



CSE370 : Database Systems
Project Report
Project Title : BRACU Community

Group No : 02, CSE370 Lab Section : 07, Summer 2023		
ID	Name	Contribution
23341134	Udoy Saha	Designing database and creating the database schema, making various React.js functional components for the frontend, API calls with Express.js, binding with Node.js
21301620	Md Faisal	Designing database, testing and populating database, making various React.js functional components for the frontend, API calls with Express.js, binding with Node.js

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Introduction

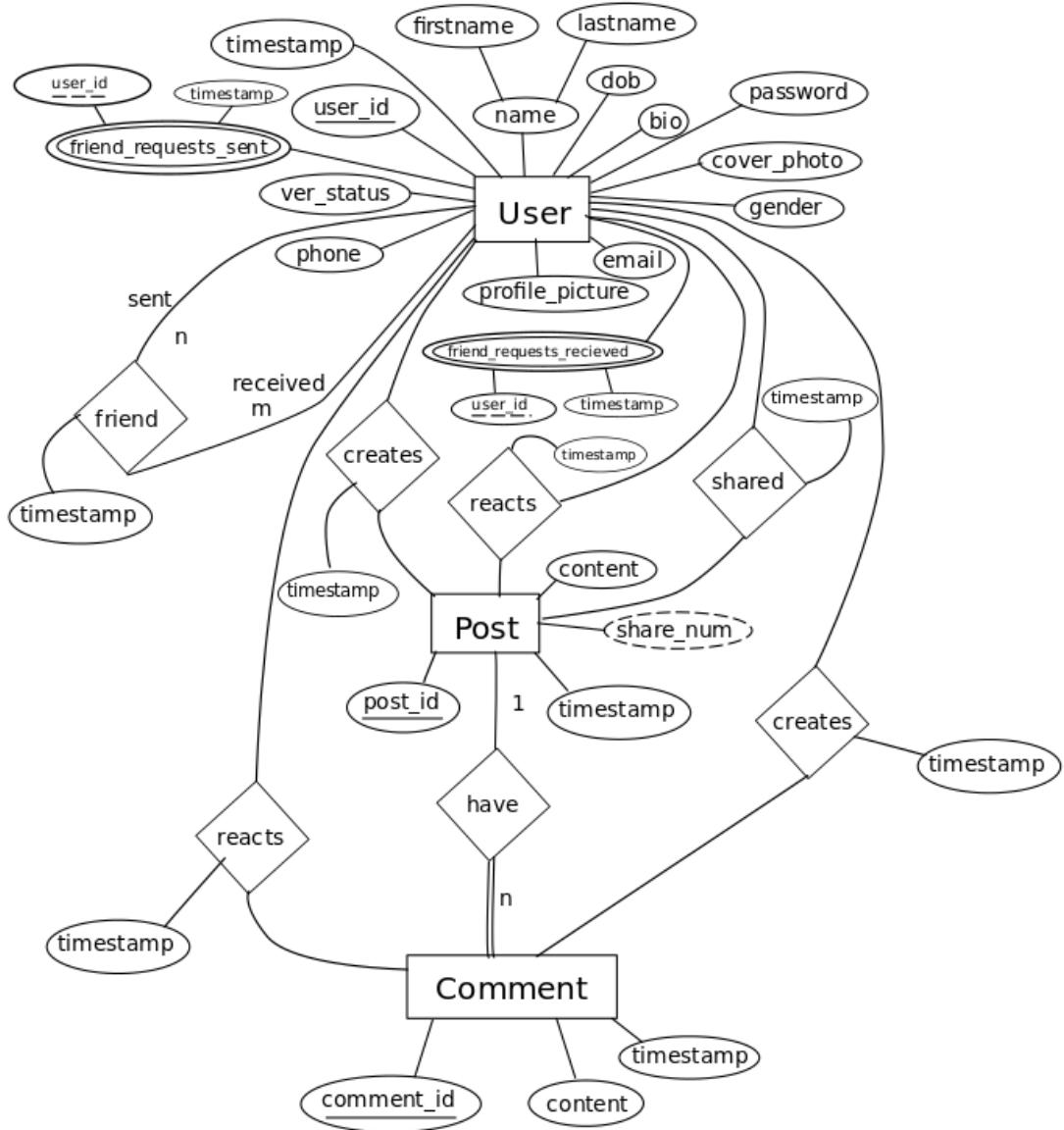
- **Motivation behind our project:** Our primary motivation was creating a dedicated social media platform for the people of BRAC University. So, we took Facebook and messenger as role models for our project. We want to solve the communication gap between all the people of BRAC University. Our target is to build a common space for the people associated with BRAC University and help them stay connected with each other; they can also share their thoughts and information about academics. It's like having a special place online to hang out with others.
- **Technologies used:** We have used MySQL as the DBMS. Our frontend part is managed by using React.js. We have implemented the backend by nodejs and handling api calls by express js. We have also imported css classes of bootstrap to make our frontend responsive. Finally we used Vite to make the whole development process dynamic and fast.

