Project SRS

Software Requirements Specification

Team Members

SRN	NAME	ROLL NUMBER	ROLE
PES1UG25EC037	Anamitra Garg	59	GUI Design and Implementation
PES1UG25EC042	Anuprobha Karmakar	64	GUI and code integration
PES1UG25CS086	Anvita Polamada		Main code writing

Problem Statement

The goal of this project is to design and implement an interactive **Hangman game** where a player attempts to guess a hidden word by suggesting letters within a limited number of attempts. The game must reveal correctly guessed letters in their respective positions while keeping unguessed letters hidden. Incorrect guesses reduce the player's remaining chances. The game should end when the player either correctly guesses the entire word or exhausts all allowed attempts.

Tech stack Overflow

- **Programming Language Used:** Python
- **GUI Frameword:** wxPython
- **Module used:** Random

Data Structures

- **List of dictionaries** → Movie database
- **List** → ASCII hangman stages
- **List** → Guessed letters
- **Strings** → Display formatting

Methodology

- **Event-driven GUI (wxPython)**
- **Randomized word selection**
- **State tracking** (chances, guessed letters, hints)
- **Incremental revealing logic** for letters

- **Win/Loss detection**

Data Flow

1. Load GUI → initialize game
    - Python initializes the `wx.App()` and creates the `HangmanFrame` object.
    - UI elements (labels, text box, buttons) are created and displayed.
2. Pick random movie → build blank display
3. User guesses letter → process → update UI
    1. *Validity-* Must be one alphabetic letter.
    2. *Previously guessed or not*
       Checked in `self.guessed_list`.
    3. *Add guess to the guessed list*
    4. *Rebuild display string:*
       If 'guessed' letter matches any character in the movie title, reveal it.
       Otherwise, reduce chance by 1.
    5. *Update hangman stage* (`stages[self.chances]`)
    6. *Check Win Condition*
       If no '_' remain → player wins.
    7. *Check Lose Condition*
       If `chances == 0` → game over.
4. Wrong guess → reduce chance → update hangman stage
5. User wins or loses → buttons disabled
6. Optional hints (genre, year)

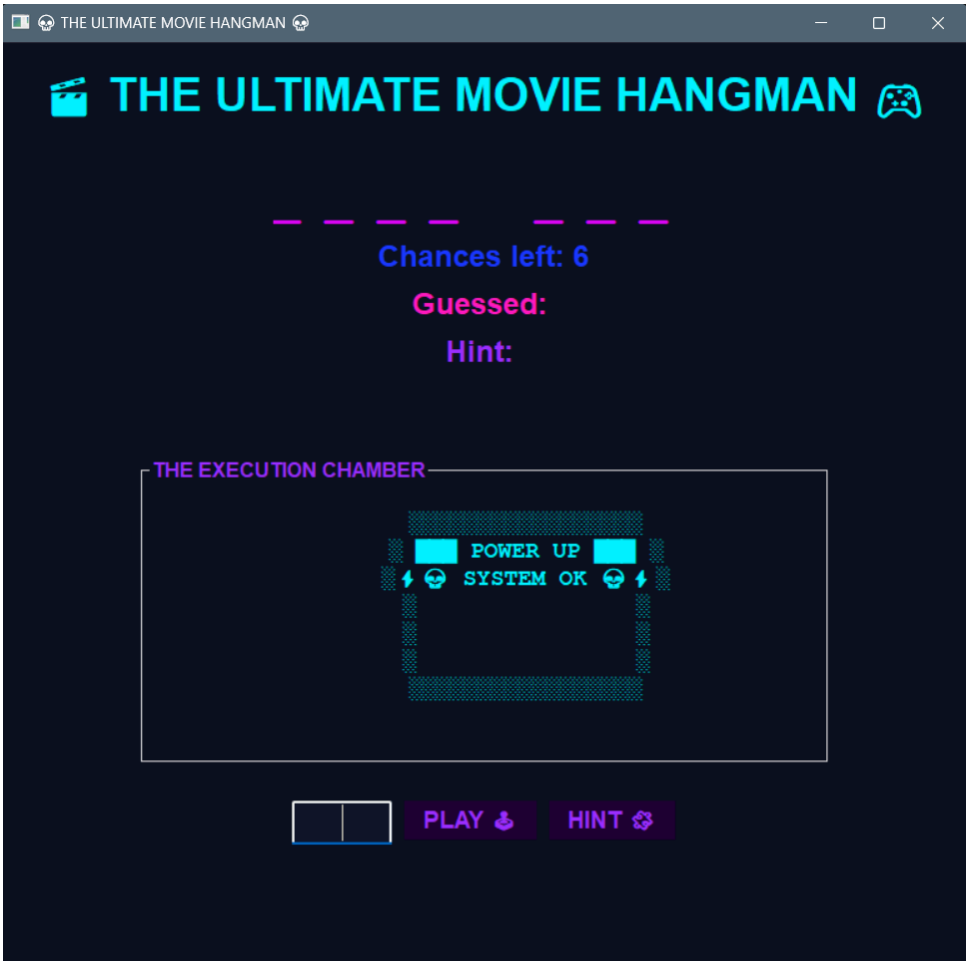
Important points to Note:

