**TITLE: GUI BASED GAME**

**END TERM REPORT**

***By***

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## APPENDIX 2

**Student Declaration**

This is to declare that this report has been written by me/us. No part of the report is copied from other sources. All information included from other sources have been duly acknowledged. I/We aver that if any part of the report is found to be copied, I/we are shall take full responsibility for it.

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**BONAFIDE CERTIFICATE**

Certified that this project report “**GUI BASED GAME**” is the Boniface work of “KARTIKEY JAISWAL, SAGAR SHARMA, VIPUL SAMANT” who carried out the project work under my supervision.

### <<Signature of the Supervisor>>(Due to COVID-19 19, signature is exempted )

<<Mr. Sagar Pande >>

<<Academic Designation>>

<<ID of Supervisor>>

<<Department of Supervisor>>

### **INTRODUCTION**

### Our project is basically a GUI based game which uses library like pygame, sys and random. We have made this project just for entertainment purpose where one can come and enjoy the game in their free time. Our project code has features like uses of class , inheritance, functions of pygame and many more.

### **WHAT IS GUI BASED GAME?**

### A GUI is a larger, broader term that's used to describe anything meant for the player (and not the character the player is controlling) to directly interact with. ... HUDs (Heads Up Displays) are GUI elements that display information in real time, while the user is playing the game

**LIBRARY USED IN OUR PORJECT**

1. Pygame
2. Sys
3. Random

**WHAT IS PYGAME? WHAT ARE THE USES OF IT?**

Pygame is a cross-platform set of Python modules designed for writing video games. It includes computer graphics and sound libraries designed to be used with the Python programming language.

Pygame is a cross-platform set of Python modules which is used to create video games. It consists of computer graphics and sound libraries designed to be used with the Python programming language.

**WHAT IS SYS ? WHAT ARE THE USES OF SYS?**

Systems-based games are everywhere but most commonly associated with the “immersive sim” genre. ... Players benefit from a more dynamic and varied game experience, and developers benefit through less rigid implementations of the core of their games.

The sys module provides information about constants, functions and methods of the Python interpreter. dir(system) gives a summary of the available constants, functions and methods. Another possibility is the help() function. Using help(sys) provides valuable detail information.

**WHAT IS RANDOM? WHAT ARE THE USES OF IT?**

Functions in the random module depend on a pseudo-random number generator function random(), which generates a random float number between 0.0 and 1.0. random. random(): Generates a random float number between 0.0 to 1.0. The function doesn't need any arguments.

Random numbers are useful for a variety of purposes, such as generating data encryption keys, simulating and modelling complex phenomena and for selecting random samples from larger data.

**KEY FEATURES USED IN OUR PROJECT**

Key features used in our program are given below:

* [Background and Setup](https://realpython.com/pygame-a-primer/#background-and-setup)
* [Basic PyGame Program](https://realpython.com/pygame-a-primer/#basic-pygame-program)
* [PyGame Concepts](https://realpython.com/pygame-a-primer/#pygame-concepts)
  + [Initialization and Modules](https://realpython.com/pygame-a-primer/#initialization-and-modules)
  + [Displays and Surfaces](https://realpython.com/pygame-a-primer/#displays-and-surfaces)
  + [Images and Rects](https://realpython.com/pygame-a-primer/#images-and-rects)
* [Basic Game Design](https://realpython.com/pygame-a-primer/#basic-game-design)
  + [Importing and Initializing PyGame](https://realpython.com/pygame-a-primer/#importing-and-initializing-pygame)
  + [Setting Up the Display](https://realpython.com/pygame-a-primer/#setting-up-the-display)
  + [Setting Up the Game Loop](https://realpython.com/pygame-a-primer/#setting-up-the-game-loop)
  + [Processing Events](https://realpython.com/pygame-a-primer/#processing-events)
  + [Drawing on the Screen](https://realpython.com/pygame-a-primer/#drawing-on-the-screen)
  + [Using .blit() and .flip()](https://realpython.com/pygame-a-primer/#using-blit-and-flip)
* [Sprites](https://realpython.com/pygame-a-primer/#sprites)
  + [Players](https://realpython.com/pygame-a-primer/#players)
  + [User Input](https://realpython.com/pygame-a-primer/#user-input)
  + [Enemies](https://realpython.com/pygame-a-primer/#enemies)
* [Sprite Groups](https://realpython.com/pygame-a-primer/#sprite-groups)
* [Custom Events](https://realpython.com/pygame-a-primer/#custom-events)
* [Collision Detection](https://realpython.com/pygame-a-primer/#collision-detection)
* [Sprite Images](https://realpython.com/pygame-a-primer/#sprite-images)
  + [Altering the Object Constructors](https://realpython.com/pygame-a-primer/#altering-the-object-constructors)
  + [Adding Background Images](https://realpython.com/pygame-a-primer/#adding-background-images)
* [Game Speed](https://realpython.com/pygame-a-primer/#game-speed)
* [Sound Effects](https://realpython.com/pygame-a-primer/#sound-effects)
* [A Note on Sources](https://realpython.com/pygame-a-primer/#a-note-on-sources)
* [Conclusion](https://realpython.com/pygame-a-primer/#conclusion)

**DESCRIPTION OF GUI PROJECT**

A GUI allows the user of a computer to communicate with the computer by moving a pointer around on a screen and clicking a button. ... A program on the computer is constantly checking for the location of the pointer on the screen, any movement of the mouse, and any buttons pressed.

**HOW TO PLAY:**

There are 2 slider. And one ball. So, it is a small screen game with least graphics.

And its coding has been done on “pygame”. As it is a GUI game. A graphical user interface (GUI) is a type of user interface through which users interact with electronic devices via visual indicator representations.

So it is a multiplayer game when one of the player strike the ball to 2nd player used to receive it so that he can defense the score that he will make it. Once the ball will not collide to board of any of the player, he/she will lose the point and hence this the whole procedure of the game.

**IMPORTANT POINTS ABOUT OUR PORJECT**

* The ball, paddle and the opponent paddle have been made in paint by us separately.
* After making the above images we have imported the images to our project.
* Also the sound has been added, which was also imported to our project (sound was present as OGG file)
* There are two types of sound effects added which comes when you score the point and when you hit the ball with the paddle.

**SUMMARY**

In this project project we have a build a GUI based game which is based on libraries like pygame, sys, random. The logic behind the project is that, wherever the ball strikes the side boundary of the opposite gets point and the counter of 3, 2, 1 starts for the next round.

In this project we have made several classes and based different functions. Also, we have made the use of inheritance.

So, what are you waiting for, go and enjoy the game.

**REFERENCES**

[**https://studio.code.org/docs/gamelab/createSprite/#:~:text=Sprites%20are%20used%20to%20make,other%20sprites%20or%20the%20mouse**](https://studio.code.org/docs/gamelab/createSprite/#:~:text=Sprites%20are%20used%20to%20make,other%20sprites%20or%20the%20mouse)**.**

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