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Course name : DLBCSPJWD01
Phase 3 : Finalization
Matricule number : 92012388
Technical Approach - Making of the Project:

Backend Development:

The application's backend was created using PHP, a server-side scripting language known for its simplicity and convenience of database integration.

As the database management system for storing and retrieving notes data, MySQL was selected.

The PHP script functions as an intermediary between the frontend and the database, processing requests, executing CRUD operations, and returning JSON responses.

Prepared statements were employed to prevent SQL injection and assure the security of database interactions.

Lessons Learned: Working with PHP and MySQL provided a firm basis for developing the application's backend. During the development process, crucial lessons were learned concerning error management, input validation, and database security.

Frontend Development:

The application's frontend was created using HTML, CSS, and JavaScript.

HTML was utilized to structure the pages, define the forms, and render the content.

CSS was used to style the user interface, assuring an aesthetically pleasing and user-friendly design.

JavaScript was utilized to improve interactivity and perform asynchronous operations, including transmitting requests to the backend and dynamically updating the user interface.

Fetch API was used to manage HTTP requests and responses, allowing the frontend and backend to communicate seamlessly.

Lessons Learned: The creation of a responsive and user-friendly interface demanded attention to design, layout, and usability. Understanding asynchronous programming and effectively managing API responses were crucial frontend development insights.

User Authentication and Security:

User authentication and security were implemented using a login and registration system based on a username and password.

To assure secure storage and prevent unauthorized access, user passwords were hashed.

Lessons Learned: Implementing user authentication and security measures is essential for preventing unauthorized access and protecting user data. Password authentication and session management are crucial to the security of an application.

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Database Design and Management:

The database was created to contain note information, such as titles and contents.

The proper table structure and have been established to store and retrieve notes efficiently.

There are regular backups and security measures in place to protect the database.

Lessons Learned: Designing an efficient and scalable database structure is essential for the application's overall efficacy.

Testing and Debugging:

Throughout the development process, exhaustive testing and debugging were performed to identify and resolve any issues or defects.

Manual testing was conducted to assure functionality and user satisfaction.

To capture and monitor any runtime errors, error handling and logging were implemented.

Lessons Learned: Comprehensive testing and debugging help identify and resolve issues early on, enhancing the application's overall stability and dependability.

Deployment and Scalability:

The application can be deployed on a web server with PHP and MySQL support.

Lessons Learned:

Planning and architecture design are essential for developing a scalable and robust application.

Important security best practices include parameterized queries, and secure password storage.

Regular testing and debugging allow for the early detection and resolution of errors, thereby enhancing the overall quality of the application.

Continuous learning and keeping abreast of the most recent technologies and security practices.