Distributed Commodities OTC Electronic Trading System

Software Requirements Specification

Version 1.0

Revision History

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Software Requirements Specification

# Introduction

## Purpose

This SRS document describes the functional requirements and non-functional requirements of Distributed Commodities OTC Electronic Trading System, with design constraints and other factors required software requirements specification.

## Definitions, acronyms and abbreviations

## Reference material

# Overall description

论文常指用来进行科学研究和描述科研成果的文章，它既是探讨问题进行科学研究的一种手段，又是描述科研成果进行学术交流的一种工具。现在，论文已成为衡量学术水平的重要指标之一。

论文发布系统为论文的投稿、审稿、管理及查询提供了一个电子平台。用户通过该平台上传论文，审稿人接收到论文之后提出审稿意见，论文进入下一轮审稿，重复几轮后得出最后意见，若最终确定通过则将论文发布在平台上，以供其他用户进行查阅。

论文发布系统设计的业务流程过程来源于会议及期刊投稿、审稿、发布流程，用于完成论文发布，进一步控制从作者投稿到最终发布的全过程。该系统目的在于协助用户发表论文，对作者论文进行管理。该系统同时具有投稿流程、审稿流程、论文管理、论文归档查询流程。

# Specific requirements

## Function

### Use case diagram

### Manage broker info

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Number | UC101 | Use Case Name | Manage broker info |
| Description | Trading company system administrators to manage information on brokers | | |
| Executor | Administrator in trader company | | |
| Preconditions | Administrator has logged | | |
| Postconditions | The operation is recorded by system | | |
| Basic flow | 1 Administrator clicks on “Manage broker info”  2 Show broker information recorded in the current system  3 Administrator to modify the information on broker  4 Show the modified broker information. | | |
| Alternative flow |  | | |
| Non-functional requirements |  | | |
| Business rules |  | | |

### Manage user

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Number | UC102 | Use Case Name | Manage user |
| Description | Trading company system administrators to manage user's permissions(to determine who have the permission to trade using the system on behalf the company) | | |
| Executor | Administrator in trader company | | |
| Preconditions | Administrator has logged | | |
| Postconditions | The operation is recorded by system | | |
| Basic flow | 1 Administrator clicks on “Manage user”  2 Show user information recorded in the current system  3 Administrator to modify the information on user  4 Show the modified user information | | |
| Alternative flow |  | | |
| Non-functional requirements |  | | |
| Business rules |  | | |

### View market information

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Number | UC201 | Use Case Name | View market information |
| Description | Traders in trading company view the real time market information from all brokers that have the business contracts, including price, quantity, recent traded price，and etc. | | |
| Executor | Trader in trader company | | |
| Preconditions | Trader has logged | | |
| Postconditions | The operation is recorded by system | | |
| Basic flow | 1 Trader clicks on “View market information”  2 The system displays information about the current tradable commodities  3 Trader select one commodity from the list  4 The system displays market information of the commodity | | |
| Alternative flow |  | | |
| Non-functional requirements |  | | |
| Business rules |  | | |

### Submit Order

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Number | UC202 | Use Case Name | Submit Order |
| Description | Traders in trading company initialize an order or fill an exist order, and submit to the server in trader company which then will be sent to specific broker server. | | |
| Executor | Trader in trader company | | |
| Preconditions | Trader has logged | | |
| Postconditions | The operation is recorded by system | | |
| Basic flow | 1 Trader clicks on “initialize an order” or clicks on displayed market information entry  2 The system displays the form which needs to fill for a complete order  3 Trader fills in all content, clicks ”confirm” and finally clicks “submit order”  4 The system displays the status of orders submitted | | |
| Alternative flow |  | | |
| Non-functional requirements |  | | |
| Business rules |  | | |

### Revoke Order

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Number | UC203 | Use Case Name | Revoke Order |
| Description | Traders in trading company can revoke the unfilled orders | | |
| Executor | Trader in trader company | | |
| Preconditions | Trader has logged | | |
| Postconditions | The operation is recorded by system | | |
| Basic flow | 1 Trader clicks on “View my order”  2 The system displays all orders belong to the trader  3 The trader selects one of the unfilled orders, and clicks on “revoke”  4 The system displays the status of orders revoke request | | |
| Alternative flow |  | | |
| Non-functional requirements |  | | |
| Business rules | 1 Traders can only revoke their own orders  2 Traders can only revoke orders not fully filled（or not filled） | | |

### View own orders status

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Number | UC204 | Use Case Name | View own orders status |
| Description | Traders in trading company can view all orders belong to the trader | | |
| Executor | Trader in trader company | | |
| Preconditions | Trader has logged | | |
| Postconditions | The operation is recorded by system | | |
| Basic flow | 1 Trader clicks on “View my order”  2 The system displays all orders belong to the trader | | |
| Alternative flow |  | | |
| Non-functional requirements |  | | |
| Business rules |  | | |

### View all traded orders

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Number | UC205 | Use Case Name | View all traded orders |
| Description | Traders in trading company can view all traded orders | | |
| Executor | Trader in trader company | | |
| Preconditions | Trader has logged | | |
| Postconditions | The operation is recorded by system | | |
| Basic flow | 1 Trader clicks on “View all orders”  2 The system displays all orders that has been traded | | |
| Alternative flow |  | | |
| Non-functional requirements |  | | |
| Business rules | Orders shall not contain displays the counterparty | | |

### Manage trader info

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Number | UC301 | Use Case Name | Manage trader info |
| Description | Broker company system administrators to manage information on traders | | |
| Executor | Administrator in broker company | | |
| Preconditions | Administrator has logged | | |
| Postconditions | The operation is recorded by system | | |
| Basic flow | 1 Administrator clicks on “Manage trader info”  2 Show trader information recorded in the current system  3 Administrator to modify the information on trader  4 Show the modified trader information. | | |
| Alternative flow |  | | |
| Non-functional requirements |  | | |
| Business rules |  | | |

### Manage user

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Number | UC302 | Use Case Name | Manage user |
| Description | Broker company system administrators to manage user's permissions(to determine who have the permission to view the market information) | | |
| Executor | Administrator in broker company | | |
| Preconditions | Administrator has logged | | |
| Postconditions | The operation is recorded by system | | |
| Basic flow | 1 Administrator clicks on “Manage user”  2 Show user information recorded in the current system  3 Administrator to modify the information on user  4 Show the modified user information | | |
| Alternative flow |  | | |
| Non-functional requirements |  | | |
| Business rules |  | | |

### View market information

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Number | UC401 | Use Case Name | View market information |
| Description | Brokers in Broker company view the real time market information from all traders that have the business contracts, including price, quantity, recent traded price，and etc. | | |
| Executor | Brokers in broker company | | |
| Preconditions | Broker has logged | | |
| Postconditions | The operation is recorded by system | | |
| Basic flow | 1 Broker clicks on “View market information”  2 The system displays information about the current tradable commodities  3 Broker select one commodity from the list  4 The system displays market information of the commodity | | |
| Alternative flow |  | | |
| Non-functional requirements |  | | |
| Business rules |  | | |

### View all traded orders

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Number | UC402 | Use Case Name | View all traded orders |
| Description | Brokers in broker company can view all traded orders | | |
| Executor | Broker in broker company | | |
| Preconditions | Broker has logged | | |
| Postconditions | The operation is recorded by system | | |
| Basic flow | 1 Trader clicks on “View all orders”  2 The system displays all orders that has been traded | | |
| Alternative flow |  | | |
| Non-functional requirements |  | | |
| Business rules |  | | |

### Manage tradable commodity

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Number | UC403 | Use Case Name | Manage tradable commodity |
| Description | Brokers in broker company can manage tradable commodities | | |
| Executor | Broker in broker company | | |
| Preconditions | Broker has logged | | |
| Postconditions | The operation is recorded by system | | |
| Basic flow | 1 Trader clicks on “Manage tradable commodity”  2 The system displays all tradable commodities in current system  3 Broker to modify the tradable commodities information  4 Show the modified tradable commodities information | | |
| Alternative flow |  | | |
| Non-functional requirements |  | | |
| Business rules |  | | |

## 易用性

### 普通用户

普通用户无需接受培训即可使用本系统

### 高级用户（系统管理员）

高级用户执行所有操作所需的培训时间不超过1h

### 在线帮助文档

本系统提供在线的帮助文档

## Reliability

### 平均故障间隔时间（MTBF）

系统的平均故障间隔时间应大于7\*24h

### 可用时间百分比

系统的可用时间百分比应大于99%

### 平均修复时间（MTTR）

系统的平均修复时间应小于2h

## Performance

### 对事务的响应时间

对事务的平均响应时间不超过10s

## Supportability

### 平台适应性

该系统支持各个主流操作系统（至少包括Windows，Mac OS，Android）通过浏览器进行访问。

## Design constraints

### Programming language

本系统采用Java作为主要设计语言。

### Development platform

本系统开发基于IST RMP platform V2.1。

## 联机用户文档和帮助系统需求

本系统将提供在线的帮助文档。

## 接口

### 用户界面

本系统界面风格采用Metro风格。

### 硬件接口

### 软件接口

### 通信接口

http网络协议

TCP/IP协议

## 适用的标准