**Requirements for Treasure Island activity**

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| **R ID** | **Description** |
| **R 1** | The user should be able to navigate ship among the islands. |
| R 1.1 | From every island (except the treasure island), there are two options to choose from (option A and option B). |
| R 1.2 | Both options lead to some specific island. |
| R 1.3 | There should be at least one path to navigate from starting point to treasure island. |
| R 1.4 | The game stops when user reaches treasure island. |
| R 1.5 | When user travels from one island to another, an arrow is shown in the corresponding direction. |
| R 1.6 | Once the game ends, the system may display the best path user should have chosen to reach treasure island. |
| R 1.7 | There should be a help button on the screen. |
| R 1.8 | There should be a reset button on the screen. |

**R 1**

**The user should be able to navigate ship among the islands.**

**R 1.1** From every island (except the treasure island), there are two options to choose from (option A and option B).

**Input :** Click on the either option A or option B.

**Output :** The ship navigates from current island to destination island depending upon the option chosen.

**Process :**

* On any given island(except the treasure island), user has two options. The two options gets user to two different islands.
* For example, user clicks on option A, the ship will travel to the next island predefined in the game for option A.

**R 1.2** Both options(A and B) lead to some specific island.

* The idea behind this requirement is that there must not be an option that leads to no other island. Every island must take user to a specific island.

**R 1.3** There should be at least one path to navigate from starting point to treasure island.

* This requirement is included to ensure the fact that there must be at least one way to reach from starting point/island to treasure island. i.e. there should not be a setup of islands in the game such that there is no route to reach treasure island. If such a case happens then the game would never end. Such issues should not be encountered in the game.

**R 1.4** The game stops when user reaches treasure island.

* This requirement ensures that once the user reaches the treasure island, the game should stop or reset. The user should not be able to navigate from treasure island to any other island.

**R 1.5** When user travels from one island to another, an arrow is shown in the corresponding direction.

* The game aims at demonstrating the concept of finite state automata. In order to make this happen, the user should be able to trace the path he/she has chosen. And ultimately at the end of the game, user will have a complete map containing the paths he/she chose to reach treasure island.

**R 1.6** Once the game ends, the system may display the best path user should have chosen to reach treasure island.

* This requirement can be included under extended scope of the project. If the user is shown the best path at the end of the game, he/she will have an idea on what extra transitions could have avoided to reach the destination/treasure island.

**R 1.7** There should be a help button on the screen.

* When the user clicks on help button, information on how to play the game and how it demonstrates the concept of finite state automata is displayed.

**R 1.8** There should be a reset button on the screen.

* When the user clicks on reset button, the game is reset and every object in the game, moves to its initial position.