**Low Level Design (LLD)**

**Forum Application**

1. Introduction

The purpose of this LLD report is to provide a detailed view of the design of the student forum application. The report will describe the functional and non-functional requirements of the application, the database schema, the algorithm and data structures used, and the design patterns and best practices used in the development of the application.

1. Functional Requirements

The student forum application will have the following functional requirements:

* User registration and login: Users will be able to register and log in to the application using their email address and password.
* Article posting creation: Users will be able to post articles and start discussions by providing a content.
* Article Editing : User will be able to edit the posted Article
* Article Deletion : User will be able to delete posted Article
* Commenting : Users will be able to comment on articles and discussions .

1. Non-Functional Requirements

The student forum application will have the following non-functional requirements:

* Security: The application will be secure and protect the privacy of its users by using secure communication protocols and encryption algorithms.
* Scalability: The application will be designed to be scalable to accommodate increasing numbers of users and articles.
* Performance: The application will be designed to be fast and responsive, with a fast loading time and minimal latency.

1. Database Schema

The student forum application will use a non-relational database management system such as MongoDB to store its data. The following tables will be used in the

database:

* Users: This table will store information about the users, such as their name, email , password, and Post of registration.
* Posts : This table will store information about the articles, such as the  content, author, date of creation and date of update.

1. Algorithms and Data Structures

The student forum application will use the following algorithms and data structures:

Sorting algorithm: A sorting algorithm such as Bubble Sort will be used to sort the articles .

1. Design Patterns and Best Practices

The student forum application will follow the following design patterns and best practices:

* MVC (Model-View-Controller) pattern: The application will use the MVC pattern to separate the data model, user interface, and control logic.
* SOLID principles: The application will follow the SOLID principles of object-oriented design to ensure maintainability, readability, and scalability.
* Security best practices: The application will follow best practices in security, such as using secure communication protocols, encryption algorithms, and secure passwords.

1. Conclusion

In conclusion, the LLD report provides a detailed view of the design .