Software Requirements Specification

For

Online College Administration System

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1.Introduction

College administration management is one of the vital parts of any university or college because each and every operation that is taken inside a college campus by the students, teachers and even the non-teaching staff is what keeps a college alive and effective. From managing details of a student to fees collection to online examination, the modern prospect of this world's horizon needs more and more digitalization and paperless operations and the main aim of any bearer is to build a more efficient and a proper medium to the users or the customers. A poor and inefficient college management system may lead to many problems in admission as well as in wrong monetary transactions, may lead to overly slow response time and might finally give a bad result over the future of any student studying in the college or university.

1.1 Purpose

This document describes the software requirements specification (SRS) for the College Management System that provides the access and management of information of different modules in a collage-like Students, Accounts , Teachers/Faculty, Finance, Examination, Placements. Our project is based on a database, which stores and maintains the information of different modules within the system. The advantage of the management system is to avoid entries in hard copies and it saves the burden of hard copies of data. The purpose of this document is to retrieve and analyze the ideas that define the product and requirements that the user needs. This document describes the details of our product, its parameter, and its goals. This SRS document describes the target, audience, user interface of the product and Software/Hardware requirements of our product. This document also describes the problem we have faced during the

designing and implementation of the product and also describes how we have solved this problem and made our product more efficient. The management system saves the human power and time cost to perform the same task. The data in the database can be saved for a long time and can be used for different purposes in the future. In management systems, there is a minor chance of losing the data. This document also defines how customers and users see our product and understand the functionality of the product. This document will help the developers/designers in case of maintenance of the software product.

1.2 Scope

As Colleges are growing day by day more and more, and also increasing the complexity of storing information of students and related to the college system, they face many related issues: attendance and fee of students, salary details of employees, etc. This project is based on the educational institute system where this application gives maximum services in a single software product that is used by teachers and system administration. The main focus of this project is to give the best GUI for the users and provide the many modules in a single product. Admin can view all of the information that is stored in the database through application and admin also can modify this information because the admin has full access to the system. The teacher can view and modify the information related to students such as student details, attendance, marksheets and fee details. The students will view details such as his information, marks, attendances, assigned class tests and assignments and notices and can contact the teacher or admin for any confusion that arises. This project can adjust any additional module at any time.

1.3 Overview

SRS will include two sections: Overall Description will describe major components of the system, interconnection and external interfaces and Specific Requirements will describe the functions of actors, their role in the system and constraints.

Overall Description: The rest of this document will give further details on the overall product description, including the hardware, software, and communications interfaces, product functions, user characteristics, and any assumptions that will be made.

Specific Requirements: The document will also include the specific requirements needed. These will include the functions, performance, design, and software attributes.

2.Overall Description

2.1 Product perspective

This project will be mainly used for the College Management System of new or old students and the college department. This project uses many operations for keeping records. We use student registration and college department records for storing and forms for the HOD of Department, search form for the College and department, students record. In this project we need to fill up the basic information about the College Management System into the registration form, total qualifications, percentages, results, student and staff employee and current & permanent address etc.

- Registration Form: When we enter the correct registration in the registration form and press enter, our project ends the work on it.

- College Management System Form: In this form we can insert those students and staff which are already signed-in from the college.
- Search: By using this form user can search him/her self and college Department by using information of branch and college department and other information which is required in an easy manner.
- View Form: Using this option, users can get the College Management System by providing the college department and all records.

2.2 Product function

Functionality and modules of the project College Management System:

- Login – This module is used for admin login.
    - Logout Functionality
    - Change Password Functionality
    - Dashboard – Admin dashboard related to all Students, Students detail, Students listing.
- Student Management Module
    - Adding New Student Details
    - Edit the Existing Student Details
    - Listing of all Student and View all the details of the Student
- Fees Module
    - Adding New Fees Details
    - Edit the Existing Fees Details
    - View all the details of the Fees
    - Listing of all Fees
- Course Module
    - Adding New Course Details
    - Edit the Existing Course Details

    - View all the details of the Course
    - Listing of all Course
- Attendance Module
    - Adding New Details Attendance
    - Edit the Existing Attendance Details
    - View all the details of the Attendance
    - Listing of all Attendance
- Reports of the project College Management System
    - Report of all Students
    - Report of all Fees
    - Report of all Courses
    - Report of all Attendance

2.3 User characteristics

- The students and teachers should have the basic idea to operate (use) the system.
- He/she already has the experience to work on the internet (browser).
- Default Language will be English. But it can be changed to Hindi and English.
- The teacher needs to upload marks, students details, attendance to the database from time to time.
- The admin needs to have ideas on handling databases and websites and security panels when the student or teacher needs to login to their respective databases.

