Term Project 2 – Working with Frameworks

CMSE514 - Software Architecture

Fall Semester – 2022/2023

Description

This project is to be carried by a group of 4 students. Students will be able to choose their own team members.

Aim

The aim of this project is to expose students to world web technologies and frameworks. At the end of the project, each student is expected to basic skills of how to use a JavaScript framework, (**React**) as well as how to work with databases and a server side framework.

Details

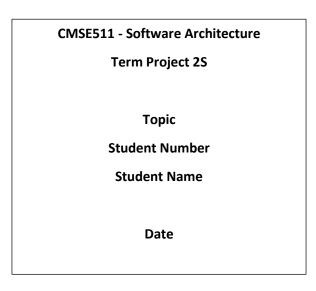Your task is to develop an exclusive entertainment system that will include the following features:

- Three or more games
  - **Tic Tac Toe**: The rules of the game are as follows:
    - There is a 9×9 grid
    - One player is x, the other is o
    - Each player must attempt to line up 3 of their counters (x or o) in a line
    - The line can be in any direction; vertical, horizontal or diagonal
  - **Hangman**: The rules are as follows:
    - The user is presented with some dashes (these represent letters in a randomly selected word)
    - They must guess which letters appear in the word
    - A correct guess would display the letter in the word (it is no longer obscured with a dash)
    - An incorrect guess means the user loses a life
    - The user must guess the word correctly before all of their lives have expired
  - **Snake**: The user controls a "snake" amongst a grid of squares (or circles).
    - They use the arrow keys to navigate the snake around the grid.
    - They must eat items (apple, pear, whatever it would be) in order to grow the snake.
    - As the snake grows, it becomes harder to contain within the grid.
    - The snake can collide with the walls as well as itself.
    - The aim is to grow the snake to be as long as possible

- A calculator with at least two modes
  - Simple Mode: Where the basic calculations can be made with common operators
    - +
    - -
    - /
    - *
  - Scientific Mode: With more operators such as:
    - Sin
    - Cos
    - Tan
    - Log
    - %
    - Etc.

- Picture gallery: Users will be able to add and remove pictures from the gallery. The main feature is to be able to flip through stored images.

- Hidden Feature that generates password based on user's inputs

  - Inputs should include: Favorite text, number, Symbol
  - Generated passwords can also be saved.
  - This feature should be visible after long pressing a button on the calculator.

Report

Hard copy of the report will be submitted in class on or before the deadline. It should include

- **Front Page Sample**

> **CMSE511 - Software Architecture**
>
> **Term Project 2S**
>
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> **Topic**
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> **Student Number**
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> **Student Name**
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> **Date**

- **Frameworks and tools used**

- **Team members' contributions**

- **Implementation**

- **User Guide and Sample runs**

- **APPENDIX**: for snippets of codes and other resources

- **Text Style**
  - Font Type: Times New Roman
  - Font Size: 12
  - Spacing: 1.5
  - Justified

Presentation

A demonstration of the work will be performed by each team at the end of the semester.

Report and Presentation Deadline: June 13th, 2023.