HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY
FACULTY OF COMPUTER SCIENCE AND ENGINEERING

COMPUTER NETWORK EXTENDED(CO309B)
ASSIGNMENT

Topic: Online Rock-Paper-Scissors

Class: TN01

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PRESENTATION OUTLINE

Part 1: Introduction

Part 2: User Manual

Part 3: What do we achieve?

Part 4: Demo

PART 1: INTRODUCTION

INTRODUCTION

In this project, we will implement an online rock-paper-scissors game which allows players within the same LAN network to participate the game.

We used Python to implement the game.

GAMEPLAY

- The game is played by 2 players.
- The rule is exactly like a normal rock-paper-scissors game.
- We implement the score counter to keep track of the number of player's win.
- The score will reset after a player has scored 5 points.

PART 2: USER MANUAL

STARTING THE SERVER

- We need one device to play the role of the server.
- First, open the terminal and type “ipconfig /all” and look for the IPv4 address.
- Next, open the file “helper.py” and set “HOST” equals to the IPv4 you found earlier.
- Finally, type “python server.py” on the terminal to start the server.

STARTING THE SERVER - EXAMPLE

In this example, the IPv4 address is 10.130.17.186, so I set the "HOST" variable equals "10.130.17.186".

```
Wireless LAN adapter WiFi:

   Connection-specific DNS Suffix  . : hcmut.edu.vn
   Description . . . . . . . . . . . : Realtek 8821CE Wireless LAN 802.11ac PCI-E NIC
   Physical Address. . . . . . . . . : 3C-55-76-F1-DF-D9
   DHCP Enabled. . . . . . . . . . . : Yes
   Autoconfiguration Enabled . . . . : Yes
   Link-local IPv6 Address . . . . . : fe80::1940:691a:8301:c1d1%16(Preferred)
   IPv4 Address. . . . . . . . . . . : 10.130.17.186(Preferred)
   Subnet Mask . . . . . . . . . . . : 255.255.0.0
   Lease Obtained. . . . . . . . . . : Tuesday, January 7, 2025 1:08:53 PM
   Lease Expires . . . . . . . . . . : Tuesday, January 7, 2025 3:08:53 PM
   Default Gateway . . . . . . . . . : 10.130.0.1
   DHCP Server . . . . . . . . . . . : 10.130.0.1
   DHCPv6 IAID . . . . . . . . . . . : 138171766
   DHCPv6 Client DUID. . . . . . . . : 00-01-00-01-2E-FF-CD-FA-3C-55-76-F1-DF-01
   DNS Servers . . . . . . . . . . . : 10.130.0.4
                                       10.130.0.2
                                       172.28.2.2
                                       172.28.2.4
   NetBIOS over Tcpip. . . . . . . . : Enabled
```

