Software Requirements

Specification

for

Student Management System

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1. INTRODUCTION

A Student Management System (SMS) is a System that manages the records of students regarding admission and examination part. SMS helps colleges for managing students' data. Viewing student data, handling admission and reshuffling, seats, quota, board, semester, faculty, category, and for examination, block allocation, subject management, scheduling exams, results, and related issues are made simple and easy. SMS features customized search for efficient student record management and consistent personnel data storage, retrieval, and analysis.

1.1 Purpose

Our SMS is a comprehensive online platform that offers essential services to students, including access to their fee details, personal information, and payment history. Our system is easy to use, allowing students to update their personal information effortlessly. Administrators can also efficiently manage student data through the system. It provides information about college fees and locations and can integrate into a university management system.

- Our software package is designed to manage all aspects of student information, including personal, academic, sports, and health domains.
- Students can access their grades and marks easily from their own homes, eliminating the need for personal meetings with professors.
- Professors can upload and submit grades easily from their office, reducing the need for mailing and waiting for forwarding to all mailing groups.
- The software enables sports PTI to classify students and form appropriate groups during the fest.

1.2 Scope

Admins can access student details, and students can edit their personal information, which is viewable by admins. The scope of the Student Management Portal software package is to serve all types of courses offered by the JNTUH administration, providing a suitable interface for both students and instructors.

1.3 Definitions

The student management system is an automated version of the manual Student Management System. It can handle all details about a student. The details include college details, subject details, student personnel details, academic details, exam details, etc.

Our system has two types of accessing modes, *administrator*, and *user*.

The student management system is oversight by an administrator, responsible for updating and monitoring the entire process. When a user logs in to the system. He would only view details of the student. He can't perform any changes.

1.3 Overview

Our web-based Student Management System (SMS) efficiently tracks and stores current students' academic information, providing convenient access for staff, students, faculty advisors, and committee members. The system streamlines the submission process by allowing students to electronically submit required information, resulting in a quicker evaluation turnaround time. The SMS modularizes into the following modules:

LOGIN MODULE:

This module is the gateway for accessing the student management system (SMS) website. It offers various facilities and functionalities based on the type of login. The user can access SMS through - Admin login and Student login.

ADMINISTRATOR MODULE:

The module enables users to access the SMS or website, with various facilities and functionalities available based on the login. Its primary function is to provide access to the SMS, offering two types of login: Admin login and Student login. Once the administrator enters their username and password, they gain entry to the administrator page, which includes two sub-modules as follows:

- *Student Addition/Updation/Deletion*: allows to add, update, or delete a student based on the respective branch.
- *Notice/Attendance/Result Generation*: This module generates information related to notices, attendance, and internal results.
- *Fee Details and Schedules*: This module manages information regarding fee details and schedules.

STUDENT MODULE:

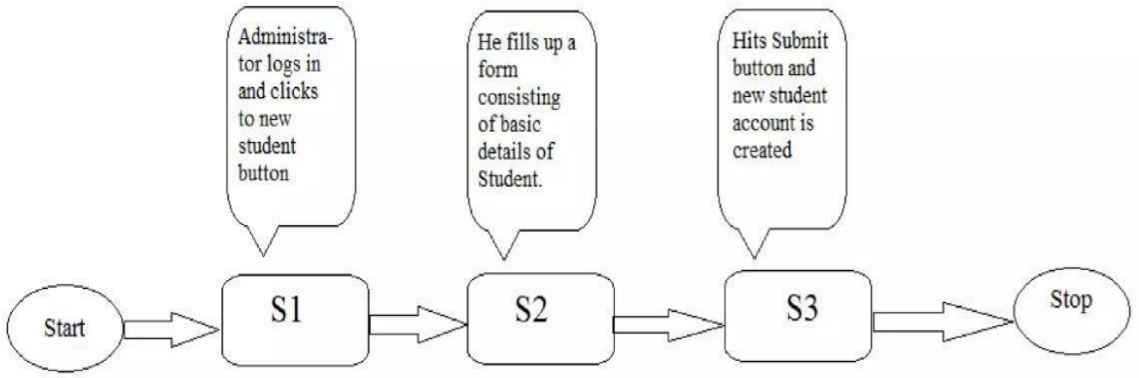
This module allows students to access various pages by entering their student ID and password.

