DAIICT, Autumn'22

Combined Project for Enterprise Computing (IT618) and Design of Software Systems (IT619)

Course Instructors: Prof. P M Jat and Prof. Jay Prakash

Scope of Project Work:

A mid-size software application for an enterprise level functionality. Project should primarily comprise components at each of the following layers.

- Presentation Tier (Android/Web-based)
- Business Tier
- Data Access Tier

Important dates:

1. Team constitution: **Friday, 30-September-22 (If not done, till date)**
2. Proposal Submission: **Thursday, 6-October-22**
3. Design Document Draft: **Monday, 31-October-22**
4. Mid Semester Presentations: Anytime in the week of 01-Nov to 06-Nov-22
5. Final Project submission (includes following): **Tuesday, 13-December-22**
    a. Final Design Document
    b. Source Code, and relevant documentation pages
    c. Test reports
    d. Presentation (to be done by respective groups as a part of final submission)

Mode of operation

- You will form a project team of 4-5 students (or as discussed in the class / lab TAs). Teams will be common for both the courses.
- All submissions will be through Google classroom (class code: mczuraw); appropriate links shall be made available on appropriate time.
- Both the instructors will jointly evaluate your projects in respective course perspectives.
    - Design course will primarily look from the design perspective.
    - The course on EC will look from various implementation perspectives.
    - However, EC also considers design aspects equally vital.
- You will be submitting weekly timesheets to your "Design of Software Systems" TAs. This will ensure that regular progress of each of the project teams (and team members therein) is in place.

Proposal submission guidelines

The following details should be included in your project proposal.

- Proposed Project title.
- List of team members along with IDs.
- Functional requirements / Key use cases in your proposed application.
- Block diagram visualizing the workflow across various use cases/functionalities in your proposed application.
- Tentative work distribution across team members.
- Technologies to be used.

Design guidelines

1. A design should diligently apply design principles discussed in lectures.
2. A clear-cut factoring of Presentation, Business Logic, and Data Access layers should be evident in your submitted system design architecture.
3. Furnish Design document using relevant UML diagrams, namely: Use case, class diagram, sequence diagram, and activity diagrams at the minimum.
4. Project should be large enough through which you are able to demonstrate your understanding of designing large scale application design.

Implementation guidelines

1. While the design scope of the project could be larger (futuristic), for implementation you can trim down in terms of selected use cases (basic/core functionality).
2. You can use any combination of full stack development technologies but make sure that you have clear-cut factoring of Presentation, Business Logic, and Data Access Logic.
3. Use of good implementation and coding practices to be followed
4. Implementation should follow agile methodology along with good coding practices.
5. Proper documentation will be mandatory including the requirements / user stories, detailed software, and database design.
6. Also, produce appropriate documentation pages for classes that you may create in the process of your system design and implementation.
7. Report of your prototype implementation along with details of testing methodology should be submitted.

Evaluation Parameters

1. Size and complexity of system – Scalability of your proposed system.
2. Realistic to the real-world – in terms of the solutions that exist today and how your design and implementation is ready to adapt to future changing technological challenges as well as changing scenarios of user requirements.
3. Goodness of design and implementation – give reasons for your design and implementation choices / decisions clearly during your final presentation.
4. Goodness of applicable documents submitted by you.