Python Project Abstract: TYPING SPEED TEST GAME

This project involves the development of a game which can help improve the typing skills and speed of the player. The domain would be that of graphical user interface & our involvement would help us better understand the multiple libraries used and their functionality. The individuals involved in this project are rookies & largely first time have involved themselves in such projects and thus open to all suggestions and comments.

The libraries used in this project are:
1. pygame : this is a standard python library which is used to draw items on your screen, play sound effects and music, handle user input, implement event loops. Since we are largely inexperienced and have never used this library before, it would be a good learning experience for us to use it.
2. sys : this module is helpful in manipulating python runtime environment & provides a great deal of information about various functions, constants used and the ways python interacts with them. Using it would be a new learning experience for the individuals involved in the project as well.
3. time : the time module helps represent time for various objects, measure executing and use standard date and time. Apart from this, it also helps calculate the efficiency of our code.
4. random : this library is largely used to help generate random variables from various provided categories of distributions which can be used in the large scheme of our functions.

After importing all the required libraries, we will then proceed to create a game class which will help us initialize the game and also reset it. Furthermore, we will then have to create a .txt file to use a set of sentences which can be used in our game and imported into the system by the use of .random library in order to getsentence() method. Finally we will use show results which would have been done after having calculated the time taken in writing the words.

The calculations would be of the format WPM (words per minute) which is : correct characters * 100/ time taken. Furthermore, for each game session we will also store the continuous average of the cumulative typing sessions as well. A run method would be used to start the game and to receive input on the screen as well. To initialise the time, we can check when the mouse clicked on the start button, however in the case an individual makes a mistake and wishes to correct himself, we will also have to use a backspace function which allows the user to delete inputs which are not desirable. Finally if the input received matches the sentence generated then we will show results after checking it and then reset the game after storing the WPM average separately.

We expect to take a week to complete the project , since there are a lot of things that need to be studied since we have no idea whatsoever of how they work, mostly including the pygame and sys modules alongside the time module. The project may not be of great utility or of a complex character but we undertake in order to have a better learning experience where we understand the workings of graphical user interface modules and the time modules and help enhance our coding skills as well as knowledge of the field.

References used :
1. https://realpython.com/pygame-a-primer/
2. https://www.geeksforgeeks.org/python-sys-module/
3. https://docs.python.org/3/library/time.html
4. https://techvidvan.com/tutorials/project-in-python-typing-speed-test/

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