helper.py

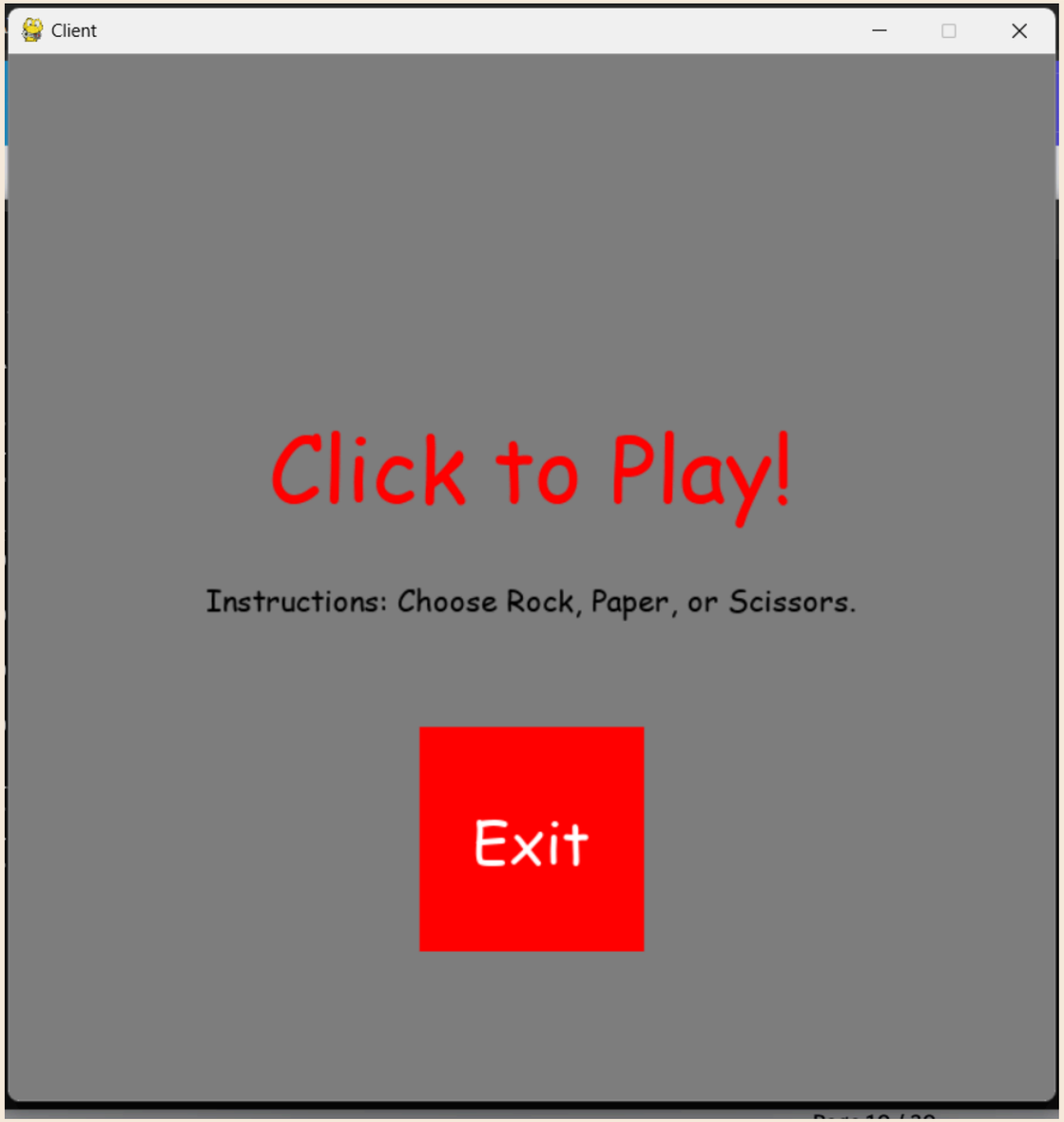
```python
import socket

HOST = "10.130.17.186"
PORT = 5555
```

JOINING THE GAME (1)

