2nd Semester 2022-23

CSF 213(OOP) Mini-Project (Home Assignment)

Project Title: TCS: Timing Consensus Scheduler

Max Marks: 30 Dt: 22-Feb-2023

Brief Description of the Application:

Assume that you are required to develop a scheduler application for BITS community members (student and staff) based on their availability. Members can register as staff/ student roles using their BITS email ID. The application will have a sign-in page, from where members can register. Registered members can log in via login page with BITS email and password set during registration. After logging into the application members can look for the availability of other community members and facilities. Members can also set their availability.

Expected Functionality:

- A member can be - a student/staff
- Members will have information such as Member name, an id (unique across the system), type of member,
- A new member can sign in via BITS email and set a password
- An registered member should log into the system with a BITS email and set the password.
- After login members will be able to see their dashboard.
- The dashboard should have two functionality.
  1. From where member can see their slots like a calendar. Members can post their unavailable slots/schedules with color coding (dark for not available, light for available) for a certain date
  2. Can look into the availability of other members (jointly and individually) schedules by selecting a date.
- A user can withdraw from the application.
- Password change (reset) facility is required.
- Members can also book facilities based on availability.

Note: Any missing specifications can be assumed.

Implementation Guidelines:

A. The project has to be developed as a Web Application. Front-end technologies can be - HTML, CSS, and JavaScrip etc (it can be anything of your choice). But, the backend coding must be in Java only. The students are free to use any existing Java backend

framework like Spring, struts, Hibernate, Final Thought etc.

B. You may use any IDEs/tools to develop the application. But you must be in a position to explain details if asked during the project evaluation.

C. It is to be noted that the graphical user interface should be made user-friendly and a user

should be able to navigate across all the web pages from one page to another in an efficient manner.

D. For storing the data, you can use any type of database (MySQL, Oracle, etc.,). For example, JDBC API can be used to implement database connectivity to the application. Or can use file systems as well.

E. You may use Apache Tomcat Server, Microsoft Internet Information Server, or any other Web server of your choice for hosting the web application locally or even it can be hosted online using any free Web Host Server if available.

Other Guidelines:

1. This is **a group** activity. Each group will have up to 4 students.
2. The nominated class-reps will manage this group formation process.
3. Groups to be formed by 24-2-2023.
4. Apply OO concepts to specify classes, roles, functionality etc.
5. Maintain a separate hard copy (one or two A4 sheets) for the design details of the system, which can be shown during the first phase of evaluation (mid sem)
6. Mid-semester evaluation consists of reviewing the design, functionality proposed and viva (Max marks:10)
7. Final evaluation consists of reviewing the final design, implementation, demo and viva.
8. Evaluation dates will be announced 7-10 days ahead through CMS notice.
9. All team members must be present, and we will ask each one of the team to present a portion of the work as per our wish. So, all must be prepared.
10. Evaluation scheme:
    - Mid-semester evaluation 10 marks (~18/3/23 5-6 pm): Design and functionality proposed-8 marks and Viva -2 marks.
    - Final evaluation 20 marks (10th May 23 5-6 pm): Overall implementation and Demo-12 Marks; Viva-4 Marks; and 4 marks for additional features/functionality and elegance. Note that only a few teams will get this bonus two marks, not all.
11. Special Note: A plagiarism check will be done. Hence please make sure that your work is original.

Dr Abhijit Das, IC