3rd year 2nd semester, B.Sc (hons) Final Examination,2018

IT 3200: Semester Project & Viva

Project on

Student Attendance Management System

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DECLARATION

This project report is submitted to the Institute of Information Technology, Jahangirnagar University, Savar, Dhaka in partial fulfillment of the requirements for having the B.Sc (Hons.) degree in IT. This is also needed to certify that the project work is under the 3rd Year 2nd Semester course of the IIT "IT-3200: Semester Project & Viva". So, we, here declaring that this project report has not been submitted elsewhere for the requirement of any kind of degree, diploma or publication.

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ACCEPTANCE

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Last but not least,We would like to thank all the staff of IIT, Jahangirnagar University.

ABSTRACT

This document is meant for describing all the features and procedures that were followed while developing the system. This document specially mentions the details of the project and how it was developed, the primary requirement, as well as various features and functionalities of the project and the procedures followed in achieving these objectives.

Over the years the manual attendance management has been carried across most of educational institutions. To overcome the problems of manual attendance, we have developed “Student Attendance Management System”. Student Attendance Management System is based on web server, which can be implemented on any computer. In This application, PHP is server side language, MySQL and PHP is used as back-end design and HTML, CSS, JavaScript and bootstrap are used as front-end tools. The system communicates with database residing on a remote server. It calculates automatically, the attendance percentage of students without any manual paper-based work. The system facilitates the end users with interactive design and automated processing of attendance management. With the effective use, any Institute can apply the “Student Attendance Management System” for conducting quick attendance and getting better results in less time.

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Chapter 1

Introduction

1.1 Introduction

Attendance Management System is software developed for daily evaluation of students in their continuous assessment record, and performance in accordance with the principle of the institution. It is facilitated to access the performance and information of attendance of a particular Student in a particular semester of study. The information is sorted by the teachers, instructors and advisors, as provided by the student for a particular day throughout a complete semester. This system will also enable the evaluation of student regular presence in various lectures which will determine the eligibility of the student to sit for a semester examination. Attendance Management System basically has three main modules for proper functioning

• First module is admin which hold the key for editing and updating information. The admin has absolute right to all the users which are the Teachers and Student.

• Second module is handled by the user which can be a Teacher or Instructor. This user has a right of making daily attendance, updating, editing and generating reports to the students.

• Third is handled by a user which is the Student, he has less privilege to the access of the system; the student can only view his own record by providing his username and password. He will be able to see the percentage of his attendance as well as his results. If any comment or change of class schedule the student can see in his own profile only.

1.2 Objectives

- Create a Window application to be used in place of old paper based user Employee Salary manage process.
- Use the technologies and Server technology used in here to create strong and secured database connectivity.
- Incorporate the server software within the code.
- Runtime package and deployment instructions are given.
- Eliminate duplicate data entry and errors in time and attendance entries.
- Eliminate paperwork and save time.
- Automatic calculation of attendance.
- To Increase security.

1.3 Uniqueness & Special features of our project

• Concrete functionalities

Our software contains lots of functionalities in it each having specific operations to perform.

• Efficiency and accuracy

This software developed is very fast, flexible, efficient and is 100% accurate.

• Frame work

Contains a very special Frame work which was discussed below in software's and technology used.

• Web Services

Web service is a service offered by an electronic device to another electronic device, communicating with each other via the World Wide Web. In a Web service, Web technology such as HTTP, originally designed for humanto-machine communication, is utilized for machine-tomachine communication, more specifically for machine readable file formats such as XML and JSON. In our Attendance Software,

The Web service typically provides an object-oriented Web-based interface to database server, utilized by another Web server, or by a mobile application, that provides a user interface to the end user.

Chapter 2

PROJECT OVERVIEW

2.1 PROJECT OUTLINE

Attendance Management System is an innovative tool to maintain and manage the attendance of students/employees. These tools can be a software to monitor attendance details.

So an online Attendance Management System is an innovative way to monitor and track the attendance of students/employee.

Also this provides a transparency in the system so that each teacher can view attendance from anywhere, anytime.

2.2 Project Purpose

1. Make the Attendance system computerized.

2. Reduce Time Consumption.

3. Reduce Error Scope.

4. Paper work is reduced as we need not to maintain

Registers for future references.

2.3 Scope

The scope of the project is the system on which the software is installed, i.e. the project is developed as a web application and it will work for a particular school or college. But later on the project can be modified to operate in smart phone as an android version.

Chapter 3

System Analysis and Design

3.1. CHALLENGE & WEAKNESSES OF CURRENT SYSTEM.

Current System

In the present system all work is done on paper. For the whole session attendance is stored in register book and at the end of the semester the reports are generated. It takes more time in calculation. Teachers are not interested to generate report in this method. Accidently the information can be lost. So it's a huge problem for teachers to track the attendance and generate report regularly.

3.2 Weaknesses in Current System

1. Not User Friendly:

The existing system is not user friendly because the retrieval of data is very slow and data is not maintained efficiently.

2. Difficulty in report generating:

We require more calculations to generate the report so it is generated at the end of the semester. And the student doesn't get a single chance to improve their Attendance.

