2-Player Pong

By: Team 1

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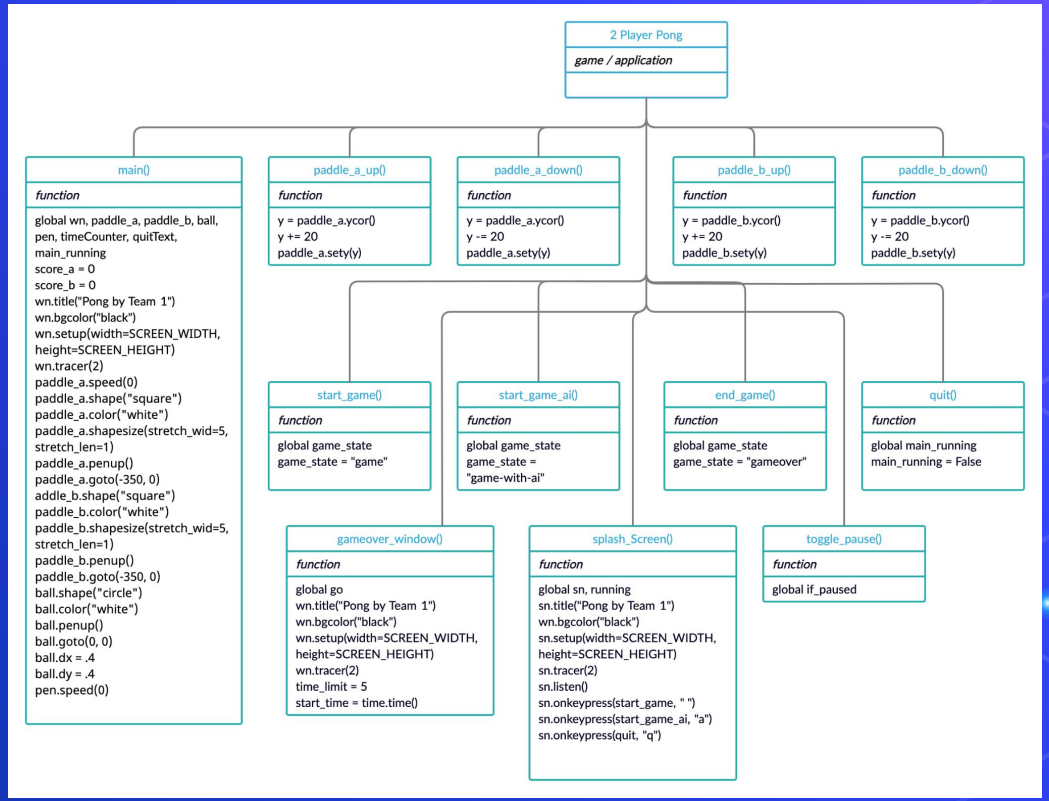
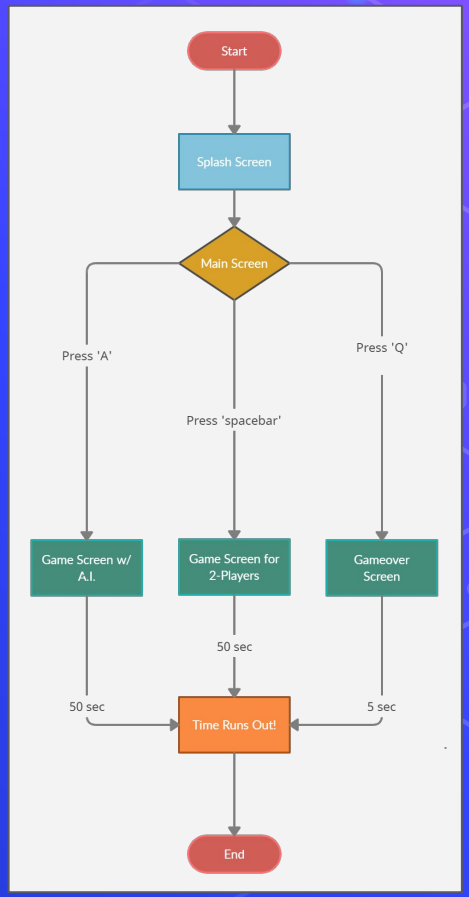
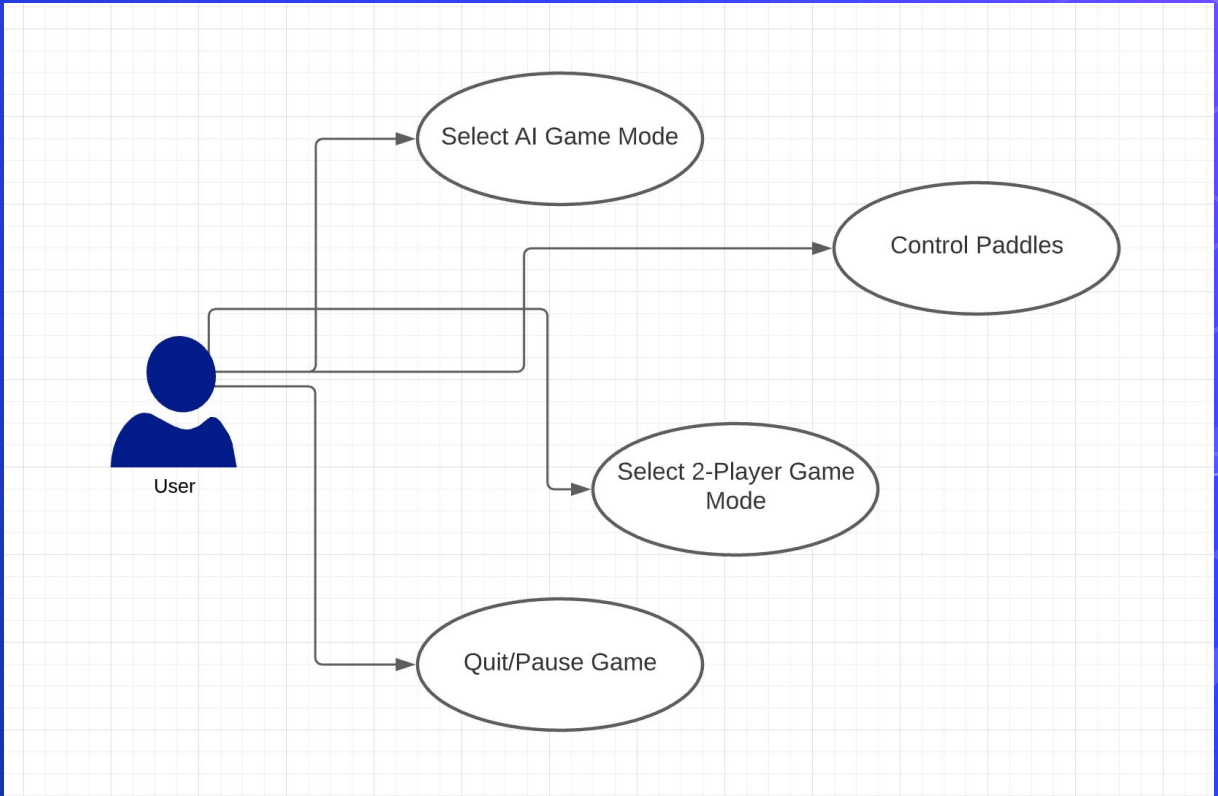
CRC Diagram


