Shahjalal University Of Science and Technology

The Tech Community

[Project Report]

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22 February 2021

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1 The Introduction

At a glance, this portion of the project report must provide an overall idea of how the project is working and what is the purpose of the project. This project was about to technology based Community System in whole IICT.Its main purpose was to growth technology related skill between students and create a community for better knowing and good performing for future that contributes to the achievement of national development.

2 The Background

The Perspective of the project was to ensure the developent of thinking ability, problem solving, application development, for joining to different types of tech competition, buying and selling things, resource sharing and contribution between students do helping without harrsing one another and also anyone can show the department faculty members information as they need. Sometimes some students new in a field needs proper guidelines for startup. Sometimes it can be very confusing from where they should start or what tutorial they should follow. In such case, it could be very helpful if they can get proper guidelines from the people of the same institution.

3 The Project Overview

First of all anyone who wants to collaborate anything using this site need to verify themself. Then check for email verification to find actually this email is valid or not. Entering this site need to profile setup like registration.

3.1 Resource Sharing

In this Project when anyone want to share resource like any type of departmental documents like conference paper, journal paper, thesis paper also can reference e-book or sharing any file that helps others. Also for higher studies who already has gone to the foreign country can also join this site and can share experiences.

3.2 Timeline for posting

In this site there is timeline for anything posting in instantly. Anyone who already registered can post any educational related picture or blog, can share whats new with them. And also others also can see that if he/she logged in. This timeline is realtime means no need to refresh to see the new things, automatically updated anything.

3.3 The Faculty

There are departments faculty members in the faculty section. Now These three departments software engineering, computer science and engineering and electrical and electronics engineering students can show their faculty members with information and contact with them .

3.4 The Online Market

In varsity life, Students use different types of electrical things like mobile, laptop, monitor, desktop, playstation, keyboard, mouse, soundbox and different types of sports things. After one or two years things getting old as far they want to sell to others with half money or less as second hand things. Anyone can buy and sell these.

3.5 Department Curriculum

There are also includes departments curriculum. Students can see their departments current semester course and upcoming semester courses and also see their subjective credit. These is the extra feature of these project for helping easily to students.