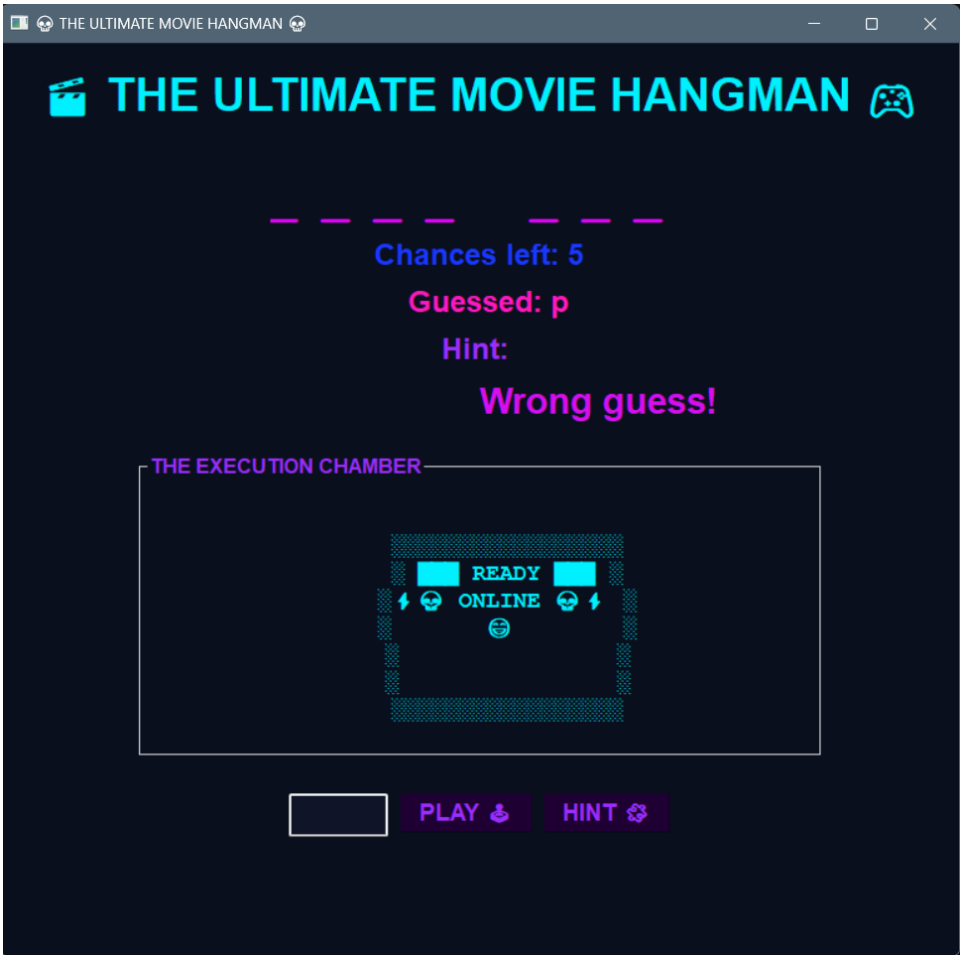
1. In the word reveal logic- real spaces are preserved. Each letter is followed by a space (clean formatting).
2. Only two hints are displayed. After that 'no hints remaining' message.
3. Duplication check takes place which prevents repeating guesses.
4. movie_pool - ensures that movies appear one-by-one without any repeats.
5. There is a display of progressive hangman graphics based on remaining chances.

