Classroom Attendance Management

Software Requirements Specification

Submitted By

Rashmi Sahu(B15CS032)

Rashi Sahu (B15CS031)

Revision History

Date	Version	Description	People
12 Jan 2017	1.0	Automatic Attendance Management System	Project Group: Rashmi Sahu(B15CS032) Rashi Sahu(B15CS031)
4 march 2017	1.1	Change in assumption	Rashi Sahu(B15CS031)
		Change in sequence and class diagram	Rashmi Sahu (B15CS032)

Table of Contents

Software Requirements Specification

1. Introduction

1.1 Purpose

The purpose of this document is to present a detailed description of the Attendance Management System. It will explain the purpose and features of the system, what the system will do and under what constraints the system will work effectively. The system's respond to external stimuli and triggers will be detailed. This document is for both developers and stakeholders of the Attendance management system.

1.2 Scope

This software system will be designed for educational institutes and schools with semester system to handle attendance management system. This system will be designed to maximize the administrator's work efficiency by providing tools to assist in attendance management which would otherwise have to be performed manually.
More specifically ,the system is designed to allow an instructor to manage the attendance of the students and to upload the record to a protected website. This software package will be used by Admin, instructor and students of various institutes. The registered students will be able to view his/her attendance. The administrator will be to add courses, faculty and students. The instructor will be able to take attendance and modify the record .

1.3 Constraints

- The course duration is one semester, due to the time constraint. The system must be ready in a period of 4 months.
- No hardware or software constraint applicable as such.

1.4 Assumptions and Dependencies

- This software has been developed for only one institute.
- We assume that the data entry done by the user is valid and correct values are obtained from forms and registers.
- Courses can be registered only once by admin or student.
- There will be only one instructor for one course.
- Users with administrator access should be careful in deleting or modifying any information knowingly or unknowingly which will lead to inconsistency of the database.
- The end users of the software are assumed to have basic level of computer knowledge.

1.5 Definitions, Acronyms and Abbreviations

Term	Abbrieviations

SRS	Software Requirement Specification
Db	Database
HTML	Hyper Text Markup Language
PHP	: Personal Home Page

1.6 References

[1] Internet, Instructor

[2] An Integrated Approach to Software Engineering – Pankaj Jalote

1.7 Organization of the Document

The rest of the document is designed in the following way :

The next chapter, the Overall Description section, of this document gives an overview of the functionality of the product. It describes the informal requirements and is used to establish a context for the technical requirements specification in the next chapter.

The third chapter, Requirements Specification section, of this document is written primarily for the developers and describes in technical terms the details of the functionality of the product. Both sections of the document describe the same software product in its entirety, but are intended for different audiences and thus use different language.