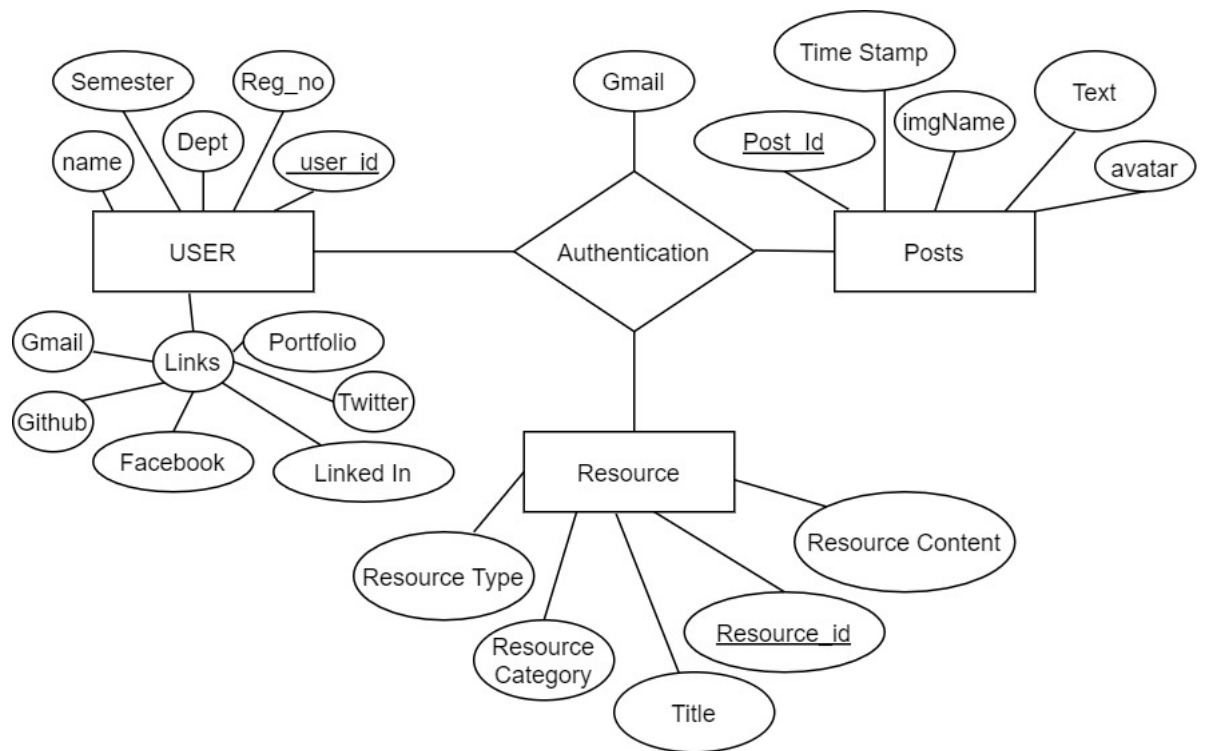# 4 Project Diagram

4.1 Entity Relationship Diagram

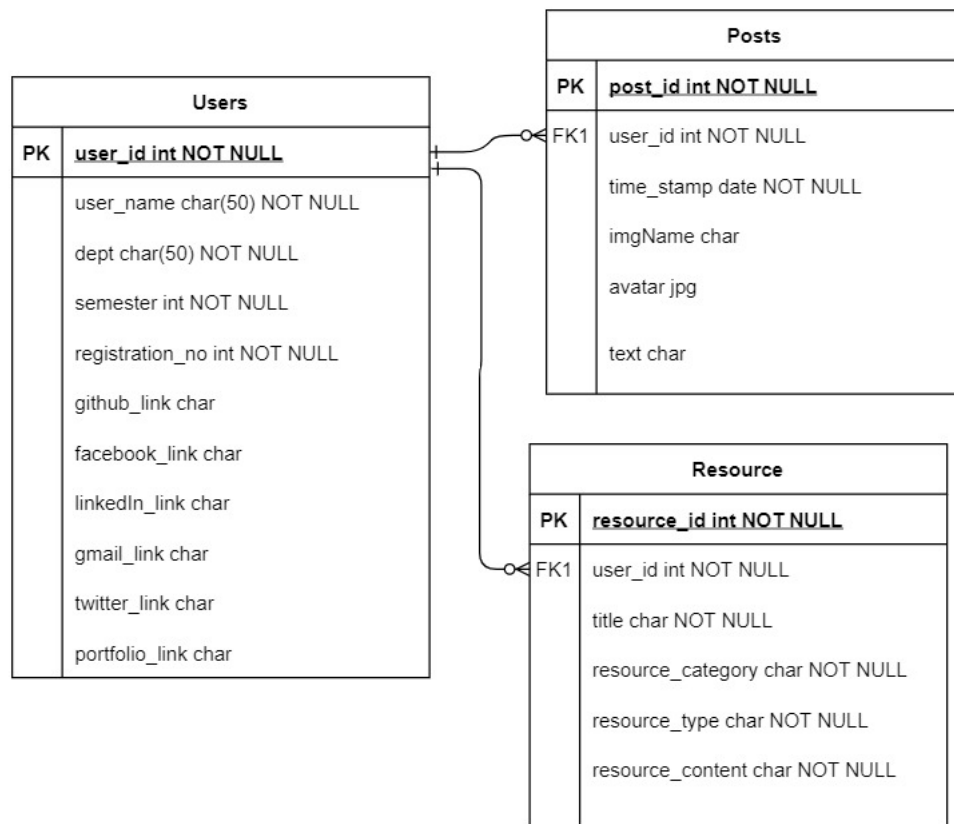Figure 1: ER Diagram

4.2   Database Schema

Figure 2: Database Schema

5 Project Implementation

5.1 The Frontend

The implementation of this project's one part is frontend other one described later. In frontend we used ReactJS. React (also known as React.js or ReactJS) is an open-source, front end, JavaScript library for building user interfaces or UI components. It is maintained by Facebook and a community of individual developers and companies. React can be used as a base in the development of single-page or mobile applications.

