User Interfaces

Computer Science Engineering

Course 2020 / 2021

DESIGN AND DEVELOPMENT OF WEB USER INTERFACES

Design, development and documentation of a 2.0 website

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1. Introduction

The case study described in this document is aimed at designing and developing a web user interface. To this end, the student is expected to put in practice the lessons learned during the course, including both theory and lab sessions. This means that, amongst other aspects, usability and accessibility concepts, web design patterns and technologies for developing web user interfaces will form part of the case study, which is described in Section 2.

Estimated effort

The estimated number of hours each student will need to devote to completing the exercise is 37, which will be distributed in four working weeks and in four lab sessions, which will take place in small lecture rooms. The lecturers will solve general doubts or concerns about the exercise in these sessions.

Submission

The submission will be during the day of the class of the 14th week of the course through Aula Global. Finally, the case study defense will be during the face-to-face class of the 14th week of the course. See the timetable of lab sessions in Aula Global.

Assessment

The case study corresponds to 30% of the final mark of the course. Students will not be eligible for continuous evaluation if they:

- Copy the exercises from another group
- Allow other groups to copy their exercises
- Copy the exercise from webpages

Organization of the document

This document is divided into two sections. Section 2 describes the case study. Section 3 details the submission procedure and evaluation criteria.

2. Case Study

In this case study, the students are expected to put in practice the lessons learned during the course, both in the theory part and in the practical part. To do so, the students will analyze and implement the prototype designed for the third set of exercises.

The project will be carried out in three phases.

First phase: Designing the Prototype

Each case study group will have four students. During this first phase, each group has to work on the prototypes designed during the third set of exercises and agree about combining them in a joint design project. The new prototype has to be validated by the professor before starting the implementation. If not, the group will not be allowed to submit the entire project.

Second Phase: Implementing the Prototype

The prototype designed during the first phase will be implemented using the technologies already seen during the practical sessions or others chosen by the students. It's possible to use frameworks, like bootstrap, but the teacher is not going to give support on them. It is required to implement at least the following three pages:

- Homepage (showing the list of the courses for teachers and students, or an option panel for administrators)
- Sign Up / Log In Page
- Personal Page (showing information and content about the course with different options depending on the role, student or teacher; this page is not required for the administrator)

The cookies or localStorage mechanism is also required.

Third Phase: Documenting

During the third phase, each group will work on the documentation writing a report with the following structure:

- Main objective of the system to design (combining the goals already defined in the third point of the third practice).
- End users of the application (personas) and analysis and evaluation of similar web pages, including applied heuristics and design patterns (combining the analysis already performed in the first and second point of the third practice).
- Description of the prototypes designed previously in the third set of exercises by the members of the group.

- Justification of the new prototype, explaining why it has been chosen and applying the Nielsen's heuristics and the design patterns by Van Duyne.

- Description of the used technology for the implementation.

3. Norms

The realization of the case study is guided by the following norms. If you do not comply with them, your mark won't be more than 3 in the case study.

Norms for conducting the case study

- The case study will be carried out in groups of four students. The members of the group should be from the same lab group.
- Together with the implementation, it is MANDATORY to report all the design choices and the design principles used in the second section of this assignment.
- The written report of the case study will be a single .doc/.docx or.pdf file.
- At the end, the students will present their case study. All the members of the group MUST participate in the public presentation.

Norms for submitting the case study

The submission norms are:

- All the files will be submitted through Aula Global on the date and time scheduled. All the files will be either zip or rar files, with the following filename:

  CP_grXX.zip

  XX is the ID of your group. For example, group 5 will submit the case study as:

  CP_gr05.zip

- The zip or rar files will have:
  - A "doc" folder, with your written report
  - A "src" folder, with the source code the case study, divided into
    - A "script" folder, for jQuery and JavaScript files
    - An "images" folder, for images files
    - A "style" folder, for CSS files

IMPORTANT: Exercises submitted in e-mails to the lecturers will not be considered.

Norms for evaluating case study

The evaluation criteria, which were discussed in the presentation of the course, are:

- Technical development/implementation (40%). We will evaluate the validity of the code in terms of compliance with W3C standards, the use of comments in the source code, errors handling, and number and type of functions developed.

- Interface design (50%). We will evaluate how web user interface design patterns have been applied and used in the web user interface. To do so, the lecturer will, amongst other activities, carry out a heuristic evaluation of the web user interface by following Nielsen's heuristics.
- Presentation (10%). We will evaluate the clarity, coverage of topics and precision of the presentation, along with the ability to make it within the time limits.