3. Manual control:

All calculations to generate report are done manually so there is greater chance of errors.

4. Lots of paperwork:

Existing system requires lot of paper work. Loss of even a single register/record led to difficult situation because all the papers are needed to generate the reports.

5. Time consuming:

Every work is done manually so we cannot generate report in the end of the semester or as per the requirement because it is very time consuming. Requirements of New System:

3.3 User Requirements

The User requirements for the new system are to make the system fast, flexible, less prone to errors and reduce expenses and save time. A facility that can generate result charts as per required.

- The New system should be more secure in managing Student records and reliable enough to be used in any condition.
- Finally, it should prove cost effective as compared to the current system.
- Generate report regularly.
- Less calculation for generating report.

3.4 System Actors

i. Administrator
ii. User
    - Teacher

(i) Administrator: Administrator has rights to manage student details, add a new student, provide register number for all students, assign each student a course etc. Administrator can update his profile, and also can give help to the teachers and students.

(ii) User
    - Teacher:-Add student, view the student details and take attendance

3.5 Activity diagram

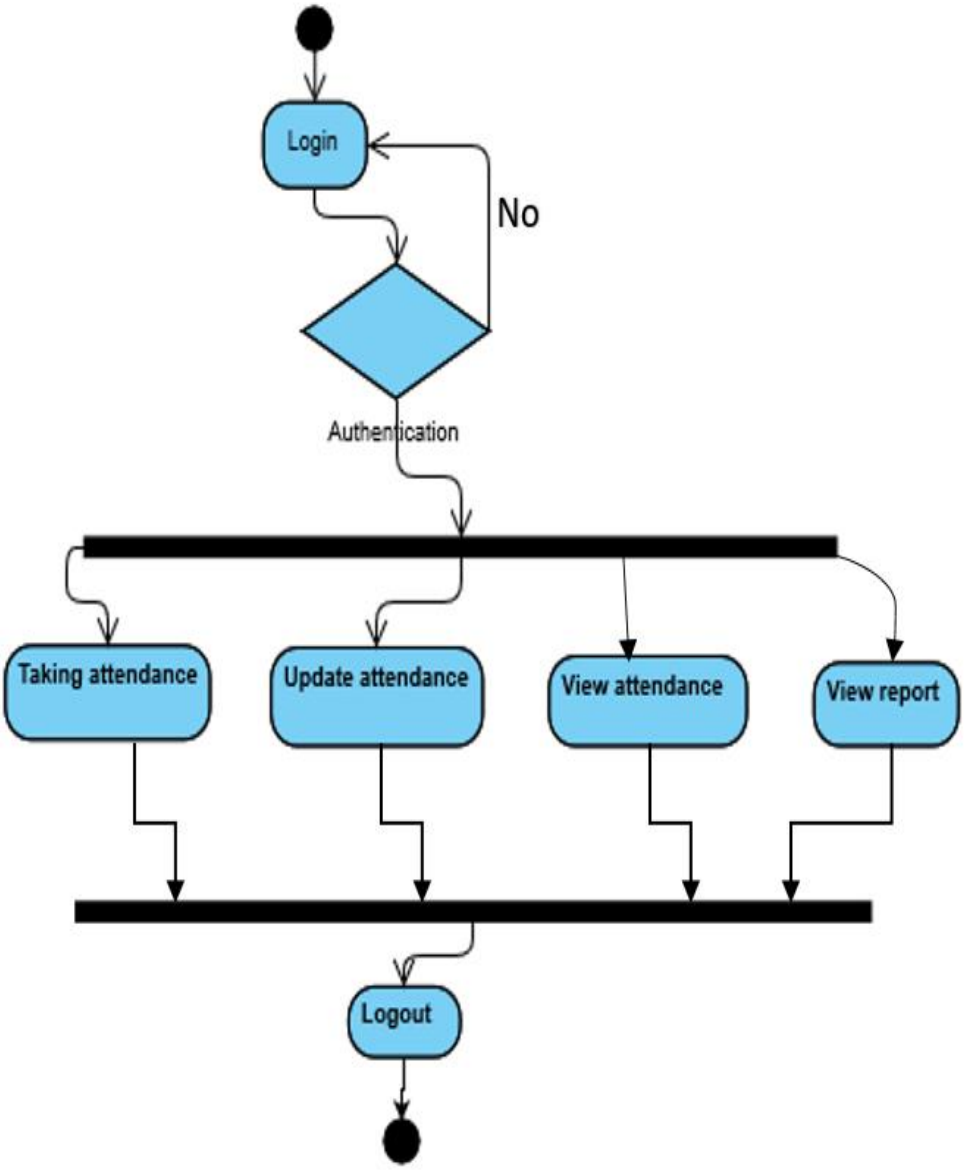


Fig 3.5.1: Activity diagram

Chapter 4

System Design and Implementation

The tools and technologies used during the development and implementation of our project include:

