Project

Overview

- Goals:
  - Demonstrate your skill in building a “basic” web system
  - Explore “technologies” not covered in class
    - E.g. Frameworks, Servers, Platforms, Tools, ...
  - Explain the basic ideas of the chosen technology
  - Showcase their advantage by applying it to a reference implementation
-
- Groups:
  - Single person (default)
  - N people (N people = N * work of a single person)
-

Community Based Organization (CBO)

- **Imagine** a CBO that helps people
-
- Feel free to pick whatever you want your CBO to focus on
  - e.g. one that helps homeless people, kids living on the street, etc.
-
- Do NOT engage/interview/research an existing CBO for this project !

...

- Assume that you want to use your technical skills to develop a web-based system to assist the CBO
- Your goal is to develop a web-based system that allows the CBO
    - Registering staff
    - Registering people the CBO wants to help (customers)
    - Retrieving data & reports about a registered person/customer
    - Adding a new report about a registered person/customer
    -
- Feel free to expand/add workflows that fit your imagined CBO e.g. generate reports on how many people were helped in a timeframe, most productive staff et.

Functionality for Staff

- Register/Change/Delete staff
- Register/Update/Delete customers
- Show all customers
- Show all data & reports for a customer
- Add a new report about a customer e.g. summary of a consultation

Project

- A - Build a simple application
  - 3-tier system
    - Server -> Nodejs, Client -> HTML/JavaScript, Database -> MySQL
  - Follow best practices e.g.
    - ensure scalability, minimal use of resources, loose coupling, asnc calls ...
  - Only use libraries/tools/technology/platforms presented in class
- B - Explore one or more new “technology/platform”
    - E.g. different server, engaging frontend framework, ….
    -
  - Has to be tested within the CBO scenario
- C - Explain the underlying concepts of your “technologies/platforms”
  - How does it work
  - What is its use
- D - Integrate the chosen technologies/platforms into the CBO scenario
  - Develop a new CBO application that demonstrates your chosen technologies/platforms
  - Compare your new application with the system you developed in part A

Marking

- Part A -> 30 %
- Part B -> 10%
- Part C -> 20 %
- Part D -> 40%

Evaluation

- Write a report explaining each section
  - Part A) explain the architecture/design, report on your testing/evaluation (1 page max)
  - Part B) explain why you chose a technology/platform (½ page max)
  - Part C) explain the key concepts of your chosen technologies (1 page max)
  - Part D) explain the new architecture/design, report on your testing and explain advantages/disadvantages (compared with the architecture/design of part A)
- Give a 10 minute presentation of your project
  - Be prepared to answer questions related to each part
  - The marks for each part will be 20% report & 80% presentation/implementation
  - Only explained implementation/design/testing/technologies … will be considered in the final grade for each part of the project
  - The overall complexity/functionality of your work is an important factor in grading

Timeline

- Complete project prior to last day of classes (e.g. 6th of December 2021)
- Submit your project prior to the presentation
  - code as a zip file
  - 1 PDF file with the reports for parts a,b,c,d
  - 1 PDF file of your presentation
- Book time slot for presentation
  - Book time slot before the 3rd of December
    - Booking starts on the 3rd of November
  - You can book at the end of each lectures by talking to me
  - If no slots are free on a day you have to choose an earlier or later day
-

Bonus or Penalty

- Present on or before 30 of November-> + 10 %
- Present on or before 6th of December -> + 5 %
- Present after the 6th of December -> 0%
- Present after 8th of December -> - 10 %
- Present after 10th of December -> - 30 %
- Present after 16th of December -> - 100%

Example technologies

- Frameworks
  - React / Vue / Angular / …..
  - Django ….
- Servers
  - NGINX / IIS / Apache ….
  - Databases/Data Stores/ Data Lakes
- Platforms
  - Cloud. Mobile ...

Grades

90-100

Exceptional

A superior performance with consistent strong evidence of

- a comprehensive, incisive grasp of the subject matter;
- an ability to make insightful critical evaluation of the material given;
- an exceptional capacity for original, creative and/or logical thinking;
- an excellent ability to organize, to analyze, to synthesize, to integrate ideas, and to express thoughts fluently.

80-90

Excellent

An excellent performance with strong evidence of

- a comprehensive grasp of the subject matter;
- an ability to make sound critical evaluation of the material given;
- a very good capacity for original, creative and/or logical thinking;
- an excellent ability to organize, to analyze, to synthesize, to integrate ideas, and to express thoughts fluently.

70-79

Good

A good performance with evidence of

- a substantial knowledge of the subject matter;
- a good understanding of the relevant issues and a good familiarity with the relevant literature and techniques;
- some capacity for original, creative and/or logical thinking;
- a good ability to organize, to analyze and to examine the subject material in a critical and constructive manner.

60-69

Satisfactory

A generally satisfactory and intellectually adequate performance with evidence of

- an acceptable basic grasp of the subject material;
- a fair understanding of the relevant issues;
- a general familiarity with the relevant literature and techniques;
- an ability to develop solutions to moderately difficult problems related to the subject material;
- a moderate ability to examine the material in a critical and analytical manner.

50-59

Minimal Pass

A barely acceptable performance with evidence of

- a familiarity with the subject material;
- some evidence that analytical skills have been developed;
- some understanding of relevant issues;
- some familiarity with the relevant literature and techniques;
- attempts to solve moderately difficult problems related to the subject material and to examine the material in a critical and analytical manner which are only partially successful.

<50

Failure

An unacceptable performance