**Software Development Project Management**

# Overview

In this activity, students will develop the project plan, for initial planning and for further management and tracking of project progress. Each team will share the project management information in a number of presentation to the class.

Each team member will contribute to the plan development and project tracking; the project manager is responsible for the coordination and timely completion and submission of the required deliverables for this activity.

**Description**

The ***Project plan*** must identify team members and their knowledge and skills relevant to successfully designing and implementing the software. Use a *Skills* table for documenting this information. A *Roles and Responsibilities* table must be included in the plan, to identify roles in the project (e.g., project manager/team lead, design lead, implementation lead, test lead, UI lead) and what each of these roles is responsible for. Then each role will be assigned to a team member, based on their background, skills, and capability. Each team must identify a team leader who will be responsible for all aspects of communication with the instructor.

Please remember that **each team member must contribute to both the development and verification and validation of each project artifact.** For each activity and corresponding deliverables, one designated team member (the *lead* role for that activity) will be responsible for coordinating team’s work for producing and submitting those deliverables. For example, the project manager is responsible for submitting the project plan, and for tracking effort and progress against the plan throughout the project.

The team must carefully identify the activities to be performed, and estimate the effort (in *person hours*) needed and available for each phase of the project, for each individual, and for the entire team. The actual effort must be recorded and tracked by each team member and reported to the project manager. The project manager will propose plan adjustments, if needed, and will “negotiate” with the instructor, in case product scope reduction will be needed at some point during the project. The Project Plan will include an *Estimation Sheet* and a *Tracking Sheet*. Later on, the last project deliverable will include a report of the estimated and actual effort spent, by phase.

It is very important at this point that you produce an estimate of the effort as accurate as possible. The scope, schedule and deadlines for this project are fixed. The effort is bound by the team members’ availability and capability. Given these constraints, your team must be wise in estimated and scheduling the effort for each activity.

The Project Plan will also include a *Risk Analysis and Management*, where the team identifies the technical, management, and people related risks, together with their probability of occurrence (low, medium, high) and impact. A priority factor will be computed for each risk, based on its probability and impact. For the top 5 priority risks, identify how they will be addressed. Track and manage those risks’ occurrence, impact, and mitigation throughout the project.

The Project Plan will include the *Team Operating Procedures*, including communication protocol and rules. For example, how will team members communicate, how often, when will they meet and how (face to face or online/phone), how will decisions be made and documented. It is strongly encouraged to take notes from each meeting, especially documenting the decisions made and work assignments, and maintain these notes in the shared repository.

Your Project Plan will also include the *Project Environment*, that is, the tools that will be used to support engineering and management activities. For example, MS Excel for project planning and tracking, tool *A* for UML modeling, tool *B* for Java programming (IDE), tool *C* for file sharing, tool D for version control/configuration management, tool *E* for testing, tool *F* for team communication (e.g., Google Hangouts), and any other tools that you plan on using.

## Deliverables and Schedule

The deliverables for this phase are the Project Plan (MS Excel file) and must be submitted through ELMS (Canvas), as specified in the syllabus.

**“Team peer” review** must be performed on the *Project Plan* by the respectively assigned *Reviewer Team*. The *Reviewer Team* must read the *Project Plan,* record issues and questions in ELMS, and bring them to be asked in the class presentation.