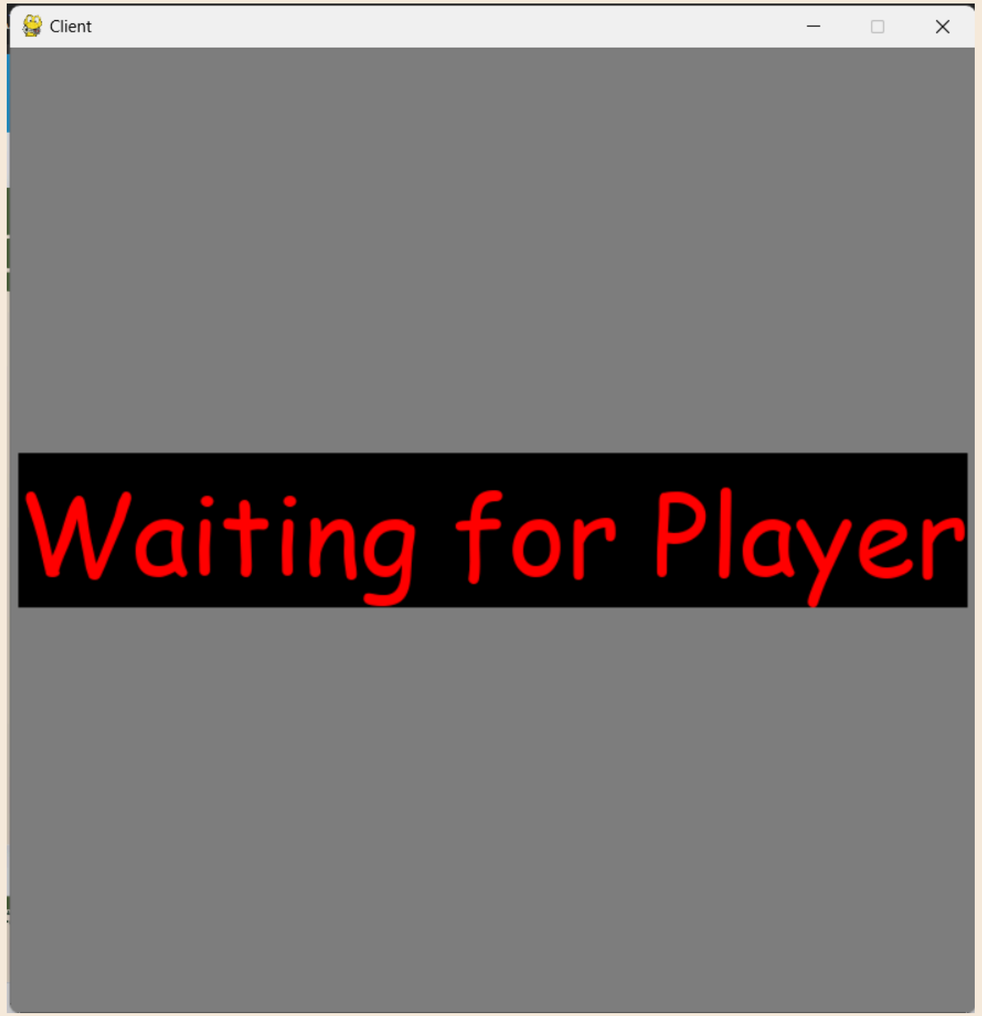
- Makes sure your device is using the same network as the device which run “server.py”
- Open “helper.py” and set the “HOST” variable equals to the one on the “server” device.
- Open “terminal” and type “python client.py”, the menu screen will be displayed. You can click “Exit” to close the app, click anywhere else will let you join the game

MENU SCREEN


Client
Click to Play!
Instructions: Choose Rock, Paper, or Scissors.
Exit

JOINING THE GAME (2)

- A game can be joined by at most 2 players. So if there is no game available, i.e. no player waiting, a "Waiting for player screen" will be displayed



JOINING THE GAME (3)

- If there is a game available, i.e. there is a player waiting, you will be able to play with that player.

PLAYING THE GAME (1)

- Players can make move by clicking one of the following buttons “Rock”, “Scissors”, “Paper”. If they win, they get 1 point, else they get 0 point.

- You can quit the game anytime by clicking the Menu bar “Close (X)”.

PLAYING THE GAME (2)

- There is background music playing during the game.
- The screen will display that a player won the series once they score 5 points. After that, the score of both players reset.
- During gameplay, if 1 player leave, the screen of the other player will display the “Waiting for Player”.

PART 3: WHAT DO WE ACHIEVE?

ACHIVEMENTS

- Be able to implement a simple game which allow players within the same LAN network to participate.
- More than 2 players can participate, server will automatically do the matchmaking.

FUTURE IMPROVEMENTS

- The game is too simple - In the future, we will try to implement more complex games.
- Our GUI isn't good, so it needs to be improved.
- In our current project, user needs to sets the IPv4 address manually.

PART 4: DEMO

THANK YOU FOR YOUR ATTENTION!