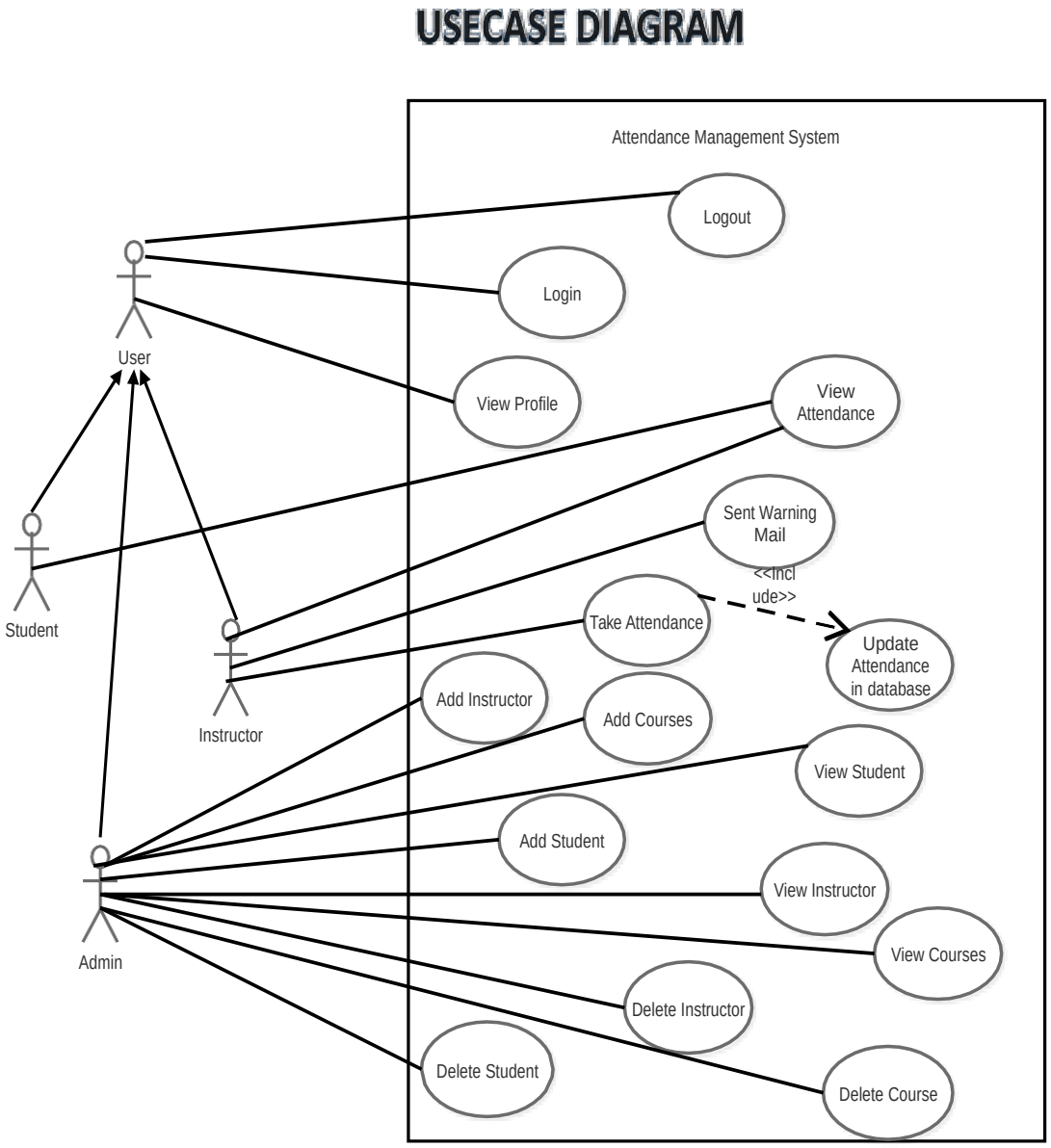
2. Overall Description

This section of the SRS describes all general factors of the product and its requirements.

