**PROG32758 - Assignment 4**

For this assignment you are open to create any project you want that serves some purpose. I am awarding a lot of freedom not only in design, but also in how your project is marked.

**Coming Up With An Idea**

Read through the criteria below. It will play an important role in your decision. You are going to make an application that fulfills a purpose. I do not want to see assignment 1, 2, or 3 again. I want a unique project that will be attractive and useful to someone. You will be graded on your idea and its fulfillment to completing a task. Putting random components together will not suffice for a project design. The project size should be at least as big as assignment 1, 2, or 3.

I will not give you any specific ideas for this project. If you would like to discuss it with me then I will give you my feedback, but I will not give you a project idea.

**Assignment Requirements**

**CRUD Operations**

Collect and store at least 2 tables worth of data. Each table should have at least 4 columns in them, and the two tables should somehow be related. For each of the tables you should be able to add, edit, view and delete all of the records in these tables from your HTML pages.

**Dummy Records**

You should have a button somewhere in your application to generate dummy records for your project. This should be a reasonable amount of records that will allow all aspects of your program to be tested thoroughly.

**Search**

You should be able to perform at least 5 different search options.

**Security**

You must implement security into your project, including full database connections and hashed passwords. You should have at least 2 different roles. Each role may share functionality, however there should be things unique to each role. You should be able to register new users for at least one of your roles. You should be able to logout with a button click.

**Explain The Purpose of Your Project**

In 250-500 words, explain what purpose your project is supposed to fulfill, and how your project fulfills that purpose. You should use proper spelling and grammar as it will be part of the grade. This should be typed and include a cover page with your name (and group member name if applicable).

**Your Own Choice**

Beyond the basic CRUD operations, Search, and Security, what are 4 things that your project does that you would like to showcase. These can be things such as sending emails, making receipts, etc...

**Front End Design**

I expect well created HTML pages using CSS and scripts that will make your project stand out. This will represent a significant portion of your project. You should have several pages as part of your project, however the exact number is left for you to decide.

**Use of New Material**

You are expected to use the material that is taught in class and in the notes. If you use libraries and Spring Boot code that is not done in class, you are required to discuss it with me prior to using it in your assignment. If you do not discuss it with me, you may face deductions in your assignment.

**Use of JavaScript and Other Languages**

Your code is expected to be functional using Spring Boot, Thymeleaf, and MySQL. JavaScript should not be used to add any primary functionality, only design and style. **You should not make use of Servlets or JSP’s for any part of the project.**

**DAO Setup**

As part of your assignment, you will be required to create a "setupDatabase.sql" file that will create all necessary databases and tables for your assignment. This will be similar to your exercise 9. This file will be run through the MySQL terminal, and should be tested that way before submitted. You will need to include the tables for security.

**Groups**

You may do this project individually, but you are permitted to do this project in pairs if you wish. The work should be evenly distributed, and all marks are shared. Work with someone at your own peril, many friendships have been ended by group projects.

If you wish to work with someone, have each group member upload a text document containing both group members into the dropbox titled Assignment 4 groups no later than November 26. Anyone who has not submitted a text document to me by then will be required to work individually on their project.

**I reserve the right to reject any groups without reason or cause. You will be notified after you submit your group members if there is a problem.**

**Presentation**

You will be required to present the project to the class in week 14. You will randomly be assigned a presentation day (Either Monday, Dec 9 or Friday, Dec 13) on November 27. You are expected to arrive on time to class, and have your project submitted on slate. You are also required to stay for everyone's project, and not be rude and leave after you are done yours. Your project must be submitted before you present. Arriving late or leaving early will result in a deduction of your project grade.

Students who do not present on their assigned date will have an opportunity to present on Friday December 13 between 3-7 in a TBA classroom with a 20 mark penalty.

Students who do not present will be allowed to submit the assignment on December 14, and will receive 0 for their presentation grade, and receive an additional 30 mark deduction to their project grade.

If you are working in groups, then both you and your group member are required to present.

**Presentation Requirements**

You will be required to bring a laptop that can run the project, and you are required to bring your explanation of your project.

**Marking Scheme**

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| **Part 1: CRUD Operations**  -Proper demonstration of CRUD operations in the  -Links to the root page | /20 |
| **Part 2: Dummy Records**  -Reasonable number of dummy records are created | /5 |
| **Part 3: Search**  -Minimum of 5 different search operations | /15 |
| **Part 4: Security**  -Proper use of Spring Boot Security  -Can register new users. | /20 |
| **Part 5: Project Purpose and Overall Design**  -Written description and overall purpose fulfilled. It is clear that the project flows well and does fulfill a purpose.  -The project is visually appealing and easy to navigate. Pages are properly linked together. | /30 |
| **Part 6: Your Choice of 4 (5 marks each)** | /20 |
| **Presentation** | /10 |
|  |  |
| **Deductions** |  |
|  | /120 |
| Total |  |