

**Name:** BinaryBuffs

**Team Members:** Sahand Setareh, Tahmina Ahmad, Divya Bhat, Tanvi Gopalabhatla

#### 4 Additional Features:

- Grenade: if you hit a square with a ship on it, the entire ship sinks. Can only be used once.
- The Revealer: Weapon that reveals every neighboring cell of a given coordinate cell. Given a coordinate, reveal every neighboring cell's contents (whether or not a ship exists). Each player receives one of such weapons.
- Red square: There is one randomly placed red square on each player's grid. If you hit your opponent's red square, then one of your own ships (randomly chosen) will sink.
- Rescue boat: 2 cells long. While this piece is still on the board, damaged ships can be repaired one cell per turn. This rescue boat can only be used once.

#### Design Thought Process:

- Ship (Superclass)
  - Subclasses
    - Battleship
    - Destroyer
    - Minesweeper
    - Rescue boat
- Weapons
  - Subclasses
    - Grenade
    - The Revealer
- Grid/Ocean map
  - Methods/Attributes (Keeps track of following actions)
    - Hit/Miss
    - Sunk
    - Surrender
    - Red Square
- Player
  - Subclasses
    - Player 1
    - Player 2
  - Methods/Attributes (actions)
    - Use a weapon

- Hit
- Use rescue boat
- Surrender

### CRC Cards:

#### Rescue Boat

##### Responsibilities:

- can revive other ships piece by piece (repairs one cell per turn)

##### Collaborators:

- ships
- grid
- player

#### Grid

##### Responsibilities:

- To keep track of the locations of the ships
- To keep track of the hits, misses, and sinks
- To keep track of the red square and whether it has been hit

##### Collaborators:

- Ships
- Players
- Weapons

#### Grenade

##### Responsibilities:

- aim for a square with a ship on it in order to sink ship

##### Collaborators:

- Ships
- Players
- Grid

## Ship

### Responsibilities:

- placed horizontally or vertically (not diagonally) on grid

### Collaborators:

- grid
- player

## Player

### Responsibilities

- To perform actions with weapons and ships such as hitting, and surrendering

### Collaborators

- ship
- weapon
- grid

## The Revealer

### Responsibilities

- Reveal every neighboring cell of a given coordinate cell

### Collaborators

- grid

### **Coding Standards:**

- Naming variables
  - camelCase for naming variables and methods
  - Use descriptive and meaningful variable names
- Indentation and proper use of white spaces to improve the readability of the code
- Before a method or a block of code, include block comments outlining the function, parameters, and uses
- Prior to important lines of code such as loops, include informative comments to establish coding comprehension

### **Team contract for BinaryBuffs**

- We agree that we will participate actively in this class project.
- We agree to consistently meet at 6pm-9pm on Wednesdays (time and day(s)) each week for the duration of the final project. [minimum 2 hours a week].
- We agree that we will do actual pair-programming and that we will switch partners regularly during those meeting times.
- We agree that we will respond to e-mail/calls/ etc from our team members and the staff within 24 hours.
- We agree that we will post our progress frequently on our GitHub wiki.
- We agree that we will seek help from the staff and not wait until the last minute before the assignment is due.

Signed by: Sahand Setareh, Tahmina Ahmad, Divya Bhat, Tanvi Gopalabhatla  
2/3/2021

Date: