

CPSC 224 Final Project

April 4, 2025

Animal Crossing: Last Island Standing

Team Name: Battleship Curious (BC)

Team Logo

(Insert team logo here)

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1. Project Overview

1.1 Project Summary

Animal Crossing: Last Island Standing is a turn-based strategy game inspired by the classic Battleship. Players divide into two teams—Cuties vs Anarchists—and try to destroy all the opposing team's ships by guessing their positions on a grid-based map. Victory is declared when all a team's ships have been sunk. The game is grid-based, with a large

15x15 board, and features enhanced elements such as satellites, customizable ships, and ASCII art interfaces. Board size is manageable and will prevent a long game.

Players interact through a terminal-style interface with ASCII art and can choose manual or random ship placements. The game includes options to activate temporary sensors to scan sections of the board for enemy presence.

Custom splash menu pictured below



2. Project Requirements

2.1 Major Features

Table 1: Major Features

Feature	Description
Splash Menu	Game introduction screen with ASCII art options to start, view rules, and exit.
Ship Placement Options	Players can choose between manual and random ship placement before the game starts

ASCII Art Visual Feedback	Displays different ASCII illustrations for miss, near-miss, hit, win/lose, etc.
Sensor/Drone Feature	Temporarily reveals sectors of the opponent's map (limited-use mechanic).
Customizable Settings	Includes options like number of ships, visibility toggles, and player names.
Victory Screen & Scoring	Displays a summary screen when a team wins, with results and stats.
Island & Unique Ships	New island-themed targets and custom ship types

3 Project Game Design

3.1 Initial User Interface Design

The UI will be designed using ASCII art and a text-based layout. Players navigate through the game via numbered menu options, with visuals representing gameplay actions such as firing, scanning, and receiving hits.

The main screen includes a grid display (15x15, labeled A-T and 0–19).

ASCII graphics will indicate key events.

Separate screens for splash menu, gameplay, and victory screen.

3.2 Initial Software Architecture

The system will be composed of the following main classes:

Coordinate – Manages turns, game state, and win conditions.

Player – Stores player-specific data like ship positions and sensor uses.