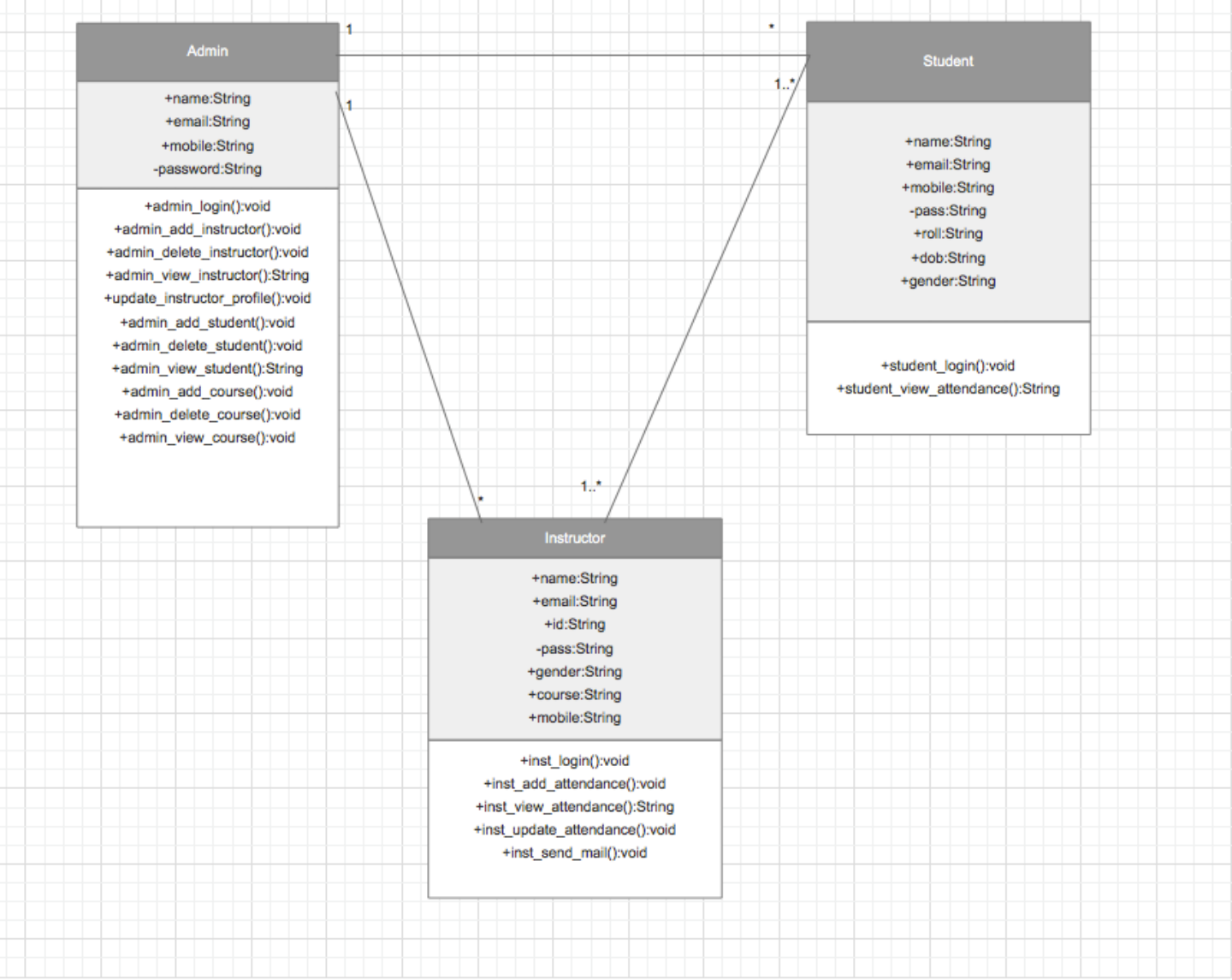
2.1 Product Functions

2.1.1 Functional Requirements

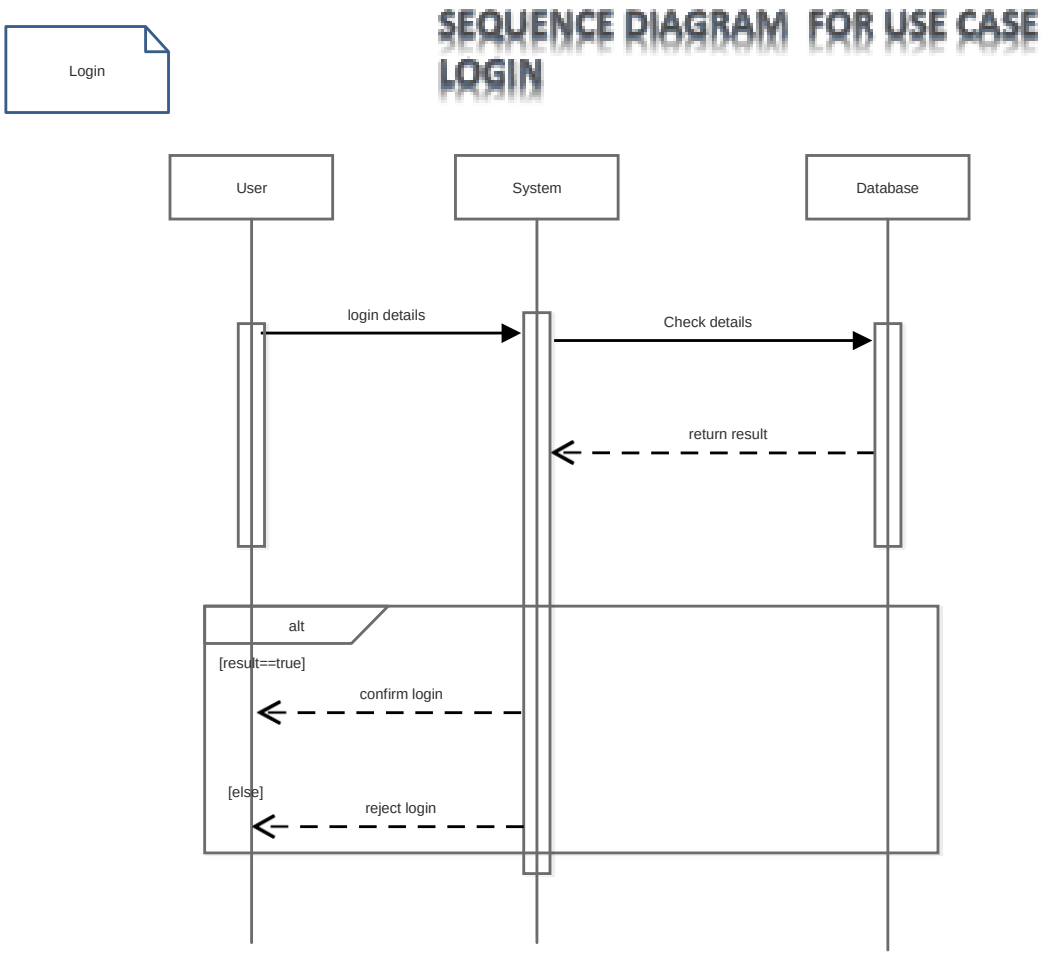
2.1.1.1Use case diagram

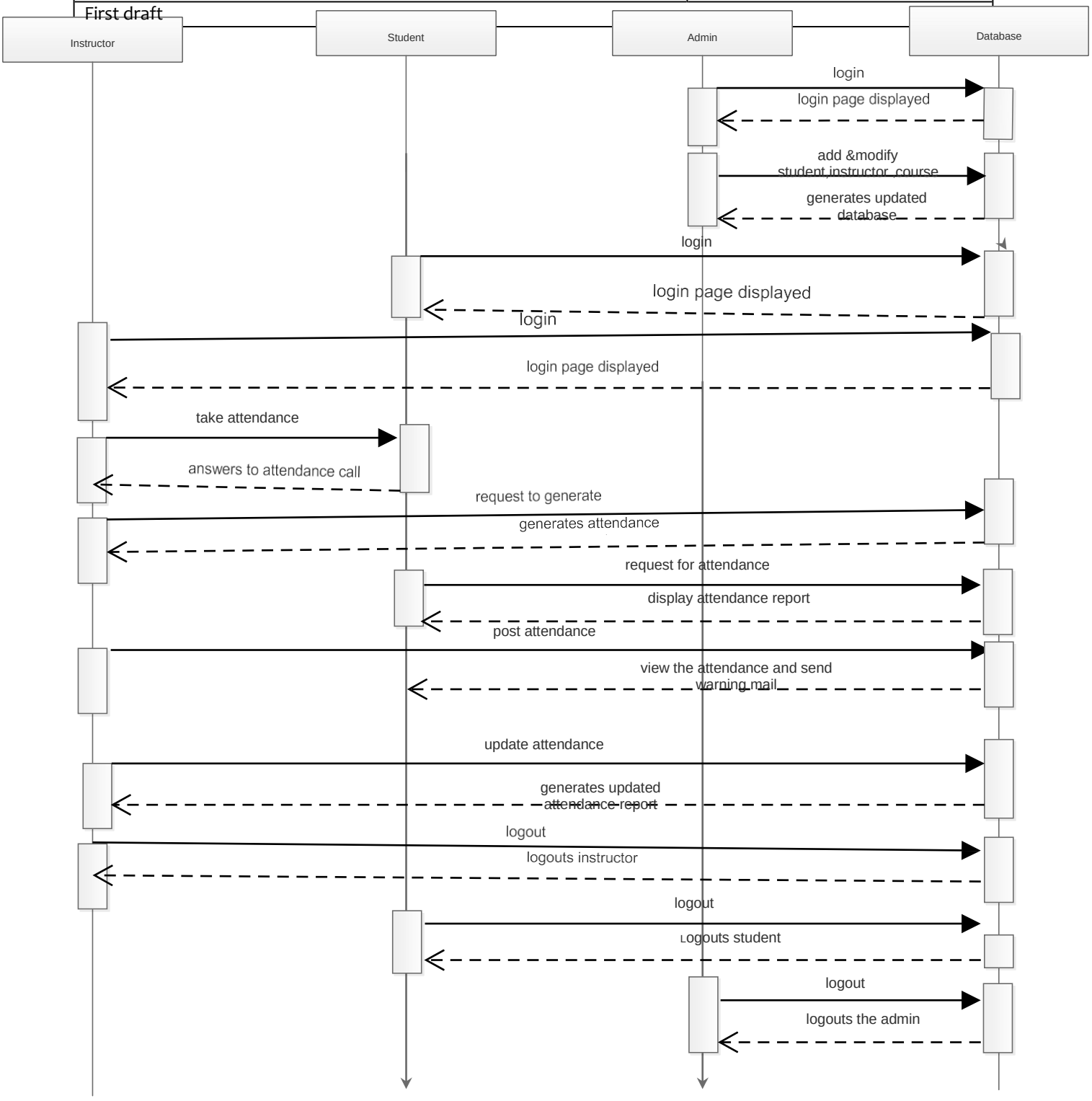


2.1.1.2 Class Diagram

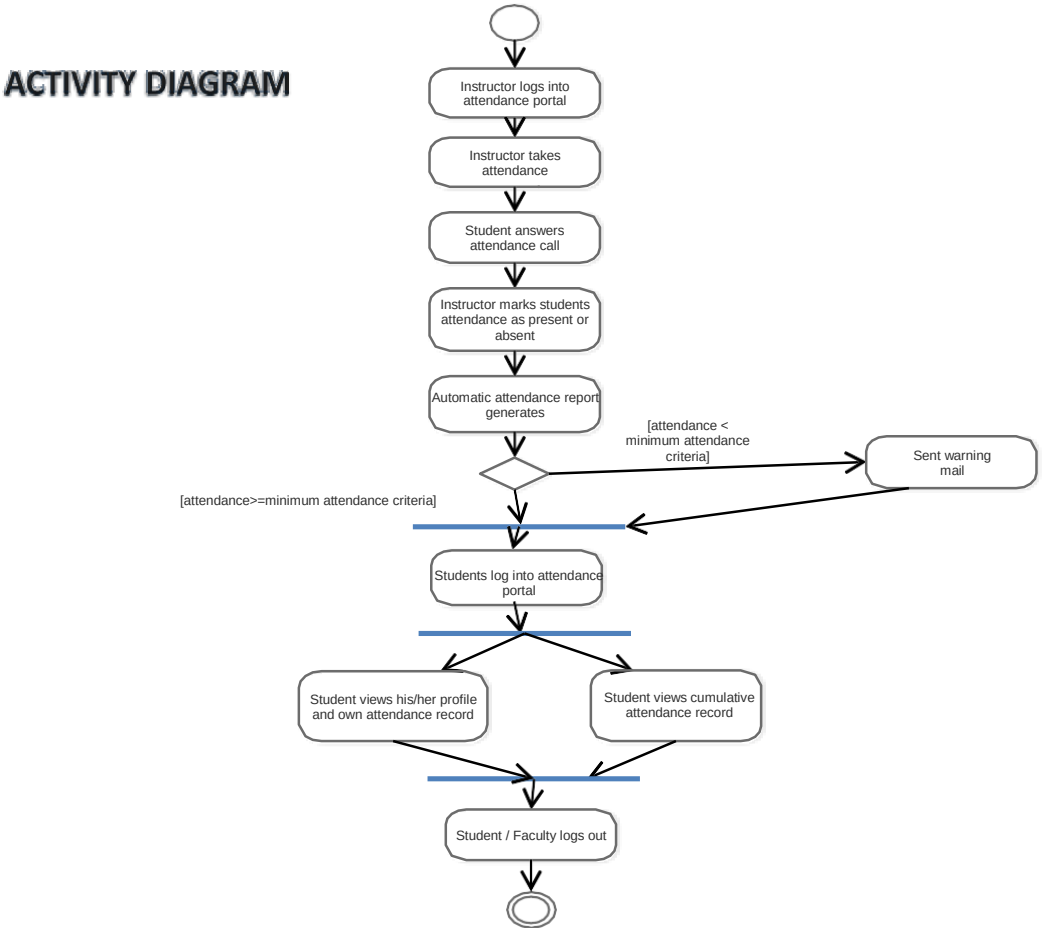


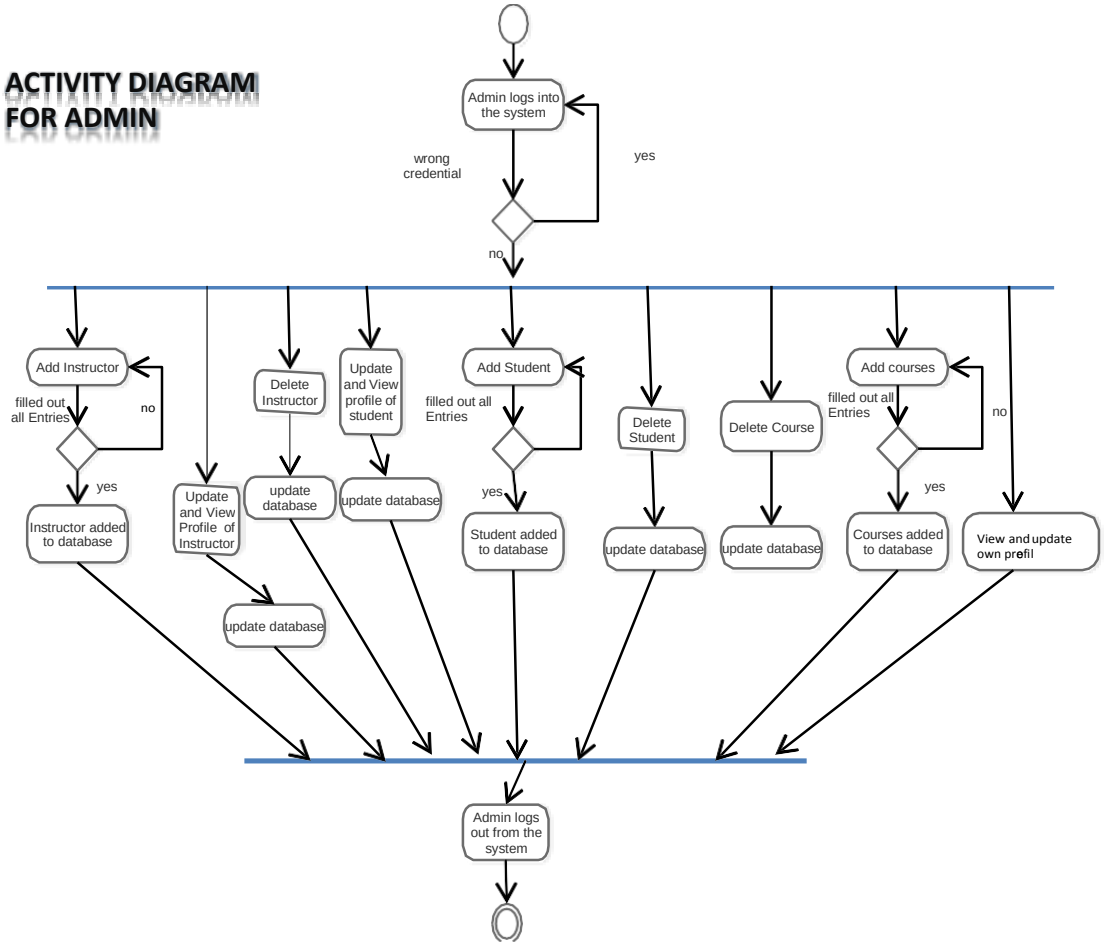
2.1.1.3 Sequence Diagram




Instructor
Student
Admin
Database
login
login page displayed
add &modify
student,instructor, course
generates updated
database
login
login page displayed
login
login page displayed
take attendance
answers to attendance call
request to generate
generates attendance
request for attendance
display attendance report
post attendance
view the attendance and send
warning mail
update attendance
generates updated
attendance report
logout
logouts instructor
logout
Logouts student
logout
logouts the admin

2.1.1.4 Activity Diagram