- *Profile View:* Students can view their personal information, including student ID, name, password, father's name, date of birth, nationality, city, address, country, phone number, mobile number, and email. Students may also update their profile information if necessary.
- *Notice View:* Students can view the latest notices released by the administrator.
- *Attendance View:* Students can view their overall attendance percentage.
- *Internal Results View:* Students can view their internal and external results.
- *Fee Detail View:* Students can view the semester-wise and annual fee structure.

2. OVERALL DESCRIPTION

2.1 Product Perspective

The following diagram describes the high-level business process of the Student Management functions of the JNTUH:



Student Management System can manage every data regarding students, payments, etc. Student Management System helps us manage efficiently. This Student Management System works efficiently.

We have two modules in this project, the admin and the user. Admin can maintain the fee details of students and can generate the reports can export the details to Excel. The user module can edit their details and can view the fee details.

2.2 Product Functions

This software package expects to offer the following services:

1. *For Administrator:*
    a. To facilitate the maintenance of records of students currently in JNTUH.
    b. To maintain grade reports of students and courses online.

2. *For Faculty:*
    a. To keep track of the performance of a student enrolled in the course online.
    b. To exchange their contact details with students when needed.
3. *For Students:*
    a. View their details.
    b. Check course progress and grades.
4. *For Physical Trainer:*
    a. View the sports achievements of all students.
    b. Categorize them based on the competence level to simplify team selection during any fest/tournament.

2.3 Users Classes and Characteristics

1. *Faculty:* These users are responsible for recording students' marks, calculating their grades, and publishing them.
2. *Administrator:* This user is responsible for creating new student profiles, assigning courses, and modifying student details. Additionally, they can assign courses to faculty members for a specific session.
3. *Student:* This user can view their profile and academic progress, including grades uploaded by faculty. They can also contact faculty members if they encounter any issues related to their academic progress.

2.4 Operating Environment

This software package is expected to work in the following atmosphere:

i) Microsoft stack consisting of

a) OS - Windows 7, XP

b) Eclipse IDE

c) Java, PHP, jQuery, HTML, Java Applets

d) MySQL for RDBMS on Apache server.

2.5 General Constraints

The design time constraints are

- The software package should be designed so as to handle the access by ~20 Instructors/staff, 1 Admin, and ~150 students concurrently.

3. EXTERNAL INTERFACE REQUIREMENTS

3.1 User Interfaces

The User Interface comprises several features, including

- Login credentials for each user account.
- The ability to add, modify and publish course information such as quizzes, attendance, internal and external exams, and their respective weightage.
- Read-only access to published data according to user permissions.
- Grade sheet generation by administrators for each student in a particular semester.
- Access to sports details for students and editing capabilities.

3.2 Hardware Interfaces

The components are compatible with Windows, Linux, and Unix operating systems for personal computers.

3.3 Software Interfaces

All the interfaces will be ASPX pages running within the internet browser. The SMS must integrate with Db through the SQL interface. The system will be hosted in a web server running on Windows Server.

3.4 Communication Interfaces

This software package should be securely accessible through intranet communication channels. We require a LAN connection for interaction between the database and local computers. We use TCP/IP protocol for communicating with local hosts. We also need a system with a P4 processor, 1GB RAM, and database memory.

4. OTHER NON-FUNCTIONAL REQUIREMENTS

4.1 Performance Requirements

This software should be able to handle the following tasks:

a) At least 20 instructors/staff can log in on an average of four hours a day for five days a week.

b) At least 100 students can log into their accounts for 3 hours a day for 5 days of the week.

c) It should be able to handle the MYSQL database of 100 instructors and 1500 students.

4.2 Security Requirements

This software provides user authentication to verify login credentials and user authorization to permit or deny user actions based on their privileges, displaying an error message if necessary.

4.3 Safety Requirements

This software streamlines the student grading process by allowing the administration to generate a grade sheet at the end of each semester. The grade sheet is created using data uploaded by the course instructors on the platform.

5. ABBREVIATIONS

1. *SRS*: Software Requirements Specification.
2. *HTML*: Hypertext Markup Language. The formatting of text to be viewed on the Internet.
3. *JavaScript*: A computer programming language designed to run on any computer running a JavaScript-capable browser.
4. *URL:* Universal Resource Locator. Commonly called an Internet address, a link to another web page or file.
5. *WWW:* World Wide Web. A subset of the Internet to handle graphics and other visually appealing material.
6. *Course:* A subject suitable for teaching from the Class Catalog.
7. *Class:* An instance of a course.

6. REFERENCES

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2. IEEE Recommended Practice for Software Requirement specifications - IEEE Std 830-199