5.1.1 The Frontend UI and Coding Template
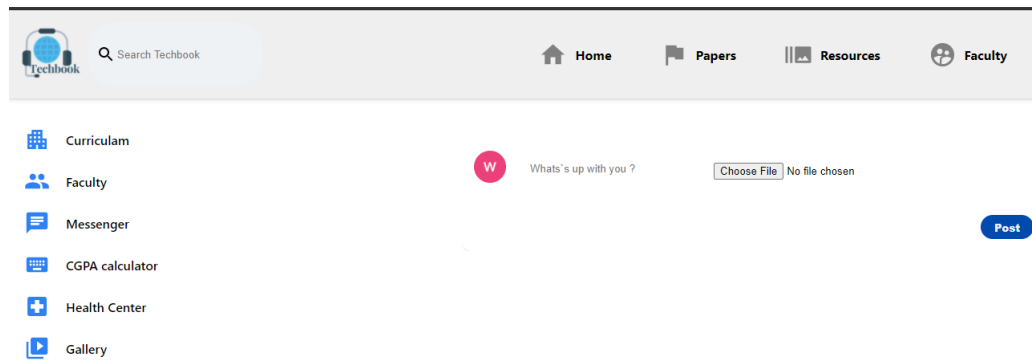
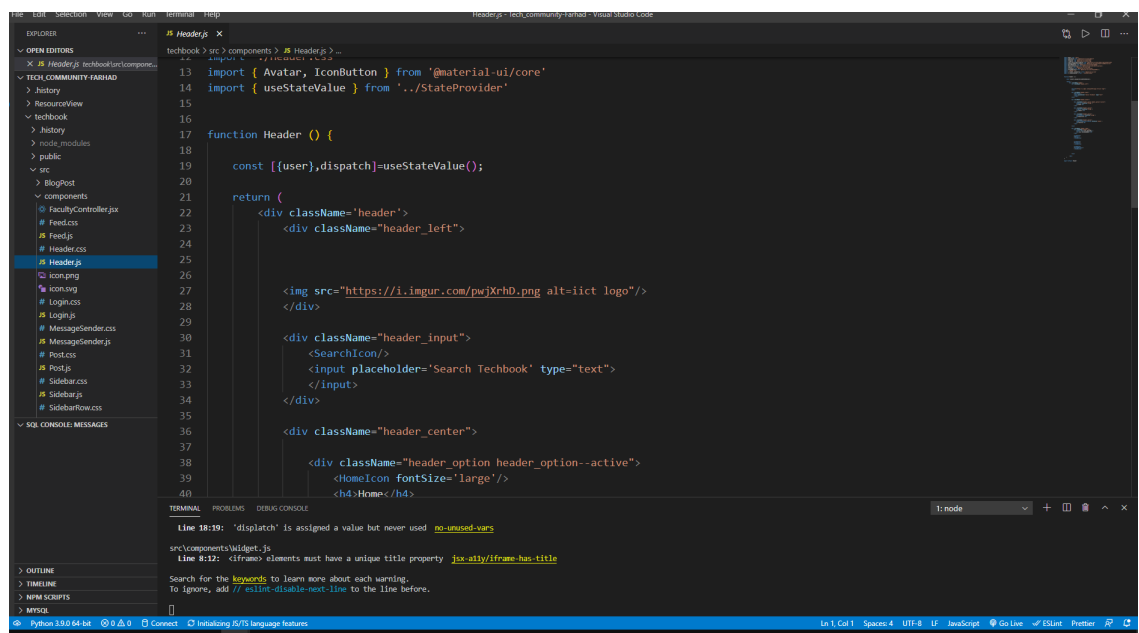Figure 3: SignIn UI

