



**COMPUTER PROJECT**

**TOPIC :** ***Pygame***

**GROUP :** ***Dev Radadia* *and* *Dheer Banker***

**CLASS :** ***XII (Science)***

**SCHOOL :** ***Shiv Ashish School***

**SESSION :** ***2020-21***

Index

1. Project Structure and Salient Features
2. Procedural Design
3. Game Logo
4. Game Screenshots
5. Modules Used
6. Functions Used
7. Limitations
8. Bibliography

# ping-pong-xiiProj

PingPong - A project made by Dev Radadia and Dheer Banker

The aim of the project is to create a ping-pong game with basic 1v1 options and a smooth, intuitive gameplay.

Salient Features:

1) The project is divided into 5 packages:

i) image - Contains the images used in the project

ii) r - Contains the screen-wise strings, resources and font styles used in the project

iii) screens - Contains the logic for every screen in the project, with a module for every screen

iv) sound - Contains the sounds used in the project

v) sprites - Contains the different pygame drawables that have been used frequently in the project, like ball, paddle, button, etc.

2) All the GUI Elements in the project are developed solely using pygame, from scratch, in order to keep a consistent GUI

3) The project also includes various sounds in it, which are played, for example, when a button is clicked, or when the ball bounces.

4) There are a total of 6 screens in the project

i) About - Tells the user about the developers and the basic controls of the game

ii) Main Menu - The main screen that has options to go to the other screens.

iii) Player Names - Where players can enter their names and choose their colours

iv) Game - The game screen, where the players play.

v) Pause - The screen which comes up when players choose to pause the game

vi) EndGame - The screen which declares the winner of the game just played

5) All the screens are then bound and controlled using "The Game.py", the main controller code of this project.

Procedural Design

1. To start the application, click on **The Game.py** or run **The Game.py** via a Python console.
2. The main screen appears, which has three options:
   1. **Start**: Takes the user to the **Player Names** screen (details mentioned below).
   2. **About**: Takes the user to the **About** screen, which contains information about the project and its basic controls.
   3. **Quit**: Exits the application.
3. **Player Names** screen: Here, the players can set their respective names and choose their colours (default White). From here they can either **Return to Main Menu** or press **Enter** to move to the **Game** screen.
4. **Game** screen: After an initial countdown from 3 to 1, the game starts. Players can:
   1. Move their paddles using the respective controls (mentioned in **About** screen).
   2. Pause the game using the **Pause** button or by pressing **P**.
   3. Go to the main screen by pressing **Esc**.
5. **Pause** screen: Shows the current scores and has the options to **Resume, Return to Main Menu** or **Quit**.
6. **Endgame** screen: The screen which follows when the game ends, showing the winner’s name, and the options to **Play Again, Return to Main Menu,** or **Quit**.

***The possible screens and transitions are shown in the image below***

Game Logo



Screenshots













Limitations

The limitations of the projects are:

1. No option to play against the Computer
2. No option to change the Theme of the project
3. No option to turn off the sounds
4. The project screen cannot be resized
5. No leader-board maintained
6. Joysticks not supported
7. No settings screen present
8. No other game modes like Infinite Play, Timed Play etc.
9. To be continued…

Bibliography

1. <https://www.pygame.org/docs/>
2. <https://docs.python.org/3/>
3. <https://www.geeksforgeeks.org/>
4. <https://pythonprogramming.net/pygame-python-3-part-1-intro/>
5. NCERT Class-XII Computer book