

Top Down Shooter Game

Components:

Hardware Required:

- Arduino UNO
- Jumper Wires(Male to Female or Male-Male and Female-Female)
- Joystick Potentiometer module
- USB Type A to Type B connector (to connect Laptop/PC to Arduino UNO)

Software Used:

- Python IDE - Jupyter Notebook 3.0
- Python IDE - Visual Studio Code
- Arduino IDE 2.0.0

Python Library Functions Used:

In the game code:

- pygame
- math
- random

In the Arduino code:

- pydirectinput
- pyserial

Description:

1. The game is played in a top-down (bird's-eye) view angle.
2. The game portal opens with a menu screen with four options - PLAY, HOW TO PLAY, CREDITS and EXIT.
3. PLAY - The player(user) stands at the bottom of the game window, whereas the enemies spawn at the top. The enemies move towards the player, and follow the player's movements.



BACK

Top Menu Shooter Game

Welcome! This is a Tutorial on How to Play this game

A. RULES AND INSTRUCTIONS

1. Player has to shoot down the incoming enemies.
2. If the Enemy touches the player, the player is Dead and the Game is Over
3. The number of Enemies you shoot down is your score.

B. CONTROLS

1. Use W-A-S-D to Move the player
2. Use Left Button of the Mouse to shoot

GOODLUCK!

