

Battleship

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What was difficult and why

1. Lobbies Implementation:

- Difficulty: Select-Your-Session Mechanism
- Description: Implementing a select-your-session feature in lobbies posed challenges, due to managing concurrent sessions and handling user preferences effectively. It also caused several indicators to fire not at all or prematurely, complicating the entire line-of-processes

2. Authentication Implementation:

- Difficulty: Database Connection Handling
- Description: The process of implementing authentication for login and sign-up faced difficulties related to managing database connections. This involved issues such as connection pooling, ensuring secure and efficient communication with the database, and handling connection errors.

3. Game Implementation:

- Difficulty: ship placement function
- Description: Ships can be placed on top of each other which is considered cheating in the rule book of the game Battleship. Ran out of time to fix error.

Main problems we encountered and how we overcame them

1. Lobbies Implementation:

- Solution: Conducted brainstorming sessions to identify alternative approaches, leveraged team collaboration to refine the mechanism, and implemented a solution that addressed the select-your-session challenge.

2. Authentication Implementation:

- Problem: Database Connection Handling.
- Solution: Collaborated with team members to research and implement robust database connection handling strategies. This involved optimizing connection pooling, securing database communication, and implementing error-handling mechanisms.

3. Communication Challenges:

- Problem: Managing communication across different schedules
- Solution: Established clear communication channels and schedules, utilized communication tools effectively, and ensured that important information was documented for team members to access at their convenience. Encouraged open communication to address any concerns or challenges faced by team members.



What we learned

1. Database Optimization:

Learned and implemented PostgreSQL database optimization techniques to enhance performance and authentication.

2. Database Connection Pooling:

Gained an understanding of connection pooling to efficiently manage database connections in the context of a real-time, multiplayer, online game with high user interactions.

3. Scalability:

Explored strategies for scaling the database and application to accommodate a growing number of users.

4. Error Handling and Logging:

Improved our understanding of effective error handling and logging practices, allowing us to identify and address issues proactively.



If you did anything that we didn't do as a group in class, tell us about it

Created the lobby function in a different manner from what we initially planned; Was meant to choose lobbies and create any from the get-go. Instead, we got auto-assigned lobbies after spending circa 4 weeks trying and failing to figure out how to assign roles by join order - Douglas

Learned middleware Passport authentication to authenticate request - Vijayraj



Demo