240-216 Explo. CoE Tech.
Semester 1, 2025-2026

Part 2

Instructor: Andrew Davison

Objectives

To introduce the ideas behind games programming using the Pygame library for Python.

Background Information

Background information is on the Powerpoint slides available at `http://coe.psu.ac.th/ad/teaching/LAB/Pygame/`. I will go through these slides during the lab.

Lab Instructions

1. Follow all the lab instructions in Pygame Lab Part 1.
2. Try out sprites by running `beachSprites.py` in Sprites/
3. Run `pong.py` in Pong/

Lab Questions

Extend `pong.py` to become **PowerPong.py**.

Carry out the following changes:

1. Increase the size of the game area, and make the winning score higher.
2. Show the game playing time in seconds. The time does not need to be calculated exactly.
3. Have the game finish after a maximum time if a player has not reached the winning score. In that case the player with the biggest score wins.
4. Change the way the ball bounces off the top/bottom walls and paddles so it depends on **where** the ball hits a wall or paddle.
5. Have a player's score depend on **where** the ball passes through the left or right walls.
6. Change the speed of the ball depending on a player's current score and the game time.

Submission Details

A print-out of `PowerPong.py` and two screenshots should be placed in the relevant lab box outside the CoE office by **Wednesday July 30th, 4pm**.

The pages of the print-out should be stapled together at the top-left hand corner. The print-out should **not** include a cover page, or any plastic bindings or envelopes. Print the program two

pages to a sheet using the FinePrint print driver (see http://fineprint.com/fp/). The program should be printed in a typewriter-style font, such as "`Courier New`" 10pt size. There must be **no handwriting** on the print-out.

The code **must include documentation/comments** explaining in words what changes you have made. **Label** your documentation with the numbers **(1) to (6)** used above.

Stapled to the print-out should be **two screenshots** of your game running.

Marks

Your final mark for this Pygame Lab Part 2 will be based on `PowerPong.py` (30 marks) and exam questions (70 marks).