
EEE 202: Computer Programming II Project
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Project Proposal

Grid Duel (ft. Python's Playground) . Simple Computer Game with GUI.

Overview

We intend to make a game with a graphical user interface. We consider this a comprehensive and engaging endeavor that will enable us to fully implement what we have been learning in class in EEE 102 and EEE 202. This project not only involves building an interactive program but also learning about user interface design. Here's a comprehensive overview of the project.

1.1 Objective

The primary objective of this project is to design and implement a functional and visually appealing game with a graphical user interface in Python. Although the game is intended to primarily be multiplayer (2-person, local), a single player mode will be implemented using a fairly simple logic.

1.2 Key Aspects

User Interface: An intuitive and aesthetically pleasing GUI using Tkinter/Custom Tkinter. This includes the game board, buttons for player interaction, and visual feedback mechanisms.

User Interaction: Enabling players to interact with the game through clicks or touches and providing feedback on their actions, such as highlighting the selected cell.

Game Logic: Handling player moves, detecting when a player wins the game or when it ends in a draw..

Documentation: Clear and comprehensive documentation to help users understand how to play the game and developers how to modify the code.

1.3 Expected Outcomes

Multiplayer mode for two human players.

An intuitive graphical user interface.

A satisfying user experience.

2. Project Scope

To ensure project feasibility and successful completion, we have defined the project's scope explicitly as follows:

2.1 InScope

1. A functional multiplayer mode for two human players with a graphical user interface.
2. User authentication.
3. Database implementation

2.2 Out-of-Scope

1. Single Player mode.
2. Clear documentation of the codebase with user and developer guides.

3. Project Plan

Here's a high level project plan on how we intend to successfully execute this project :

3.1 Task Breakdown

- 1) Game Board GUI (UI Development): Create the graphical user interface for the game, including the game board and player interaction elements.
- 2) Game Logic: Develop the core game logic for 2 modes; single player and multiplayer.
- 3) User Interaction: Implement user friendly features like providing feedback and including a user guide.
- 4) Documentation: Create user and developer documentation explaining how to play the game and understand the code.

3.2 Timeline

(This is just a rough estimate!)

Week 1-2: Learning Tkinter and Pygame Libraries

Week 2-3: UI Development (Game Board GUI)

Week 3-4: Debugging

Week 4-5: Grid Duel, Python's Playground game logic

Week 5-6: Implementing a Database, Organizing Modules

Week 6-7: Debugging Documentation

3.3 Resources

- 1) Python programming environment (IDE; VS Code)
- 2) Tkinter (inbuilt Python GUI library) for the user interface, Pygame for Python's Playground.
- 3) Github for hosting the repository (facilitate easy sharing of code).
- 4) Youtube tutorials for learning Python libraries.