2.1.2Non-Functional Requirements

The Online Portal will be on a server with high speed Internet capability. The system must be interactive and the delays involved must be less. The physical machine to be used will be determined by the Educational Institute. Information transmission should be securely transmitted to server without any changes in information , the speed of the User's connection will depend on the hardware used rather than characteristics of this system.

2.2User Characteristics

- ***Admin:*** *The Administrator should have valid id and password. Only valid Administrator can view the desired accounts. A valid Administrator can add/delete a student or a faculty member.*
- ***Authorized user:*** *The Instructor and student should also have a valid id and password. A valid Instructor will have access to view the data stored and can modify the attendance record in the form of formatted formats.*
  A valid student will have access to only view the attendance record.

3. Specific Requirements

3.1 Use case description

3.1.1 Add Course

Use Case Name	Add Course
Trigger	Administrator needs to add a new course to the Academic System.
Precondition	1. Administrator must be logged in. 2.
Basic Path	Administrator chooses **Add Course** option and provide the required description of that course.
Alternative Paths	Nil
Post condition	New course is added with a unique course ID.
Exception Paths	None
Other	None

3.1.2 Add Student

Use Case Name	Add Student
Trigger	New admission to the Academic System.
Precondition	1. Administrator must be logged in.
Basic Path	Administrator chooses **Register Student** option and provide the required information related to the student.
Alternative Paths	
Post condition	New student is registered with a unique student ID.
