Henock Dinberu
Aidan Sommer
Rukudzo Mushunje
9/29/2025

UI/UX Design

1. **Design Project Branding:** Create the official logo and establish the primary color palette for the application. (Assigned: Henock, Aidan, Rukudzo)
2. **Design Home Page Layout:** Create the layout and user navigation flow for the main landing page. (Assigned: Rukudzo)
3. **Design Single-Player Mode Layout:** Design the user interface for the single-player game mode. (Assigned: Rukudzo, Aidan, Henock)
4. **Design Multiplayer Mode Layout:** Design the user interface for the live online multiplayer competition screen. (Assigned: Aidan, Henock, Rukudzo)

Technology & Architecture Selection

5. **Select Frontend Libraries:** Research and decide on the component and icon libraries for building the user interface. (Assigned: Henock)
6. **Select Web-Based IDE:** Research and choose an online IDE dependency to allow users to write code in the browser. (Assigned: Henock)
7. **Define Supported Languages:** Determine which programming languages will be supported and identify the necessary compilers and interpreters. (Assigned: Rukudzo)
8. **Select Database Solution:** Choose the database technology (e.g., SQL, NoSQL), the specific database management system, and the hosting solution. (Assigned: Rukudzo, Aidan)
9. **Select Backend Framework:** Decide on the backend technology stack and overall architecture. (Assigned: Rukudzo)
10. **Select Real-Time Communication Solution:** Research and choose a WebSocket dependency to handle live data transfer between users during multiplayer matches. (Assigned: Henock)
11. **Select User Authentication Method:** Research and decide on a dependency or service for secure user sign-on and verification. (Assigned: Aidan)
12. **Select Server Deployment Method:** Research and define a solution for running the server inside a Docker container. (Assigned: Henock, Rukudzo)

Implementation & Feature Research

13. **Define UI Components:** Identify and list all necessary UI components required for the project based on the design layouts. (Assigned: Henock, Rukudzo, Aidan)
14. **Design Multiplayer System:** Research and define the functionality for multiplayer mode, including the ranking system and scoring logic. (Assigned: Aidan)

15. **Model the Database Schema:** Create a UML diagram to visually construct the database structure and relationships. (Assigned: Aidan)
16. **Implement the Database:** Build the database tables and structure according to the finalized UML diagram. (Assigned: Aidan, Rukudzo)
17. **Define Client-Server Communication:** Determine the strategy and solution for data transfer between the client and the server. (Assigned: Henock, Aidan)

Assignment 5 - Task List

1. **Design Project Branding:** Create the official logo and establish the primary color palette for the application. (Assigned: Henock, Aidan, Rukudzo)
2. **Design Home Page Layout:** Create the layout and user navigation flow for the main landing page. (Assigned: Rukudzo)
3. **Design Single-Player Mode Layout:** Design the user interface for the single-player game mode. (Assigned: Rukudzo, Aidan, Henock)
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