Project Features

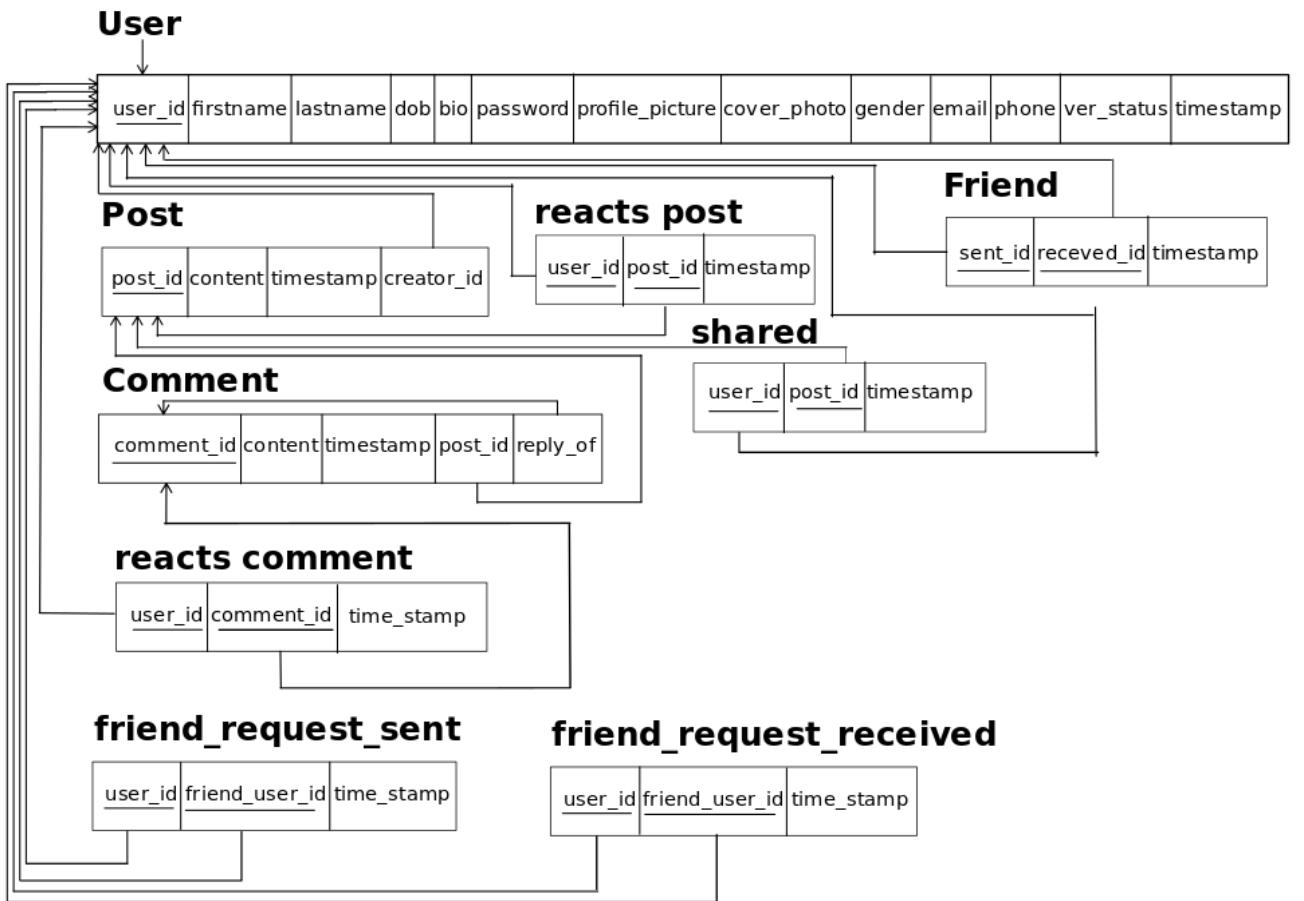
There are some amazing features in our website, such as -

