

PyWar: Battle in Space



Presentees

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What is this project about

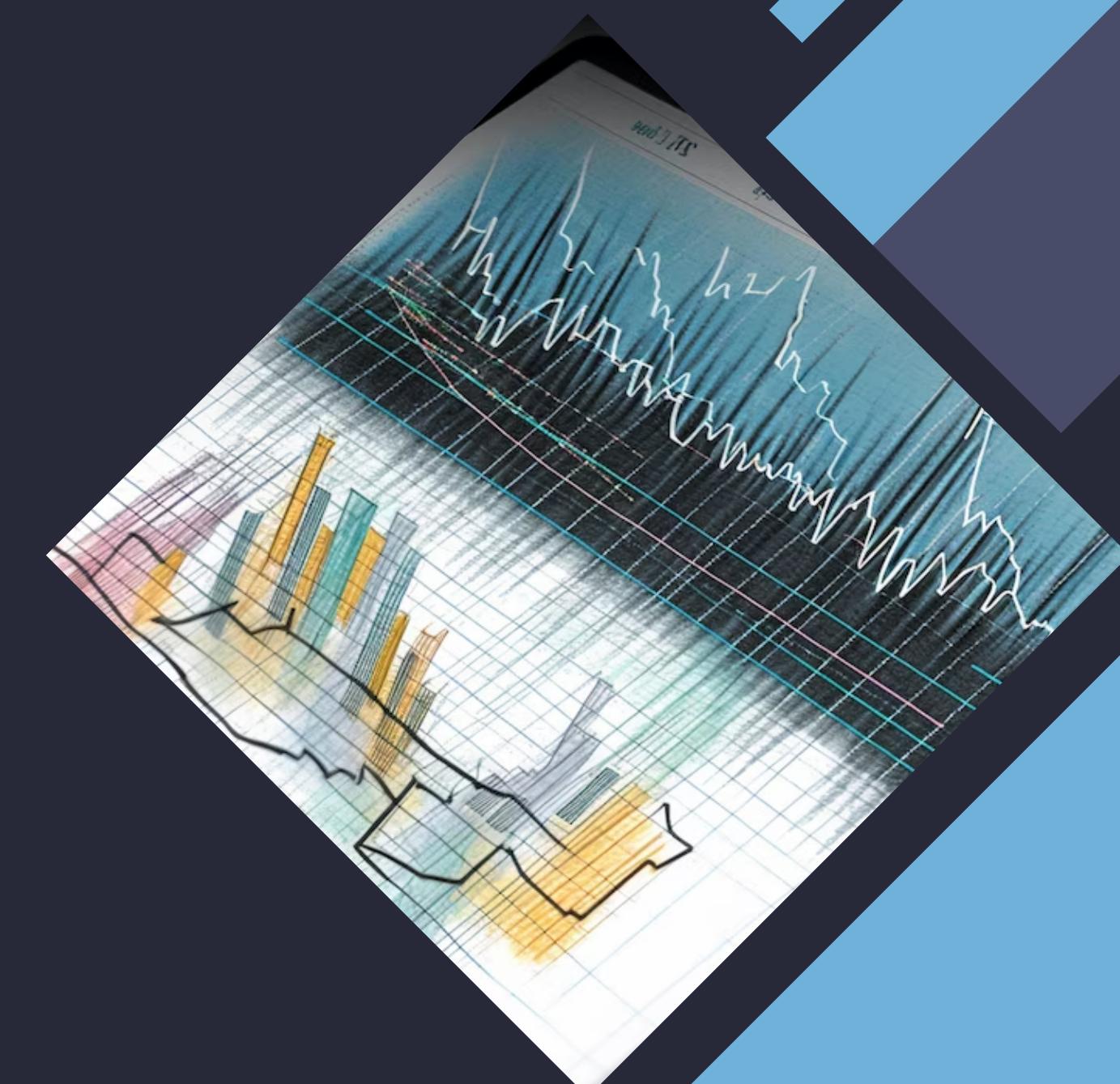


THE GAME IS SET IN SPACE WHERE PLAYERS CONTROL THEIR SPACESHIP TO BATTLE AGAINST ASTEROIDS.

THE GAME IS DESIGNED TO BE EXCITING AND CHALLENGING, WITH MULTIPLE LIVES AS PLAYER STARTS NEW GAME.