Github-

https://github.com/anamitrax/The-Ultimate-Movie-Hangman

Input & Output Screenshots

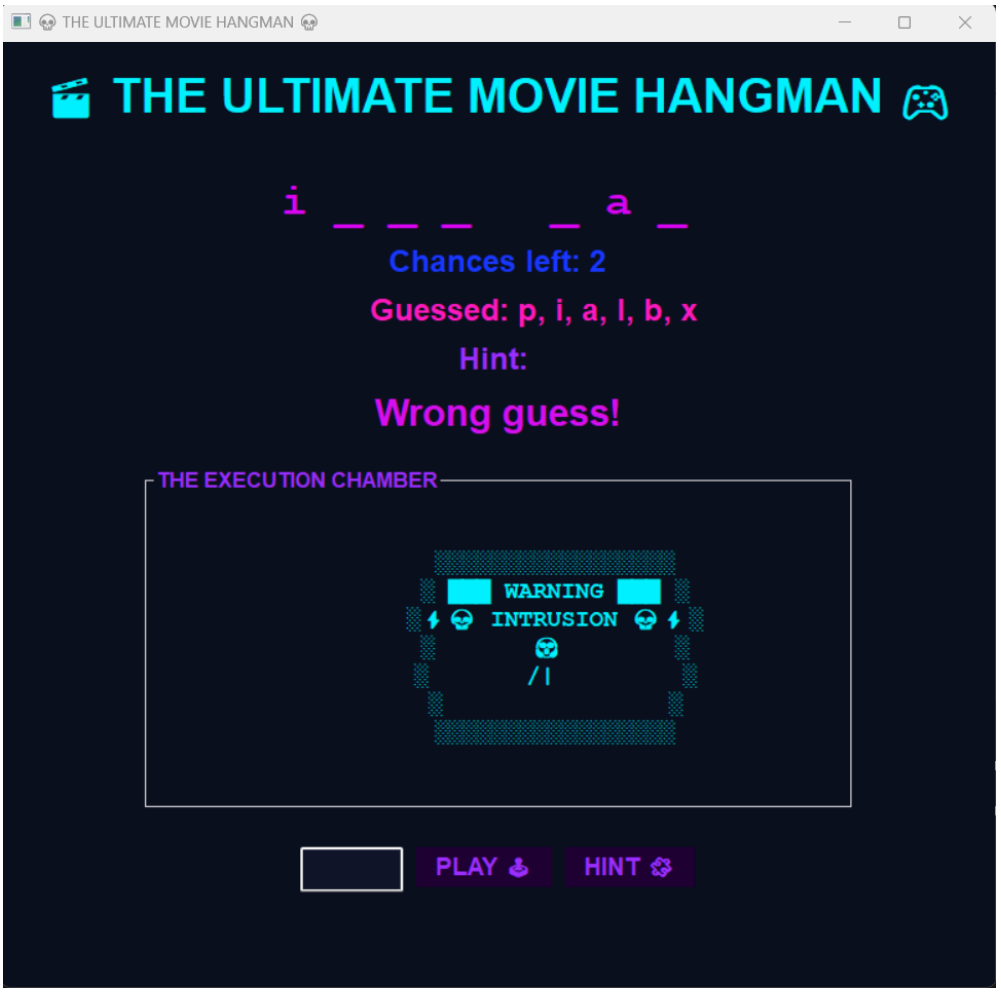

THE ULTIMATE MOVIE HANGMAN
THE ULTIMATE MOVIE HANGMAN
Chances left: 6
Guessed:
Hint:
THE EXECUTION CHAMBER
POWER UP
SYSTEM OK
PLAY
HINT