Figure 4: Home UI

Figure 5: Frontend Coding Template

5.2 The Backend

The other part of this project is backend and database. In backend we used NodeJS and ExpressJS(Node framework). Node.js is primarily used for non-blocking, event-driven servers, due to its single-threaded nature. It's used for traditional web sites and back-end API services, but was designed with real-time, push-based architectures in mind.

5.2.1 The Backend Coding Template and DB

In database we used MongoDB Database. MongoDB is a document database in which one collection holds different documents. Number of fields, content and size of the document can differ from one document to another.It is easy to scale.Deep query-ability. MongoDB supports dynamic queries on documents using a document-based query language that's nearly as powerful as SQL.

5.2.2 Internal Api

We also used internal api for sharing data. One of the key advantages of internal APIs is that it provides a great deal of flexibility. Data is not tied to resources or methods. We uses this type of API among the different internal teams to be able to improve its sharing data flexibility.
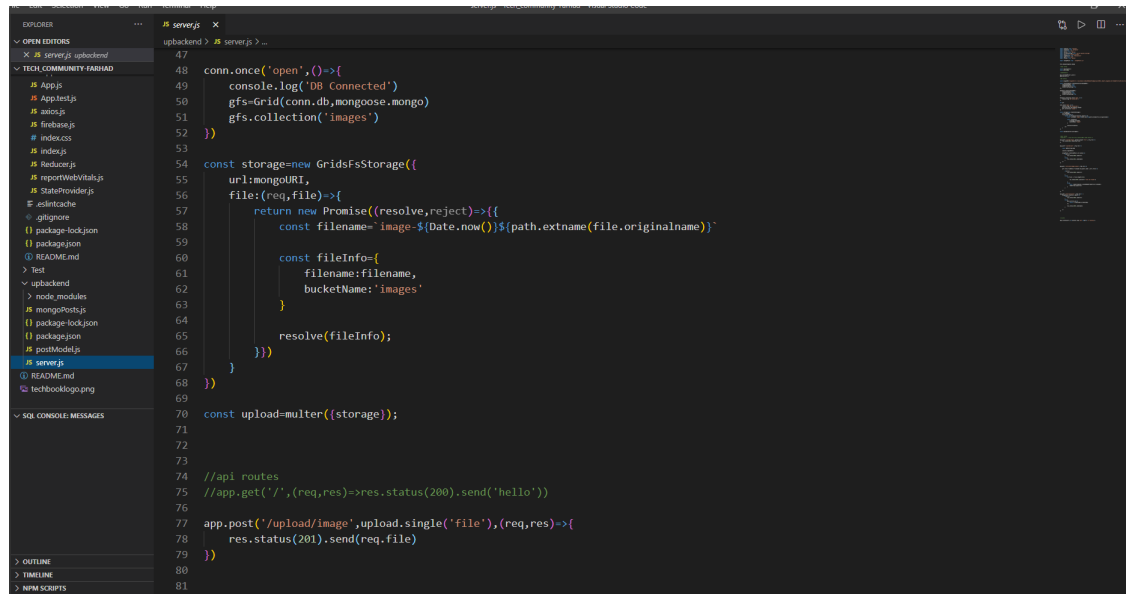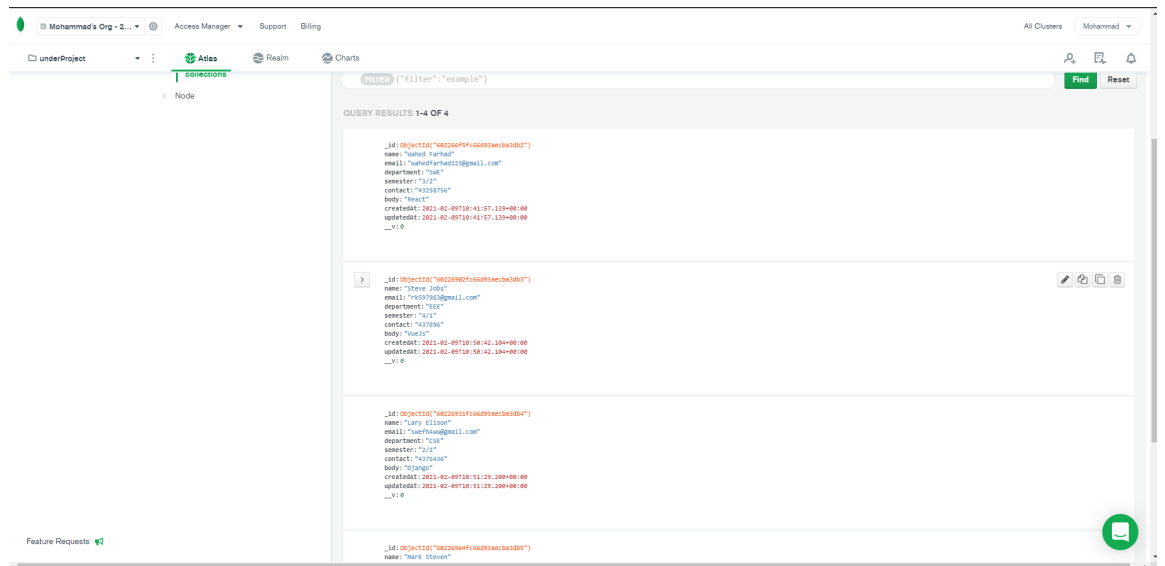
Figure 6: Backend Coding Template

