

COM S/SE 319: Construction of User Interfaces
Spring 2023

Final Project

[Total Points: 100 every component]

Assignment Due: Saturday, **May 10th, 2023**, 11:59PM

1. Overview

The Final Project is the evidence that the student has learned all the topics covered during the course until its culmination.

The Final Project reflects that the student knows how to practically apply the knowledge of the course.

The Final Project must contain the solution to a problematic developed using Web technologies. The Final Project will contain the different technologies covered along the course until the end of Week 15, Friday May 5th, 2023. The final product must contain the next technologies:

- HTML
- CSS
- Javascript
- React
- NodeJs
- Express
- Mongo database or any SQL database

The problematic to solve and the information contained on the website is the preference of the students.

Although we set the minimum requirements of functionality and used technologies, the Final Project is a final product that solves a problematic of the preferences of each student.

The Final Project is a Single-page website of perfect functionality and a very good aesthetic appearance. That is, the software must work without any kind of failure. It must solve a fictitious or real situation. The development must be a web environment and show computer web pages with a professional appearance that must be deployed using any browser. Professional appearance can be interpreted from different points of view according to different students. For example, the appearance and design of a financial application must not necessarily be as serious and formal as a banking institution. The appearance and design are as the team members prefer. However, it will be penalized if the appearance and design reflect very little effort and work.

The addition of more advanced technologies used to solve technical problems won't be penalized. However, if the inclusion of more advanced technologies interferes with the review of the project at the time it is reviewed by the TA, the TA can decide whether to penalize the project or not.

The Final Project is composed of the next elements :

- Final Project :

○ Proposal Phase1:	5 %	
○ Phase2	: 5 %	
○ Software	: 15 %	Week 16 May 8-10
○ Documentation	: 5 %	"
○ Video	: 5 %	"
○ Presentation	: 5 %	"

From the previous elements, Proposal Phase1 and Phase2 have been worked on by the students, handed it in previous dates and they are not required in this document.

This document is requiring the next elements of the Final Project :

○ Software	: 15 %	Week 16 May 8-10
○ Documentation	: 5 %	"
○ Video	: 5 %	"
○ Presentation	: 5 %	"

Every component has its own value for the final grade. Therefore, everyone can be reviewed and graded over 100.

2.- Software:

If the student completed and handed the Phase 2, most likely will see that the component Software in this Final Project is highly similar to what was required in Phase 2 because it is a sequence of steps towards the final. Phase 2 should be required one or two weeks earlier to note a significant difference between them.

The software required in this document is worth 15% of the final grade and it is the continuation of Phase 2. That simply means that the work completed in Phase 2 could be improved until the due date of the Final Project.

The software component will be reviewed using the Phase 2 requirements. It is not necessary to repeat all that document here.

If during the Phase 2 revision is written some notes on Canvas. It is a great chance to correct, add or modify the necessary to meet the requirements.

3.- Documentation :

Additionally, to the due date of the Final Project, the student must hand a Document of the system, a video evidencing the content of the structure of the system and its functioning and arrange a final show demonstration of the application in execution.

The final website is made up of different web views using the well-known concept of Single-web page. That implies the system running will show different functionalities and interfaces to solve a problem.

On the other side, to develop the application was required to install software and construct directories and files.

It is required to show the system architecture from the point of view of the physical structure of files, and directories. The logical architecture must explain and show the relationship client-server in your application and the logical workflow or information/data flow.

The Final Project Documentation can be developed using any word text editor such as Microsoft Word. However, when the document is complete, must be exported to PDF format. The information expected in the document comprise the next:

- First page:
 - Code of the course, name of course
 - Date
 - Students name, email address
 - Professor name
 - “Final Project Documentation”
- Second page:
 - Index of the document
- The next sections are after page two.
- Description of the project
- Diagram to describe or identify the overall functioning of the Software
- Description text and graphical of the files and directory architecture.
 - Diagram of the modules or blocks that represent user, server, intermediate files, CSV, JSON, database, Web pages, etc.
- Description text and graphical of the client – server architecture OF YOUR PROJECT.
- Description text and graphical of the logical architecture.
 - The graphical representation of code/modules can be draw in tools such as Powerpoint, Figma, Excalidraw, Whimsical, etc
 - Diagram that describes the database
 - Diagram to describe the functioning of the API.
- Explanation of every view:
 - Screenshot of the main Web page and description of each field that show relevant information to the user and each field that one user can interact with.
 - Screenshot of views after interacting with the Interface using buttons, input, etc.
- Manual of installation:
 - Include a section of installation and configuration of software such as: NodeJS, React, Express, Bootstrap, Mongo, etc.
 - The manual must contain special configurations such as the important functions used to access external files, middleware used to access databases, etc.
- Copy of the code, JSON files:
 - Copy of Javascript code

- Copy of JSON files
- Copy of HTML files

If for reasons of confidentiality it is not possible to write details of the data and of the system in general, for example: the cases in which the application was developed for a company, then an email from the staff of the company / institution requesting that this data not be published must be added to this documents.