2 Player Pong
game / application
main()
function
global wn, paddle_a, paddle_b, ball, pen, timeCounter, quitText, main_running
score_a = 0
score_b = 0
wn.title("Pong by Team 1")
wn.bgcolor("black")
wn.setup(width=SCREEN_WIDTH, height=SCREEN_HEIGHT)
wn.tracer(2)
paddle_a.speed(0)
paddle_a.shape("square")
paddle_a.color("white")
paddle_a.shapesize(stretch_wid=5, stretch_len=1)
paddle_a.penup()
paddle_a.goto(-350, 0)
addle_b.shape("square")
paddle_b.color("white")
paddle_b.shapesize(stretch_wid=5, stretch_len=1)
paddle_b.penup()
paddle_b.goto(-350, 0)
ball.shape("circle")
ball.color("white")
ball.penup()
ball.goto(0, 0)
ball.dx = .4
ball.dy = .4
pen.speed(0)
paddle_a_up()
function
y = paddle_a.ycor()
y += 20
paddle_a.sety(y)
paddle_a_down()
function
y = paddle_a.ycor()
y -= 20
paddle_a.sety(y)
paddle_b_up()
function
y = paddle_b.ycor()
y += 20
paddle_b.sety(y)
paddle_b_down()
function
y = paddle_b.ycor()
y -= 20
paddle_b.sety(y)
start_game()
function
global game_state
game_state = "game"
start_game_ai()
function
global game_state
game_state = "game-with-ai"
end_game()
function
global game_state
game_state = "gameover"
quit()
function
global main_running
main_running = False
gameover_window()
function
global go
wn.title("Pong by Team 1")
wn.bgcolor("black")
wn.setup(width=SCREEN_WIDTH, height=SCREEN_HEIGHT)
wn.tracer(2)
time_limit = 5
start_time = time.time()
splash_Screen()
function
global sn, running
sn.title("Pong by Team 1")
wn.bgcolor("black")
sn.setup(width=SCREEN_WIDTH, height=SCREEN_HEIGHT)
sn.tracer(2)
sn.listen()
sn.onkeypress(start_game, " ")
sn.onkeypress(start_game_ai, "a")
sn.onkeypress(quit, "q")
toggle_pause()
function
global if_paused

