Department of Electrical and Computer Engineering
University of Victoria
SENG 462 — Distributed Systems and the Internet

Project Report

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Overview

Here's an overview of the project. Commissioned by Day Trading Inc, blah blah blah.

Chapter 1

Architecture

1.1 Original architecture

Can steal most of this from the first report.

1.2 Technology

1.2.1 Golang

1.2.2 RabbitMQ

1.2.3 Redis

1.2.4 Postgres

1.2.5 Websockets

1.3 Work plan

1.3.1 Timeline

1.4 Final architecture

1.4.1 Worker

1.4.2 Quote manager

1.4.3 Audit logger

1.4.4 AutoTX manager

1.4.5 Load balancer

1.4.6 Frontend

1.4.7 Docker

Chapter 2

Security

lol. just lol.

Chapter 3

Test plan

3.1 User testing

Validate command pre/post conditions. Tested through FE?

Chapter 4

Fault tolerance

Chapter 5

Performance analysis

5.1 Decreasing quote retrieval time

5.1.1 Statistical analysis of legacy quote server

5.1.2 Using timeouts to ensure fast quote retrieval

5.1.3 Timeout effectiveness

5.2 Worker scaling

5.2.1 The sixty second golden window

5.2.2 Scaling results

5.3 Command execution time analysis

Chapter 6

Capacity planning

6.1 Logging throughput

6.1.1 Limits of logging to a flat file

6.1.2 Logging directly to an RDBMS

6.1.3 Processing logs with ELK

6.1.4 Buffered logging

6.2 Worker loading

6.3 Quote server scaling

6.3.1 Building a “snoopy” quote server

6.3.2 Performance analysis

Appendix A My appendix

Here is some text for my appendix.