Green University of Bangladesh
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Course Code: CSE 302 Section: 192DC

Lab Project Name: Social Activity Application

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Lab Project Status

Marks: …… **Signature: .....**
Comments: ..... **Date: .....**

Introduction

1.1 Introduction

The name of our web application is a ‘Social Activity’ app. The idea behind the application is that people can come forward to the platform to help to do various social work. On the website there will be some social work list which is currently going on, user who want to do volunteering can register through the website and opt into the work.

1.2 Statement of The Problem

We have seen many times that when people want to organize some social work, they typically have some difficulty to gather volunteers to continue the work, they usually create some event on social media network and try to gather people. We thought if people have a network to organize such task, it would be very easy to maintain the process and gather volunteers.

1.3 Scope of Work

There are a lot of scope of work in our application. Our web application is about volunteering and social work. So, the primary goal is to have some event of social work and people who want to join can easily add themselves to the social work. But on this web application, we can also add a blog to discuss about social problem, we can add option to the website, so people can start discussion topic about some social issue, and other people can join the discussion. We can also add some donation option to support some work.

1.4 Goal

The goal of this application is to provide an easy way to organize volunteering and social work to the people. On this application people can come together to help others. Our application will provide a simple user interface to the user to choose some event or social work which is currently available. Then he/she can fill a form to complete the process for participation in a particular social work. Then he/she can join the work. This is the overall goal of our web application.

Design Methods and Procedures

To create the web application, we have combined various technology together. There are some technologies used in creating the frontend, then there are some technologies used in creating

the backend. We will first talk about the overall design of the application, then we will talk about the individual part.

Here is the general design of our application:

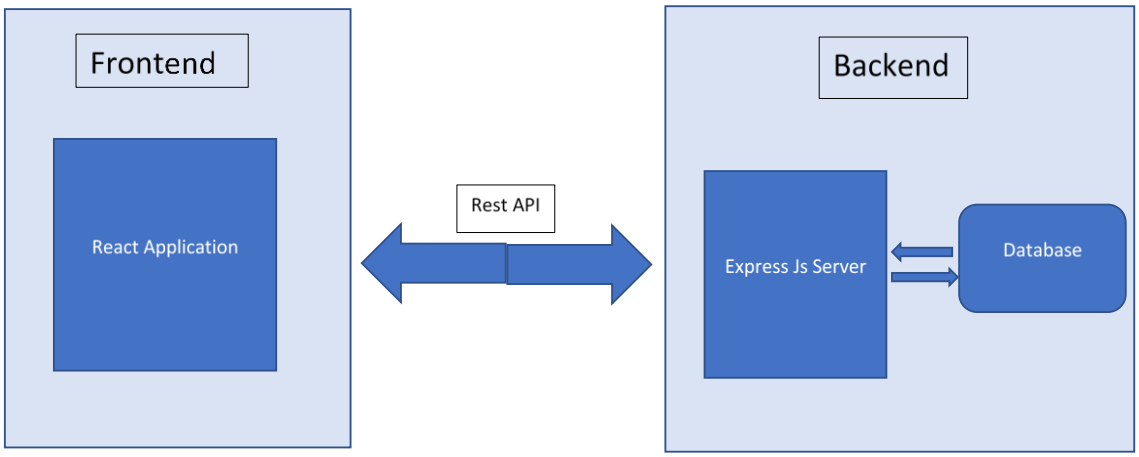

Figure 1: Design of the application

2.1 Frontend

Now we will talk about the frontend. In the frontend development, we have used React Js to build the frontend application. There is an application running created using React for the frontend. React is a front-end JavaScript library for building user interfaces or UI components.

In our React Application, there are 5 routes:

1. Home: This is the home page someone who visit the website will land first in this page.
2. Registration: This is where nonregistered user will get to register in the website
3. Event: In this page they can see the registered social work.
4. Event Register: When user click a current social work, they will redirect to this page to get registered in the work.
5. Admin: In this admin page, admin can handle the social work, delete one, etc.

