Assignment 2 [Due on 26/02/2023]

Instructions

1. This assignment has to be done in groups of atmost 4.
2. Total marks for this assignment is 100.
3. There is no constraint on which tools or programming language you use. We are only interested in the end-product that you deliver. You should design your application in such a way that it is user friendly, has good performance, and is secure.
4. Please don't use any existing CQA software. You need to develop it yourself.
5. If we find cases of copying, then all those who are involved will be given either FR grade or 0 marks for the assignment. Please don't share your code with anyone.

Overview

In this assignment you will learn how to design a web based application that will allow users to interact with databases in a user-friendly manner. Your application will have a web based user interface at the frontend, and will have an interface with a database at the backend.

You will develop a Community Question Answer (CQA) website. You will use a CQA dataset from StackExchange archive. Download the Software Engineering dataset. For converting the XML files into csv you may use this link. You can also see a sample SQL schema here.

Some useful links

- W3Schools
- Java Servlets (Java)
- Java Spring Framework
- Django Framework (Python)
- Django Tutorial
- Django Autocomplete

Exercises

1. Create a database named cqadb. Create appropriate tables with constraints and then populate the tables using the above data dump.

2. **Login** - Create an account for each user with their default password being the same as their username. Users should be able to login to the system using username and password. Allow new users to create accounts. Use cookie to provide session to authenticated users. You can let the

cookie be stored permanently. Demonstrate that after the user removes the cookie, the user is logged out of the system.

3. **Autocompletion Search** - Support search of tag name and user display name using autocompletion. While showing the result, list both the name and id for tags and users.

4. **Search Posts** - Support the following three post search functionalities:
    a. Search by user id - Given a user id list all the posts of the users. Allow sort by time, upvotes.
    b. Search by single tag - Given a tag, list all the posts containing that tag. Allow sort by time, upvotes.
    c. Search by multiple tags - Given more than one tag, list all the posts containing all the given tags. Allow sort by time, upvotes.

5. **Create Posts** - A user can create a post and assign tags to them. The tags have to be one of the existing tags only. It would be useful if the user can be helped with the tagging process through autocompletion.

6. **Answer to Posts** - A user can search for posts and give answers. The interface should show the posted question and all the answers.

7. **Edit Posts**: A logged in user should be able to see all the posts the user has written. The user should be able to update the content/tags of their own post or even delete them.

How to Submit

Create folder named Assignment2 with the following:

1. Create a report file containing the following information:
    a. A short 2-3 para summary of how you built the application
    b. Overall system architecture
    c. Programming languages used for different components
    d. Contribution of each group member in the implementation

2. All the source files. Don't upload the dataset or framework library.

Upload the zipped folder. Only one member of the team should upload the zipped folder. Please mention the names of all your team members as a comment while doing the submission.