Test Plan

Quantitative Trading Platform

Group4

## Change Log

| **Published Date** | **Status(Baseline, Revision, Cancelled)** | **Document Version Number** | **Subsystem Affected** | **Section(s) Affected** | **Description of Revision(Include Reason for change)** | **Author** |
| --- | --- | --- | --- | --- | --- | --- |
| 2021/6/2 | Draft | 0.1 | All | All | Initial version | 鄒咏霖 |
| 2021/6/5 | Baseline | 1.0 |  | 2 | Add test cases and hardware/software spec. | All |

## 

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## Section 1 Objective and Acceptance Criteria

### 1.1 Purpose of this Document

* This document establishes the test and integration schemes through planning of the environment, resources, and scenarios for our Quantitative Trading Platform .

### 1.2 Test Scope

* The test scope focuses on the functions developed according to our initial requirements and integration between different functions in our system.

### 1.3 Test Goal

* The ultimate goal of the testing is to establish the confidence of product quality by meeting the following purposes:
  + Satisfy our initial requirements
  + Find the defects
  + Remove the integration conflict

### 1.4 Testing Schedule

* Date
  + Component Integration & Testing : 2021/5/11 ~ 2021/6/1
  + System Integration & Testing : 2021/6/2 ~ 2021/6/7
* Product
  + A Quantitative Trading Platform on Web
* Milestone
  + Test Readiness Review : 2021/6/2
  + Delivery Review : 2021/6/7

### 1.5 Personnel and Responsibility

| Test Activity | Personnel / Responsibilities |
| --- | --- |
| Test Plan Development | All |
| Unit Testing | All |
| Interface Testing | All |
| Functional Testing | All |
| Environment and Testing Tools Design | All |
| Testing Report | All |

## Section 2 Environment

### 2.1 Hardware Specification and Configuration

* Server
  + Intel core i7 2.70GHz or higher recommended
  + 256MB minimal; 4 GB+ of RAM recommended
  + 1GB minimal; 50 GB+ of drive space recommended
* Clients
  + 1920x1080 display recommended

### 2.2 Software Specification and Configuration

* Server
  + jenkins server: Java jre1.8.0\_291
  + frontend server: nginx 1.20.1
  + backend server: gunicorn 20.1.0
* Clients
  + Google Chrome 90.0.4430.212 or higher

## Section 3 Test Cases and Test Report

### 3.1 Testing Environment

| Testing Environment | | |
| --- | --- | --- |
| Testing Time | 2021/6/5 | |
| Testing Place |  | |
| Tester | ALL | |
| Server Configuration | Python | python 3.9.5 |
| React | react 17.0.2 |
| Flask | flask 2.0.1 |
| OS | Linux version 5.10.13-arch1-1 |
| Client Configuration | Browser | Chrome |

### 3.2 Function 1 : View reports and algorithms [UC-009]

| ID | Action (Test Case) | Expected Result | Note | (Pass/Failed) | Test Comments |
| --- | --- | --- | --- | --- | --- |
| 1.0 | Open url | Home page will be displayed |  | Pass |  |
| 1.1 | Sort algorithm by title by clicking on the “Title” header | Algorithms in the home page are sorted |  | Pass |  |
| 1.2 | Select a specific algorithm  (eg: Buy And Hold) | Different versions of that algorithm is expanded |  | Pass |  |
| 1.3 | Double click a specific version of an algorithm  (eg: first\_version) | Turns to the main page for that (version of) algorithm |  | Pass |  |
| 1.4 | Click on “Report” tab on the navigation bar | Related reports of this algorithm are displayed below the navigation bar |  | Pass |  |
| 1.5 | Click the “edit icon” on a specific report that are listed  (eg: Report of Buy and Hold 1.0) | Report will be displayed |  | Pass |  |

