CPSC 233 – Team 8

Project: Battleship Game

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Category: Board Game

The game that we are planning on making is based on a famous guessing game that was published by various companies as a pad-and-pencil game in the 1930s.  The computer will randomly place 5 of the players' ships on a 10 by 10 grid. The locations of the ships are unknown for the other player. Players make their guess by turn and try to "shots" at the other player's ships, the objective of the game is to destroy all the opposing player's ships.

User loads into Main Menu, which displays three buttons: Player vs. Player, Player vs. AI, Exit. When a new game is loaded with the AI, the screen displays a “place ships” screen, where the user places their ships. Then, the game determines who goes first. The game then displays a blank board, where the player can choose which spaces to target. Each target should tell the player whether or not it was a hit or a miss. Then the AI takes its turn, repeating the same targeting process. The game ends when all ships have been hit and sunk.

When a new game with a player is started, the same setup for Player 1 will happen, but the same process is repeated for Player Two. Targeting screens will be displayed depending on whose turn it is currently. The win condition remains the same.

Demo 1:

For Demo 1, we created four classes, they are: “Board”, “PlaceShip”, “Ship” and “Start”.

The Board class is used to create a game board. It includes two instance variables, they are “mapWidth” and “mapHeight”. “mapWidth” represents the board’s width, and “mapHeight” represents the board’s height. We will play game on this board.

The PlaceShip class is used to place the battleships on the board. It includes the ship’s start coordinates and the direction. Depending on the start coordinates, it can decide which direction the ship can be located. We set the directions left, up, right and down to the integers 0, 1, 2 and 3, and put these four integers into a Boolean type array list. Then, we use “if-else”, Boolean and array list methods to judge the ship’s direction. Also, the start coordinates of the ship is random.

The Ship class is used to determine ship’s size and health (We didn’t use ship’s name and type in Demo1). If we hit the ship for once in the game, then the ship will lose one health.

The Start class is used for the main class in Demo1 (We will change a lot in the future Demos, this class is only for testing in Demo1). We set the game board to the size 10 \* 10. There is only one ship on the board, its size is 4, and its health is 2. The location of the ship is random. For testing, the ship’s locating coordinates will be printed on the console. When we play this game, if we input the right coordinates, the console will tell us “HIT!!!”, it means we have already hit the ship. If we input the wrong coordinates, the console will tell us “Miss!!!”, it means we did not hit the ship. After the ship is hit for twice, the ship will sink, and the console will tell us “The ship XXX is damaged”.