Project Report

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User manual

This program is a game called Frogger. Whenever one wants a bit of entertainment while listening to the relaxing music of the game in the background can check this game out. The game's purpose is to get the frog to the other side of the street without hitting the cars or getting eaten by the crocodiles. There are three different levels of difficulty so everyone can have fun.

In order to run the file, you need to follow the next steps.

1. Install Python on your computer. You can install it by searching it on Google and downloading the version compatible for your computer(depending if you have Windows, MacOS or Linux).
2. Install the Pygame module. You can do this by opening the terminal in your computer and writing "pip3 install pygame". This will install the module in order for you to run the program.
3. Once you finish installing the aforementioned, you can continue on downloading the zip. file named "Game Project". Decompress the file in order to retrieve the files and open it.
4. Once you open it, open the file called "Intro_page.py". Once the file is opened, you can run the file by either pressing "Run" in the bar menu in a MacOS device or simply press F5 in a Windows device. This will run the game.
5. Once you are in, you can choose the difficulty of the game by tapping on one of the difficulty level buttons or just playing the game from the easiest level to the hardest by tapping "Play the Game".
6. Once you start playing, you can either use the arrow keys or the WASD keys depending on your preference. Be mindful of the cars and the crocodiles and enjoy the music!

Contents of my program

My program contains 4 different Python files that are communicating with each other. The first Intro_Page.py file is the first page of the game itself that gives the user the different options of difficulty to choose from. This file is using solely the tkinter module which creates the desired initial user interface page. The other three Python files represent the three different levels of the game: easy, medium and hard. I have separated them into different files as they all have different speeds for the enemies that the frog is supposed to avoid. As the difficulty level increases, the speed increases for the enemy objects.

I am confident that the first interaction page always works with no bugs and always directs you to the intended difficulty level. As you enter the game, the music plays and everything always starts moving the way it is supposed to without any bugs. Therefore, in general, I expect my app to have no specific bugs. However, there is one problem I have encountered. When another person plays my game on the same exact laptop hardware as mine, it sometimes tends to not have the right speed for either the enemies or the frog. To that end, I tried to fix this problem, yet it still occasionally happened. In my opinion, it might be an issue caused by the time frame rate that I have set. It might work differently across different laptop configurations.

This project helped me increase my knowledge and confidence in Python programming. By learning the pygame module and mastering the tkinter module, I am now confident in programming simple games like these and would further like to extend my knowledge of this language to get even better at creating games. The way that pygame module was meant to work was quite surprising to me as some concepts like creating Sprite groups didn't make sense for me at first.

I would have liked to implement two more features to this game. One of them would be adding a limit to the frog's lives and also setting a timer so the user would have to rush to get the frog to the other side. If I would have had more time, I could have also tried to change the background and enemies for different levels to make the game more interesting.

Bibliography

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