**Software Engineering Group Project**

**Testing Specifications**

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# **INTRODUCTION**

This document contains the details on how the system should be formally tested as part of the system test process. These specifications will be set with reference to the functional requirements and must be easily reproducible.

## **Purpose of this Document**

This document describes how the functional requirements will be tested.

## **Scope**

This document is based on the SE.QA.06 document on Testing Procedure Standards

## **Objectives**

To produce a list of test for the functional requirements of the system.

# **BODY OF DOCUMENT**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Ref | Req Being Test | Test Content | Input | Output | Pass Criteria |
| SE-04-001 | FR4 | Check that cards stored is exactly 28 cards, no more no less. | Integer 28 | True or False | 28 cards are stored. |
| SE-04-002 | FR4 | Ensure that all 28 cards are randomly sorted. | Integer 28 | [Discussion with group since not sure] |  |
| SE-04-003 | FR4 | Ensure that the first card in the deck is drawn from the top and replaced if needed at the bottom. | Take cards from the top of the deck. | [Discussion with group since not sure] | Cards taken are re-entered into the bottom of the deck. |
| SE-04-004 | FR4 | Check that if a card is drawn and a user keeps it, that its noted. | Take a card and add it to your hand. | Player keeps a hold of the card. | System should record a card has been drawn from the deck and that the player holding it is recorded. |
| SE-04-005 | FR5 | Check that in the game there is 20 pieces of treasure. | Start a game, collect all treasures. | All treasure is found. | System should record that all treasure has been collected and that no more can be found. |
| SE-04-006 | FR5 | Check that there are 5 types of each treasure. | Start a game, collect all treasures. | All treasure is found. | System should record that all sets of treasure have been collected. |
| SE-04-007 | FR5 | Ensure that there are 4 pieces of each type of treasure. | Start a game, collect all treasures. | All treasure pieces in a set are found. | System should record that all sets of treasure have been collected. |
| SE-04-008 | FR5 | Check that treasure has randomly been assigned on other islands. | Begin a game and venture to an island to find treasure. | Treasure is found. | Treasure found on all islands. |
| SE-04-009 | FR5 | Ensure that once all treasure has been assigned that any requests to obtain treasure from Treasure Island should be denied. | Collect all treasures. Attempt to find another piece of treasure. | Warning / Error saying its forbidden. | No more treasure can be found. |
| SE-04-010 | FR6 | Maintain a count of cards in each player’s hand with their value. | Begin a game, pick up a few cards. | Check the system for amount of cards the user holds. | Users hand should match the number the system outputs. |
| SE-04-011 | FR6 | Record the total available distance a player can move in one turn. | Start a game and make a move. | The system should allow the user to move the number of places they choose e.g. 2. | The user should move the amount of the places they wanted. |
| SE-04-012 | FR6 | Calculate the fighting power of each player. | Begin a game and collect red and black cards. | Power will be calculated by the difference between red and black cards. | Power is correctly calculated and stored away from the users eyes. |
| SE-04-013 | FR6 | Record any chance cards that players may hold. | Begin a game, pick up a chance card. Keep it in users hand. | System should store it in the users hand, which should not be in the deck or in another players hand. | Game should assign it to that one player and nowhere else. |
| SE-04-014 | FR6 | Record the items of treasure on each player’s ship. | Start a game collect treasure. | Store the collected treasure on the ship. | The number of treasure on the ship should correlate with the system data. |
| SE-04-015 | FR6 | Check the location and orientation of the ship. | Begin a game and sail around in different directions. | System should update and store location and orientation of the ship correctly. | Check the data after each turn and match with the ship position on the grid. |
| SE-04-016 | FR6 | Note the players home port. | Begin a game, collect treasure and sail back to home port. | Game saves the treasure at port. Recording the value and the amount of items. | System data should be the same as what’s in the users home port. |

[Functional Requirements are referenced from Buccaneer Requirements CS221.docx]

FR4 Chance card management

The game will maintain a pack of 28 Chance cards. The standard 28 cards are listed in appendix A. Some of these cards may prove impossible to implement during the investigation phase of the project. In that case, the project team may replace them with other chance cards, but all such substitutions should be documented by the project team. The Chance cards should be randomly sorted originally. When a card is given out, it should be dealt from the top of the pack. As cards are returned to the pack, they should be added to the bottom of the pack. Some cards may need to be held by players for a length of time, and the game should deal with that correctly if the project team chooses to implement those cards.

FR5 Treasure management

The game contains 20 pieces of treasure of 5 types. There are four each of the following types of treasure:

• Diamonds, worth 5 points

• Rubies, worth 5 points

• Gold bars, worth 4 points

• Pearls, worth 3 points

• Barrels of rum, worth 2 points

All treasure is originally on Treasure Island, and should be assigned elsewhere as appropriate. It is possible for treasure to be assigned to ships, to ports, and to Flat Island. Where all treasure of a specific type has been assigned elsewhere, a request to obtain treasure of that type from Treasure Island should be refused.

FR6 Player management

The game will keep track of the following information for each player:

• The number of cards in the player's hand, and the value of each card.

• The total distance the player can move in a single turn (one square if no crew cards, or the sum of all crew cards in the player's hand).

• The fighting strength of the player (the absolute value of the difference between the red cards in the player's hand and the black cards in the player's hand). This should be calculated, and used in attacks, but not indicated to the players.

• Any Chance cards retained in the player's hand.

• The items of treasure in the player's ship.

• The location and orientation of the player's ship.

• The player's Home Port.

# **References**

[1] Buccaneer Requirements CS221 C.W.Loftus. SE.QA.RA CS22120 1.1 Release

# **Document History**

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