CS 599 Part 2
Software Engineering Project for PSPM

Summer 1999 Week 1

Goals of Presentation

Introductions

• You
• Projects
• Me
• Course
• Personal Project Management Process (sub-class)
Introductions

Fill in and hand in ASAP the Student Information Form for CS 599

- Name, Daytime phone number, Evening phone number, ...
- Background

Around the room

- Name
- Company, division, department
- What do you do there

Course Project’s Framework

Each personal project is to complete

- two (2) deliveries
- one plan for delivery (the second one),
- one process definition (the second delivery),
- an analysis report of lessons learned and recommendations for future improvement, and
- complete and accurate PSP-like data for each work/development step or increment

Plans for delivery include

- definition of deliverables;
- size and effort estimates;
- schedule, resource and earned value plans.
Course Project’s Framework (cont.)

First delivery: unplanned, learning experience for the 2nd delivery

Plans and Process Definitions for second delivery

- Second delivery plan
  - Due one week after assigned
  - To cover the second delivery (scheduled for the next to the last class period)
  - To be complemented with actuals during the second delivery

- Process definition
  - A modification of a PSP-like process and its definition
  - Based on experience with first delivery

Analysis report is due at the scheduled time of the final

Course Projects

Produce industry standard testing artifacts for COCOMO II.1999

- System test planning, system test case generation and test data recording; regression test suite development

- Application of Rationale's SQA to testing of COCOMO.exe

COCOMO II Features to be tested

- Loading and saving Models and Projects
- Adding modules and snapshot
- Post Architecture (PA) models: check all drivers & scale factors
- Early Design (ED) models: check all drivers and scale factors
- All size input variations for PA and ED models
- Calibration with 4 and 12 projects
- Maintenance mode calculations: all variations
- Function point backfiring tables
Introductions (cont.)

Course Projects (cont.)

COCOMO II related projects

Most of these projects are for those with significant C programming experience. Ideally, it should be someone who also might like to continue in the summer or next fall with a 1 to 3 credit directed study/research assignment. Many of these projects will require working closely with Dr. Horowitz. Since these assignments may have extra, hidden difficulties, extra-credit will be considered for well documented problems and their resolution.

Briefly, the alternatives focus around

- Implementing an IMPORT CSV file capability
- Implementing a COSEMO stage distribution mechanism
- Implementing a COSEMO local calibration

The last two exercises would be suitable for managers or support personnel who prefer to work with spreadsheets and macros

- Implementation of spreadsheet to .cal converters macro's
- Implementation of spreadsheet to .est file converters/macro's
Other CSE tools related projects

Most of these projects are for those with significant programming experience. Ideally, it should be someone who also might like to continue in the summer or next fall with a 1 to 3 credit directed study/research assignment. Since these assignments may have extra, hidden difficulties, extra-credit will be considered for well documented problems and their resolution.

Briefly, the alternatives focus around the WinWin tool
- Test planning, test case generation, and regression test suite development
- Application of Rationale’s SQA to testing of WinWin

Test previously developed CodeCounters

<table>
<thead>
<tr>
<th>Perl</th>
<th>Javascript</th>
<th>HTML</th>
<th>C/C++ OLOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Basic</td>
<td>PL/SQL</td>
<td>Excel</td>
<td></td>
</tr>
</tbody>
</table>

Develop web-based means for data collection, calibration and submission

COCOMO II '98 and its successors rely on collection of data on multiple projects to calibrate its factors. This project is to develop and implement processes for the collection, calibration and submission of data to USC.
Previous Course Projects

Productize an industrial-strength code counter

- Based on code counter suite for multiple languages which CSE makes available in a "Copy Left" fashion: [http://sunset.usc.edu/CODECOUNT/index.html](http://sunset.usc.edu/CODECOUNT/index.html).
- Tasks for "new" languages
  - develop additional code counters in the first release preferably for languages used in CS577b:
    - HTML
    - ??
  - enhance for "object" based counting in second release
- Tasks for existing languages (an alternative, only after needed languages done)
  - enhancing original counters for "object" based
  - difference code-counter

Course Projects (cont.)

First assignment, due before the end of 1\textsuperscript{st} week:
An email message confirming your assigned/selected project

Second assignment, due at _______________ class:
A draft of a Consolidated Software Test Document's test description, including

- A list of the test cases for the assigned features
- Specific references to existing COCOMO II documents for information needed.
Introductions (cont.)

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Course Info

- General at http://sunset.usc.edu/classes/cs665s99/index.html
- Assignments, lecture notes, handouts, etc., at http://sunset.usc.edu/classes/cs665s99/schedule.html

Course

- Personal Project Management Process
- Projects:
  - Two deliveries
  - 2\textsuperscript{nd} planned and tracked
  - 2\textsuperscript{nd} to defined processes
- Individual Projects
  - Apply PPMP: Gather and analyze process data
  - Valuable to CSE/CS