CSE212: SOFTWARE DEVELOPMENT METHODOLOGIES

YEDITEPE UNIVERSITY

SPRING 2019

TERM PROJECT – DUE DATE MAY 19TH, 2019

As term project you are required to develop a single player motorbike racer game. Your application should keep scores for all players. For this purpose, the users should be required to register with a login name and a password, and to log in prior playing the game.

You can use the following statements and figures as a guideline:

- For usability purposes, you are required to implement a graphical user interface (GUI) for your application (see Fig. 1).
- Your application should have a welcoming window which will contain the game logo and a menu structure (Game, User, and Quit).

Fig. 1: Example motorbike racer game screenshot

- In the case of a *Registration* request (*User->Register*), a login window should pop-up to collect the user details (*username; password*). *You might also consider collecting some additional information here, such as username/screen name etc.*
- If the user would like to login s/he should be able to request to login (see Fig. 2) via the menu (*User->Login*).

Fig. 2: Login Window

- When a user would like to play the game (*Game->Start*), the application should check whether s/he is logged in. If not, the user should be forwarded to a login screen (see Fig. 2) where s/he is asked for username and password.

Fig. 3: Motorbike racing screen and race circuit diagram

- As can be seen on the example screenshots (Fig. 3), the game screen should have the speed of the motorbike, the score and the time available till the next check point.
- Every player should get from one check point to the other in 60 seconds time – the check points are marked in red on the circuit diagram in Fig. 3.
- The game should have a level of artificial intelligence, which should be expressed via other racing motorbikes. At the beginning the competitor bikers should move randomly but after the half of the circuit they should make aggressive moves to kick the player out of the track.
- The user should be able to pause (*Game->Pause*) the game though the menu. Also the user should be able to restart any time during the game (*Game->Restart*).
- When the motorbike gets out of the track it should crash and the game should start from the beginning.
- The track should have at least two curves – see Fig. 3 – and you should be able to check whether the bike is on track or off using transparent parabolic lines.
- The users should be able see the High Score board (*User->High Score*).
- The motorbike should be controlled with left and right arrow buttons; furthermore, it should have *accelerate* and *brake* button.
- To create a better feeling of a motorbike race, the game should have motorbike sound which increases with the speed.

- All the user data should be stored on a file – whether it is a flat/text file or a binary file is up to you.
- There should be at least seven (7) other motorbikes racing with the player.
- [Bonus] Extra points will be given to students who have implemented the crash animation for the scenario where the motorbike gets out of track or crashes with other motorbikes.
- An example motorbike game video can be found at this location (https://www.youtube.com/watch?v=lFcI695g7Lo)

Furthermore, you can find the motorbike, crash and explosion images at the following address (https://tinyurl.com/y48m7dl6)

Submit your assignments in a rar file, which has your name_surname_studentNumber as file name, using COADSYS by the end of Sunday, May 19th, 2019. All submitted source files will be check for plagiarism among classmates and with any existing open source code available on the Internet. Furthermore, all students will be required to demonstrate their work for 15 minutes. DO NOT submit somebody else's work.