Python Module /library used

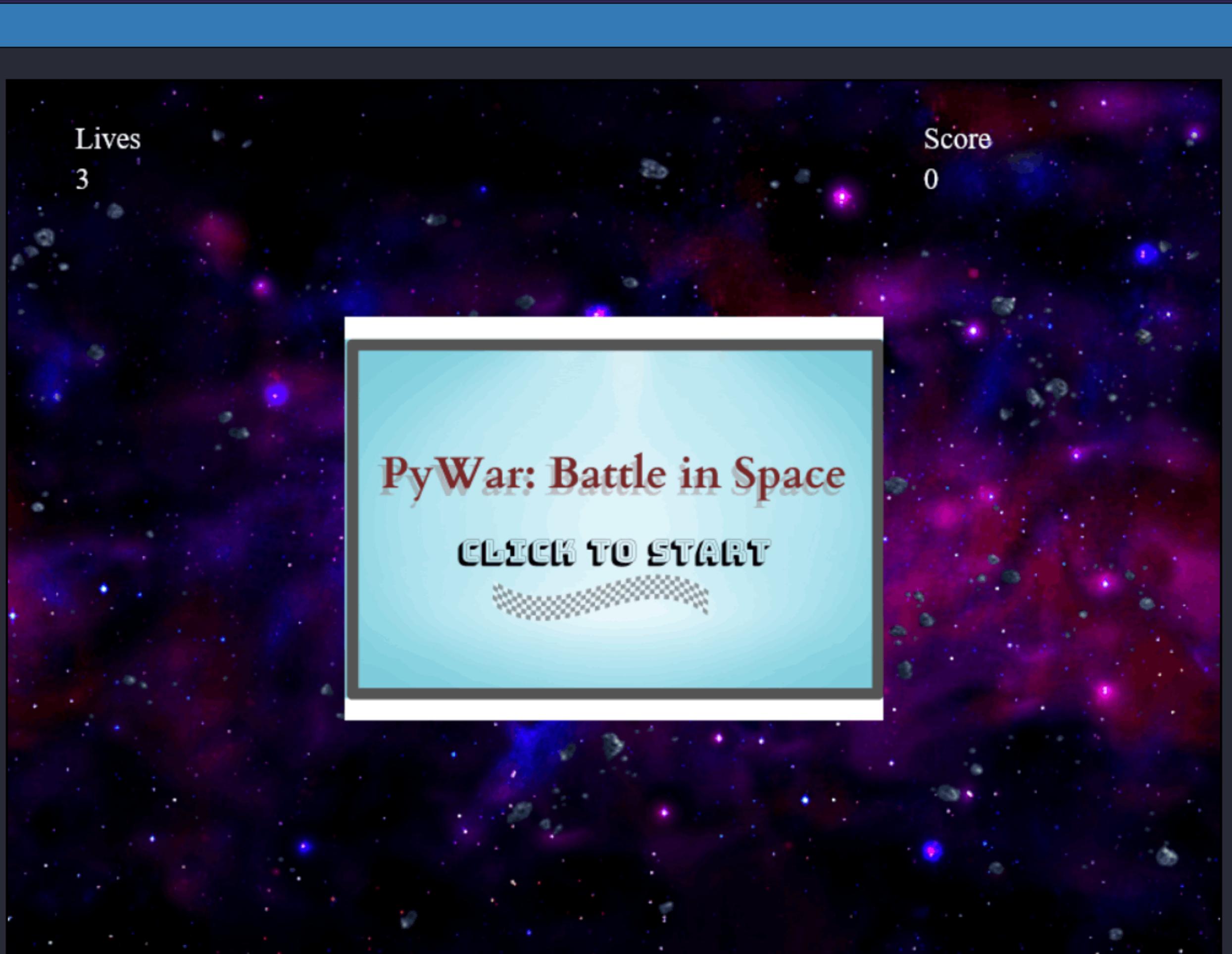
- ▶ SIMPLEGUI
- ▶ MATH
- ▶ RANDOM
- ▶ OOPS



