Group Project 11

Test Specification

|  |  |
| --- | --- |
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# Introduction

## Purpose of this Document

This document is to present Test Specification document.

## Scope

This document specifies all tests for each functional requirements that the program should contain for proper functioning.

## Objectives

The objective of this document is to show what elements need to be checked while the program is running for its proper functioning.

# BODY OF DOCUMENT

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Ref | Req being tested | Test Content | Input | Output | Pass Criteria |
| SE-F-001 | FR1 | Check that system can create four players | Press “Enter” to create four players (Tom, Bob, Steve, John). | New players show on the screen | Data is created correctly |
| SE-F-002 | FR1 | Check that user can assign names to each of the four players | Enter a name in the pop-up window and hit enter | List of names which are assigned to an appropriate player | Data is assigned correctly |
| SE-F-003 | FR1 | Check that system can check if the name ‘Tom’ already exists and ask for another name once again | Enter the name ‘Tom” two times in a pop-up window | Error message: “That name already exists. Enter a different name:” warns user about the problem | System displays “wrong name” error message |
| SE-F-004 | FR2 | Check that system can randomly assign and set exactly one port as a Home Port to each player | Start a program and let the system assign ports 10 times | List of 4 players with randomly assigned ports | Data is assigned correctly |
| SE-F-005 | FR3 | Check that system can store pack of 36 crew cards | Enter pack of 36 cards and hit enter (you are able to see all of them in the command line) | List of all crew cards (you are able to see all of them in the command line) | Data is stored correctly |
| SE-F-006 | FR3 | Check that system can sort pack of cards randomly | Enter pack of 36 cards and hit enter (you are able to see all of them in the command line) | 3 lists of the same pack of cards to check if they sorted randomly in every case (you are able to see them in the command line) | Data is sorted correctly |
| SE-F-007 | FR3 | Check that system can return given card at the bottom of the pack | Enter pack of 36 cards and hit enter and pick first card | Bottom of the pack that has card which has been picked in input section | Data is returned in a proper way |
| SE-F-008 | FR4 | Check that Chance cards are sorted randomly | Pack of 28 Chance cards | List of Chance cards sorted in random order | Data is stored correctly |
| SE-F-009 | FR4 | Check that Chance card that is given out is from the top of the pack | Pack of 28 Chance cards sorted in a list from first (top) to last (bottom) | First (top) card from the list | Data is stored correctly |
| SE-F-010 | FR4 | Check that Chance card that is returned to the pack is added to the bottom of the pack | Chance card that is returned to the pack | List of left Chance cards in the pack with returned one as the last one | Data is stored correctly |
| SE-F-011 | FR4 | Check that Chance card that is held by player is used in appropriate time | Chance card recorded as held by the player | Player’s hand without this Chance card after appropriate action | Data is stored correctly |
| SE-F-012 | FR4 | Check that Chance card is returned to the pack of Chance card after use | Chance card recorded as held by the player | Pack of Chance cards containing the one being returned | Data is stored correctly |
| SE-F-013 | FR5 | Check that system contains 5 treasure types of 4 each | ----- | List of 4 diamonds, 4 rubies, 4 gold bars, 4 pearls and 4 barrels of rum | Data is stored correctly |
| SE-F-014 | FR5 | Check that Diamond is worth 5 points | Diamond | Number of points (5) | Data is stored correctly |
| SE-F-015 | FR5 | Check that Ruby is worth 5 points | Ruby | Number of points (5) | Data is stored correctly |
| SE-F-016 | FR5 | Check that Gold bar is worth 4 points | Gold bar | Number of points (4) | Data is stored correctly |
| SE-F-017 | FR5 | Check that Pearl is worth 3 points | Pearl | Number of points (3) | Data is stored correctly |
| SE-F-018 | FR5 | Check that Barrel od rum is worth 2 points | Barrel of rum | Number of points (2) | Data is stored correctly |
