COMP397 –Web Game Programming

Mid-Term Test

The Dice Roller

Due Week #7 by end of class.

Value 15%

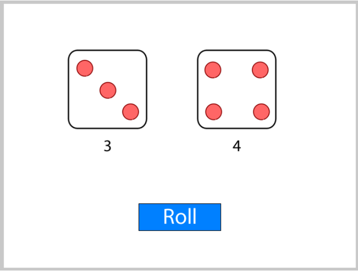
The Dice Roller **Maximum Mark: 26**

Overview: Use your accumulated knowledge of various libraries and frameworks demonstrated in class to build a dice roller. Your game will display a **random result** of two dies set side by side within the webpage. Each time the player presses the **Roll button** the dice result displayed will change.

Instructions :

(5 Marks: GUI, 13 Marks: Functionality, 4 Marks: Internal Documentation, 4 Marks: Revision Control, 4 Marks: Cloud Services)

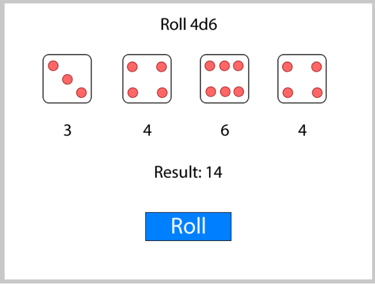
1. **Task 1:** Download the **Project Template** from eCentennial. Use this code as a starting point for your Mid-Term Test Project (2 Marks: Functionality).
2. **Task 2:** You will code your solution in the **Play Scene** Provided.
    a. Add a **Roll Button** control to your GUI that allows the user to generate a **random die result** each time he clicks the button. Hint: (see the *util* container class for an appropriate helper function) (2 Mark GUI).
    b. Add code to respond to the user's clicking of the **Roll Button**. This code will generate a **random number** between 1 and 6 for each die. You will create code so that two dice are rolled (6 Marks: Functionality).
    c. Display the dice result by using the **assets provided** or downloading appropriate images (bitmaps) from the Internet for the die faces and displaying the result in your game's UI. Display the die images next to each other. (2 Marks: GUI, 4 Marks: Functionality).
    d. Add an appropriate **text label** control that displays the dice result underneath the corresponding graphic representation (1 Marks: GUI, 1 Marks: Functionality).



3. **Task 3:** Include **Internal Documentation** for your program **(4 Marks: Internal Documentation):**
    a. Ensure you include a program header that indicates: the Source file name, Author's name, Date, Program description (2 Marks: Internal Documentation).
    b. Ensure you include a header for all of your functions (1 Marks: Internal Documentation
    c. Ensure your program uses contextual variable names that help make the program human-readable (1 Marks: Internal Documentation).
4. **Task 4:** Share your files on **GitHub** (or other Version Control Service) to demonstrate Version Control Best Practices **(4 Marks: Version Control)**
    a. Your repository must include **your code** and be well structured (2 Marks: Version Control).
    b. Your repository must include **commits** that demonstrates the project being updated at different stages of development – each time a major change is implemented (2 Marks: Version Control).

Optional Features (Bonus)

- Add appropriate sound effects when the user clicks on the roll button (2 bonus points).
- Add simple animation when the dice are rolled (2 bonus points).
- Add an appropriate background image of a dice table or board (2 bonus points).
- Add another scene to the project. Provide a button control in your Play Scene to navigate to the new scene. This scene will simulate rolling 4d6 (4 six-sided dice). As before show the result in the UI. However, your program will add up the highest dice and drop the lowest die from the result which you will display in another text label. The final result will be a number from 3 to 18. (8 bonus points)



SUBMITTING YOUR WORK

Your submission should include:

1. Your zipped files submitted to e-Centennial.
2. A link to your project files on GitHub (or other Version Control Service of your choice).

This assignment is weighted **15%** of your total mark for this course.

External code will not be allowed for this test.

However, you will have access to your code from other assignments and the instructor's code.