BSc (Hons) in Information Technology Specializing in Software Engineering

Year 3 - 2022

SE3040 – Application Frameworks

Group Project

Research Project Management Tool

All SLIIT undergraduates must do a research project in their 4th year. This Research Project module is a 16 credit, two semesters long project. A student group must find a research topic in a specific research field and send it to a supervisor who has interests in the same research field. Once the supervisor accepted the topic, they must find a co-supervisor of the same research interest.

After finalizing the supervisor student must send a document including the topic details of the Research. Then topic evaluation panel will evaluate the topic and send feedback to the student group. If the topic is accepted, they can continue to do the project. If rejected, they must find a new topic and submit it back.

There are several evaluation stages. Document submissions are evaluated by the supervisor or the co-supervisor. Presentations will be evaluated by a separate panel. The final Thesis will be Double evaluated by the supervisor and a blind reviewer.

SLIIT Research project team is looking for a system, which has the capability of managing the Research project and automating certain tasks.

User Classes

- Admin
- Student
- Staff
    - Supervisor
    - Co-Supervisor
    - Panel Member

User Characteristics

- **Admin**
    - Delete/Update users
    - Create submission types
    - Allocate panel members to student groups
    - Create marking schemes
    - Upload document/presentation templates

    - View Roles
- **Student**
    - Register
    - Create student groups
    - Register research topic
    - Request supervisor
    - Request co-supervisor
    - Submit documents
    - Download Templates
- **Staff**
    - Register
- **Supervisor / Co-Supervisor**
    - Should be a staff member
    - Accept topics
    - Chat with the groups
    - Evaluate Documents submitted by groups using the provided marking scheme
- **Panel Member**
    - Should be a staff member
    - Admin will add them to a panel
    - Evaluate topics
    - Evaluate students' presentations according to the provided marking scheme

You need to use the following mandatory technology stack as part of your solution. Marks will be allocated for the appropriate use of each of the technologies.

1. ReactJS
2. NodeJS
3. KoaJS or ExpressJS
4. JSON based Web Services
5. NoSQL Database (MongoDB)
6. JEST

Your backend should be an API running JSON-based web services. The frontend application that you are developing, should communicate with the back end only using these web services.

Marks will be allocated for deploying the solution using any cloud-based solution.

Plagiarism and use of existing code

- Use React related Technologies only
- Do not use any boilerplate code or code generators. Build from scratch
- You cannot use any other codebase which is either public or private.
- The codebase which is presented as part of your project should be written only by members of your group.

Requirements of Project Implementation

- You need to split your project among your team vertically. Each student is responsible
- for end-to-end implementation of a particular feature. This is somewhat like what you would have done in your 2nd-year project.
- Your database should be MongoDB
- You are required to maintain an online code repository (GitHub) for your project. You should properly commit code at an individual level right throughout the project life cycle
- You should show evidence of testing your application by including test cases.
- Software Requirements Specification (SRS) document should be provided.
- The technical report including screenshots of the UIs, diagrams, sample MongoDB documents, unit tests (using JEST), and test cases should be provided.
- Your blog can be used to describe your experience doing the project and a critical reflection on what you have done. At least one unique entry related should be there for each student.
- Deploy the project to the Cloud before the final presentation. Your final demo should be run from the Cloud.

Deliverables

1. SRS Document – Before the midterm (7^{th} week)
2. Technical Report – Before the Final Exam (14^{th} week)
3. Git Repository
4. Product Demo and final viva – After the Final Exam (30 minutes)

Marking Rubrik

Note that the project will be evaluated individually (Unless specified) according to the below criteria.

No	Criteria	Marking Distribution
1	SRS Document **(Group mark)**	10
2	Frontend Development (Demo +Viva)	25
3	Backend Development (Demo +Viva)	25
4	Maintaining the Codebase (Git Repository)	10
5	Both Frontend and Backend are hosted	10
6	Unit Tests	10
7	Test cases	5
8	Technical Report **(Group mark)**	5
	Total	100

Description	**Poor**	**Average**	**Good**	**Excellent**	**Total**
1	0-3	4-5	6-8	9-10	10
2	0-8	8-14	15-19	20-25	25
3	0-8	8-14	15-19	20-25	25
4	0-3	4-5	6-8	9-10	10
5	0-3	4-5	6-8	9-10	10
6	0-3	4-5	6-8	9-10	10
7	0-1	2-3	4	5	5
8	0-1	2-3	4	5	5
Total					100