4.- Video

The video is one essential part of the Final Project. A good video will show briefly, in 1.5 to 3 minutes, the physical architecture of the files and directories and the logical architecture client-server and the flow of information and user interfaces.

Please use a video recorder that allows you to record the screen of your computer. It is not recommended to use a cellular phone to create the video because does not catch the screen completely and the quality required. Also, when using a cellular phone to record video of a computer screen, it is easy to add background noise.

The format recommended for the video is mp4.

If you use a different format, upload it to Canvas and try to reproduce it.

Essentially, the video must show the most brief and quick possible, the files and folders structure, and the application in execution. When the application is executing, it must show the different views the application offers to the user. When entering data actioning buttons or interacting with the interfaces, show the output and the possible modifications of data in the database.

The first recorded video may not be fully liked by the student and may not reflect the complete architecture and full operation of the application. Therefore, it may be necessary to carry out several recording s experiments.

It is highly recommended that the video includes a voice explaining what is showing.

The instructor and the TAs will use the video to review the functional part of the Software, the completeness of the technological and procedural requirements and the integration of the minimum technologies that it must contain.

5.- Show demo presentation

During last days of Week15, a file will be shared to register the name of the students according to a date and time to make a show demo presentation of your project in person.

In the final show demo presentation, the student must be able to explain the system since de physical or logical point of view. The TA or Professor can make questions about the files and directories architecture, or questions regarding the development, and its functionality. Each student of the team must show complete knowledge of the application.

- The student must be able to answer questions related to software required, installation and configuration, knowledge of technology comprised on the Web site and functionalities of particular parts of the code. Even though the general work could have been divided for the development, both students must know 100% of the code, the technology used and its operation just as if they had done it individually.

The show demo presentation should last no more than 5 minute per Team.

6.- What to submit

Software

- Include all the files in `teamXX_final.zip` except the MODULES folders.
 - Can separate in a different folder the files pertaining to the Front-end and in another folder the files pertaining to the Back-end. Then make a Zip.
- Construct a ZIP file.

*Where XX in `teamXX_final` is your team number. That will allow the TA and instructor to review and assign the same grade to the team members.

*It is required submit ONLY ONE compressed file (.zip) per Team. Team members are grouped in Canvas.

Documentation

- PDF file containing all documentation required.

Video

- Video file in format mp4.

7.- The Rubric to grade this assignment is as follows:

This Assignment has a total value of 100 points.

There is no late submission deduction this time. There are not Extensions.

- Software ? _____ / 100

- Is it developed using REACT ? _____ / 20

- Is it developed using Nodejs and Express ? _____ / 20

- Is it developed using Databases ? _____ / 20

- Is it implementing CRUM Post, Get, Put, Delete ? _____ / 20

- Is it implementing Hooks, Fetch/Axios ? _____ / 10

- Is it a Single-web page application ? ____ / 10

- Documentation ? ____ / 100
 - Has it First, Second and Index pages ? ____ / 5
 - Has it a clear graphical and textual description of the physical architecture ? ____ / 35
 - Has it a clear graphical and textual description of the logical architecture ? ____ / 40
 - Has it screenshot of different views and explanations ? ____ / 10
 - Has it a software installation manual ? ____ 5
 - Has it copy of code, files ? ____ / 5

- Video ? ____ / 100
 - Is it clear, fluid, and easy to understand ? ____ / 20
 - Is it showing the physical architecture of files and folders ? ____ / 40
 - Is it showing the logical functioning of the application, showing views and user interactions ? ____ / 40

- Show demo presentation ? ____ / 100
 - Is the explanation of the students direct to the point and clear? ____ / 25
 - Does the explanation include the physical architecture of the system ? ____ / 35
 - Does the explanation include the logical architecture of the system ? ____ / 40