- You can create an account and log in.
- You can see a page that shows users.
- You can share your own updates, see what others are posting.
- You can even talk to friends in real-time, like on Facebook Messenger.
- Each person has their own special page where you can see their information and posts.

ER/EER Diagram



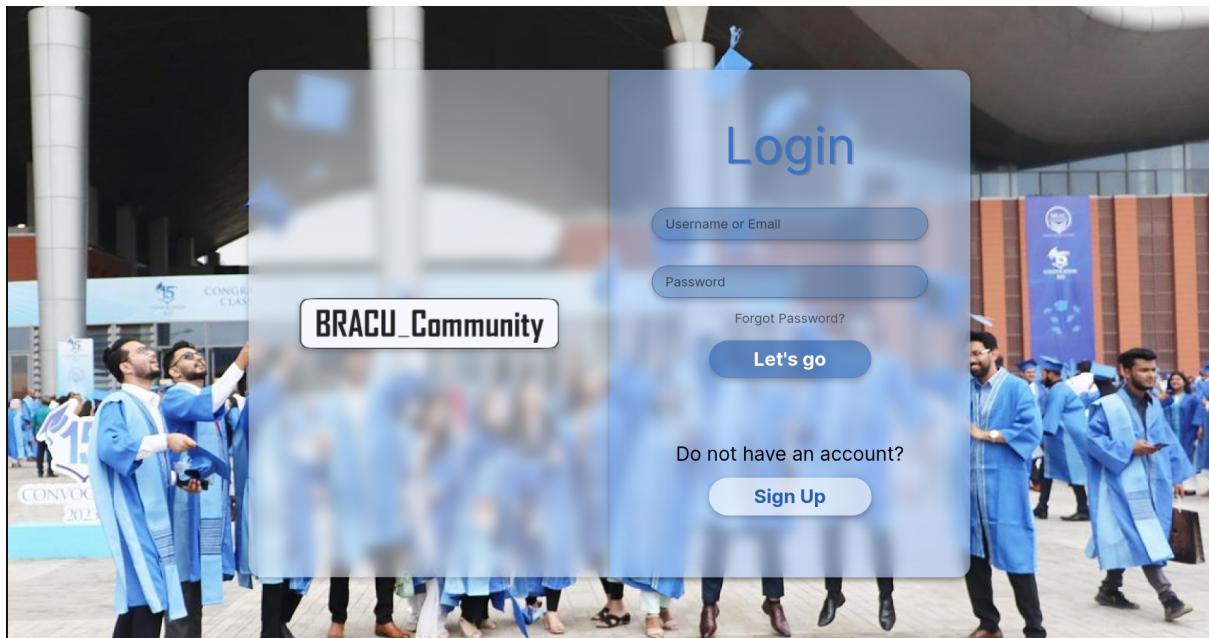
Schema Diagram



Frontend Development

Contribution of ID : 23341134, Name : Uday Saha

- Login page

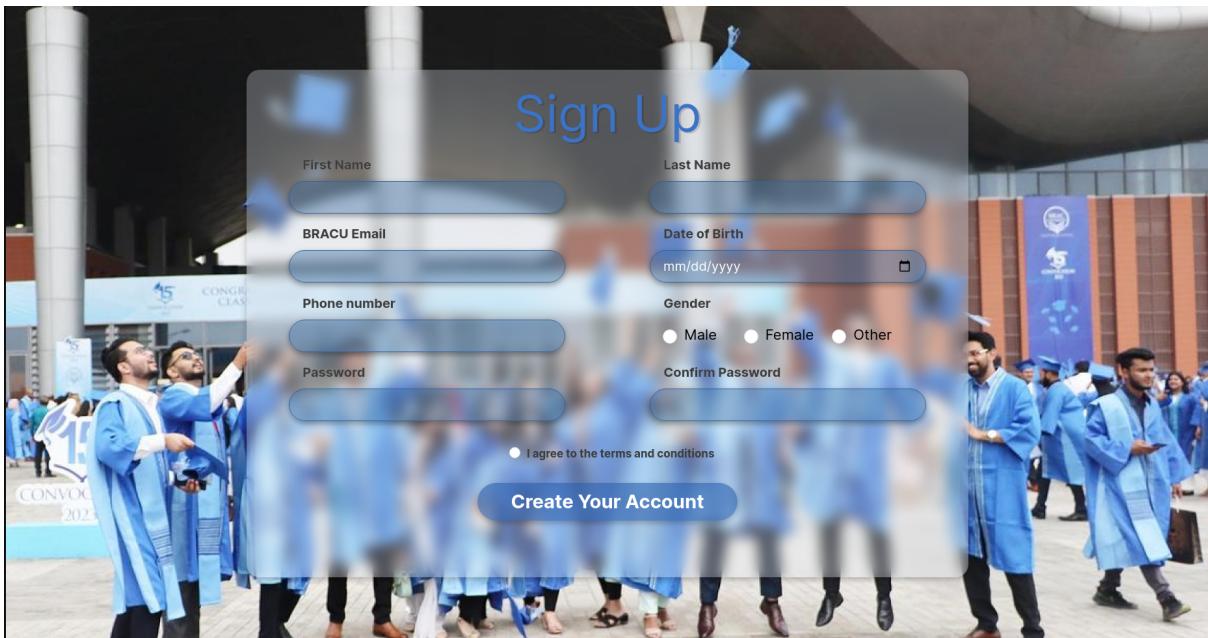


- Newsfeed page

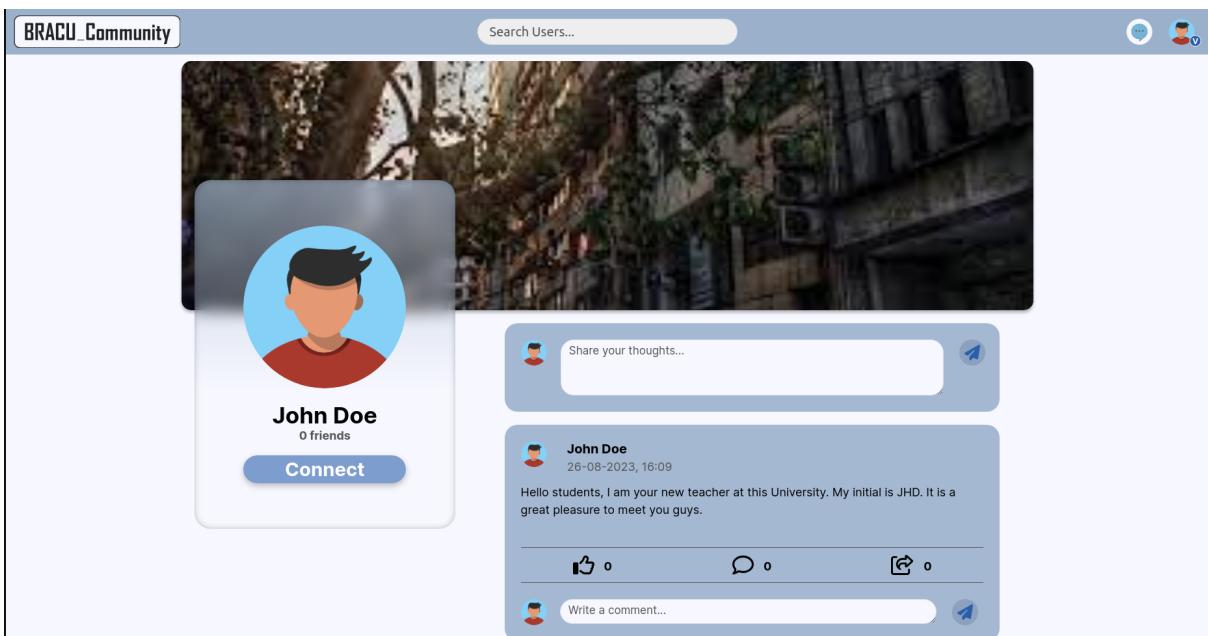
- Also some component of the other pages as well, because React.js components are shared