Exception Paths	None
Other	None

3.1.3 Add Instructor

Use Case Name	Add Instructor
Trigger	Administrator wishes to add instructor detail.
Precondition	1. Administrator must be logged in. 2. Instructor profile does not exist in the database.
Basic Path	1. Administrator chooses the "Add Faculty Information" option from the list of options available on the access page. 2. The system will display the form to enter the details of the instructor. 3. Administrator will enter all the fields of the new instructor including user-id. 4. The system will validate all the fields and default password will be generated which is same as the user-id. 5. The system will display a message that "Instructor details has been added to the database successfully". 6. Use case ends.
Alternative Paths	None
Post condition	Instructor details added successfully in the database.
Exception Paths	None
Other	None

3.1.4 User Login

Use Case Name	User Login
Trigger	User wishes to login.
Precondition	1. User is not logged into a profile. 2. Input profile exists in database. 3. User password matches profile.
Basic Path	1. The system displays the login page that asks the user to enter username and password. 2. The user submits their username and password to login to the system. 3. The system verifies the username and password from the database. 4. The system displays access page for the respective user. 5. Use case ends.
Alternative Paths	None
Post condition	User is logged in successfully and can use respective functions of the system.
Exception Paths	If the user does not enter the correct username and password. 4. The system does not display access page for the respective user. 5. Use case ends.
Other	The user can be administrator, instructor and student.

