

Software Requirement Specification for Students Attendance Management System

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INTRODUCTION

PURPOSE:

The primary purpose of developing attendance management system is to computerize the traditional way of taking attendance. Another purpose of developing this software is to generate the report automatically at the end of a session or in between the session.

The main benefits of attendance management system include reliable accuracy, increased productivity, cost reduction, and legal compliance.

INTENDED AUDIENCE:

The audience of this system will be:

1. Students
2. Faculty members
3. Registration office.

This project will be managed by registration office, created and developed by the IT staff and other specialized people in the technology, such as programming, web design and others.

PRODUCT SCOPE:

The scope of the project is the system on which the software is installed, i.e. the project is developed as a desktop application, and it will work for a particular institute. But later on the project can be modified to operate it online.

OVERALL DESCRIPTION

PRODUCT PERSPECTIVE:

The proposed software, student attendance management is a self-contained product. It provides a global and an easy way to manage attendance of student in any school or college. This web application will help students to check their attendance all year long. While it will help the teacher to keep the track and take attendance of all the students from different classes.

Every teacher or the school administrator who wants to take attendance will have a login to facilitate security and privacy.

There will be total 3 views of the attendance management:-

- Student
- Teacher
- System admin or staff manager

The attendance management will implement following functionalities:

- Student page
- Tracking attendance page
- Attendance report page
- Course page

PRODUCT FUNCTIONS

- The system should record all the details of students enrolled in the institute
- The system should allow teacher to check and maintain attendance
- The system should also provide teachers to edit the attendance details.

- The system should allow students to check their attendance of different subjects.
- The system should also allow the users to see how many days leave can be applied.
- The system should also allow the system admin or staff manager to manage the courses.

USER CLASSES AND CHARACTERISTICS

1. STUDENT

- Allow students to check their attendance of different subjects or different courses without any problem.

2. TEACHER

Allow teacher to check and maintain the attendance of all students of different subjects. Also to allow them to edit the attendance details of the student.

3. SYSTEM ADMIN

Allow the system admin or staff manager to manage the courses incase a student enrolls in different course or to allow new students.

DESIGN AND IMPLEMENTATION CONSTRAINTS:

The main reliability requirement is the validation used. Without

proper validation the system does not allow to enter that value into database. All the required validation controls are kept control are kept to keep the system secure.

- In the email ID the user cannot enter any dummy value, the validation checks that whether there is a '@' or _ symbol in that.

- Any null value is not allowed in place of compulsory fields.
- In numeric field user cannot enter any character value.
- In the date of birth, user cannot enter date and time other than given format.
- Enter password and confirm password should match to each other

ASSUMPTIONS AND DEPENDENCIES

- 1) The end user(teacher) should have enough operation for project operation .
- 2) Only system admin or staff manager will have the privilege.
- 3) Student can only see their attendance and not edit it.

External Interface Requirements

User Interfaces

- The attendance management system shall provide details of students in the class for taking attendance.
- These details can be clicked with a mouse in order to view a particular student's attendance report.
- All modifications to the database will be done through keyboard.
- Applications will be accessed through a browser interface with perfect resolution.
- The program will provide a page that produces current statistics on class attendance.