| SE-F-019 | FR5 | Check that treasures are assigned only to ships, to ports and to Flat Island | All treasures that the system contains | Locations of every treasure (Ships, ports and Flat Island) | Data is stored correctly |
| SE-F-020 | FR5 | Check that a request to obtain specific treasure from Treasure Island is refused | Specific treasure | Message that there is no specific treasure left on Treasure Island | Data is stored correctly |
| SE-F-021 | FR6 | Check that the number of cards in the player’s hand and the value of each card are correct | Specific player’s name | The number of his cards and value of each card | Data is stored correctly |
| SE-F-022 | FR6 | Check that the total distance (3) the player can move in a single turn is correct (player has 1 black crew card and 2 red crew cards) | Specific player’s name | The total distance (3) the player can move in a single turn | Data is stored correctly |
| SE-F-023 | FR6 | Check that the fighting strength (1) of the player is correct (player has 3 red crew cards and 2 black crew cards) | Specific player’s name | The fighting strength (1) of the player | Data is stored correctly |
| SE-F-024 | FR6 | Check that Chance cards retained in the player’s hand are correct | Specific player’s name | Any Chance card that the player has in his hand | Data is stored correctly |
| SE-F-025 | FR6 | Check that the items of treasure (2) in the player’s ship are correct (player has 1 diamond and 1 gold bar) | Specific player’s name | The items of treasure (2) in the player’s hand | Data is stored correctly |
| SE-F-026 | FR6 | Check that the location and orientation of the player’s ship are correct | Specific player’s name | The location and orientation of the player’s ship | Data is stored correctly |
| SE-F-027 | FR6 | Check that the player’s Home Port is correct | Specific player’s name | The player’s Home Port | Data is stored correctly |
| SE-F-028 | FR7 | Check that system can store and track number of cards at the port | Enter pack of cards and make the next moves to simulate the course of the game | Number of cards at the port | Data is stored and tracked correctly |
| SE-F-029 | FR7 | Check that system can store and track value of each card | Enter pack of cards and make the next moves to simulate the course of the game | Value of each card at the port | Data is stored and tracked correctly |
| SE-F-030 | FR7 | Check that system can store and track items of treasure at the port | Enter specified treasure items and make the next moves to simulate the course of the game | Number of items of treasure at the port | Data is stored and tracked correctly |
| SE-F-031 | FR7 | Check that system can track players for whom this is the Home port | Create players and assign them to different ports | Player and port paired up | Data is assigned correctly |
| SE-F-032 | FR7 | Check that system can track player with no Home port | Create players | Error message warns that specific player doesn’t have Home port | System displays “No Home Port” message |
| SE-F-033 | FR8 | Check that system can track and store the number of cards at Flat Island | Enter pack of cards and make the next moves to simulate the course of the game | Number of cards at Flat Island | Data is stored and tracked correctly |
| SE-F-034 | FR8 | Check that system can track and store the value of each card at Flat Island | Enter pack of cards and make the next moves to simulate the course of the game | Value of each card at the port | Data is stored and tracked correctly |
| SE-F-035 | FR8 | Check that system can track and store items of treasure at Flat Island | Enter specified treasure items and make the next moves to simulate the course of the game | Number of items of treasure at the port | Data is stored and tracked correctly |
| SE-F-036 | FR9 | Check that system can display a 20 by 20 square board on screen | Start game with entering names of the players | A 20 by 20 square board appears on a screen | System displays game board |
| SE-F-037 | FR9 | Check that system can display coordinates on every square (1,1 (bottom left) – 20,20 (top right)) | Start game with entering names of the players | A board appears on screen with every smaller square indicating position | System displays game board with coordinates |
| SE-F-038 | FR9 | Check that system can display board with the following notable features [1] (look below table) | Start game with entering names of the players | A board has notable features on a given squares | System displays game board with coordinates |
