import pygame

import random

import time

pygame.init()

Width, Height = 800, 600

WIN = pygame.display.set\_mode((Width, Height))

pygame.display.set\_caption("Car Game")

FONT = pygame.font.SysFont("garamond", 22)

def draw(time\_passed):

    time\_passed\_text = FONT.render(f"Time: {round(time\_passed)}s", 1, "black")

    WIN.blit(time\_passed\_text, (10, 10))

# colors

gray = (100, 100, 100)

green = (3, 192, 60)

red = (200, 0, 0)

white = (255, 255, 255)

yellow = (255, 232, 0)

# road marker size

marker\_width = 10

marker\_height = 50

# road and edge markers

road = (250, 0, 300, Height)

left\_edge\_marker = (245, 0, marker\_width, Height)

right\_edge\_marker = (545, 0, marker\_width, Height)

# coordinates of lanes

right\_lane = 300

centre\_lane = 400

left\_lane = 500

lanes = [right\_lane, centre\_lane, left\_lane]

# lane movement animation

lane\_marker\_move\_y = 0

velocity = 2

# loading screen image

loading\_screen\_image = pygame.image.load("FireCar.jpeg")

game\_over\_image = pygame.image.load("Game\_over\_screen.jpg")

class Vehicle(pygame.sprite.Sprite):

    def \_\_init\_\_(self, image, x, y):

        pygame.sprite.Sprite.\_\_init\_\_(self)

        # scale the image down

        image\_scale = 100 / image.get\_rect().width

        new\_width = int(image.get\_rect().width \* image\_scale)

        new\_height = int(image.get\_rect().height \* image\_scale)

        self.image = pygame.transform.scale(image, (new\_width, new\_height))

        self.rect = self.image.get\_rect()

        self.rect.center = [x, y]

class PlayerVehicle(Vehicle):

    def \_\_init\_\_(self, x, y):

        image = pygame.image.load('Vehicle\_image/Mini\_van.png')

        super().\_\_init\_\_(image, x, y)

# starting coordinates

player\_x = 400

player\_y = 500

# player car

player\_group = pygame.sprite.Group()

player = PlayerVehicle(player\_x, player\_y)

player\_group.add(player)

#other vehicles

image\_filenames = ['Ambulance.png', 'truck.png','Car.png', 'Black\_viper.png']

vehicle\_images = []

for image\_filename in image\_filenames:

    image = pygame.image.load('Vehicle\_image/'+ image\_filename)

    vehicle\_images.append(image)

#sprite vehicle group

vehicle\_group = pygame.sprite.Group()

def loading\_screen():

    WIN.fill(gray)

    WIN.blit(loading\_screen\_image, (Width // 2 - loading\_screen\_image.get\_width() // 2, Height // 2 - loading\_screen\_image.get\_height() // 2))

    font = pygame.font.SysFont(None, 55)

    text = font.render('Loading...', True, (0, 0, 0))

    WIN.blit(text, (Width // 2 - text.get\_width() // 2, Height // 2 + loading\_screen\_image.get\_height() // 2))

    pygame.display.update()

    time.sleep(3)  # Display loading screen for 3 seconds

def game\_over\_screen():

    WIN.fill(white)

    WIN.blit(game\_over\_image, (Width // 2 - game\_over\_image.get\_width() // 2, Height // 2 - game\_over\_image.get\_height() // 2))

    font = pygame.font.SysFont("garamond", 55)

    text = font.render('Failed! Collision detected', True, red)

    WIN.blit(text, (Width // 2 - text.get\_width() // 2, Height // 2 - text.get\_height() // 2))

    pygame.display.update()

    time.sleep(5)

# screen function

def screen():

    global lane\_marker\_move\_y

    run = True

    clock = pygame.time.Clock()

    start\_time = time.time()

    time\_passed = 0

    # game loop

    while run:

        clock.tick(60)

        time\_passed = time.time() - start\_time

        for event in pygame.event.get():

            if event.type == pygame.QUIT:

                run = False

        # move the car

        keys = pygame.key.get\_pressed()

        if keys[pygame.K\_LEFT] and player.rect.left > road[0]:

            player.rect.x -= 10

        if keys[pygame.K\_RIGHT] and player.rect.right < road[0] + road[2]:

            player.rect.x += 10

        # draw grass

        WIN.fill(green)

        # draw road

        pygame.draw.rect(WIN, gray, road)

        # draw edge markers

        pygame.draw.rect(WIN, yellow, left\_edge\_marker)

        pygame.draw.rect(WIN, yellow, right\_edge\_marker)

        # draw the lane markers

        lane\_marker\_move\_y += velocity \* 2

        if lane\_marker\_move\_y >= marker\_height \* 2:

            lane\_marker\_move\_y = 0

        for y in range(marker\_height \* -2, Height, marker\_height \* 2):

            pygame.draw.rect(WIN, white, (centre\_lane - 5, y + lane\_marker\_move\_y, marker\_width, marker\_height))

        player\_group.draw(WIN)

        draw(time\_passed)

        if len(vehicle\_group) < 2:

            add\_vehicle = True

            for vehicle in vehicle\_group:

                if vehicle.rect.top < vehicle.rect.height\*1.5:

                    add\_vehicle = False

            if add\_vehicle:

                #choose a random lane

                lane = random.choice(lanes)

                #select a random vehicle

                image = random.choice(vehicle\_images)

                #add new vehicle

                new\_vehicle = Vehicle(image, lane, -image.get\_rect().height)

                vehicle\_group.add(new\_vehicle)

        #make the cars move

        for vehicle in vehicle\_group:

            vehicle.rect.y += velocity

            if vehicle.rect.top >= Height:

                vehicle.kill()

        #check for collisions

        if pygame.sprite.spritecollide(player, vehicle\_group, False):

            print("Collision detected!")

            game\_over\_screen()

            run = False

        vehicle\_group.draw(WIN)

        pygame.display.update()

    pygame.quit()

if \_\_name\_\_ == "\_\_main\_\_":

    loading\_screen()

    screen()