Every route makes some API calls to the server to get some works done. We will talk about those APIs in the backend section.

2.2 Backend

In the frontend, the data is shown which is fetched from the backend server. The communication between frontend and backend is happened using REST API. The data is send in JSON format. The backend server is created using Express Js. Express Js is a backend web application framework for Node.js. The whole backend web server we have created is running using Node.js.

Now , we will describe some API used in the backend:

1. GET: /task: This API provides all the current social works in the home page.
2. GET: /addedEvent: This API returns currently opted in social work to the user.
3. GET: /allRegisteredEvent: all registered event for all user is send to the admin.
4. POST: /submitForm: User can opt into a social work using this API.
5. DELETE: /cancelEvent: User can opt out social work using this API.
6. DELETE: /deleteEvent: Admin can delete a social work using this API.

These are some API we have used in the backend server to process the data. We have also used mongodb to store the data. In Each API we have access the database using a mongodb ORM system.

2.3 Summery:

To summarize the whole things, we have first created the frontend application using React. In this React application there are few routes to show different data. In the backend we have created the REST API to handle the data and send the data. We have connected to a database and stored all the data. This is simply a CRUD model. Here the create, read, update, and delete operation is happening.

Performance Evaluation

3.1 Application Environment Setup

In our application, there are two types of application running. One is frontend application, and another is backend server. For frontend, we needed to install some modules in node js and for backend we needed some different modules for the system to work.

For frontend, the most used module:

1. React
2. React-dom
3. React-router-dom

4. bootstrap
5. firebase

For backend, the most used modules are given below:

1. express js
2. body-parser
3. dotenv
4. mongodb

These are the modules we need to run the whole project. After properly having these modules installed, we can run the project.

3.2 Analysis of The Project

First we need to start the web application, to start the whole web application, we need to start the frontend application and the backend server.