Hardware Interfaces

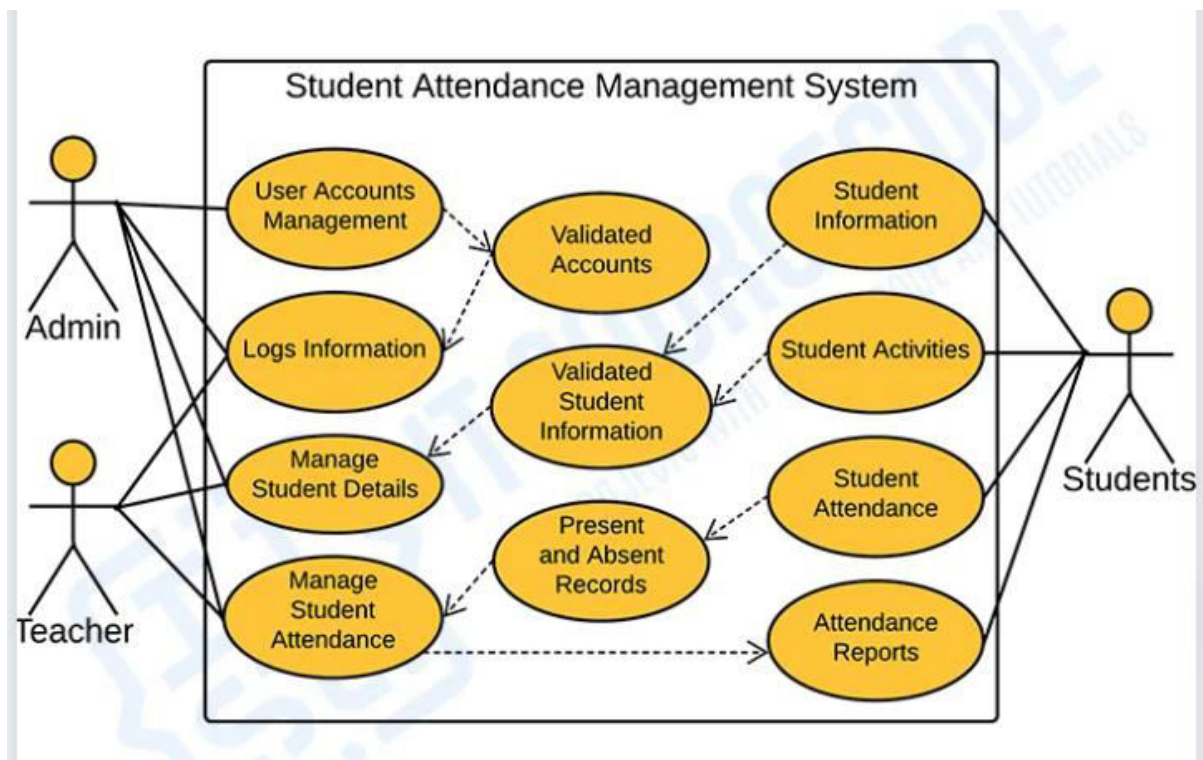
- Server side: operating system- windows 7 or higher, processor- Pentium 3.0 or higher, RAM – 1 Gb or more, Hard drive – 10 GB or more
- Client side: operating system – windows 7 or higher MAC or Unix, processor – Pentium 3.0 or higher, RAM – 1 GB or more.

Software Interfaces

- Attendance management system:
 - This software will transmit the attendance of a class to a database on a machine via internet.
 - The user will be allowed to modify attendance records at any time.
- Database : MySQL and Browser: chrome or edge
 - The attendance management system will communicate with the database to perform the following options.
 - To allow teachers to enter the attendance
 - To allow teachers to modify the attendance
 - To allow teachers to add students or remove students.
 - To allow teachers and students to view the statistics or the report of any particular students.

Communication Interfaces

The security must be consistent as in only teacher should be able to modify the attendance and students should be able to just view the attendance report. The attendance management system will communicate to the database through the internet.



System Features

Functional Requirements

- **Student Page:**

The page where the students are listed and managed. Here new student can be added or if we want to delete an entry of a student we can delete.

- **Check Attendance Page:**

The page where the faculties manage the

attendance of their students. The faculty can update if the student is present or absent for the course on a particular day.

- Attendance Report Page:

The page where the recorded or stored attendance data is shown and information about how many days leave can be applied.

- Course Page:

The page where the system admin or staff manages the list of courses.

Nonfunctional Requirements

Performance Requirements

1. The program must be able to be run concurrently by multiple professors. During peak times of usage (9:00 AM to 2:00 PM).
2. Transmission of roll data shall occur in under 5 seconds.
3. Acknowledgement of roll received (confirmation) shall be returned within 8 seconds.
4. Queries upon the database shall be performed in less than 5 seconds.
5. Upon start of the roll program, roll information shall be displayed on the instructor's Pocket PC within 10 seconds.
6. Email messages to absent students shall be sent within one hour of the conclusion of a class.

7. The program shall support taking roll for class sizes of up to 100 students. With a maximum class size, performance must still conform to all performance requirements.

Security Requirements

1. An instructor shall be permitted to view and edit absence information in the database for only his/her classes.
2. In order to take roll or edit database information, the instructor shall be required to enter a password. This password shall be stored on the instructor's PC after initial entry in order that it must only be entered once.
3. Passwords shall be stored in an instructor database and verified upon each session of roll or database modification.
4. An instructor shall be allowed to change his/her password only by supplying his/her existing password. The updated password shall be stored in the instructor database and on the instructor's PC.

Software Quality Attributes

- ❖ *Availability*: The system shall be available to all instructors through Information Systems during their normal hours of operation.
- ❖ *Reliability*: Due to the use of a wireless network, reliability of the system at all times is not guaranteed. However, overall reliability of the system and roll

information shall be achieved through the process of database manipulation.

- ❖ *Reusability*: The system shall be able to be reused for each new semester.
- ❖ *Robustness*: If no network connection can be established to receive the roll information, the instructor shall be allowed to enter roll later.
- ❖ *Updatability*: The system shall allow for addition or deletion of instructors, students, and classes while incorporating new semesters.
- ❖ *Usability*: Usability of the system shall be achieved through an online help pages and an introductory training session for all instructors upon installation of the program on their Pocket PCs.