

Project 5.3a

Pacman Project

Introduction

In lab 5.3, you were introduced to how to animate sprites. Building off of the completed lab 5.3, you will make a copy of the engine and create a new `my_game.js` file. In this project you will control the animation of a sprite using the keyboard.

Specifications

Assets

- `pacman.png` file
 - o Pixel width: 128
 - o Pixel height: 32
 - o WC Width: 3
 - o WC Height: 3

Viewport

Width: 600

Height: 300

Viewport offset from canvas: 20,40

Camera position: 20,60

Camera width: 20

Operation

You will create a `SpriteAnimateRenderable` object using the `pacman.png` file for the texture.

Element pixel dimensions: 32x32 (no padding)

First element position: 32,0

WC Size: 3x3 square

Elements in sequence: 4

Location: centered on the viewport (20,60)

The background should be a standard light grey background (0.9, 0.9, 0.9, 1.0)

When the program first launches, display the pacman `SpriteAnimateRenderable` at WC position 20,60. The keyboard controls of WASD (up, left, down, right) will be used to control the rotation of the sprite. While a key is held down, the sprite should animate. If no key is pressed, the animation should stop (the frame it stops on is not relevant). Animation speed should be 10 frames per second (you need to figure out the correct parameter to accomplish this).

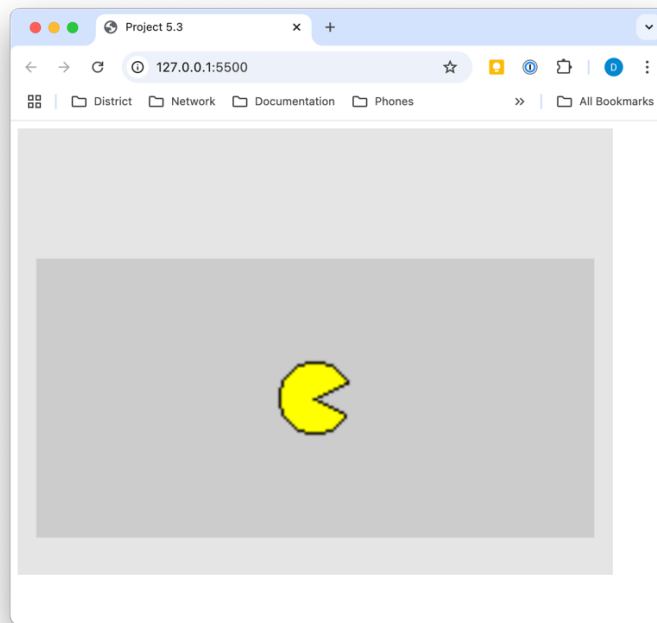


Figure 1. Pacman with D key last pressed

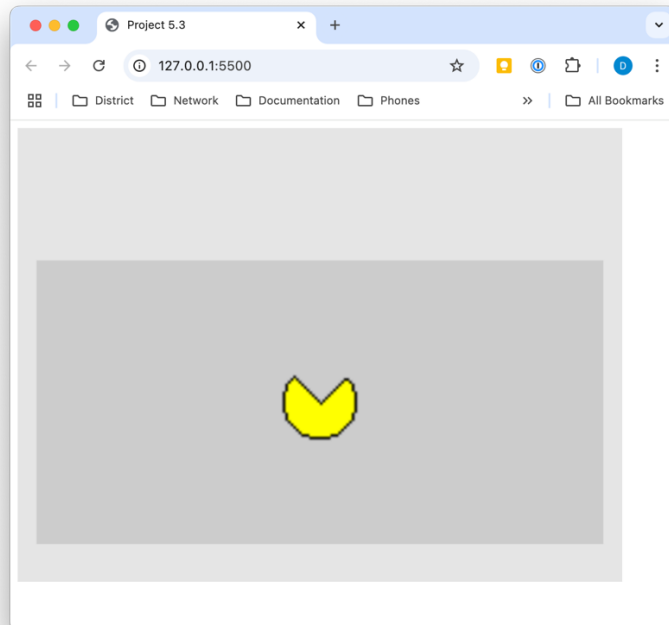


Figure 2. Pacman with W key last pressed

Project 5.3b

Revolving Pacman Project

Introduction

In this project, we are going to merge the functionality of project 5.1 with project 5.3a.

Specifications

Assets

- pacman.png file
 - o Pixel width: 128
 - o Pixel height: 32
 - o WC Width: 3
 - o WC Height: 3

Viewport

Width: 600

Height: 400

Viewport offset from canvas: 20,40

Camera position: 20,60

Camera width: 20

Operation

Create simple renderable.

Size: 1x1 square

Color: green (0, 1, 0, 1)

Location: centered on the viewport (20,60)

You will create a SpriteAnimateRenderable object using the pacman.png file for the texture.

Element pixel dimensions: 32x32 (no padding)

First element position: 32,0

WC Size: 3x3 square

Elements in sequence: 4

Location: centered on the viewport (20,60)

The background should be a standard light grey background (0.9, 0.9, 0.9, 1.0)

When the program first launches, display the pacman SpriteAnimateRenderable at WC position 20,65 pointing towards the right without animation.

When the user inputs a value of 1 thru 5, you will revolve the PacMan around the center point (similar to project 5.1) equal to the *value* x 30 degrees (for example, if the user presses 3, the PacMan will move 90 degrees). The complete motion must take 1.5 seconds regardless of how far it moves. During the motion, the PacMan needs to rotate and animate. The animation should stop when the rotation/movement is done.