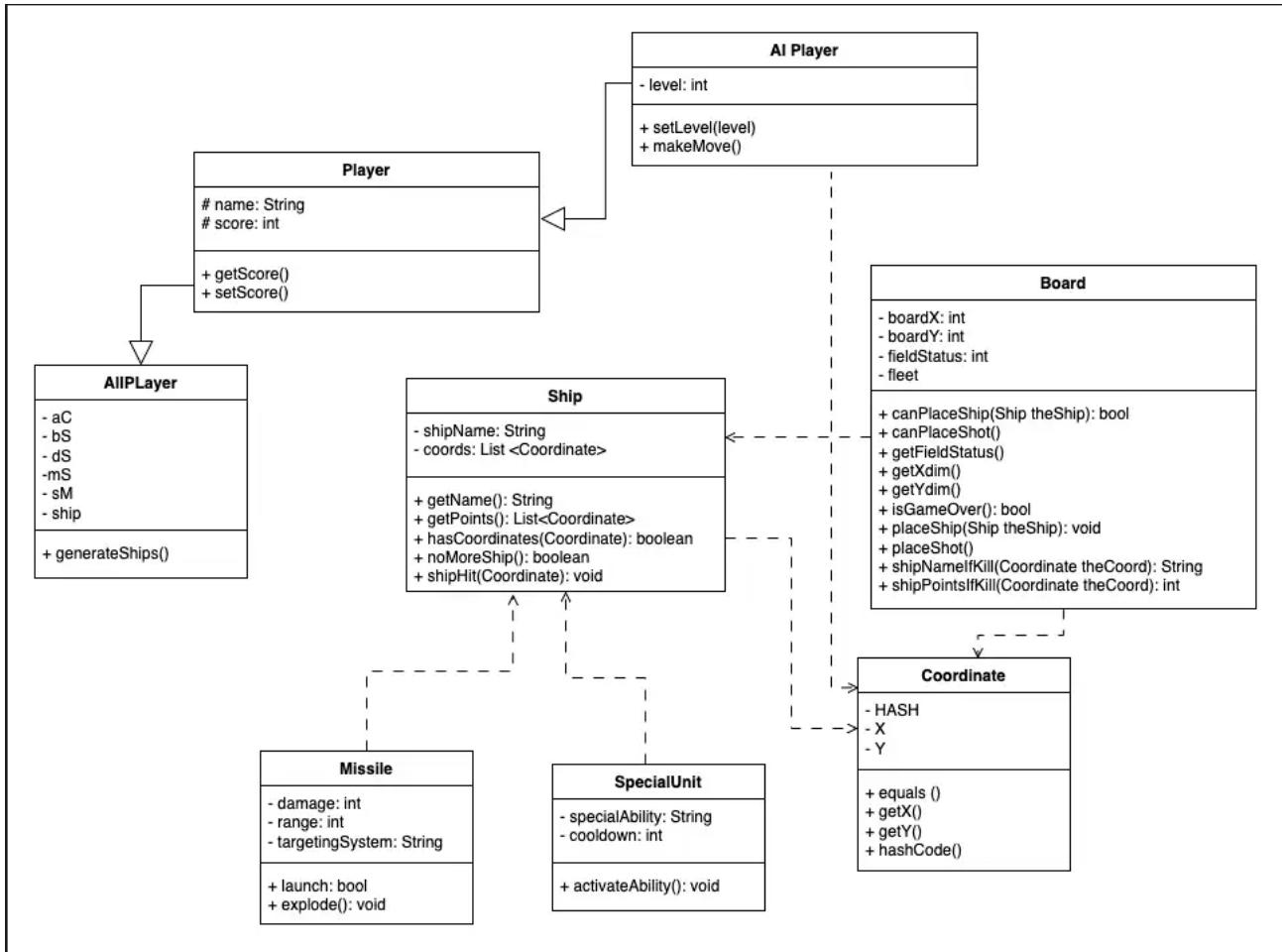
Ship – Represents different ship types and states (hit or intact).

Missile – Identifies the desired target and destination.