Figure 7: MongoDB Template

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6 Testing And Validation

6.1 Unit Testing

In unit testing where we check the individual units and components that we used in frontend are tested properly. The purpose is to validate the each unit of code performs as expected earliar. The bug-prevention objective is superior to others and implies not only anticipation but also prevention of defects from recurring in the future.

6.2 Integration Testing

Also In integration testing we check the hardware and software environment that are intregrated or not. This types of testing helps us the software's compliance and with its specified requirement. It is performed to verify the interactions between the modules of this project.

6.3 System Testing

System Testing is carried out on the whole system in the context of either system requirement specifications or functional requirement specifications or in the context of both. This system testing is basically performed by a testing team that is independent to us(development team) and that helps the actual test of the quality. They also detect some bugs before users find them. After testing we sorted out of these bugs and worked properly later.

1. Testing the fully integrated applications including external peripherals in order to check how components interact with one another and with the system as a whole.

2. Verify thorough testing of every input in the application to check for desired outputs.

3. Testing of the user's experience with the application.

6.4 User Acceptance Testing

QA team make sure that the product satisfies the user requirements and works as desired. In the process of the software verification and validation at these stage we hire a team(testing team) from different activities they are not dependent to us check the system that works perfectly or not, that satisfies our users(students) as expected. These testing also helps us to prevent software bug and shorten the product time to our users

7 Future Development

The project has a very vast scope in future. The project can be implemented on intranet in future. Project can be updated in near future as and when requirement for the same arises, as it is very flexible in terms of expansion. With the proposed software of database Space Manager ready and fully functional the client is now able to manage and hence run the entire work in a much better, accurate and error free manner. The following are the future scope for the project.

1. Chatting application between Users as a result any user can communicate privately to others.

2. Developing the threaded Comment system under timeline posting.

3. Gallery system where any student users share departmental photos to others.

4. Health Center for any medical information.

8 Conclusion

To conclude, Project Data Grid works like a component which can access all the databases and picks up different functions. It overcomes the many limitations incorporated in the tech community.

1. Easy implementation Environment.
2. Using this a good tech community will be created