Design Document

Gopidi Abhinav Reddy

Gudipati Anurag

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This Program uses the observer pattern to notify the pirate ships about any movement of Chirstopher Columbus ship (CCS). Here the ship class is to be observed so it extends the observable and the pirate ship which observe the movement of the ship implements the observer. The main class (OceanExplorer) starts the GUI, loads the ships, pirate ships and the islands. I didn’t use the random function to generate the coordinates for the ships and islands, instead I stored the numbers in an array list and shuffled them to avoid repetitions of the numbers. In the method startsailing the ship uses the Ship class to generate and check the next point to move the ship, once there are no problems the ship is moved and updated in the OceanMap class and then the image is updated in the OceanExplorer class to display. Whenever the pirate ship catches the CCS a new window with the button gave over pops up. The Ship class is the observable class so whenever the CCS moves setchanged() and notifyobservers() methods are used. In the Pirateship class the update method is invoked whenever the CCS moves and movepship() method is called to move the pirateship closer to the CCS.