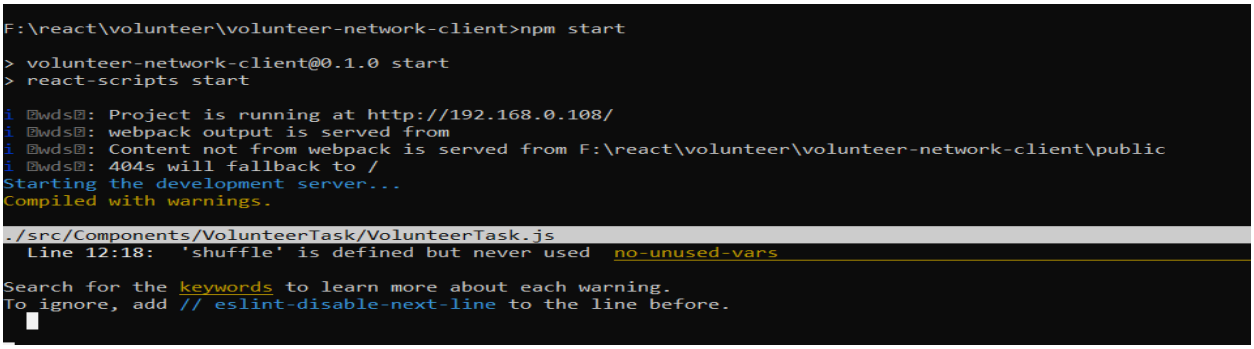

Figure 2: Starting of frontend application

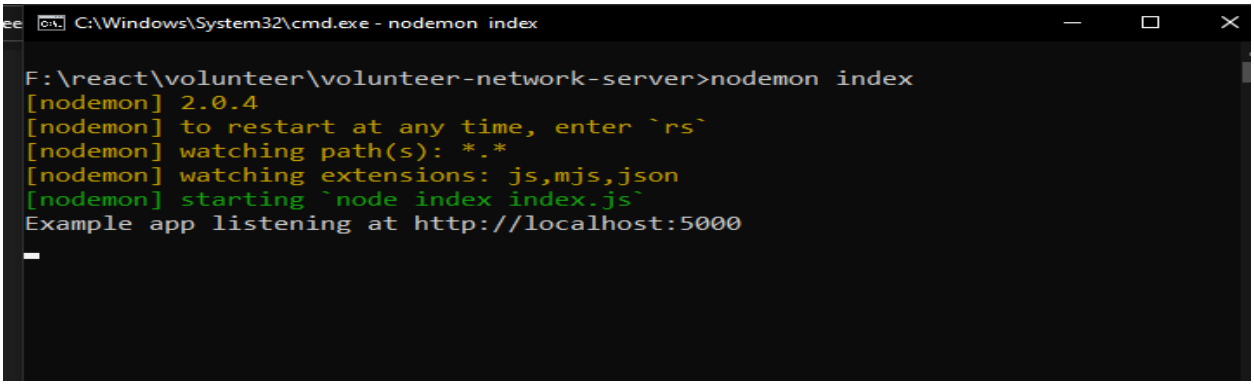

Figure 3: Starting of backend server

After starting the project, we can visit the web application and can check all the option is working currently or not. First, we have visited the home page and try to login.