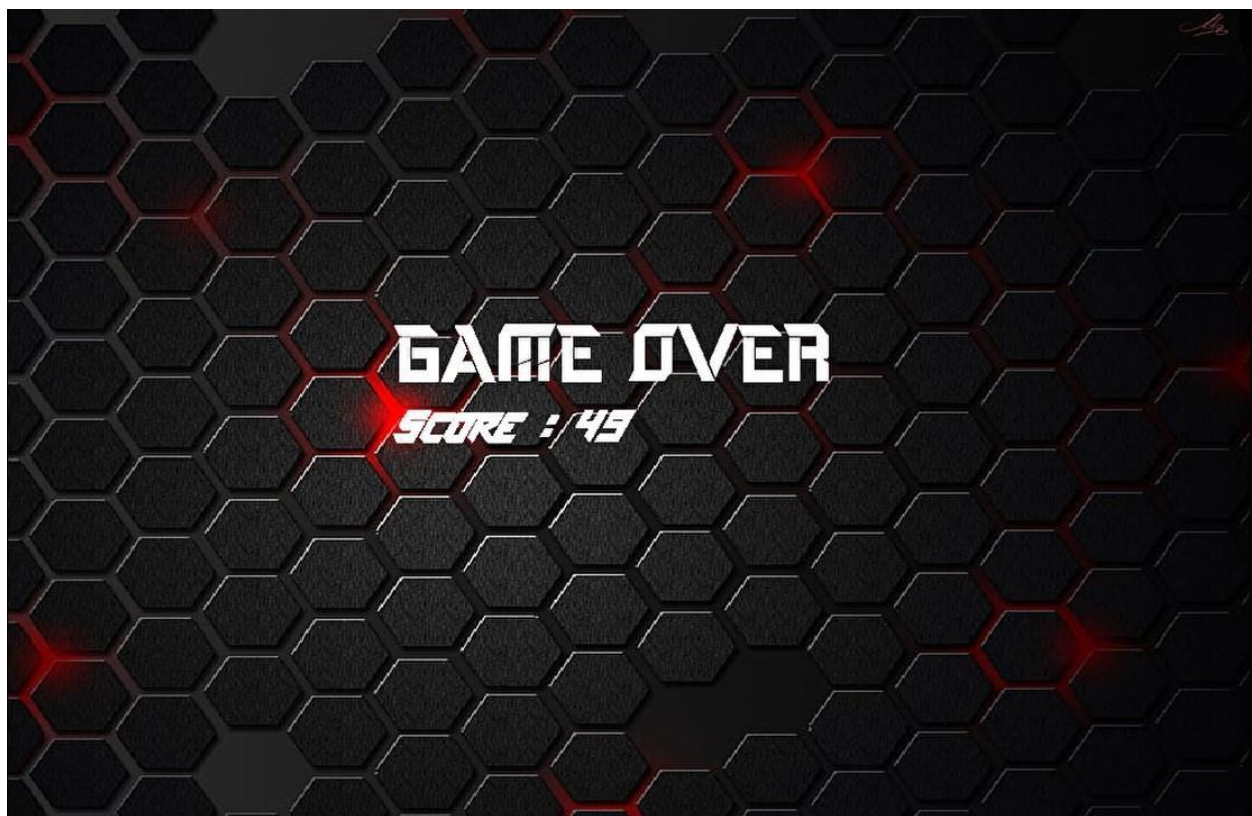
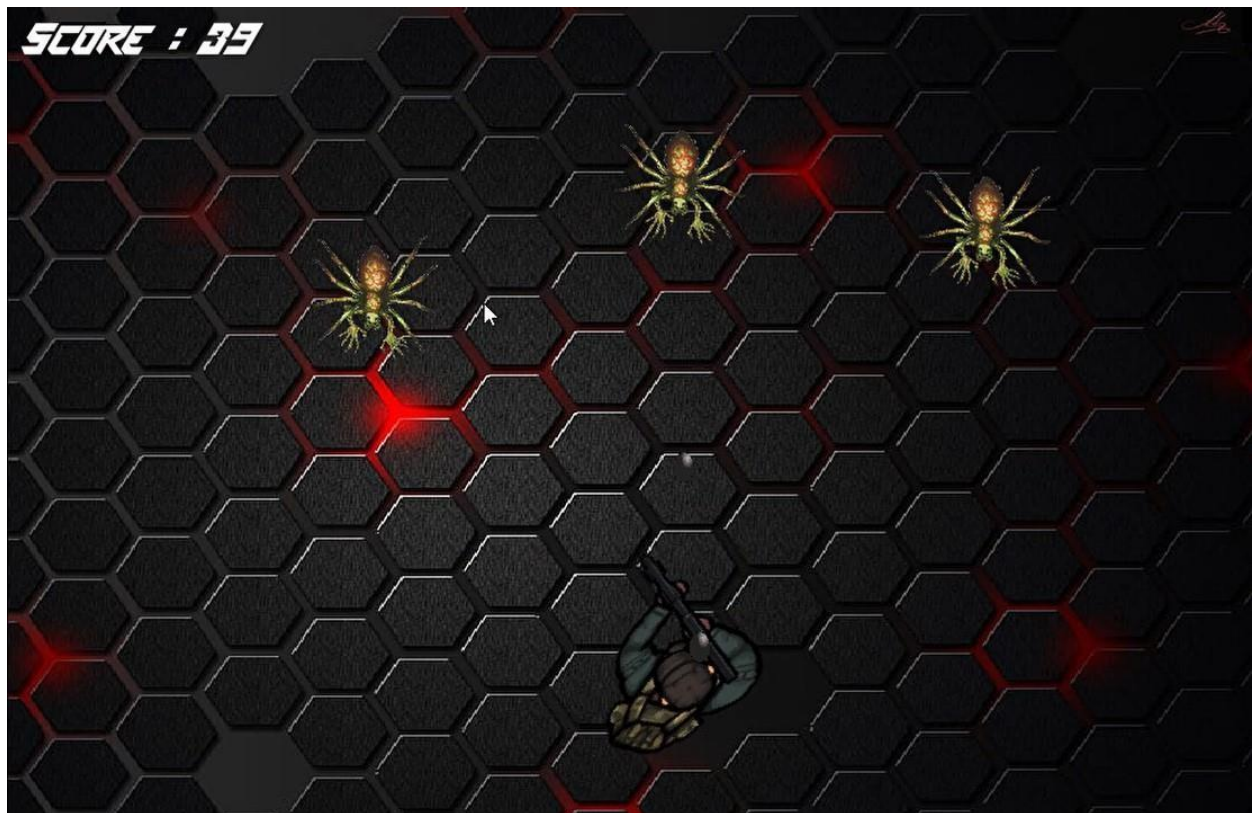
4. Use the Joystick, Arrow keys or the WASD keys for moving the player, and click the left or right mouse buttons for firing bullets in the direction that the player is facing (mouse cursor is pointing) to kill the enemies.
5. As the score increases, the speed of enemies increases, thereby raising the difficulty level.
6. Your aim is to survive as long as possible by killing as many enemies as you can, to achieve the highest score within your skill-cap!
7. The top left corner of the game window displays the 'Score', which updates in real time to display the current count of the number of enemies eliminated.
8. The game ends if an enemy collides with the player, and the final score is displayed on the screen.

Links:

- *Game code:*
<https://drive.google.com/file/d/13vZTEKHslpLDZUtnrXTleoe5JNl5cOyt/view?usp=sharing>
- *ArduinoIDE code:*
<https://drive.google.com/file/d/1jCKjxHFK0U3tHKB-xUuFNDR2ZE8iHMLr/view?usp=sharing>
- *Arduino – Python code:*
https://drive.google.com/file/d/1p5ilGdcvUIGKV2o2oqn9hkUlsHYi_GF0/view?usp=sharing

References:

- *Arduino Joystick Controller* - JoystickP3.py, Joystick.ino
<https://www.thingiverse.com/thing:4770053/files>
- *Google* – Websites that provide non-copyrighted sprite packs and images for game designing were used to collect all the sprites, fonts, sfx and bgm.



Enemy sprite:

https://mir-s3-cdn-cf.behance.net/project_modules/max_1200/8e987a30355887.561f043bb1725.png

Player sprites:

<https://opengameart.org/content/animated-top-down-survivor-player>

<https://unluckystudio.com/free-top-down-shooterplayer-sprites/>

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