CAPSTONE PROJECT

SRS (SOFTWARE REQUIREMENT SPECIFICATION)

PROJECT TITLE: LEARNING MANAGEMENT SYSTEM

GROUP – 05

CHAPTER 1

INTRODUCTION

Presenting our impactful Learning Management System (LMS) project tailored for Torry Harris Business Solutions, specifically designed to enhance the transition from candidate selection to onboarding. Our LMS delivers personalized courses aligned with strategic skills, revolutionizing the onboarding experience and contributing to the growth of our organizational learning ecosystem.

1.1 PURPOSE

The main purpose of creating an SRS documentation for a Learning Management System for pre-onboarding freshers is to outline the software's functional and non-functional requirements.

1.2 SCOPE

The Learning Management System for Pre-Onboarding Freshers aims to include the development of a user-friendly platform that facilitates the creation, delivery and management of pre-employment training materials. And the scope also covers the interaction with the Human Resource (HR's) via communication systems. It will cover various topics and skills necessary for a smooth onboarding process.

1.3 DEFINITION, ACRONYMS & ABBREVATIONS

The acronyms used in the document are as follows:

- SRS – Software Requirement Specification
- LMS - Learning Management System
- Pre-Onboarding - The period before a new employee officially starts their role
- HR - Human Resources
- SWOT – Strength, Weakness, Opportunities and Threats

1.4 REFERENCES

- React JS Documentation Introduction to React (w3schools.com)
- JAVA Documentation Java Tutorial | Learn Java Programming - javatpoint
- MySQL Documentation MySQL: HYPERLINK "https://dev.mysql.com/doc/": MySQL Documentation

1.5 OVERVIEW

The overview of this SRS documentation will consist of necessary features and functionalities required for the development of Learning Management System for pre-onboarding freshers and in which the web application is to be hosted on and what software requirements will be used.

CHAPTER 2

OVERALL DESCRIPTION

2.1 PRODUCT PERSPECTIVE

The Learning Management System is designed as a web-based application that provides a user-centric platform for Pre-Onboarding Freshers for a better understanding of the software requirements for the company.

2.2 PRODUCT FUNCTIONS

The system will provide functionalities such as content creation, user enrollment, progress tracking, assessments, and feedback. It will support various multimedia formats for engaging learning materials. It's sturdy architecture guarantees dependability, security and scalability. The system incorporates essential features to improve the overall effectiveness of the Learning Management System by streamlining procedures and lowering manual error rates.

2.2.1 User Management: Authorization and Authentication

This feature allows to manage the freshers details, capturing essential information like selected roles, contact information etc. The system manages a comprehensive database of users for easy retrieval and tracking. It enables secure login to both users and administrations. The administrator team can be able to enroll the candidates in the training programs.

2.2.2 Course Management

The Course Management feature includes the ability to create and upload the required training modules for the Pre-Onboarding Freshers. The uploaded content will be used to train the users and get a basic idea on the related skills. The course content will consist of multimedia and text modules.

2.2.3 Assessments and Analysis

This function allows the company management to conduct the assessments based on the training programs to evaluate the performance of the users and can get a rough idea on their core skills.

2.2.4 Progress Tracking

This feature allows the users and administrators to monitor the performance of the users based on the assessment results. This can give a basic skill idea of the training procedure. It is also used to track the ongoing course materials for an easy interface for the users.

2.2.5 Feedback

This feature enables the users to give a detailed opinion on the course materials and can communicate with the administrators if any problem arises during course completion. Through this feature, the administrators can be able to give feedback to the candidates.

2.2.6 SWOT Analysis

This function allows the users to know their strengths and weakness based on their results. Here, the SWOT analysis means Strength, Weakness, Opportunities and Threats. By knowing their strengths and weakness, the candidates can know their core skills and can focus on the opportunities present on the organization.

2.3 USER CLASSES AND CHARACTERISTICS

- **Pre-Onboarding Freshers:** For accessing the training materials.
- **Management Team:** For maintaining the web-based application.

2.4 DESIGN AND IMPLEMENATATION CONSTRAINT

The system should be compatible with common web browsers and accessible on various devices. It should comply with data protection and privacy regulations.

- **Internet Connectivity:** The Web Application will be affected by the network connection. It leads to buffering of the course modules, and it effects the training programs.

- **Hardware Constraints:** In the Course modules, there will be videos which must be worked on specific resolutions. For the assessments, the system must satisfy some conditions.

2.5 ASSUMPTIONS AND DEPENDENCIES

The successful implementation of the Learning Management System for Pre-Onboarding Freshers assumes that the following conditions have satisfied:

- **Stable Internet Connectivity:** The user will be assumed that they have a stable internet connection for accessing the web application.
- **System Compatibility:** Users are expected to have devices which are compatible with the web application for smooth operations.
- **Data Security and Privacy:** Users are expected to take some security measures for the risk of data theft. They should maintain some privacy policies for the delivered content like training materials and credentials.

CHAPTER 3

SPECIFIC REQUIRMENTS

3.1 FUNCTIONAL REQUIRMENTS

- **User Management:** Enables users to login to the web application and manage the user details like editing some features.
- **User Authorization:** It is crucial for ensuring that only authorized individuals have access to specific features, courses, and resources
- **User Authentication:** Secure login for freshers and administrators.
- **Course Management:** This feature mainly focus on the ability to create and upload training materials, including text, videos, and quizzes.
- **Enrollment:** HR administrators should be able to enroll new Pre-Onboarding Freshers in required training programs.
- **Progress Tracking:** It will be used to track the freshers progress and completion status of the training modules on time.
- **Assessment:** Capability to include assessments to evaluate freshers understanding on the concepts on what they learned.
- **Feedback:** This will be able to generate reports on user progress, assessment results and their overall understanding on the courses.

3.2 DB REQUIRMENT

- **User Database:** The Database (MySQL) will store the candidate's information, roles, and training progress.

3.3 NON-FUNCTIONAL REQUIREMENTS

- **Response Time:** The system should respond to users requests within the time frame of 2 seconds.
- **Scalability:** The system should be able to handle a growing number of users and content records

3.4 SOFTWARE QUALITY ATTRIBUTES

- **Usability:** The user interface should be intuitive and user-friendly for both freshers and administrators for navigating the web application more effectively.
- **Reliability:** The system should be available and reliable during all working hours with minimal downtime for maintenance.
- **Security:** The users data in the web application should be encrypted and some control measures should be deployed on time to protect sensitive information and ensure data confidentiality and prevent unauthorized access.

3.5 SOFTWARE AND HARDWARE REQUIRMENT

3.5.1 Software Requirement:

- **Front-end Development:**

  React JS:

  Version: Node 14 or 20

  Reference: Introduction to React (w3schools.com)

- **Back-end Development:**

  Java:

  Version: JDK 17 or later

  Reference: Java Tutorial | Learn Java Programming - javatpoint

- **Database Management:**

MySQL:

Version: MySQL 8.0 or latest

Reference: MySQL: HYPERLINK "https://dev.mysql.com/doc/": MySQL Documentation

3.5.2 Hardware Requirements:

- **Internet Connectivity:** A stable and reliable internet connection is required for accessing the web-based application.
- **Operating System:**

  Server: Linux (e.g., Ubuntu Server) or Windows Server

  Clients: Windows, macOS, Linux
- **Web Browser:** Latest versions of popular browsers such as Google Chrome, Mozilla Firefox, Safari, or Microsoft Edge.