CIS 339

Project in Computer Science

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Hours: MWF 9:30am – 11:30am
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Course Description

Team-oriented design and implementation of a large programming project. This is the capstone course, providing students with the opportunity to tie together much of what they have learned in earlier courses. Topics will be proposed by the instructor and students for review and acceptance early in the semester. Students will provide written documentation of their completed projects and will demonstrate the operation of their completed projects in an oral presentation.

Goals

• Learn to work as part of a team.
• Learn to plan a project and track progress against that plan.
• Complete the design and implementation of the project.
• Learn more about software development:
  – Universal Modeling Language
  – Design Patterns
  – Client-Server Systems
Text


Text

SM Team Software Process is a service mark of Carnegie Mellon University.

Teams

- Teams will consist of 4-6 students. All students will have the role of software developer. In addition, students will have individual roles as follows:
  - Team Leader
  - Development Manager
  - Planning Manager
  - Quality/Process Manager*
  - Support Manager**

* For 6 person teams this role is split.
** For 4 person teams this role is distributed to the team.
Projects

- Each team will work on a project.
- Initial team composition and projects were determined the previous semester during CIS 338.

Grading

- Your grade will be based upon the quality of your work and your team participation
- Key elements are:
  - Making and keeping commitments
  - Correctness
  - Completeness
- Grade will be composed of:
  - Attendance
  - Peer Evaluation
  - Individual Evaluation by the Instructor
  - Team Evaluation by the Instructor
Attendance

• Since team participation is a key element of this course attendance at the class sessions/team meetings is mandatory.
• If you cannot attend a particular class session you **must** notify the instructor, the TA, and your team leader in **advance**.
• In the case of illness phone or e-mail **before** class.
• Late arrival equals 1/2 absence.
• Attendance is 25% of the grade, and < 50% is an F.

Class Schedule

• Class meets:
  – Monday 12:40pm - 2:30pm in the lab CC108
  – Wednesday 12:40pm - 2:30pm in TL 305B
  – Friday 12:40pm – 2:30pm in the lab CC108
• Monday and Friday will be devoted to individual and collaborative work. At the end of the Monday class, the team will prepare their weekly status report.
• Wednesday will be devoted to reviewing the status reports. Lectures, questions and answers, and collaborative work.
Lecture Topics

• Initial lectures will be devoted to introducing the Team Software Process as it will be used in the course.
• Additional lectures will be held on technical topics as required.

Weekly Report

• At the end of Monday’s lab session each team will submit a weekly report.
• Report will consists of the following:
  – Earned value statistics for that week and cumulative.
  – List of accomplishments
  – Goals for the following week
  – Issues/Problems
Earned Value

- Each activity has an estimated effort, a planned start date, and a planned end date.
- Budgeted Cost of Work Scheduled (BCWS) is the sum of the estimated effort of each activity whose planned end date has passed.
- Budgeted Cost of Work Performed (BCWP) is the sum of the estimated effort of each activity that has been completed.
- Actual Cost of Work Performed (ACWP) is the sum of the effort expended by all team members.

Earned Value Statistics

- Schedule Variance (SV) = BCWS - BCWP
  – > 0 indicates ahead of schedule; < 0 indicates behind.
- Cost Variance (CV) = BCWP - ACWP
  – > 0 indicates under projected cost; < 0 indicates over projected cost.
Project Schedule

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