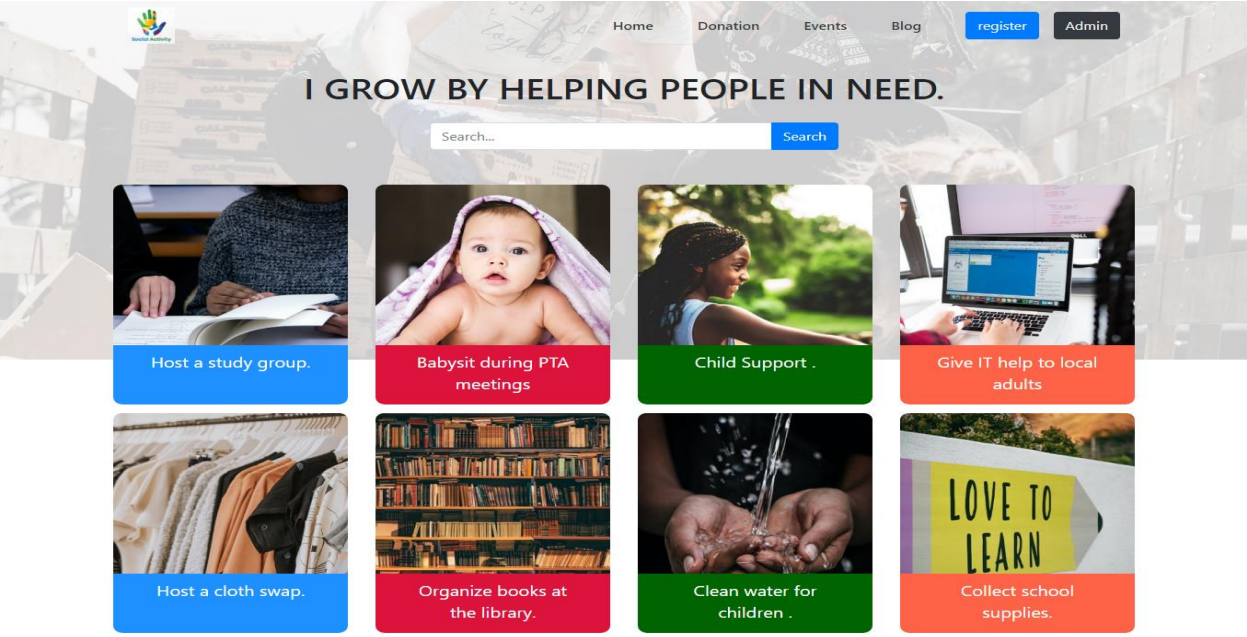

Figure 4: Homepage of the application

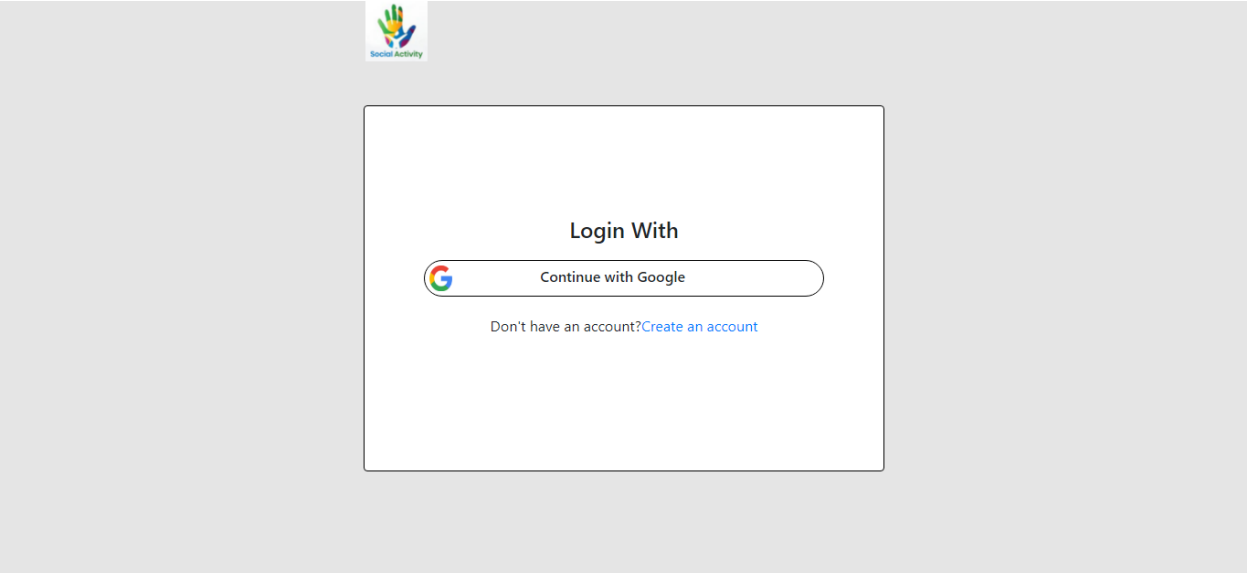

Figure 5: Login page

After login, a user can choose social to get engage from the homepage, the user need to register to a particular social work to work with.

