TI Design Project: design component Manual

-- January 2022 --

Introduction

The module consists of two components:

- A design component of 10EC.
- A reflection component of 5EC organized by departments within the BMS faculty.

Design component

The TI Design Project module is one of the two final modules of the Bachelor. In the design component of this module students show that they master the entire design trajectory, from the first informal specification of requirements by a client, to the delivery and presentation of a well-documented working product.

Projects are submitted by clients from either inside or outside the University. Students perform the project in groups of 3-5 students under supervision of a teacher from the department of Computer Science. The supervisor is also the one who assesses the process and products of the group. Project deliverables include a project proposal, a design report, a presentation and a poster.

Learning objectives: the student should be able to

- Collect functional and quality requirements in cooperation with a client, and prioritize them
- Methodically design a system that meets the requirements, using relevant knowledge, techniques and tools
- Turn the design into a working prototype
- Formulate a test plan according to which the prototype is tested
- Document all phases in the design trajectory
- Justify choices and coordinate them with the client
- Write a project proposal and a project plan, and organize the project accordingly
- Work in a team: plan activities, distribute responsibilities, interact in a constructive way
- Indicate consequences of system and design choices (ethical, societal, organizational)
- Indicate follow up steps for the development of the system

Organization

General

This module is offered twice every year, in quartile 1 and 3. **Prerequisites:** 120 EC excluding Research Projects and Minors (so the first 7 modules and the choice module).

Organization design component

Groups: Before the start of the module students form groups of 3-5 students and select a project (see Blackboard for more detailed information on the procedure). In coordination with the module coordinator a group establish contact with a supervisor and client. The supervisor is a teacher from the Computer Science department who will supervise the students and perform the grading. The client has submitted the project and is the contact for the students for requirement analysis, for coordinating design decisions, and for delivering the final product. It may happen that the client and supervisor are the same person.

Deliverables: a group should produce the following deliverables:

- a project proposal, including a planning, planned deliverables, risk analysis, and description of the project organization (responsibilities, procedures)
- a design report, including a requirement specification, a global design, a detailed design with a justification of the design choices, a test plan and test results, and (pointers to) source code and a manual. It should be made clear what are the individual contributions of each student.
- slides of the final presentation (at the chair of the supervisor)
- a poster presenting the project

The project proposal has to be agreed upon by client and supervisor and may function as a kind of contract or commitment statement. How and when this agreement is organized is entirely up to the student team.

The design report, presentation and poster should be handed in at BOZ. In addition, the poster and design report, together with a short description of the project, should be uploaded by the group to the so-called Bachelor Showcase (instructions can be found on CANVAS). All this is a prerequisite for having the grade registered.

Assessment: the design component will be assessed by the supervisor according to the criteria in the assessment form (on CANVAS). The assessment form is not a kind of excel sheet to determine the grade, but gives the supervisor the possibility to justify this grade. It will be handed in at BOZ (by the module coordinator) in order to register the grade. The poster is obligatory for the assessment of the project.

In addition, the assessment form will be filled in by a supervisor of another project (except for the presentation and process part). This will form input for the supervisor in the final assessment.

The grade is a group grade. However, each individual contribution must be made clear in both project plan and design report. It is possible that an individual member gets a grade that is different from the group grade. This can either be on the initiative of the supervisor, or because the group has submitted a red card or green card; details of the red/green card procedure can be found on Blackboard.

Planning: each group makes appointments for meetings with the supervisor (usually on a weekly basis). In addition, there are several meetings for all groups (scheduled on MyTimetable):

- a kickoff meeting in the first week
- peer review meetings in week 3, 5, 7, and 9

- a final meeting in week 10 where all posters are presented.

The peer review meetings are obligatory. In the peer reviews groups give feedback on the work of other groups. These meetings are important to assure the progress and quality of the work. Peer reviewing the work of others has as an important side effect that a group reflects on its own work by being confronted with the work of others.

In the final stage of the project, each group gives a presentation at either the chair or the supervisor or the organization of the client, to be organized by the group in coordination with the supervisor.

This schedule shows the planning for the peer review meetings:

Week	Activity	Proposed topic
1	Introduction, selection of groups and assignments	Contact with client and supervisor
2		
3	Peer review: project proposal and planning	Project proposal, plan
4		
5	Peer review: requirements and test plan	Requirements specification, test plan
6		
7	Peer review: design and first prototype	First version design document, first prototype
8		
9	Presentation	Presentation slides
10	Final poster session	Poster, Design report, Final product + manual

Assessment: table

Each component is graded separately with a number with one decimal digit. The final grade is a weighted average based on the ECs of the respective components (10 EC design component, 5 EC reflection component). This is reflected in the following assessment table:

TI Design Project					
Element	Type of exam		Weight within Element (%)	Minimum Grade	Weight (%)
Design component	Design report, presentation, poster	G	100	5.5	66.7
Reflection component	Design reflection	G	60	5.5	33.3
	Elective	I	40		
			Weighed Average	**5.5**	**15 EC**