SRI LANKA TECHNOLOGICAL CAMPUS

SCHOOL OF ENGINEERING

BACHELOR OF SCIENCE (HONOURS) IN ENGINEERING IN ELECTRONICS AND TELECOMMUNICATION

BATCH 07

Group "MIND"

CDP02

Software Engineering

AA2028 – B.D.T.P De Silva

AA1609 – H.M.B.D.H Hanwella

Table of Content

Technologies available

Software Requirements

- ✓ Database: MySQL (selected for its ease of maintenance, record retrieval using simple queries, and English-based query language)
- ✓ Development Tools and Programming Language: HTML, CSS, JavaScript, and PHP
- ✓ HTML (Hyper Text Markup Language): Used for creating web pages and structuring content
- ✓ CSS (Cascading Style Sheets): Used for describing the look and formatting of HTML documents, enabling presentation customization
- ✓ JavaScript: A dynamic programming language primarily used for client-side interaction, controlling the browser, and modifying displayed content
- ✓ PHP (PHP: Hypertext Preprocessor): A server-side scripting language designed for web development and general-purpose programming

Hardware Requirements

- ✓ Processor: Intel Core i5 2nd generation (chosen for reliability, stability, and performance)
- ✓ RAM: 1 GB (selected to provide fast reading and writing capabilities, supporting efficient processing)

Front-End Technologies

- ✓ The front-end development of the project involves the use of HTML, PHP, CSS, and JavaScript.

Back-End Technology:

- ✓ PHP: Used as a server-side scripting language for web development. It provides dynamic and interactive functionality, processing server requests and interacting with the database.

Database Management System (DBMS):

- ✓ MySQL: A widely used open-source relational database management system (RDBMS). MySQL is selected for its popularity, performance, and compatibility with web applications. It is capable of handling large amounts of data and is often used in conjunction with PHP.

The risks/limitations, associated with the chosen technologies

✓ MySQL:

- Risk: As an open-source database management system, the community support and updates for MySQL may vary. It's important to ensure that the chosen version is actively maintained and supported to address potential security vulnerabilities.

- Limitation: While MySQL is widely used and capable of handling large amounts of data, it may face scalability limitations in extremely high-traffic or enterprise-level scenarios. Considerations should be made for performance optimization and scalability planning.

✓ HTML, CSS, JavaScript, and PHP:

- Risk: The security of web applications heavily relies on the secure implementation of these technologies. Inadequate input validation, code injection vulnerabilities, or insecure coding practices can expose the application to attacks such as cross-site scripting (XSS) or SQL injection.

- Limitation: The performance of web applications built with these technologies can be affected by factors such as inefficient code, excessive server-side processing, or improper use of client-side scripts. Optimization techniques and best practices should be followed to ensure optimal performance.

✓ Hardware limitations:

- Risk: The chosen hardware specifications, such as an Intel Core i5 2nd generation processor and 1 GB of RAM, may not be sufficient for resource-intensive applications or handling large user loads. This could result in slower response times or system instability.

- Limitation: Limited hardware resources may impose restrictions on the scalability and ability to handle concurrent user requests. Upgrading hardware components might be necessary if the application's demands increase.

References