| SE-F-039 | FR9 | Check that system can indicate each ship and port in a clear way | Start game with entering names of the players | A board has 4 coloured ships with 4 coloured Home ports. This shows which ship belongs to which port | System displays data on game board correctly |
| SE-F-040 | FR9 | Check that system can display total distance the player can move in single turn | Start game with entering names of the players | A board shows where player can move | System displays possible moves to the player |
| SE-F-041 | FR9 | Check that system can display items of treasure in the player’s ship | Start game with entering names of the players | Number of items of treasure in the player’s ship | System displays data on the board |
| SE-F-042 | FR9 | Check that system can display location and orientation of the player’s ship | Start game with entering names of the players | A board shows location of the player’s | System displays data on the board |
| SE-F-043 | FR9 | Check that system can display name of the player’s Home Port | Start game with entering names of the players | A board shows player’s Home Port | System displays data on the board |
| SE-F-045 | FR9 | Check that system can display any Chance cards retained in player’s hand | Start game with entering names of the players | A game shows cards in player’s hand | System displays data on the board |
| SE-F-046 | FR9 | Check that system can display items of treasure in the port | Start game with entering names of the players | A board shows items of treasure in the port | System displays data on the board |
| SE-F-047 | FR9 | Check that system can display number of each card at the port | Start game with entering names of the players | A board shows number of cards at the specific port | System displays data on the board |
| SE-F-048 | FR9 | Check that system can display value of each card at the port | Start game with entering names of the players | A board shows value of each card at the specific port | System displays data on the board |
| SE-F-049 | FR9 | Check that system can display name of the players for whom it is the Home Port | Start game with entering names of the players | A board shows each player Home Port | System displays data on the board |
| SE-F-050 | FR9 | Check that system can display Home Port without an owner | Start game with entering names of the players | Error message warns that specific player doesn’t have Home port | System displays “No Home Port” message |
| SE-F-051 | FR9 | Check that system can display items of treasure at Flat Island | Start game with entering names of the players | A board shows items of treasure at Flat Island | System displays data on the board |
| SE-F-052 | FR9 | Check that system can display number of cards at Flat Island | Start game with entering names of the players | A board shows number of cards at Flat Island | System displays data on the board |
| SE-F-053 | FR9 | Check that system can display value of each card at Flat Island | Start game with entering names of the players | A board shows number of cards at Flat Island | System displays data on the board |
| SE-F-054 | FR10 | Check that each player is dealt five cards from the crew card pack | --- | Each player can check all his crew cards on his hand | Data is stored correctly |
| SE-F-055 | FR10 | Check that each of the Trading ports are dealt two crew cards | --- | Two cards that each Trading port contains | Data is stored correctly |
| SE-F-056 | FR10 | Check that the value of items at the Trading port is made up to 8 by adding diamond or ruby | Two cards dealt are 1 and 2 making 3 | Treasure placed in the port is diamond or ruby | Data is stored correctly |
| SE-F-057 | FR10 | Check that the value of items at the Trading port is made up to 8 by adding gold bar | Two cards dealt are 2 and 2 making 4 | Treasure placed in the port is gold bar | Data is stored correctly |
| SE-F-058 | FR10 | Check that the value of items at the Trading port is made up to 8 by adding pearl | Two cards dealt are 2 and 3 making 5 | Treasure placed in the port is pearl | Data is stored correctly |
| SE-F-059 | FR10 | Check that the value of the items at the Trading port is made up to 8 by adding barrel of rum | Two cards dealt are 3 and 3 making 6 | Treasure placed in the port is barrel of rum | Data is stored correctly |
