FIANL PROJECT FOR AI

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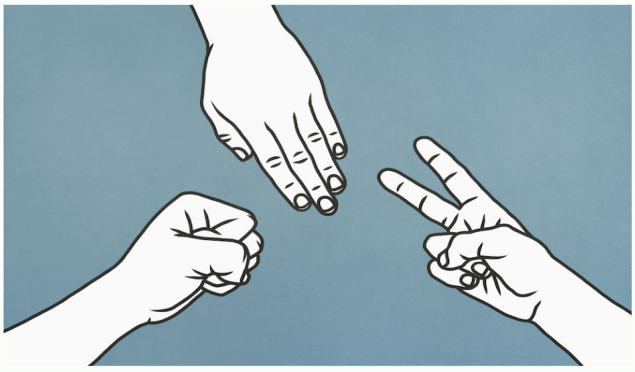


Part 1

Rock-Paper-Scissors Game Project Report

Objective

The primary goal of this project was to develop an interactive Rock-Paper-Scissors game using Python, where the user competes against a computer. The game aims to provide an engaging experience by incorporating a graphical user interface (GUI) and employing a basic AI-driven strategy for the computer player. Additionally, the project aimed to log game data to analyze player behavior and improve the computer's decision-making over time.

Methods and Tools Used

1. Python Programming: The game was coded in Python, leveraging its simplicity and versatility.
2. Tkinter: Tkinter was used to create the GUI, providing a user-friendly interface for gameplay.
3. PIL (Pillow): The Python Imaging Library (PIL) was used to handle and display images of the game's choices (rock, paper, scissors).
4. Pandas: This library facilitated data logging and analysis, storing game data in an Excel file for later review and strategy refinement.
5. AI Strategy: A basic AI algorithm was implemented to predict and counter the player's moves, enhancing the game's challenge.

AI Implementation

The AI component of the project focused on predicting the player's next move based on historical data. Here's how it was integrated:

1. Data Logging: Each round's player choices and results were logged in an Excel file, creating a dataset for analysis.
2. Frequency Analysis: The AI analyzed the frequency of the player's past choices to predict future moves. For example, if the player frequently chose "rock," the AI would prioritize selecting "paper" to counter this pattern.

3. Adaptive Strategy: The AI adapted its predictions based on the latest data, allowing it to refine its strategy over time. This was done by calculating the probabilities of each choice and using these probabilities to inform its decisions.

Challenges Faced

1. Developing the Predictive Algorithm: Creating an effective predictive model required balancing simplicity and accuracy. The challenge was to implement a strategy that could adapt to changing player behavior.
2. Ensuring Data Integrity: Properly logging and reading data from the Excel file, including handling cases where the file did not exist, required robust error handling.
3. Integrating AI with GUI: Merging the AI logic with the GUI elements posed a challenge, especially in ensuring real-time feedback and a seamless user experience.

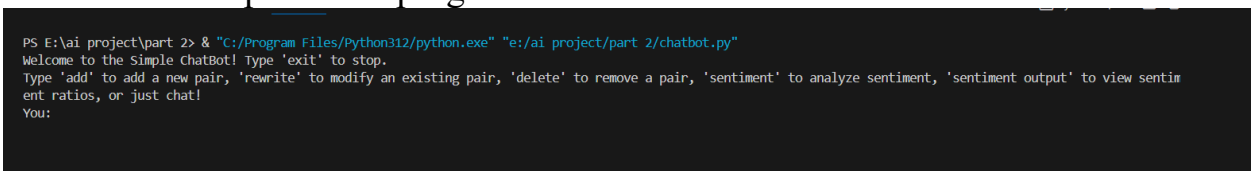
Summary

The Rock-Paper-Scissors game successfully integrated AI to enhance the computer opponent's strategic play. The GUI provided an intuitive and visually appealing interface, while the AI-driven predictions offered a dynamic and engaging challenge for players. The game tracked and analyzed player choices, allowing for continuous improvement of the AI's strategy. This project demonstrated the practical application of AI concepts in game development, providing a foundation for future enhancements and more sophisticated AI implementations.

Part 2

for part 2 we created a chat box nltk and added sentimental analysis and even adding sentiment analysis percentage. we couldn't get a working npi to the chatbot so the data is added manually, so for that to add it to this program so we added another feature to it, so it can so it can sense your emotion based on your happiness neutral offset and also, we can store this into a json file, and also to find the present age of the person and making sure each person data is his/her alone

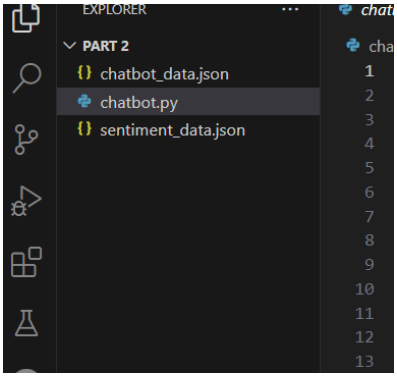
This this the output of the program



Methodology

```
import json
from textblob import TextBlob
```

import json to store and valure our data.
from textblob import TextBlob in a nlt library we use this to Sentiment Analysis: Determine the sentiment (positive, negative, or neutral).



for our storing data we create two json files to store and use our data