10.014 Computational Thinking and Design

1D Project

21F03 Group 9

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“The Bored Game”

Description

**Scenario**:

This game is aimed at teenagers who are bored and want to pick up some fun and quirky facts. It is a simple game that is designed to kill time whilst helping one to learn more general knowledge. Additionally, these facts also double up as great content for small talk and will surely brighten up any dull conversation, just like what a 12-year-old would want.

**Description of the Game**:

There are two main purposes for the game – to educate and to entertain.

The game will present an amusing statement to the player and two options (true or false). The player would then have to decide if the statement is true or false and the pointer will follow through correspondingly. If the player chooses the wrong choice three times, the game is over. However, if the player can complete the set of questions, they will win and complete the game.

**Documentation**: This game uses 3 main libraries; **tkinter**, **random** and **csv**.

Tkinter: We used tkinter for the GUI of the game. Using the Canvas object from tkinter, we can create the shape of the road, the pointer (the ball) and the diamonds. In addition, we used the Button and Label methods to add the interactive element to the game. Using popups, we can display the questions with a sufficiently large font while not interfering with the games UI.

Random: Random is used to select questions to display to the player at random. It also assigns the text on the buttons randomly so that there is essentially no pattern in the way the questions are asked and which button is the correct answer.

Csv: We store our questions in a csv file as it is more organized than a plain text file. To traverse through a csv file and read the data row by row, we use the csv module.

We make use of Object-Oriented Programming by defining classes, methods and attributes. Classes in python makes coding easy as we can define methods non-sequentially and still call the method in any other part of the code, especially useful when you have to deal with the tkinter.mainloop().

MainInterface()

\_\_init\_\_(self,master)

* This initializes most of the necessary attributes for the MainInterface() class, including the tkinter canvas object.
* self.master refers to the tkinter Tk object that we will define when initializing the class

disable\_button(self,s)

* This function is used to disable the button as the pointer is moving, otherwise the buttons can still be pressed and the assigned function will execute causing errors
* Positional argument s refers to the state that the button will be in. It will be either ‘normal’ or ‘disabled’

assign\_question(self)

* With the help of this function we can display questions to the user and also randomly assign the left and right button with the correct and wrong answer

move\_left(self) and move\_right(self)

* This moves the pointer to the left and right towards the pressed button

check\_ans(self)

* This will verify whether the selected answer is correct or not

disabled(self)

* This function does nothing, this can be used when we have to disable the close button on the popup windows
* If we don’t disable the close button then the user can close the window without using the button and the function assigned to that button, causing errors in our code

popup(self)

* This function creates the popup window that displays whether the selected answer is correct or not

resume\_game(self,choice)

* The positional argument choice will be a string either ‘Ok’ or ‘Quit’ and these values will be assigned when the function is called when the popup window opens
* If the choice is ok, the game continues, otherwise it will execute the tk.destroy() function and stop running the code

Reset(self)

* This will reset the pointer back to the origin after each round has been played

**References:**

<https://www.geeksforgeeks.org/python-gui-tkinter/>

<https://docs.python.org/3/library/tk.html>

<https://docs.python.org/3/library/csv.html>

**Video Link:**

<https://youtu.be/yAyPQ5HvZiY>