**MERN Stack Project -** [Shavinda W.A.P\_IT20140298](https://medium.com/@pasindu.shavinda?source=post_page-----e009e02c6fec--------------------------------) May 15, 2022

Project experience discussed in this article

We developed a MERN stack web application to system, which has the capability of managing A Research project and automating certain tasks.

**What is MERN Stack ?**

A screenshot of a computer

Description automatically generated with low confidence

**MongoDB**: A document-oriented, No-SQL database used to store the application data.

**Node JS**: The JavaScript runtime environment. It is used to run JavaScript on a machine rather than in a browser.

**Express JS**: A framework layered on top of NodeJS, used to build the backend of a site using NodeJS functions and structures. Since NodeJS was not developed to make websites but rather run JavaScript on a machine, Express JS was developed.

**React JS**: A library created by Facebook. It is used to build UI components that create the user interface of the single page web application.

In there we have to use Mongo DB, Express, Node JS and React JS. We use React to develop the frontend. And Express and Node JS we use to develop our backend. And the database was the Mongo DB. We have to develop the Research project management tool. Before start the coding we divided our project into main phases.

1. Requirement Analysis

2. UI sketching

3. Front end Development

4. Backend development

5. Testing

As the first step we identified the requirements clearly. Then As a group leader I divided the functionalities among the members equally. Then we discussed and decided to use the GIT as the version controlling system. Because the GIT has so many advantages. Some are mention in below.

1. Helps in managing and protecting the source code.

2. Keeps track of all the modifications made to the code.

3. Comparing earlier versions of the code.

4. Supports developers’ workflow and any rigid way of working.

Then we sketched the wireframes of UI. Before directly coding the frontend that was a good practice to do sketching. After finishing the UI sketching, we started the coding the frontend. All the four members were coding the frontend and pushed to GITHUB. Because of that we had a chance to work collaboratively without any conflicts.

After completing all the pages in frontend, we linked all the pages to navigate each pages by button click events. After that we start working on backend. Firstly, we did Mongo DB database configurations. In there we created a new project in the Mongo DB. After that we created an organization by name of our project and created a cluster. Then I created a Database and give team members the access.

Then we start the backend implementation. In there we created a backend server file and connected the Mongo DB database by the mongo DB URL. After that we created models , routes files and completed backend with all the functionalities. After complete the backend we test backend endpoints using POSTMAN. Postman is an API platform for building and using APIs. Postman simplifies each step of the API lifecycle and streamlines collaboration so we can create better APIs faster. Then we connected the backend with frontend application and do the testing. After done the testing. We verified our application works as expected. Finally we finished our project.

**Conclusion**

In this article, I have further explained how to the team work to complete the MERN stack project. which was the concept we learned during our group project as software engineering undergraduate students.