| SE-F-060 | FR11 | Check that turns will be given to the players in order London, Genoa,  Marseilles, Cadiz | All Home Ports (London, Genoa, Marseilles, Cadiz) | Home ports in appropriate order | Data is stored correctly |
| SE-F-061 | FR11 | Check that turns won’t be given to the players in order London, Genoa, Marseilles, Cadiz | All Home Ports (London, Genoa, Marseilles, Cadiz) | Home ports in wrong order | System displays message “Turns are given in wrong order” |
| SE-F-062 | FR11 | Check that player can move his ship or turn his ship if he is out of port | Specific player’s name | Two actions (Move a ship or Turn a ship) | Data is stored correctly |
| SE-F-063 | FR11 | Check that player can only move a ship if he is in a port | Specific player’s name | One action (Move a ship) | Data is stored correctly |
| SE-F-064 | FR11 | Check that player can move his ship or turn his ship if he is in a port | Specific player’s name | Two actions (Moved a ship or Turn a ship) | System displays message “Player can’t turn a ship when he is in a port” |
| SE-F-065 | FR11 | Check that all squares in the direction that the player is facing are displayed when he is out of port | Specific player’s name | All squares in the direction that player is facing | Data is stored correctly |
| SE-F-066 | FR11 | Check that all squares in all directions are displayed when the player is in a port | Specific player’s name | All squares in all directions from port | Data is stored correctly |
| SE-F-067 | FR11 | Check that Treasure Island or another player’s port are not legal choices for a move when they are occupied | Specific player’s name | All squares available for the player except the coast of Treasure Island and another player’s port | Data is stored correctly |
| SE-F-068 | FR11 | Check that the coast of Treasure Island or another player’s port are legal choices for a move when they are occupied | Specific player’s name | All squares available for the player including the coast of Treasure Island and another player’s port | System displays message "You can’t attack another player when he is on the coast of Treasure Island or in a port” |
| SE-F-069 | FR11 | Check that system asks whether player wishes to attack the moving ship when he moves through square occupied by another player | Square chosen by player to move to | Message displayed “Do you wish to attack the moving ship” | Data is stored correctly |
| SE-F-070 | FR12 | Check that system compares players’ strength appropriately | Fighting strength of both players | Player that has greater fighting strength | Data is stored correctly |
| SE-F-071 | FR12 | Check that winner is awarded a treasure when loser has one | Treasure in loser’s hand | Treasure in winner’s hand | Data is stored correctly |
| SE-F-072 | FR12 | Check that treasure from loser goes to Treasure Island when winner already has two treasures | Winner’s hand | All Treasure Island’s treasures with one returned from loser’s hand | Data is stored correctly |
| SE-F-073 | FR12 | Check that two lowest value cards from loser’s hand go to winner | Two cards from loser’s hand | Winner’s hand with two cards from loser | Data is stored correctly |
| SE-F-074 | FR12 | Check that lowest value card from loser’s hand goes to winner if loser has only one card | Card from loser’s hand | Winner’s hand with a card from loser | Data is stored correctly |
| SE-F-075 | FR12 | Check that system allows loser to move | --- | All squares in direction previously chosen by loser | Data is stored correctly |
| SE-F-076 | FR12 | Check that winner remains in the direction he was already moving | --- | Square that winner is facing to | Data is stored correctly |
| SE-F-077 | FR13 | Check that system can recognize when the end of player’s turn is | Make a move on Treasure Island during your turn | The game is giving turn to next player | System passes turn to the next player |
| SE-F-077 | FR13 | Check that system can use Chance card at the top of the stack to appropriate player | Make a move on Treasure Island and wait for a card | Chance card appears and it is applying what is says to the game | Data is assigned correctly |
| SE-F-078 | FR14 | Check that system can award appropriate player with treasures | Make a move on Flat Island and wait for a treasure | Treasure appears in the ship of a player | Data is stored correctly |
