Project summary

This document is the README for the MP1 of ITMD 515. The project consisted on creating two sites, one using JSP and one using MVC, which allow the user to interact with a given database, being able to insert, delete, update and view the different records.

A few tools were used in order to reach this objective, such as NetBeans as an IDE, MySQL to manage the databases, GlassFish as a local server, and Java as the programming language. This topic is covered in more detail in the 'Requirements' section.

I would like to point out that I had some problems with my computer during the last weeks, having to send it to be replaced mid assignment, so I was not able to dedicate as many hours as I would have liked, and the end result, while functional and covering the requisites of the MP1, is far from what I would like to present.

Design and development insights

The objective of this assignment was for the students to experiment and learn the basics of JSP technology and the MVC framework. While in my opinion this project cover that, it has a bit of "unnecessary noise", and what I mean with that is that it has a lot of repetitive coding. Particularly, some of the tables have way too many columns, and that doesn't provide much in the sense of learning new things. I think reducing the size of the database could decrease the time needed to finish the assignment, and that time can be used to, for example, validate date, which I think is more useful and I didn't have the time to do.

About the development itself, I think the classes and the documentation in the website provide enough information for any student to be able to complete the assignment without too many problems. Maybe the most problematic thing was setting up the database, which a lot of students had problems with, and I myself wasted a couple of hours wondering why it wasn't working, until I realized that I didn't have the necessary config files.

The code that is needed for the requisites of the project is easy enough, and well explained in class. Maybe my opinion in this matter is not that relevant, as I have previous experience working with JSP, servlets, and in general the things covered in this assignment, but still, I think is a great first experience for people that don't have that much background.

Lastly, because of the few problems I had with my computer and, of course, the workload of my other classes, I wasn't able to include as many things as I would have liked. For example, things like style (which I'm learning right now, I always worked with the back-end of web applications, or using templates for the front-end), validation of data, and better feedback from the operations on the database are not included.

Requirements

For this project to be tested, it's necessary to have a few tools installed:

- Java EE SDK
- NetBeans, or a similar IDE.
- MySQL, with a user called itmd4515 – password: itmd4515
- The "world" database should be provided (world)
- GlassFish server.

The easiest way to test this project is with the NetBeans IDE. Open one of the project and clicking "Run -> Run project" will open the index page of the project, and all the functionality is accessible from there.

Screen captures and expected results

As has been already mentioned, there was no time to include validation of all the input fields, so a knowledge of the type of each field is required to avoid errors. However, some of the more problematic things have been taken care of, for example when adding or updating a city or a language, you can only select existing country codes from existing countries (as it's a foreign key of both city and language). You also cannot change the ID of a city when updating it, nor the name and country code of a language. Additionally, when editing or adding a new country, a list is given to choose the continent, as the field in the database is an enumerated. However, fields like GNP, which is a float, are not validated in the form and will cause problems if the user tries to insert anything but a float.

A few screenshots of the application follow:

Main Menu:

- Show Cities
- Show Countries
- Show Country Languages

List of languages:

Languages

Return Home New Language

CountryCode	Language	IsOfficial	Percentage	Delete Language	Update Language
AFG	Uzbek	F	10.2	Delete Language	Update Language
AGO	Ambo	F	2.4	Delete Language	Update Language
AGO	Chokwe	F	4.2	Delete Language	Update Language
AGO	Kongo	F	13.2	Delete Language	Update Language
AGO	Luchazi	F	2.4	Delete Language	Update Language
AGO	Luimbe-nganguela	F	5.4	Delete Language	Update Language
AGO	Luvale	F	3.6	Delete Language	Update Language
AGO	Mbundu	F	21.6	Delete Language	Update Language
AGO	Nyaneka-nkhumbi	F	5.4	Delete Language	Update Language
AGO	Ovimbundu	F	37.2	Delete Language	Update Language
ALB	Albaniana	T	97.9	Delete Language	Update Language
ALB	Greek	F	1.8	Delete Language	Update Language
ALB	Macedonian	F	0.1	Delete Language	Update Language

City Form (new city and update city):

New City Form

City Name: [ ]

Country Code: [Afghanist ▼]

District: [ ]

Population: [▲▼]

[Submit] Return To Cities