Homework 4

Networkprogramming ID1212

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# Introduction

The goal of this homework was to develop a three-tier web-based application where all layers are run by frameworks. The application should be able to run on an application server.

# Literature Study

The literature study consisted of watching the tutorial videos provided on Canvas, along with discussion with other students, in how to solve the problems that occurred.

# Method

To solve this project, NetBeans IDE was used mainly. Although when trying out different examples, Notepad++ was used.

Before starting the project, it was important to have an idea of the design. The videos that were given, along with looking at the source files of the provided codes, gave a good understanding of what was to be done.

To make sure that the application fulfils the requirements that were given, every requirement was thoroughly tested and approved, using a checklist to sign off every requirement.

# Result

The source codes have been submitted on GitHub in the repository given in the link below:

Figure 1: <https://github.com/FlyHighXX/ID1212-Networkprogramming>

*Link to the source codes of the application.*

Some of the requirements will be shown and proven below

 The converter must be able to convert between at least 4 currencies

The implementation of the webpage that the client will use, is made so that the user is able to add new currencies. All the currencies are compared to the SEK currency. This way, we can have any amount of currencies in the database which can all be compared. The conversion is done in the Model layer of the architecture.

 You must use frameworks for all layers in the server, for example JSF for the view, EJB for controller and JPA for model and integration

To meet this requirement, frameworks were used. In the view layer, JSF was used. For the Controller, EJB was used.

 The server must handle transactions, you can for example use EJB to implement container-managed transactions.

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 The conversion rates must be stored in a database.

A database was implemented in this project to store the different rates. The DBAO class was implemented to handle any communication with the database, and any requests that are sent from the view, go through the Controller class to be managed. This way, the database stores the data in a correct way.

 The user interface must be informative. The current state of the program must be clear to the user, and the user must understand what to do next.

The web browser interface that was implemented, has a view that handles any communication from the client. The different views have relevant information to do whatever the client could want to do. In this case a client may want to add a new currency to the system, or perform a conversion using two existing currencies.

# Discussion

All required tasks have been met, and they have all been proven in this report along with the source code. The three-tier application has been developed using a layered architecture, to make the code cohesive. In the development of this application, some problems were encountered. Mainly problems that had to do with the JSF framework. The problems were quite strange, and solutions to them were a bit tricky to find. In the end, by searching through forums, and asking others, most of them were solved.

# Comments About the Course

A very good assignment that put together some important pieces to make an web application.