Contribution of ID : 21301620, Name : Md Faisal

- Signup page



- User profile page



- Also some component of the other pages as well, because React.js components are shared

Backend Development

Contribution of ID : 23341134, Name : Udoj Saha

- Login page

The screenshot shows a code editor with several tabs: server.js, comment.js, user.js, and another user.js tab which is currently active. The code in user.js defines several routes using Express.js. One route, POST /user/new, is highlighted. To the right of the code editor is a Postman interface. The URL field shows 'localhost:3000/user/new'. The method dropdown shows 'POST' and the target is 'localhost:3000/user/new'. The 'Body' section is set to 'raw' and contains a JSON object representing a user profile:

```
{  
  "firstname": "John",  
  "lastname": "Doe",  
  "dob": "1999-03-15",  
  "password": "1234",  
  "gender": "1",  
  "email": "john.doe@bracu.ac.bd",  
  "phone": "+12345678"  
}
```

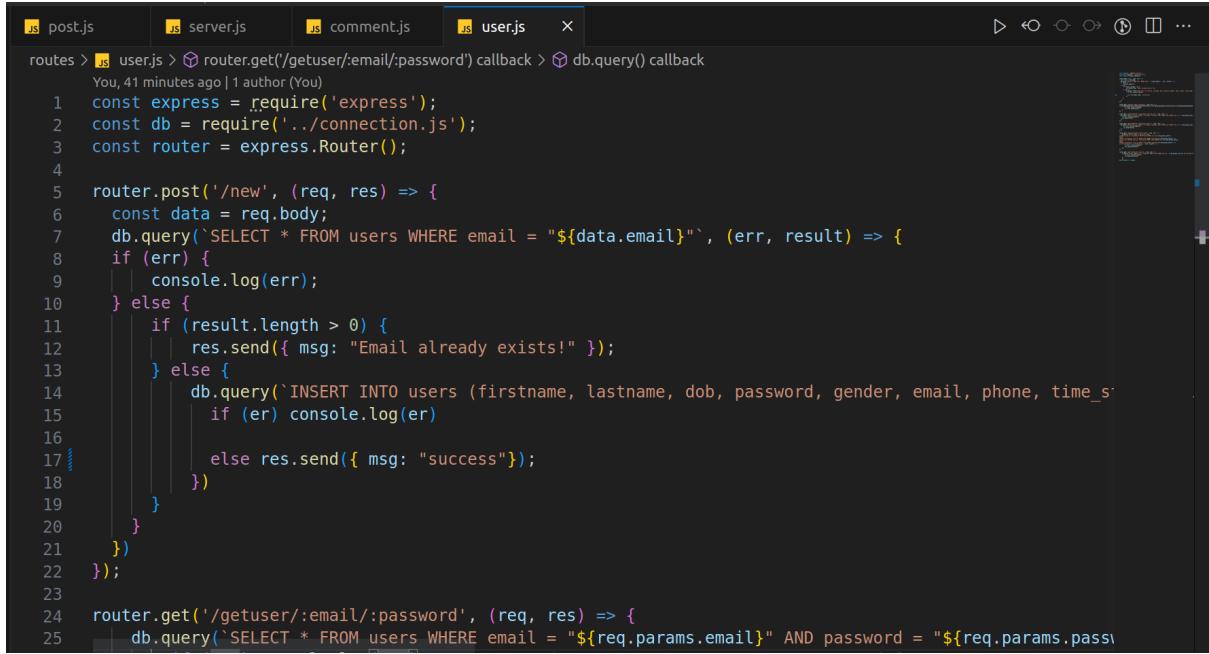
- Newsfeed page

The screenshot shows a code editor with several tabs: post.js, server.js, comment.js, and user.js. The code in post.js defines routes for a newsfeed application. One route, GET /getallnewsfeed/:user_id, is highlighted. The route uses a complex SQL query involving multiple SELECT statements and JOINs to retrieve newsfeed posts for a specific user. The code includes error handling and result sending.

- Also some API of the other pages as well, because Express.js APIs are shared

Contribution of ID : 21301620, Name : Md Faisal

- Signup page



```
routes > user.js > router.get('/getuser/:email/:password') callback > db.query() callback
You, 41 minutes ago | 1 author (You)
1 const express = require('express');
2 const db = require('../connection.js');
3 const router = express.Router();
4
5 router.post('/new', (req, res) => {
6   const data = req.body;
7   db.query(`SELECT * FROM users WHERE email = "${data.email}"`, (err, result) => {
8     if (err) {
9       console.log(err);
10    } else {
11      if (result.length > 0) {
12        res.send({ msg: "Email already exists!" });
13      } else {
14        db.query(`INSERT INTO users (firstname, lastname, dob, password, gender, email, phone, time_s`|
15          if (err) console.log(er)
16
17          else res.send({ msg: "success" });
18        }
19      }
20    }
21  });
22 });
23
24 router.get('/getuser/:email/:password', (req, res) => {
25   db.query(`SELECT * FROM users WHERE email = "${req.params.email}" AND password = "${req.params.pass`|
26
27
28
29 });
30
