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| Internship Project Title | **RIO-125: Real Time Chat Application - Develop a MEAN Stack Application with User-Specific Features** |
| Name of the Company | TCSioN |
| Name of the Industry Mentor | Debashis Roy |
| Name of the Institute | ICT Academy of Kerala |

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| Start Date | End Date | | Total Effort (hrs.) | | Project Environment | Tools used |
| 20-06-2023 | 24-06-2023 | | 23.5 | | Chrome, Windows 10 | Visual Studio, Postman, MongoDB Compass |
| Milestone #1 |  | Milestone: | | User Registration, Login, Validation, Backend endpoints for storing registration, login, chatroom details | | |

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**Project Objective**

The objective of this project is to develop a real-time chat application using the MEAN stack (MongoDB, Express.js, Angular, and Node.js). The application will provide user-specific features and enable real-time communication between users.

**Introduction / Description of Internship**

The internship opportunity offered by TCS iON (Tata Consultancy Services iON) provides students with a valuable learning experience in the field of software development and project management. During the internship, students will have the opportunity to work on a real-world project, gaining practical knowledge and skills that will enhance their understanding of software development processes.

This project involves the development of a Real Time Chat Application using the MEAN stack (MongoDB, Express.js, Angular, and Node.js). The project aims to create a user-friendly and efficient chat application that enables real-time communication between users. It will also incorporate user-specific features such as message search, notification settings, and chat preferences.

**Project Progress**

Milestone 1: Frontend and Backend Development (User Registration ,Chat room and Login)

**Frontend Development:**

* Successfully built the user interface for user registration, allowing users to provide their details such as name, username, email, and password.
* Implemented a mechanism for user validation, ensuring that all required fields are filled and validating email format.
* Developed the user interface for login to the chat application, allowing users to enter their credentials and authenticate.

**Backend Development:**

* Created an endpoint to store user details in the backend, allowing the application to capture and store user information such as username, email, and password securely.
* Developed an endpoint to store chatroom details, enabling the application to create and manage chatrooms for users.
* Implemented password validation for authentication, ensuring that user passwords are securely stored using bcrypt and validated during the login process .

**Challenges**

Security: Implementing password validation and securely storing user information to protect against unauthorized access and data breaches.

User Validation: Designing and implementing a user validation mechanism to ensure that all required fields are filled and email addresses are in the correct format.

**Internship Activities**

* Proceed with Milestone 2: Implementing real-time messaging functionality and chatroom creation.
* Conduct thorough testing of the frontend and backend components developed in Milestone 1 to ensure their stability and reliability.
* Address any bugs or issues identified during testing and implement necessary fixes.
* Collaborate with the frontend and backend teams to ensure smooth integration of the developed components.
* Document the technical details and configurations related to the frontend and backend components for future reference and knowledge transfer.

**Conclusion**

The project has successfully completed Milestone 1, which involved the development of frontend and backend components for user registration, user validation, and login to the chat application. The frontend team has built user interfaces for registration and login, while the backend team has created endpoints to store user and chatroom details, as well as implemented password validation for authentication. The project is progressing according to the planned timeline, and the team is ready to move on to Milestone 2, focusing on real-time messaging functionality and chatroom creation.