**Design Document**

We created 4 classes as below.

**Ocean Explorer:**

In this class we are creating a grid and placing the ship in the grid. To place the ship, Pirates ship, Islands, Pirate Islands we are calling Ocean Map class to generate the random positions and placing them in the grid.Also it adds the pirate ships to the set of observers for the ship object.

Added Reset button at the bottom of the grid. If the user click it then the map will get reset.

If user moves the ship then it calls ship class to get the ship coordinates and updates the ship position on grid.

**PirateShip:**

It implements the observer method. Sets the coordinates of the 2 pirate ships and returns the pirate ship locations to the calling functions.

Overrides the super class update method to call the Movement() method which gets the ships location and try to follow and catch the ship.

**OceanMap:**

Initializes the ocean grid and generates the random locations to place ship,pirate ships,islands and pirate islands and returns to the Ocean Explorer class.

**Ship:**

It extends the observable class.It gets the ship coordinates and performs the actions to move the ships along the east,west,north,south directions and notifies the observers classes and calls the setchanged() method and also updates the ship coordinates and returns the new coordinates to the calling function.