

GTA approved Requirement Engineering artifact describing the features of your Custom Addition to Project 1 (5%)

Advanced Feature:

Special Shot: Both players get to choose 0, 1, 2, or 3 special shots at the beginning of the game similar to the selection of a number of ships. The players can use these special shots anytime throughout the game. When the player uses the special shot each place/cell surrounding the selected place/cell is shot simultaneously i.e. (a 3*3 shot). If the player chooses a cell that is adjacent to the edges of the matrix/battleship play area then only partial cells will get hit which are in the game area, the rest will go to waste. To use this feature one more command-line argument is added, that is the second command-line argument that represents the number of special shots for both players. When the player uses this shot, he/she has to provide the row and column of the centre cell where he/she wants to shoot/place the special shot. The player can use any cell including an already hit/miss cell as the centre cell of the special shot.

Identify the software architecture you think the Project 1 team used and explain why you think that (250-350 words – 5%)

The Project 1 program that our group inherited for Project 2 uses the 2-tier architecture style because the front-end user interface (the presentation tier) is separated from the middle tier, which consists of the logic and programming of the game. This separation is achieved by defining the class and objects, and how they interact with each other. In the project that our team inherited, two main classes are used, namely the Board class and the Executive class. The executive class works as a front-end class (is a part of the presentation tier) and interacts with the users and takes in information from user input. For example, it gets the input of ship location from each player and displays it, as well as taking input on where to fire and displaying that. The Board class stores this user information. In addition, it also stores information about the formation of the grids, where each player's ships are located within the board, if ships are alive or sunk, where shots have been fired and by what player, and whether certain shots were hits or misses. There is not a well-defined separation of the user interface and the logic of the game since the two need to work closely together in this project since the executive class needs to work closely with the board class in order to display the proper boards to the users. Despite this, the separation of tiers is still there, so we can assume that the creators of our inherited project used the 2-tier architecture.