2.4 Assumption and dependencies

Some of the assumptions that we had to made while implementing this project will be are as follows:

- In the admission panel, different courses are already created where the user can see the details and directly register..
- Roles and responsibilities are already established.
- E- learning courses are already created and users will be redirected to different course platforms and e-book sites.
- Mail addresses of Dean, HODs, Principal are already created and implemented here where the students can directly contact.
- Bank account details of the college are already given for any online transaction or fees submission.
- A default admin login is already created who can manage new registrations and will handle the database of the software.

3. Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interface

The software provides a decent Graphical User Interface for the user and also the administrator can operate on the system, performing the required task such as create a new user, update details and view details such as results, fees payments and salary proceedings of every user that is

faculties and students. The User Interface will allow new users to view and edit college admission forms, submission of identity proofs, fees. It will allow students and faculties to login into their accounts and can view assignments, marks, submission of fees or salary automation and can also view or apply to any e-books or e-courses. The default language used will be English but it can be changed to Hindi and Bengali.

- The user Interface must be customizable by the administrator.
- All the modules provided with the software must fit into the Graphical User Interface and accomplish the standard defined.
- The design should be simple and all the different Interfaces should follow a standard template.
- The User Interface should be able to interact with the user management module and a part of the interface must be dedicated to the login/logout module. The login id will be created by the administrator and will be provided to each student and teacher. If they enter the wrong password or if they forgot their password they can reset it through an automatic otp verification step.
- There will be a categorical view to show the different courses available in the particular college and the administrator can add/delete or edit the category from the list.

3.1.2 Hardware Interface

As the software must run over the internet, all the hardware that is required to connect to the internet will be hardware interface for the system. As for Eg: Modem, WAN-LAN, Ethernet Cross Cable.

3.1.3 Software Interface

On the server side, an Apache web server will accept all requests from the client side and forward it accordingly. A database will be hosted centrally using Microsoft SQL Server. And on the client side, a modern web browser that supports HTML5 and Javascript is needed (recommended Google Chrome or Mozilla Firefox).

3.1.4 Communication Interface

The communication between the user and server must be served over HTTP Secure (HTTPS) protocol. The system can be configured to be accessed via any available port. The web based UI will be the only means of communication between the user and the online software. This product will also store each student and teacher's mail address in a database and can use them when they either reset or forget their password or communication between them. The whole system is accessible through any available web browsers.

3.2 Functional Requirements

The functional requirements of this system are:

Register new students.

Record the attendance of students.

Record the internal marks of students.

Record the feed details of students.

Register a new teacher/employee.

Register a new user for the system.

Record the salary details of employees.

Record the course details and subject information.

Record the scholarship details and information.

Generate various reports for all transactions in the system.

3.3 Performance Requirements

The proposed system that we are going to develop will be used as the chief performance system of different sections of the college which interacts with the staff and the students. Therefore, it is expected that the database will perform functionally all the requirements that are specified by the college.

- The performance of the system must be fast and accurate.
- The system shall handle the expected and unexpected errors in ways that prevent loss in information and long downtime period. Thus, it should have inbuilt error testing to identify username/password in the login credentials page.
- The system should be able to handle large amounts of data. Thus it should accommodate a huge number of users without any fault.

- The system can get under stress during result or admit card publication. Hence, it should be able to support 1000 concurrent users to allow a substantial number of users to access the software at the same time without any issues.
- The database may get crashed at any certain time due to virus or operating system failure. Therefore, it is required to take the database backup so that the database is not lost.
- Proper UPS/inverter facility should be there in case of power supply failure.

3.4 Design Constraints

During the implementation of the product, different challenges are faced. Choosing the interface for the management system was a paramount issue. Connecting the database with the application was also a major problem.

- We choose the Microsoft SQL server to create the database. The SQL Server is easy to install and connect with a server in SQL. It is very easy to understand the implementation of the database and also easy to create a new database and connect with the GUI application.
- The software should follow all Accessibility, Web Design and Security Policies as applicable.
- The system shall be built using a standard web page development tool that conforms to either IBM's CUA(Common User Access) standards or Microsoft's GUI standards.
- There should be space for future modifications in the system. And also comment lines must be provided to ease future modifications.