### 3.3 Function 2 : Get specific underlying assets’ data [UC-003]

| ID | Action | product\_id(int\*) | start\_date  (str) | end\_date  (str) | Expected Result | Note | (Pass/Failed) | Test Comments |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2.0.0 | All parameter right | 0 | 2004-07-01 | 2021-03-16 | return corresponding assets’ data in a list of dictionary |  | Pass |  |
| 2.0.1 | All parameter right | 0 | None | None | return corresponding assets’ data in a list of dictionary |  | Pass |  |
| 2.0.2 | All parameter right | 0 | 2004-07-01 | None | return corresponding assets’ data in a list of dictionary |  | Pass |  |
| 2.0.3 | All parameter right | 0 | None | 2021-03-16 | return corresponding assets’ data in a list of dictionary |  | Pass |  |
| 2.1 | Necessary parameter not provide | None | 2012-12-31 | 2017-03-30 | return -1(error message “Necessary parameter not provide” |  | Pass |  |
| 2.2.0 | Data with specified parameter not available | 87 | 2011-07-05 | 2019-07-10 | return -2(error message "Data with specified parameter not available”) |  | Pass |  |
| 2.2.1 | Data with specified parameter not available | 0 | 2004-07-01 | 2025-08-16 | return -2(error message "Data with specified parameter not available”) |  | Pass |  |
| 2.2.2 | Data with specified parameter not available | 0 | 2000-04-01 | 2021-04-22 | return -2(error message "Data with specified parameter not available”) |  | Pass |  |
| 2.2.3 | Data with specified parameter not available | 0 | 2000-04-01 | 2030-09-10 | return -2(error message "Data with specified parameter not available”) |  | Pass |  |
| 2.3 | Data with specified parameter not available | 0 | 2021-04-01 | 2009-09-10 | return -3(error message "start>end”) |  | Pass |  |

### 3.4 Function 3 : Single test algorithm [UC-002]

| ID | Action | Expected result | Note | (Pass/Failed) | Test comments |
| --- | --- | --- | --- | --- | --- |
| 3.0 | Open home page | The content can be displayed successfully |  | Pass |  |
| 3.1 | Choose the target algorithm on the list | The website can be directed to the main page of this algorithm |  | Pass |  |
| 3.2 | User select a set of parameter values | The selected parameters are displayed |  | Pass |  |
| 3.3.0 | Test a algorithm with valid parameters | Display the tested results |  | Pass |  |
| 3.3.1 | Test a algorithm without setting product start/end date | Display the tested results | The default asset data will be whole data | Pass |  |
| 3.3.2 | Test a algorithm without choosing product | error message “Necessary parameter not provide” |  | Pass |  |

### 3.5 Function 4 : Batch test algorithm [UC-005]

| ID | Action (Test Case) | Expected Result | Note | (Pass/Failed) | Test Comments |
| --- | --- | --- | --- | --- | --- |
| **4.1** | **Batch test an algorithm** | **The expected results are shown in the following steps** |  | **Pass** |  |
| 4.1.1 | Open the home page | The content can be displayed successfully |  | Pass |  |
| 4.1.2 | Choose the target algorithm on the list | The website can be directed to the main page of this algorithm |  | Pass |  |
| 4.1.3 | Click the batch test button | The parameter setting panel for batch test can be displayed successfully |  | Pass |  |
| 4.1.4 | Set the batch test parameters and run the test | The available parameters of target algorithm can be displayed, and the user can set parameters values and run the test |  | Pass |  |
| 4.1.5 | Confirm the results of the test | Trade results and statistics of this testing should be consistent with the algorithm |  | Pass |  |
| **4.2** | **Batch test an invalid algorithm** | **The expected results are shown in the following steps** | **For example, the file of the algorithm cannot be compiled** | **Pass** |  |
| 4.2.1 | Open the home page | The content can be displayed successfully |  | Pass |  |
| 4.2.2 | Choose the target algorithm on the list | The website can be directed to the main page of this algorithm |  | Pass |  |
| 4.2.3 | Click the batch test button | Start date and end date can be shown, but algorithm parameters may fails to display |  | Pass |  |
| 4.2.4 | Set the parameters and run the test | An error message is shown in the console, and the test results fails to display on the screen |  | Pass |  |

### 

### 3.6 Function 5 : User/Admin uploads an algorithm [UC-001]

| ID | Action (Test Case) | Expected Result | Note | (Pass/Failed) | Test Comments |
| --- | --- | --- | --- | --- | --- |
| 5.1. | Click “New Button” | Displayed Input Modal. |  | Pass |  |
| 5.2.0 | Valid input data | Displayed Input File Modal. |  | Pass |  |
| 5.2.1 | Input data without title. | Return to homepage. |  | Pass |  |
| 5.2.2 | Input data without  version. | Return to homepage. |  | Pass |  |
| 5.2.3 | Duplicate input data. | Return to homepage. |  | Pass |  |
| 5.3 | Upload the selected algorithm file. | Get a successful message from the backend. Add the new algorithm to the “Algorithm Menu”. |  | Pass |  |