**Designing a Digital Battleship Game**

**Part 1: Gathering Requirements Through an Interview**

**Interview Summary**

To build an effective digital version of Battleship, a mock interview was conducted with a game expert. The objective was to understand the core gameplay, common challenges, and necessary features to improve user experience. The following questions were asked, along with the responses received.

**Interview Questions and Responses**

**Q1: Can you explain how Battleship is played?**  
A1: Battleship is a two-player strategy game played on a grid. Each player secretly places their ships on their own grid. Players then take turns calling out grid coordinates to attack the opponent’s ships. If a called coordinate contains a ship, it is marked as a "hit"; otherwise, it is a "miss." The game continues until one player sinks all the opponent’s ships.

**Q2: What are some challenges players usually face?**  
A2: One challenge is tracking previous moves, including hits and misses. Players must also use strategy to predict ship placements rather than making random guesses. In a digital version, features such as a move history, color-coded markers, and an intuitive interface would be helpful.

**Q3: How should the game manage player turns and feedback?**  
A3: The system should clearly indicate whose turn it is. Players should receive instant feedback after each move, showing whether their attack was successful or not. A history of previous moves should also be displayed so players can make informed decisions rather than repeating attacks on the same spot.

**Q4: What features would make a digital version easier to play?**  
A4: The game should have a simple, interactive grid for placing ships. Players should be able to move and adjust their ship placements before confirming them. The attack system should use visual indicators like colors, animations, and sound effects. A chat or notification system for multiplayer mode could also enhance the experience.

**Part 2: User Stories and Requirements**

Using the information from the interview, we converted the requirements into user stories to define what players need in the game. Each user story follows the format:

*"As a [user], I want [feature] so that [outcome]."*

**User Stories with Acceptance Criteria**

1. **Placing Ships on the Grid**
   * **User Story:** As a player, I want to position my ships on the grid before the game starts so I can plan my strategy.
   * **Acceptance Criteria:**
     + Players should be able to drag and drop ships onto a grid.
     + The system should ensure ships do not overlap or go outside the grid.
     + A “Confirm Placement” button should allow players to finalize their setup.
     + The game should allow players to reset and reposition ships before confirming.
2. **Taking Turns in the Game**
   * **User Story:** As a player, I want to know when it's my turn so I can make my move without confusion.
   * **Acceptance Criteria:**
     + A clear notification should inform players when it’s their turn.
     + Players should not be able to make a move when it is not their turn.
     + The game should automatically switch turns after each valid move.
     + The system should prevent repeated attacks on the same coordinate.
3. **Attack Feedback System**
   * **User Story:** As a player, I want to see if my attack was a hit or a miss so I can adjust my future moves.
   * **Acceptance Criteria:**
     + The game should display a red marker on the grid for hits and a blue marker for misses.
     + A sound effect should be played to indicate a successful or missed attack.
     + A log or history should record all previous attacks for reference.
     + The system should highlight the opponent’s ship when it is completely sunk.
4. **Multiplayer and AI Options**
   * **User Story:** As a player, I want the option to play against either a friend or an AI so that I can enjoy the game even if no one else is available.
   * **Acceptance Criteria:**
     + Players should be able to choose between multiplayer mode and AI mode.
     + In multiplayer, turns should be managed fairly between two players.
     + In AI mode, the computer should randomly place ships and make calculated moves.
     + A difficulty setting should be available for AI opponents.
5. **Game Over Notification**
   * **User Story:** As a player, I want to be notified when the game ends so I know who won and can start a new game.
   * **Acceptance Criteria:**
     + The game should detect when all of one player’s ships are sunk.
     + A “Game Over” screen should appear, showing the winner’s name.
     + Players should be given options to restart or exit the game.
     + A summary of the game, including moves taken and hit/miss ratios, should be displayed at the end.

**Conclusion**

This document outlines the key requirements for creating a digital Battleship game, ensuring a smooth and engaging player experience. The interview process helped identify important features like turn management, visual feedback, and multiplayer options. By using user stories, we have a clear plan for development, ensuring that the game is easy to play, visually appealing, and strategically challenging.