFTWARE DEVELOPMENT PROCESS LAB

Department of Computer Engineering
Faculty of Engineering, Kasetsart University
August 2013 – December 2013
Dr. Somnuk Keretho, sk@ku.ac.th
Course Description

The students will practice TSP (Team Software Process) through workgroup software development projects.

Process + Team Work (TSP - Team Software Process)
- Launch, development strategy, plan, requirements, design, implement, integration, test, postmortem as a team
- **roles and responsibilities** of team members will be practiced, e.g. team leaders, development managers, planning managers, implementers, testers, quality and process managers, and support managers

Engineering + Technology
- The following skills will be practices in the projects - software **design concepts**; **object-oriented analysis** and **design** techniques; **unified modeling language (UML)**; software architecture; design patterns; software components and design; **software construction techniques**; software testing techniques.
“Introduction to the Team Software Process$^{SM}(TSPi)$”
by Watts S. Humphrey, Addison-Wesley, 2000
Practical Projects Assignment

Students are assigned to work in 4 groups.

- Each group/team will form a (hypothetical) software company.
- Each group/team is tasked with a software development project to be completed within 4 months.
Evaluation & Grading

Team Work Performance – Iteration 1 (50%)
- Work Products (Plan, SRS, SDS, Testing Docs, Software) 20%
- Work Process adherance to TSP 20%
- Presentation of WorkProducts & Work Process 10%

Team Work Performance – Iteration 2 (50%)
- Work Products (Plan, SRS, SDS, Testing Docs, Software) 20%
- Work Process adherance to TSP 20%
- Presentation of WorkProducts & Work Process 10%
TSP Process (we will conduct 2 iterations in this semester)

Cycle 1 Launch
- Strategy 1
- Plan 1
- Requirements 1
- Design 1
- Implementation 1
- Test 1
- Postmortem 1

Cycle 2 Launch
- Strategy 2
- Plan 2
- Requirements 2
- Design 2
- Implementation 2
- Test 2
- Postmortem 2
## Course Schedule

<table>
<thead>
<tr>
<th>Iteration</th>
<th>Week</th>
<th>Date</th>
<th>Practical Project</th>
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<tbody>
<tr>
<td>Iteration 1</td>
<td>Week 1</td>
<td>Fri 30 Aug – Thu 5 Sept</td>
<td>Launch1, Strategy1</td>
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<td>Week 2</td>
<td>Fri 6 Sept – Thu 12 Sept</td>
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<td>Fri 13 Sept – Thu 19 Sept</td>
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<td>Week 4</td>
<td>Fri 20 Sept – Thu 28 Sept</td>
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<td>Week 5</td>
<td>Fri 27 Sept – Thu 3 Oct</td>
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<td>Week 6</td>
<td>Fri 4 Oct – Thu 10 Oct</td>
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<td>Week 1</td>
<td>Fri 25 Oct – Thu 31 Oct</td>
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<td>Week 2</td>
<td>Fri 1 Nov – Thu 7 Nov</td>
<td>Plan2</td>
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<td>Week 3</td>
<td>Fri 8 Nov – Thu 14 Nov</td>
<td>Requirement2</td>
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<td>Week 4</td>
<td>Fri 15 Nov – Thu 21 Nov</td>
<td>Design2</td>
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<td>Week 5</td>
<td>Fri 22 Nov – Thu 28 Nov</td>
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<td>Week 6</td>
<td>Fri 29 Nov – Thu 5 Dec</td>
<td>Test2, Postmortem2</td>
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<td>Fri 11 Oct</td>
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<td>Fri 6 Dec</td>
<td>Presentation2 (P&amp;P)</td>
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Your task (for each company) during Fri 30 Aug – Thu 5 Sept is to work on

- Launch 1 (work according to “Team Launch: SCRIPT LAU1”) – page 39, and
Life Cycle Phases

- Launch
- Strategy
- Plan
- Requirements
- Design
- Implement
- Test
- Postmortem

Appendix D - Script DEV (p. 363)
Cycle Descriptions

- **Launch**
  - review course objectives
  - describe the TSPi structure and content
  - assign student teams and roles
  - describe the customer needs statement
  - establish team and individual goals

- **Strategy**
  - create a conceptual design for the product
  - establish the development strategy: decide what will be produced in each cycle
  - make initial size and effort estimates
  - establish a configuration management plan
  - Reuse plan
  - Risk Management
Cycle Descriptions (Cont’d)

- **Planning**
  - estimate the size of each artifact to be developed (SRS, SDS, code)
  - identify tasks to be performed; estimate time to complete each task; assign tasks to team members
  - make a weekly schedule for task completion
  - make a quality plan

- **Requirements**
  - analyze need statement and interview customer
  - specify the requirements
  - inspect the requirements
  - develop a system test plan
Cycle Phases

- **Design**
  - create a high-level design
  - specify the design
  - inspect the design
  - develop an integration test plan

- **Implementation**
  - use the PSP to implement modules/units
  - create detailed design of modules/units
  - review the design
  - translate the design to code
  - review the code
  - compile and test the modules/units
  - analyze the quality of the modules/units
Cycle Phases

- **Test**
  - build and integrate the system
  - conduct a system test
  - produce user documentation

- **Postmortem**
  - conduct a postmortem analysis
  - write a cycle report
  - produce peer and team evaluations
Five Key Roles

Defined Roles (Read 384-393)
- Team Leader
- Development Manager
- Planning Manager
- Quality/Process Manager
- Support Manager
LAUNCH!!! Script LAU1

☐ First Team Meeting

☐ Use Meeting Script

☐ Meeting Goal:
  - Gather and analyze team data on project
  - Update Personal Task/Schedules prior to meeting
  - Produce Weekly Report

☐ Start Project Notebook
Conceptual Design

- How will I build this product?
- What are principle components?
- What functions do components provide?
- How big are components?

This is a planning design—not THE design!!
## Cycle Planning (418 Strat Form)

<table>
<thead>
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<th>Ref</th>
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<th>Cycle LOC</th>
<th>Cycle Hours</th>
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<td>Compare mod prog to prev ver</td>
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<tr>
<td>1.2</td>
<td>ID added and deleted LOC</td>
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<td>18</td>
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<tr>
<td>1.6</td>
<td>Provide Change Label Header</td>
<td>50</td>
<td>5</td>
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e-Government Project for

the Department of Agriculture,
Ministry of Agriculture and Cooperate