ETSF01 Project Description

Objectives

The main goals of the project from a course perspective are to:

- connect theory to practice,
- give a concrete experience of developing and using a tool for software cost estimation,
- provide a group-learning setting focused on a realistic problem.

Project Context and Roles

The project comprises two main tasks:

- Task A: Design and implementation of a tool for software effort estimation based on the Project Mission document ETSF01-Project-Mission.pdf.
- Task B: Acceptance testing of a tool for software effort estimation developed by another development team.

The project comprises 50 hours per person and 85-90% of the total effort should be devoted to Task A. Each project team consists of 4-5 members.

Each team shall assign the following roles to their team members:

- Role A.1 – Project Manager: Responsible for coordinating the development work, the communication with the project supervisor, the coordination of the acceptance test activities with the matched project group; the Project Manager also participates in developing activities.
- Role A.2 – Tool Developer: Performs dedicated development and verification tasks.
- Role B.1 – User Representative (Customer): Responsible for planning and coordinating acceptance test activities.
- Role B.2 – User (Acceptance Tester): Performs acceptance test tasks.

At the beginning of the project, each project group having an odd group number will be matched with a project group having an even group number. In each matched pair of groups, one group acts as the acceptance tester of the tool developed by the other group.

Thus, the distribution of roles in a team might look like in the example below:

- Group Member 1: Project Manager & Tool Developer
- Group Member 2: Tool Developer & User Representative

- Group Members 3, 4, and 5: Tool Developer & User

Note: You may choose other role allocations than in the example above. For example, group members 1 and 2 may also be users (i.e., performers of acceptance tests) and/or some group members may exclusively be assigned the role "Tool Developer". However, all group members should perform some development tasks, i.e., it is not possible to exclusively take the role "Project Manager" or "User" or "User Representative".

Reporting Meetings with Project Supervisor

In the weeks W2, W3, W4, W5, and W6 reporting meetings with the group supervisor should be scheduled. 24 hours before the meeting, relevant documents (i.e., Project Plan, Burndown Charts) must be sent to the group supervisor by email (in PDF format). A reporting meeting should not take longer than 15 min. During the meeting, each project group member briefly answers the following questions:

- What have you (the project member) worked on during since the last meeting (or, for the first meeting: since the project start)?
- What will you do until the next meeting (or, for the last meeting: until project end)?
- What problems do you have (if any)?

The group supervisor takes the roles of "Product Owner" and "Process Consultant", i.e., he/she helps with problems related to the understanding of the documents "Project Mission" and "Project Description".

The meeting times are by default scheduled during the times labelled 'Exercises' ('Övningar') in the ETSF01 Course Program. However, each group can negotiate other meeting times with their supervisor if the pre-define time slots are not suitable – as long as in total 5 meetings are conducted during weeks W2 to W6. It is optional to schedule additional meetings, if needed.

Process Overview

The project has the following phases:

- Group Forming (W1):

  Each student enrolled in ETSF01 signs up for one of 24 project groups. Each project group should consist of 4-5 students. If the total number of students is too large to fit into 24 groups, additional project groups will be added. However, it is important that the total number of project groups is even.

- Planning (W2):

  Each group assigns roles and produces the document "Project Plan" (PL). The first meeting with

the group supervisor takes place.

- First Iteration (W2-W3):

  The group develops the first version of the software tool and produces the following documents: “Burn-down Chart 1” (BC1) and draft of “User Manual” (UM). Two meetings with the group supervisor take place. Note that the document BC1 has to be updated and sent to the group supervisor before each meeting.

  It is also recommended to produce drafts of the system/acceptance test plans but is not required to show these plans to the group supervisor.

- Second Iteration (W4-W6):

  The group develops the first version of the software tool and produces the following documents: “Burn-down Chart 2” (BC2) and final version of “User Manual” (UM). Two meetings with the group supervisor take place.

  Note that the document BC1 has to be updated and sent to the group supervisor before each meeting. Before the end of week W6, the system test must be completed and critical defects must be corrected so that the tool is ready for shipping to the customer. Also, the document UM and the final version of the software tool has to be made accessible to the partner group (in order for them to perform the acceptance test) at the end of week W6.

- Finalisation: (W7+):

  The group performs acceptance testing and produces the following documents: “Acceptance Test Report” (ATR) and “Retrospective Report” (RR). All reports must be sent to the group supervisor by the end of week W7.

Deliverables

The following deliverables shall be produced during the project:

- Project Plan (PP):

  Weight: 15% Due: End of week WK2 Length: 2-3 pages + cover page

  The PP should contain the following information: Role assignment to group members / effort allocation per deliverable and per week / assignment of requirements to iterations / work break down into tasks / effort estimation per task / assignment of tasks to group members

- Tool Version 1 (TV1):

  Weight: 20% Due: End of week WK3

  In TV1 the requirements that have been assigned (according to the PP) to the first iteration

should be implemented and tested.

- Burn-down Chart 1 (BC1):

  Weight: 5% Due: End of week WK3

  The BC1 shows for each workday how much total effort is still required to complete the current iteration. The estimates of remaining effort are based on the progress made on the work tasks.

  An example burn-down chart can be found at http://en.wikipedia.org/wiki/Burn_down_chart

- Tool Version 2 (TV2):

  Weight: 20% Due: End of week WK6

  In TV2 the requirement that have been assigned (according to the PP) to the second iteration should be implemented and tested. Note that the assignment of requirements as defined in the PP might have to be adjusted according to the experience made in the first iteration.

- Burn-down Chart 2 (BC2):

  Weight: 5% Due: End of week WK6

  The BC1 shows for each workday how much total effort is still required to complete the current iteration. The estimates of remaining effort are based on the progress made on the work tasks.

  An example burn-down chart can be found at http://en.wikipedia.org/wiki/Burn_down_chart

- User Manual (UM):

  Weight: 10% Due: End of week WK4 (draft) / WK6 (final) Length: 2-3 pages + cover page

  The UM describes how to use TV2 from a user's point of view.

- Acceptance Test Report (ATR):

  Weight: 15% Due: End of week WK7 Length: 2-3 pages + cover page

  The purpose of the ATR is to check (from the point of view of the customer) whether all requirements (i.e., both functional and quality requirements) specified in the Project Mission (PM) have been implemented. The ATR summarises what type of and how many test cases were performed on TV2 of the partner group. In addition, the ATR documents how many failures occurred. The failures should be classified according to criticality/severity.

- Retrospective Report (RR):

  Weight: 10% Due: End of week WK7 Length: 2-3 pages + cover page

The RR should contain the following information: Description of deviations from the original plan (as described in the PP) / Summary of things that went well and summary of things that did not work well / Suggestions of what the group would have done differently, if they could do the project again / Characterisation of the project using the COCOMO cost drivers as defined in the data file DF found at: http://promise.site.uottawa.ca/SERepository/datasets/cocomonasa.arff / Comparison of the actual effort used for developing TV1+TV2 and the effort prediction that would result from applying effort estimation by analogy using the project data stored in DF.

Grading

Possible project grades are Fail (F) / Good (G) / Very Good (VG).

In order to achieve the grade “G”, all deliverables must be submitted in time and contain the minimum information outlined in the section “Deliverables” above.

In order to achieve the grade “VG”, all deliverables must be submitted in time and contain the minimum information outlined in the section “Deliverables” above. In addition, at least 60% of the deliverables must go significantly beyond the minimum requirements with regards of comprehensiveness, accuracy, and detail.