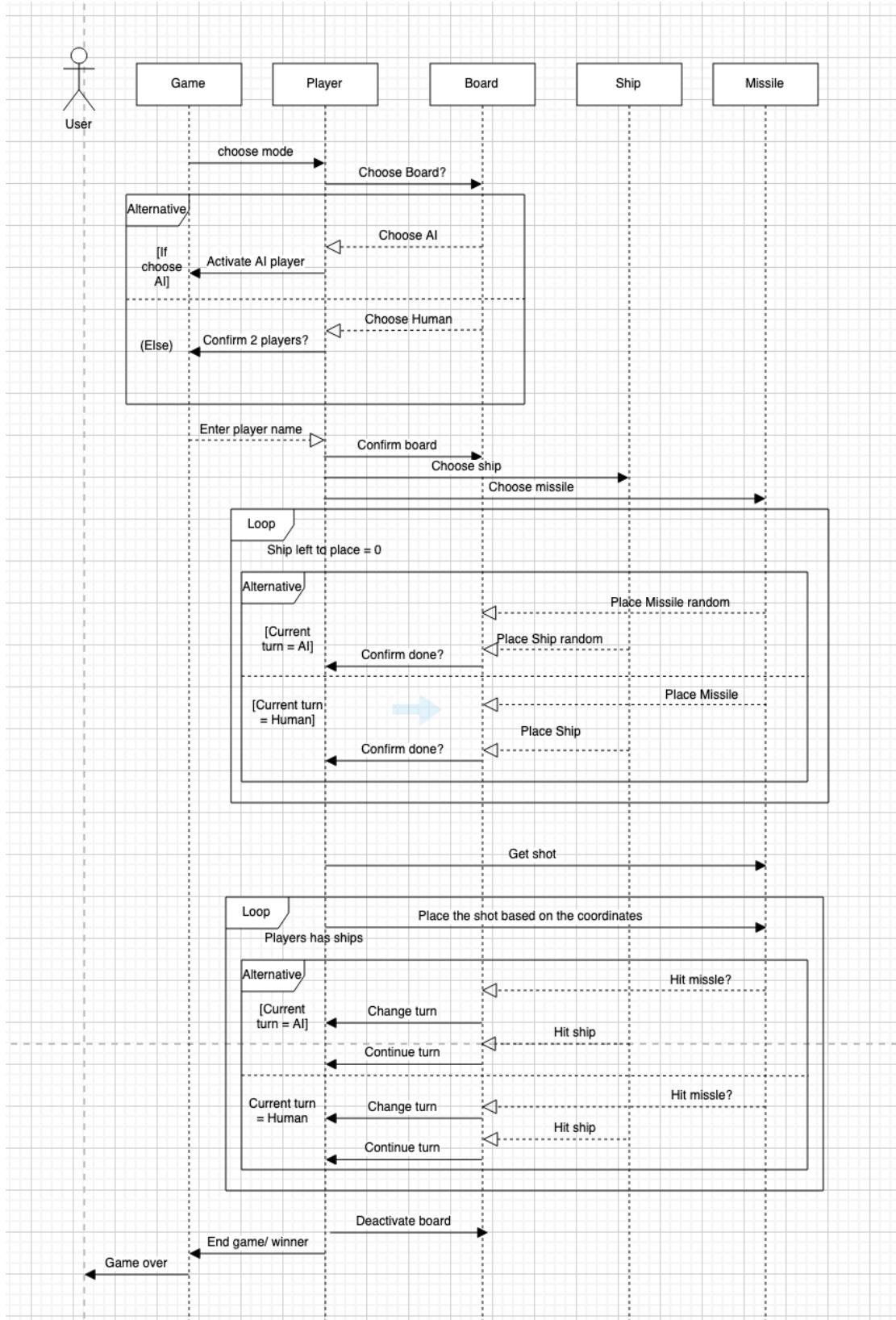
Board – Responsible for rendering, updating, and validating positions.

SpecialUnit – A special object for temporary map visibility.

Class diagram



Sequence diagram:



4 Project Schedule

= "Completed"

Milestone 1: Project Setup and Initial Design (Due: April 4)

- Task: Create project GitHub repository
- Task: Develop and finalize UML diagrams
- Task: Sketch UI mockups (ASCII ??)
- Task: Write detailed project description

Milestone 2: Core Game Mechanics (Due: April 11)

- Task: Implement grid logic and ship placements
- Task: Create Player and Ship classes
- Task: Develop basic game controller and turn mechanics
- Task: Design initial UI framework and splash screen

Milestone 3: Advanced Features Implementation (Due: April 18)

- Task: Implement sensor/drone functionality
- Task: Integrate ASCII art graphics
- Task: Refine UI interactivity
- Task: Testing and debugging gameplay mechanics

Milestone 4: Finalization and Polishing (Due: April 25)

- Task: Comprehensive game testing and debugging (Assigned: Entire Team)
- Task: Prepare final project documentation (Assigned: 2 Members)
- Task: Finalize UI enhancements and graphics (Assigned: 2 Members)

Appendix

- **Game Rules** – Player(s) will take turns choosing a point on the grid as a destination of attack. The goal of the attack is to hit the opponent's ship, the goal of the battle is

to sink all the opponent's ships. Opponent's ships will not be visible to the attacker. The game ends when the player attacking has no remaining ships on their side. The victor is declared to the player with ships remaining.

- **Sample Board Layouts** – The board is going to be a 20x20 grid (*Subject to change*)
- **ASCII Art References** - *TBD*