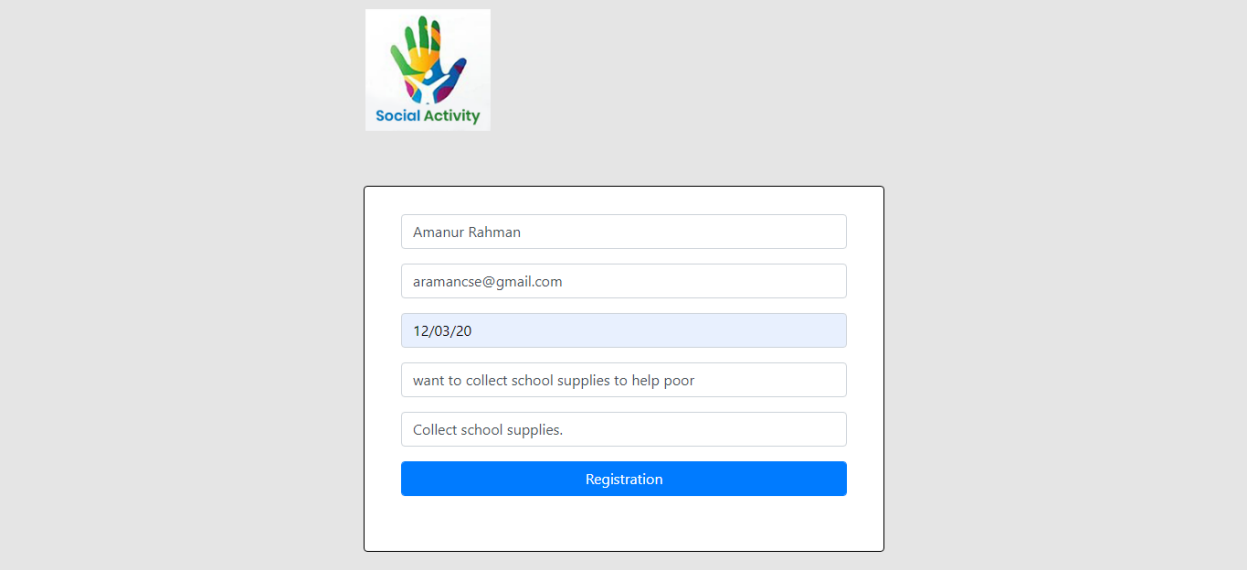

Figure 6: Registration Form to work with a social work.

User can see in what works he/she currently is engaged with

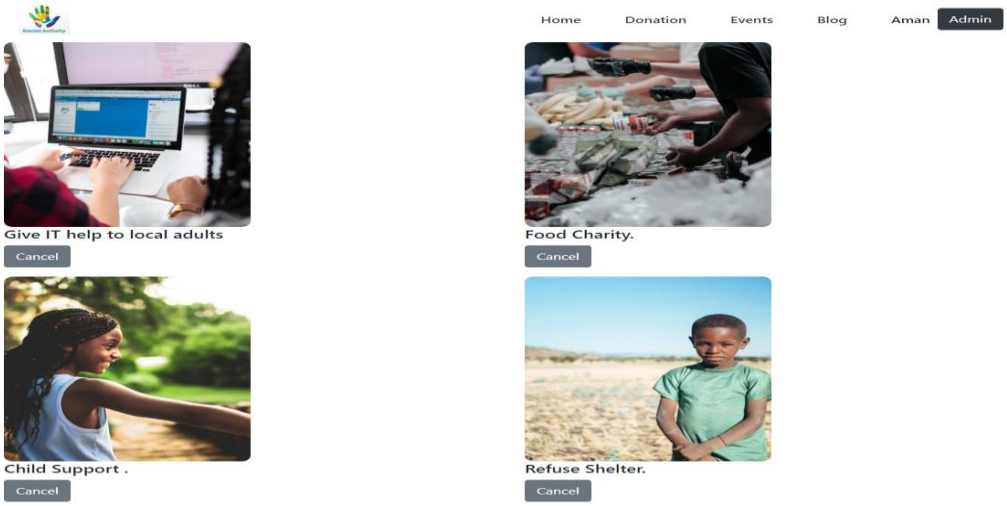

Figure 7: opt in social work.

3.3 Result

After analyzing the whole system, we can say that the system is working very fine. We have checked every option to see if the system is working currently or not. We have also checked the database if all the data is properly entered, deleted, or updated. After some intensive test, we haven't found any problem. So, we can finally conclude that the system is working really great and working with bug free.

Conclusion

4.1 Introduction

Now, if we conclude our project, our project is about to help the people who want to volunteer in social works. Here they can easily participate to a social work and start to work easily. They can always opt out from a work. There is an option they can cancel anytime. The web application is very simple. We have used React for frontend and Express Js for the backend. The communication between frontend and backend is handled by REST API and Json.

4.2 Discussion

We had fun to create this project. We think the project is great because we can really use such a platform to spread the good works in society. Thus, having such platform, people will be motivated to work in social work and help other people in the society. Though we need some more feature to our project to deploy it in real life. But it won't be very hard to implement the other features.

4.3 Practical Implication

As we have seen, there are a lot of group in the social media network, they have been doing volunteering works, so if we can create an actual platform for those volunteering works, there will be huge impact to those people who want to help in the society. More people will also get motivated to participate in the social works. So we think this application has a huge practical implication.

4.4 Scope of Future Works

There is a great scope of future works in this application. We can think of a lot of feature which can be added to the application. First, we can add a simple blog to discuss about social problem and the solution of the problem. We can add a system for donation to the poor people who need help. We can add an option for getting emergency blood for the patient who need blood. There are a lot of feature we can add to this web application.

Project GitHub Link: https://github.com/mdanikislam/social-activity