CSC6710 Course Project

Winter 2018

**Description**

Consider the design of the following database system for managing a social network website: each user is registered with the website with a username, password, first name, last name and an email. Username and email are unique. Each user is associated with a list of hobbies, selected from the following list: hiking, swimming, calligraphy, bowling, movie, cooking, and dancing. A user can follow a list of other users and can also be followed by another list of users. See <https://steemit.com/> for an example. Moreover, a user can post a blog, modify the blog and delete it afterwards. Given a blog, another user, and only another user can give a comment to the blog, modify the comment or delete the comment afterwards. To ensure the quality of the website, each user can post at most 5 blogs a day and each user can give at most 7 comments in one day. For each blog, the user who posted the blog cannot give any comment (no self-comment) and another user can give at most one comment. Each blog is identified by a blogid, subject, description, and a list of tags for search purposes. Each comment is identified by a commentid, a sentiment (positive or negative), and a description.

For all parts of this project, your system must be web-based. Some simple GUI interfaces are required for each functionality. **All functionality must be performed via the interface of your system, direct SQL statement execution via any tools (MySQL workbench) is not allowed.**

**Part 1**

Use Java and SQL, implement the following functionality:

1. Implement a button called **“Initialize Database”**. When a user clicks it, all necessary tables will be created (or recreated) automatically, with each table be populated with at least 10 tuples so that each query below will return some results. All students should use the database name “sampledb”, username “john”, and password “pass1234”.
2. Implement a user registration and login interface so that only a registered user can login into the system.

**How to submit:**

1. The source code package. All files (source codes, class files, bat, and txt) should be contained in a war file called csc6710\_xx\_part1.war for a student whose last name is xx and send the file (maybe via <https://www.hightail.com/> for big files) to shiyonglu@gmail.com and TA with the subject of “CSC6710 project submission part 1” . Or you can send a URL so we can download the source code package.
2. A youtube video. Use a recorder: <https://www.apowersoft.com/free-online-screen-recorder>. and upload your video to [www.youtube.com](http://www.youtube.com). We only need you to record your screen and your voice for the project demo, not your face. You only need to send a URL to us. You can create slides for your presentation if that is helpful
3. You need to come to the TA’s office hours or make an appointment with the TA immediately if you fail to complete part 1 by the due date. Please send an email to the TA with a CC to me to list all the challenges of your project and where exactly you need help. TA will help you through part 1 of the project. Otherwise, you might not be able to do the final part of this project.

**Part 2**

Based on part 1, implement the following functionality using Java and SQL with necessary GUI interfaces. Part 2 emphasize the programming of web interfaces and design and their integration with database operations.

1. Implement a web interface so that a user can insert a blog such as

Subject: The future of blockchain

Description: Blockchain is a buzz word nowadays. …

Tags: blockchain, bitcoin, decentralized

The ids of the blogs should be generated automatically using autoincrement feature of Mysql.

Make sure that a user can only insert 5 blogs a day.

1. Implement a search interface as a web form so that after one type in a tag, all the blogs with that tag are returned. The result needs to be shown as a table/list in a webpage.
2. Select a blog from the above list, one can write a comment like the following:

A dropdown menu to choose “Negative” or “positive”, and then a description such as “This is a nice blog. I like the comparison between blockchain and the Internet.”.  
Make sure that a user can give at most 7 comments a day and at most one comment for each blog and not to his own blog.

1. Implement the functionality of “following a user”. Then create two dropdown menus so that one can check the lists of “followers” and “following” easily in a user’s profile.
2. Select a follower and a following, then the profile of the corresponding user should be shown as well including first name, last name and an email, and the two dropdown menus above, which again can be navigated through all the followers and following.

**How to submit:**

1. The source code package. All files (source codes, class files, bat, and txt) should be contained in a war file called csc6710\_xx\_part2.war for a student whose last name is xx and send the file (maybe via <https://www.hightail.com/> for big files) to shiyonglu@gmail.com and TA with the subject of “CSC6710 project submission part 2” . Or you can send a URL so we can download the source code package.
2. A youtube video. Use a recorder: <https://www.apowersoft.com/free-online-screen-recorder>. and upload your video to [www.youtube.com](http://www.youtube.com). We only need you to record your screen and your voice for the project demo, not your face. You only need to send a URL to us. You can create slides for your presentation if that is helpful
3. You need to come to the TA’s office hours or make an appointment with the TA immediately if you fail to complete part 2 by the due date. Please send an email to the TA with a CC to me to list all the challenges of your project and where exactly you need help. TA will help you through part 2 of the project. Otherwise, you might not be able to do the final part of this project.

**Part 3**

Based on part 1 & part 2, implement the following functionality using Java and SQL with necessary GUI interfaces. Part 3 emphasizes both the web interfaces and their integration with backend database operations.

1. Sign up for a new user with information such as: username, password, password confirmed, first name, last name, email. Duplicate username and email should be detected and fail the signup. Unmatching passwords should be detected as well.
2. List the users who post at least two blogs, one has a tag of “X” and another has a tag of “Y”.
3. List all the blogs of user X, such that all the comments are positive for these blogs.
4. List the users who posted the most number of blogs on 3/2/2018; if there is a tie, list all the users who have a tie.
5. List the users who are followed by both X and Y. Usernames X and Y are inputs from the user.
6. Display all the users who never posted a blog;
7. Display all the users who never posted a comment.
8. Display all the users who posted some comments but each of them is negative.
9. Display those users such that all the blogs they posted so far never received any negative comments.
10. List a user pair (A, B) such that they always gave each other positive comments, never negative comments.

**How to submit:**

1. The source code package. All files (source codes, class files, bat, and txt) should be contained in a war file called csc6710\_xx\_part3.war for a student whose last name is xx and send the file (maybe via <https://www.hightail.com/> for big files) to shiyonglu@gmail.com and TA with the subject of “CSC6710 project submission part32 . Or you can send a URL so we can download the source code package. The following files must be contained in the submission. Readme.txt, which lists the ids, names, emails of your group members. Detailed instructions regarding how to compile and run your program and user’s guide are part of this file.
2. A youtube video. Use a recorder: <https://www.apowersoft.com/free-online-screen-recorder>. and upload your video to [www.youtube.com](http://www.youtube.com). We only need you to record your screen and your voice for the project demo, not your face. You only need to send a URL to us. You can create slides for your presentation if that is helpful
3. Demo: The students will also run the project in front of the TA or instructor for each problem listed above to demonstrate your work.

The project is to be done by a pair of students, but each student’s contribution needs to be clearly stated in readme.txt.

Start your project early, and ask questions if you have doubts. Do not wait until the last minute.

**Demo**

You will be required to show a demo of your project right a few days after the submission of part 2. You can still improve your code after the submission of part 2 but you are not required to submit another version of your code. **Each group will have 15 minutes for the demo of their project. Please make sure you arrive at least 5 minutes before your appointment time. Make sure you always have a working version by archiving so that you avoid last minute mistakes. Populate your database so that it is ready to answer all the queries in the project. All functionality must be performed via the interface of your system, direct SQL statement execution via any tools (MySQL workbench) is not allowed during the demo.**

* [Previous example project sample video](https://www.youtube.com/watch?v=J5rxAaTCcjU&feature=youtu.be) (Courtesy of [Rajiur Rahman](https://plus.google.com/u/0/113085687291644706207?prsrc=4))