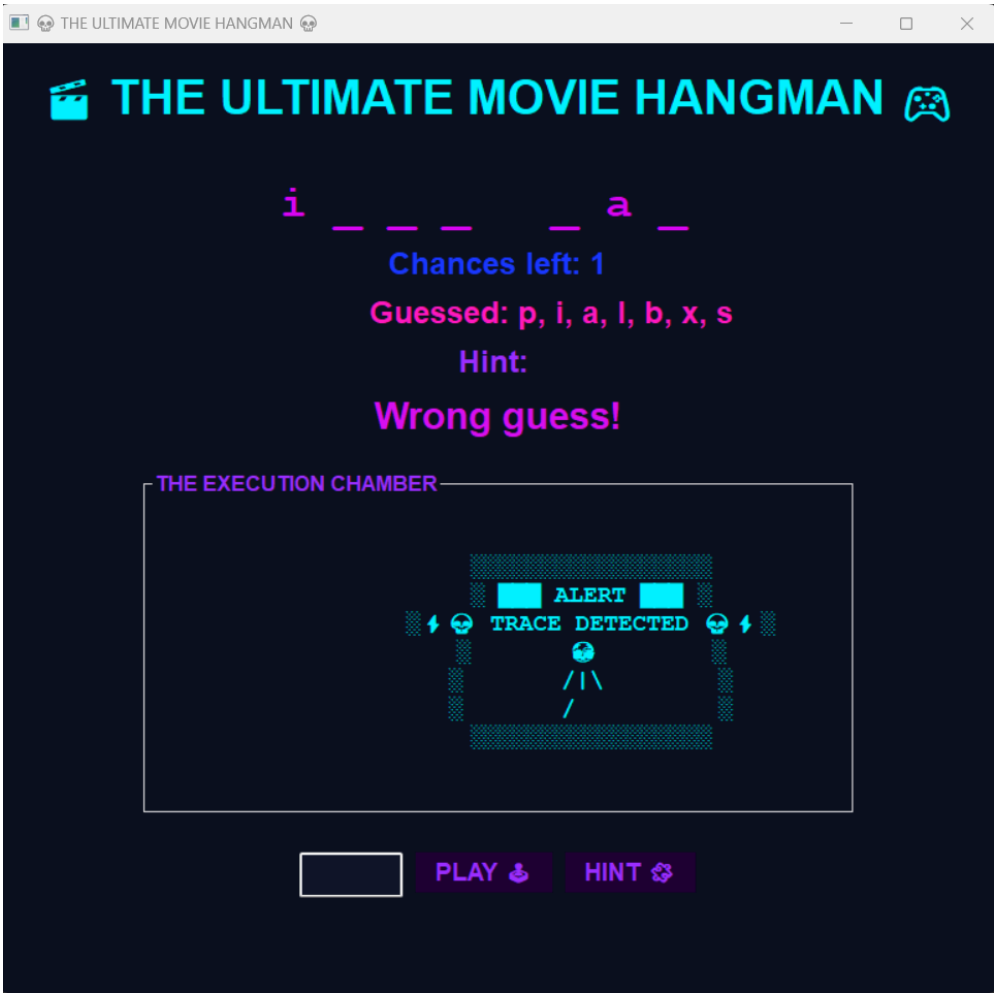

THE ULTIMATE MOVIE HANGMAN
THE ULTIMATE MOVIE HANGMAN
Chances left: 5
Guessed: p
Hint:
Wrong guess!
THE EXECUTION CHAMBER
READY
ONLINE
PLAY
HINT


THE ULTIMATE MOVIE HANGMAN
THE ULTIMATE MOVIE HANGMAN
i _ _ _ _ _ _
Chances left: 5
Guessed: p, i
Hint:
You already guessed that letter.
THE EXECUTION CHAMBER
READY
ONLINE
PLAY
HINT


THE ULTIMATE MOVIE HANGMAN
THE ULTIMATE MOVIE HANGMAN
i _ _ _ _ a _
Chances left: 4
Guessed: p, i, a, l
Hint:
Wrong guess!
THE EXECUTION CHAMBER
INIT
STANDBY
PLAY
HINT


THE ULTIMATE MOVIE HANGMAN
THE ULTIMATE MOVIE HANGMAN
i _ _ _ _ a _
Chances left: 3
Guessed: p, i, a, l, b
Hint:
Wrong guess!
THE EXECUTION CHAMBER
TRACE
SYSTEM FAIL
PLAY
HINT


THE ULTIMATE MOVIE HANGMAN
THE ULTIMATE MOVIE HANGMAN
i _ _ _ _ a _
Chances left: 2
Guessed: p, i, a, l, b, x
Hint:
Wrong guess!
THE EXECUTION CHAMBER
WARNING
INTRUSION
PLAY
HINT


THE ULTIMATE MOVIE HANGMAN
THE ULTIMATE MOVIE HANGMAN
i _ _ _ _ a _
Chances left: 1
Guessed: p, i, a, l, b, x, s
Hint:
Wrong guess!
THE EXECUTION CHAMBER
ALERT
TRACE DETECTED
PLAY
HINT


THE ULTIMATE MOVIE HANGMAN
THE ULTIMATE MOVIE HANGMAN
i r o n m a n
Chances left: 1
Guessed: p, i, a, l, b, x, s, r, o, n, m
Hint:
YOU WON!!
THE EXECUTION CHAMBER
ALERT
TRACE DETECTED
PLAY
HINT

When the user fails to guess the correct answer:

Challenges Faced

- Center aligning the GUI framework and making ASCII art
- Struggled a bit while importing movies for a wider framework.

Scope for Improvement

- Improving the GUI in general. Adding a star-over key for replaying the game. Making it two user based so one user can enter the required word. ‘Enter’ for inputting the letter entered, etc.
- Importing movies or other genres for a wider framework.