31 router.get('/getmatchedusers/:usercount/:user_id/:txt', (req, res) => {
32   db.query(`SELECT user_id, gender, firstname, lastname, email FROM users WHERE user_id != ${req.params`|
33   if (err) console.log(err)
34   res.send(result);
35 }
36 );
37
38 router.get('/getrandomusers/:usercount/:user_id', (req, res) => {
39   db.query(`SELECT user_id, gender, firstname, lastname, email FROM users WHERE user_id != ${req.params`|
40   if (err) console.log(err)
41   res.send(result);
42 }
43 );
44
45 router.get('/getmutualcount/:user1/:user2', (req, res) => {
46   db.query(`SELECT COUNT(*) AS mutual FROM
47 ((SELECT user_id, received_id FROM friend WHERE user_id=${req.params.user1})
48 UNION
49 (SELECT received_id, user_id FROM friend WHERE received_id=${req.params.user1})) t1`|
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Conclusion

We have learned a lot about the application of the database systems in real life through this project. We look ahead to add more features and security to this project so that this app can be used officially and flawlessly by all of the people at BRAC University.

As we reflect on the milestones achieved, we acknowledge that this is merely the beginning of our project's potential. Our vision stretches beyond its current state, as we envision incorporating a myriad of additional features and robust security measures. By fortifying the project's foundation, we aim to elevate it to an official platform that seamlessly caters to the diverse needs of the BRAC University community.

The collaborative efforts and dedication poured into this project by our team have been instrumental in its present standing. However, we recognize that growth is a continuous process. Going forward, we are committed to refining and expanding the project, aligning it more closely with the university's evolving requirements. By leveraging the knowledge acquired during this project, we anticipate overcoming challenges and embracing opportunities to create an app that exemplifies both functionality and user experience.

In essence, this project signifies more than the culmination of our efforts; it signifies a stepping stone toward innovation and technological advancement. As we set our sights on the horizon, we are filled with enthusiasm for the prospects that lie ahead. With the support of BRAC University and the dedication of our team, we are confident that this project will flourish into a pioneering solution that resonates with the entire BRAC University community and beyond.

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