Documentation

<Queue Simulator>

Homework number: 3

Due date: week 8

# Purpose

The purpose of this assignment is to develop skills for solving real-life applications which have queues and to introduce the concept of multithreading in Java. The main goal is to learn how to handle programs which require multiple servers, which have to simultaneously serve a large number of clients. These clients can be modelled after real-life objects or they can represent parts of an embedded system which communicate with each other.

Another goal of this project is to introduce the concept of time in a software environment (for example simulating a weekday at a supermarket).

# Problem analysis

<Modelling, scenarios, usage>

The given client-server situation is the following: we are given a number of queues, each one working independently) and at undetermined time intervals, new customers arrive. Each customer spends some time at a queue. Customers try to go to the queue which is empty or has the least customers. If there are more customers at a queue, the customers that arrived later have to wait for the other customers in the front. This is a real-life situation, that you can find in any bigger store on hypermarket.

# Design

<UML diagrams, data structures, class design, interfaces, relationships, packages, algorithms, user interface>

# Implementation and testing

# Results

# Conclusions

<What have I learned, further improvements & development>

# Bibliography