| SE-F-079 | FR14 | Check that system can pick most valuable treasure if there is no space on a ship | Make a move on Flat Island and wait for a treasure | Most valuable treasure is added to the ship | Data is stored and assigned correctly |
| SE-F-080 | FR14 | Check that system can add cards on Flat Island in player’s hand | Make a move on Flat Island and wait for cards | Cards appear on player’s hand | Data is assigned and stored correctly |
| SE-F-081 | FR15 | Check that system can add treasure from ship to Home Port | Reach your Home Port when you have treasures in your ship | Treasures are unloaded to the Home Port | Data is stored correctly |
| SE-F-082 | FR15 | Check that system can trade treasures after reaching another port | Reach another port | Trade window appears | System allows for a trade |
| SE-F-083 | FR15 | Check that system can trade cards after reaching another port | Reach another post | Trade window appears | System allows for a trade |
| SE-F-084 | FR15 | Check that system can display appropriate info during trade | Start a trade | Trade window appears with specific information | System displays data |
| SE-F-085 | FR15 | Check that system can block trade with equivalent treasure value on each side | Start a trade | Trade is blocked | System displays “Error” message |
| SE-F-086 | FR15 | Check that system can update stock of the port during game | Finish a trade | All data is assigned to appropriate place | Data is stored correctly |
| SE-F-087 | FR15 | Check that system can allow players to use cards in their hands | Start a trade | User is able to use cards | System allows for data usage |
| SE-F-088 | FR15 | Check that system can add deposited cards to other player’s hand | Deposit a card | A card is given to other player’s hand | Data is stored and assigned correctly |
| SE-F-089 | FR16 | Check that Anchor Bay is reached by the player | Player’s ship location (Anchor Bay) | Treasures on Anchor Bay | Data is stored correctly |
| SE-F-090 | FR16 | Check that Anchor Bay isn’t reached by the player | Player’s ship location (Not Anchor Bay) | Error message | System displays message “Player’s ship isn’t in Anchor Bay” |
| SE-F-091 | FR16 | Check that the player holds one of the relevant cards (Kidd’s chart) | Player’s hand | Kidd’s chart card from player’s hand | Data is stored correctly |
| SE-F-092 | FR16 | Check that the player doesn’t hold one of the relevant cards (Kidd’s chart) | Player’s hand | Error message | System displays message “Player doesn’t have any Kidd’s chart card” |
| SE-F-093 | FR16 | Check that the player can exchange Kidd’s chart card for treasure from Anchor Bay | Player’s ship capacity | Number of items of treasures on player’s ship (Less than 2) | Data is stored correctly |
| SE-F-094 | FR16 | Check that the player can’t exchange Kidd’s chart card for treasure from Anchor Bay | Player’s ship capacity | Number of items of treasures on player’s ship (Equals 2) | System displays message “Player reached maximum capacity of his ship” |
| SE-F-095 | FR17 | Check that the player has at least 20 points of treasure at his Home Port | Treasures from player’s ship and treasures from player’s Home Port | Points of treasure (Greater than or equals to 20) | System displays message “Player X has won. Congratulations !” |
| SE-F-096 | FR17 | Check that the player has less than 20 points of treasure at his Home Port | Treasures from player’s ship and treasures from player’s Home Port | Points of treasure (Less than 20) | System displays message “Player has? points of treasure, keep fighting” |

[1]

Port of Venice at (1,7)

Port of London at (1,14)

Port of Cadiz at (14,20)

Port of Amsterdam at (20, 14)

Port of Marseilles at (20,7)

Port of Genoa at (7,1)

Mud Bay at (1,1)

Anchor Bay at (20,1)

Cliff Creek at (20,20)

Flat Island occupies a rectangle with corners (2,16) and (4,19)

Pirate Island occupies a rectangle with corners (17,2) and (19,5)

Treasure Island occupies a rectangle with corners (9,9) and (12,12)

REFERENCES

DOCUMENT HISTORY

| *Version* | *Issue No.* | *Date* | *Changes made to document* | *Changed by* |
| --- | --- | --- | --- | --- |
| 1.0 | N/A | 08/03/2022 | N/A - original version | MAM148, MAT78 |
| 1.1 | N/A | 09/03/2022 | Cover page, header, footer | MAM148 |
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