Game Outlook



Screenshot



👉 **Title Box**

👉 **Lives**

👉 **Score**

Screenshot



Movable
spaceship

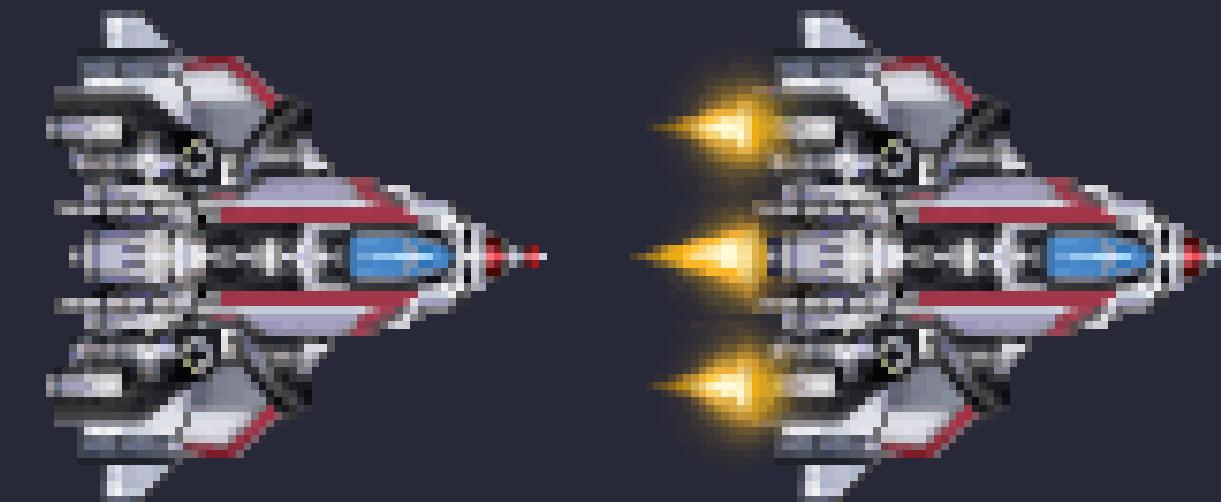
Random
Asteroid

Background
moving stone

Screenshot



Transitions



Blast of Asteroid

Codes

```
import SimpleGUICS2Pygame.simpleguics2pygame as simplegui
import math
import random

class ImageInfo:
    def __init__(self, center, size, radius=0, lifespan=None, animated=False):
        self.center = center
        self.size = size
        self.radius = radius
        if lifespan:
            self.lifespan = lifespan
        else:
            self.lifespan = float('inf')
        self.animated = animated

    def get_center(self):
        return self.center

    def get_size(self):
        return self.size

    def get_radius(self):
        return self.radius

    def get_lifespan(self):
        return self.lifespan

    def get_animated(self):
        return self.animated

debris_info = ImageInfo([320, 240], [640, 480])
debris_image = simplegui.load_image(
    "http://commondatastorage.googleapis.com/codeskulptor-assets/lathrop/debris2_blue.png")

# nebula images - nebula_brown.png, nebula_blue.png
nebula_info = ImageInfo([400, 300], [800, 600])
nebula_image = simplegui.load_image(
    "https://3.bp.blogspot.com/-6B0dGG-eCnC/WG32TVkxCZI/AAAAAAAABok/yXdlWeaaFaY8XLS5stWxo-mIfFc1WNJ6aACLcB/s1600/Universe%2BWallpapers%2B1.jpg")
# nebula_image = simplegui.load_image("https://img.freepik.com/free-photo/galaxy-nature-aesthetic-background-starry-sky-mountain-remixed-media_53876-126761.jpg?w=900&t=1684579836~exp=1684580436~hmac=cce66e47d1163379e8e5a566f5b31af6ed57206a092a95e4f4b2f3880fa69665")

# splash image
splash_info = ImageInfo([200, 150], [400, 300])
splash_image = simplegui.load_image(
    "https://i.ibb.co/Wnykw9j/Py-War-Battle-in-Space-1.png")

# ship image
ship_info = ImageInfo([45, 45], [90, 90], 35)
ship_image = simplegui.load_image(
    "http://commondatastorage.googleapis.com/codeskulptor-assets/lathrop/double_ship.png")
```

```
WIDTH = 900
HEIGHT = 650
score = 0
lives = 3
time = 0
started = False

# -----
# -----

# helper functions to handle transformations

def angle_to_vector(ang):
    return [math.cos(ang), math.sin(ang)]

def dist(p, q):
    return math.sqrt((p[0] - q[0]) ** 2 + (p[1] - q[1]) ** 2)

def process_sprite_group(s_group, canvas):
    for x in set(s_group):
        x.draw(canvas)
        if x.update():
            s_group.remove(x)

def group_collide(s_group, other_object):
    has_collide = False

    for x in set(s_group):
        if (x.collide(other_object)):
            a_explosion = Sprite(x.get_position(), [
                [0, 0], 0, 0, explosion_image, explosion_info, explosion_sound])
            explosion_group.add(a_explosion)
            s_group.remove(x)
            has_collide = True

    return has_collide

def group_group_collide(group1, group2):
    total_collisions = 0

    for x in set(group1):
        if group_collide(group2, x):
            group1.discard(x)
            total_collisions += 1

    return total_collisions
```

Conclusion

Easy to play and enjoyable with little implementation

Thanks

Do you have any
questions?

