

INTERNET APP DESIGN & DEV CSC

667 Fall 2023

Project: BattleShip

Team: G

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Milestone 1

Date: 10/27/2023

Link to GitHub:

<https://github.com/sfsu-csc-667-fall-2023/team-term-project-group-g/tree/main>

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Project Specification

Features:

1. Lobby System:
 - Create a lobby where players can join or create games.
 - Allow players to invite friends to their games.
2. Game Setup:
 - Players should be able to set up their fleets on a grid.
 - Ensure that each player's fleet is hidden from their opponent.
 - Implement rules for fleet arrangement (e.g., ship size, quantity).
3. Gameplay:
 - Implement the core Battleships gameplay.
 - Allow players to take turns firing shots at each other's grids.
 - Display the grid with hits, misses, and the opponent's fleet.
 - Implement rules for winning and losing (e.g., sinking all opponent's ships).
4. Real-time Communication:
 - Use WebSocket technology (e.g., socket.io) for real-time communication between players.
 - Update the game board in real time to reflect opponents' moves.
 - Implement chat functionality for players to communicate during the game.
5. Game State Management:
 - Keep track of the game state, including player turns, remaining ships, and game status (ongoing, won, lost).
 - Handle game state synchronization between the server and clients.
6. Database Integration:
 - Store player profiles, game history, and statistics in the MySQL database.
 - Use the database to persist game state and results.
7. User Interface (UI):
 - Create an intuitive and user-friendly interface for placing ships and playing the game.
 - Use Angular for building the front-end components.

Software Stack:

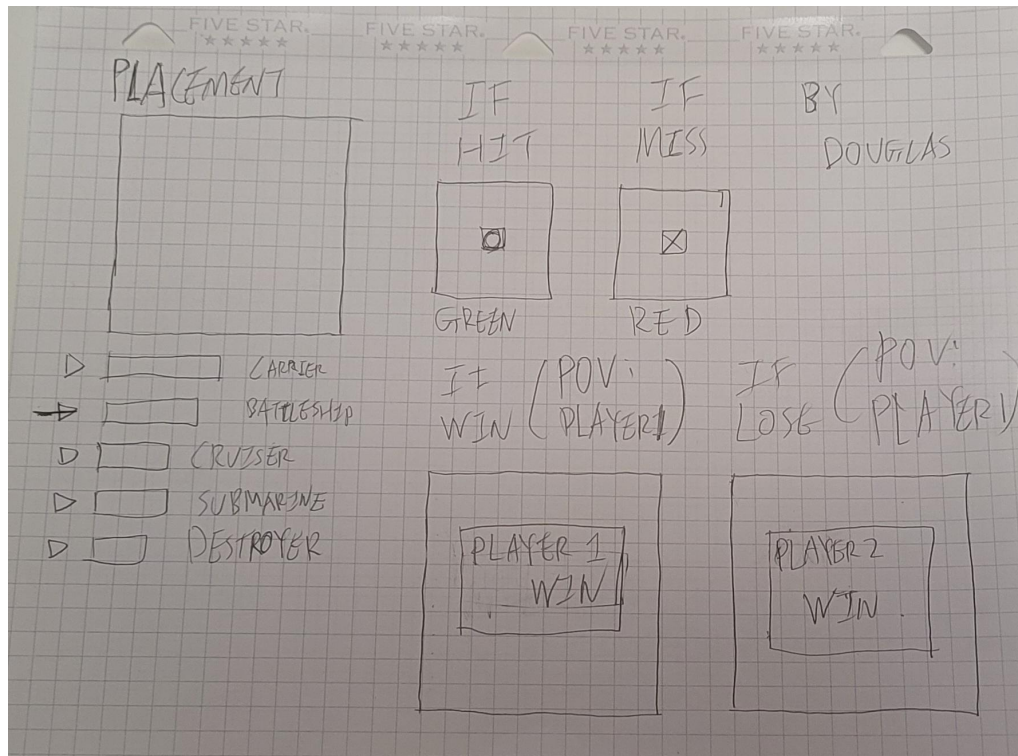
1. **Server Host:** Amazon Web Services V2
2. **Operating System:** Windows (10/11), MacOS (Monterey v12.6/Ventura v13.5)
3. **Database:** MySQL (8.0)
4. **Web Server:** Apache (2.4.57)
5. **Server-Side Language:** JavaScript (ECMAScript ES14)

Additional Technologies:

- **Web Framework:** Angular (14)
- **IDE:** Visual Studio Code (1.81), IntelliJ IDEA (2023.2)
- **Version Control System:** Git (2.42)
- **Libraries:** React (18), Node.js (v19 0.0), socket.io (4.7.2)

Wireframes

Basics:



Process:

