Architecture Requirements Document

Project:
Financial markets simulation with multiple competing algorithmic trading entities.

Client: Cortical Systems

Group:

GR∀PƎ

$\epsilon > 0$

For every propblem, there exists a solution...

Members:

Daniel Makgonta 12147100

Moeletji Semenya 12349136

Madimetja Shika 12127877

Publication Date: 20 May 2014

Version: 0.0

Change Log

Date	Name	Reason	Version
14/05/2014	Madimetja	Creation	0.0
20/05/2014	Daniel	Editing and formatting	0.0

Contents

This document discusses the requirements around the software infrastructure within which the application functionality is to be developed.

1   Access channel requirements

The system will be accessible by human users through the following front-end channels:

- From a web browser through a rich web interface. The system will be accessible through the more recent versions of any of the major used browsers, including Google Chrome, Mozilla Firefox, Microsoft Internet Explorer and Apple Safari.

Other systems may be able to access the services offered by this system through either SOAP-based or RESTful web services

2   Quality Requirements

2.1   Security

- Communication of sensitive information with the system should occur over the Secure Hypertext Transfer Protocol.

2.2 Auditability

- The system should provide mechanisms through which the activity of every entity/participant can be monitored. This information would include

  - the action taken by the participant,
  - the date and time the action was taken,
  - the immediate impact the action had on the market,
  - the state of the participant before and after the action.

2.3 Testability

- Every service offered by the system should be testable against its pre and post condition.

2.4 Usability

- The system should be usable, in that the system should provide a fully functional matching engine.

- Users in the financial/investment sector should be able to understand and use the system without any training or tutorial.

- Most of the users excluding those in the financial/investment sector should be able to understand the system through the affordance that the system provides through its interface.

2.5 Scalability

- If need be, the system should allow for independent entities operating from independent machines to participate in the market.

2.6 Performance

- Algorithmic performance as measured by profit and loss should take preference over absolute system performance.

3 Integration Requirements

The system is self-contained and there is no need for integration with other external systems or components.

4 Architectural Constraints

The system should be built using either of the following technologies:

- Java Enterprise Edition

- C++

- .NET

In order to minimize cost and complexity, the system can be developed to run and operate on a single machine.

5 Glossary