Activity Diagram



Use Case Diagram



Running 2-Player Pong

- 1) Install Python
- 2) Open CMD/terminal/python and navigate to the unzipped 2pong folder directory.

  i.e. C:\Users\%USERNAME%\Desktop\2pong
- 2) Type “python3 2pong.py” on the command prompt.
- 3) Enjoy!

Menu Screen

- User has three options:
  - Spacebar: 2 player mode
  - A: 1 play mode vs AI
  - Click settings

Settings Screen

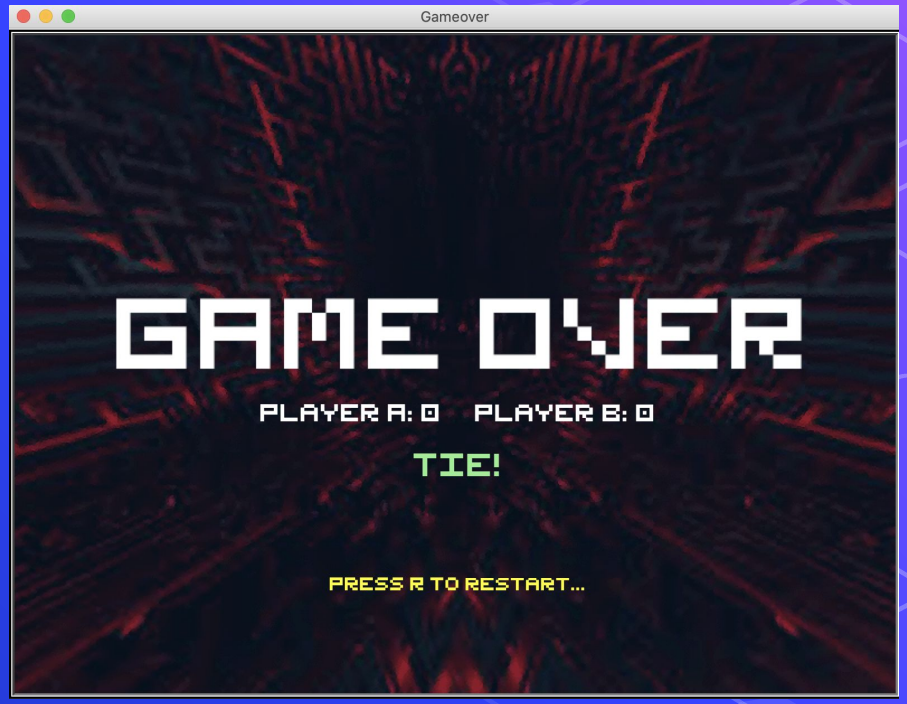
- User has four options:
  - Timer: 10-60 seconds
  - Score Limit: 5-99 points
  - Number of Balls: 1-3
  - Ball Speed: 1x, 2x, 3x
- Save Button saves their choices.

Game Screen

- This is the main game screen where selecting A.I. the paddle on the right would be the CPU and the paddle on the left is controlled by WASD.
- A timer and scoreboard will appear once the game is started.

Game Over Screen

- After game over, score is displayed and determines winner.
- User has ability to play again by pressing “r”.
- If after 10 seconds user decided not to play again, game will close automatically.



Work Split

- Bryan:
  - Ball speed
  - Scoreboard
  - Settings (Timer, Score, Num. of Balls, Ball Speed)
- Mahdi:
  - Game Layout
  - Paddle movement
  - 2-Player functionality
- Eduardo:
  - Game Timer Logic
  - Game menu and Splash Screen programming and design - User interface and graphics
  - Ball Collision audio (windows only)
  - A.I.