3.1.5 Add Attendance

Use Case Name	**Add Attendance**
Trigger	**Instructor wants to add attendance**
Pre Condition	**1. Instructor must be logged in**
Basic Path	**1. Instructor login to the system .** **2.** Instructor choose the option add attendance for a particular course. **3.** Instructor choose the option to upload the attendance .
Alternative Paths	**None**
Post Condition	Attendance record gets updated.
Exception Paths	**None**
Other	**None**

3.1.6 View Attendance

Use Case Name	**View Attendance**
Trigger	**User wants the course wise attendance list of all the students .**
Pre Condition	**User must be logged in.**
Basic Path	**1. User login to the system .** **2.** User choose the option View attendance for a particular course .
Alternative Paths	**None**
Post Condition	Attendance report for the registered course would be displayed.
Exception Paths	**None**
Other	**None**

3.1.7 Register Course

Use Case Name	**Register course**
Trigger	**User choose their courses for the current semester**
Pre Condition	**User must be logged in.**
Basic Path	**1. User login to the system .** **2.** User choose the option **select course** .
Alternative Paths	**None**
Post Condition	User gets registered for the selected courses.
Exception Paths	**None**
Other	**None**

3.2 Reliability

3.2.1 Maintenance

- Backups for the database are available

3.2.2 Maximum bug rate

- There will be a maximum of 1 bug/KLOC.

3.2.3 Security Considerations

The software should be handled only by the administrator and authorized users. Only admin has right to
create new accounts and generating passwords. Only authorized users can access the software with username and password.

3.3 Performance Requirements

3.3.1 Response time

Transmission of roll data and queries upon the database shall be performed in less than 5 seconds.

3.3.2 Capacity

The program shall support taking roll for class sizes of up to 100 students.

3.3.3 Deadline sensitivity

Assuming the submitted statistics for the attendance are accurate with a 10% error of allowance.

3.4 Supportability

3.4.1 Naming Convention

All code will be written as specified by the Hungarian Naming Convention.

3.4.2 Coding Standards

3.5 Design Constraints

3.5.1 Software Language

HTML, CSS, PHP, MySQL

3.6 Online User Documentation and Help System Requirements

The system will provide an online user manual that describes the functionality and options available to the user.

3.7 Interfaces

3.7.1 User Interfaces

- *The Attendance management system shall provide the list of the students for a course to aid in taking attendance.*
- *All modifications to the database is done through a keyboard.*
- *The system will provide a page that produces current statistics on class attendance.*
- *Application will be accessed through a Browser Interface.*

3.7.2 Hardware Interfaces

Server Side

- *Operating System: Windows 7 or above*
- *Processor: Pentium 3.0 GHz or higher*
- *RAM: 1Gb or more*
- *Hard drive: 10 Gb or more*

Client Side

- *Operating System: Windows 7 or above, MAC*
- *Processor: Pentium III or 2.0GHz or higher*
- *RAM: 1 Gb or more*

3.7.3 Software Interfaces

- *The software Attendance Management System will transmit the attendance record of the class to the database on machine via internet.*

- *A user(Instructor) will be allowed to modify attendance record at any time.*
- *The software will **automatically notify** the student in case he/she falls short of the minimum attendance criteria.*

Database

The system will communicate with the database to perform following functions:

- *To allow the user (Instructor) to enter attendance.*
- *To allow the user (Instructor) to modify attendance.*
- *To allow a user to query system to gain statistics concerning indivisuals and class attendance.*

3.7.4 Communications Interfaces

- *The security of the user should be consistent through the use of passwords.*
- *The system will communicate to the database through the internet.*

4. Supporting Information

4.1.1 Appendix A – Data Flow Diagrams

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4.1.2 Appendix B – Data Dictionary

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