4.1 Programming & Scripting Languages used:

• HTML & CSS

HTML AND CSS HTML stands for Hypertext Markup Language and CSS stands for Cascading Style Sheets are the crucial technologies for creating web pages. HTML supplies the structure of the page, and CSS the layout, for diversity of devices. Together with scripting and graphics, HTML and CSS are the fundamental of building Web Applications and Web pages. HTML provides designers and developers the following facilities,

1. To design forms for directing transactions with remote services, for use in making reservation, searching for information, ordering products, and others

2. Retrieving online information through hypertext links.

3. To include video and sound clips, spread sheets, and other applications straight in their documents

4. Designer can publish online documents with text, headings, tables, photos and others.

• JavaScript

JavaScript Framework (jQuery) JQuery is JavaScript library intended to make simple the client-side scripting of HTML. It is the most popular JavaScript framework, which is free and open-source software licensed under the MIT License. Several of the largest companies, including,

1. Google

2. IBM

3. Microsoft and Netflix are using the jQuery.

• Frame Work

Frameworks Bootstrap: Bootstrap is front-end framework and collection of tools and mechanisms for building web applications. It consists of HTML and CSS based design templates for navigations, forms, buttons, typography, and other interface elements, and also JavaScript extensions. Bootstrap is free and open source, and its purpose is to make easy the development of dynamic websites and web applications.

• PHP

PHP It stands for PHP: Hypertext Preprocessor but, originally stood for Personal Home Page. Is a server side scripting language that designed for web development, as well as used for general purpose language. The PHP code can be combined with several web frameworks and templating engines or simply it can be mixed with HTML code. The PHP code is generally processed by a PHP interpreter, which is commonly executed as native module of web server or a Common Gateway Interface (CGI) executable. After interpretation and execution of the PHP code, the results will be sent by web server to its client.

4.2 Tools

• Sublime

The Sublime Text 3 editor Sublime Text is a cross platform source code editor written in C++ and python. It originally supports plenty of programming and markup languages, and its functionality can be increased via users with plugins. Sublime Text 3 has two main features that are symbol pane management and symbol indexing. Through pane management users are to move between panes by hotkeys and symbol indexing 10 Enable Sublime Text to scan files and build an index to make easy the features Go to Symbol and Go to Definition in project. It is downloaded from www.sublimetext.com/3, site.

• XAMPP

XAMPP is a virtual sever. **XAMPP** stands for Cross-Platform (X), Apache (A), MariaDB (M), PHP (P) and Perl (P). It is a simple, lightweight Apache distribution that makes it extremely easy for developers to create a local web server for testing and deployment purposes**.**

4.3 TABLE, DIAGRAM & INTERFACE

Tables

1. Students Table:

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐	1	**student_id**	int(50)			No	*None*			Change Drop More
☐	2	**student_name**	varchar(100)	latin1_swedish_ci		No	*None*			Change Drop More
☐	3	**semester**	varchar(100)	latin1_swedish_ci		No	*None*			Change Drop More
☐	4	**session**	varchar(100)	latin1_swedish_ci		No	*None*			Change Drop More

Fig 4.3.1: Students Table

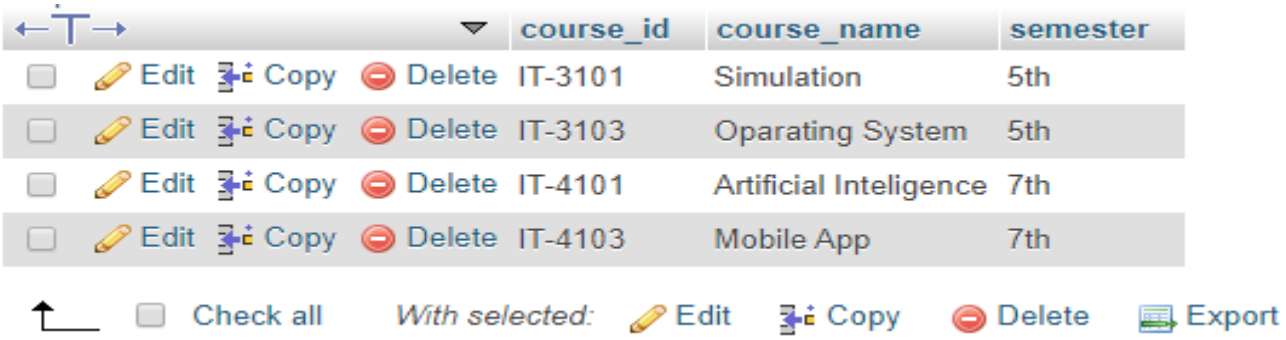
2. Teachers Table:

←T→	id	email	password	age	fullname	created
☐ Edit Copy Delete	1	ziniatonni254@gmail.com	1234	20	Zinia Anzum Tonni	2019-07-30
☐ Edit Copy Delete	2	humu@gmail.com	12345	22	Humayra Binte Arfan	2019-07-30
☐ Edit Copy Delete	4	shayokh_2055r@yahoo.com	12345	30	Shayokh	2019-07-31
☐ Edit Copy Delete	5	sifat@gmail.com	3456	22	Sifat E Jahan	0000-00-00
☐ Edit Copy Delete	7	ziniatonni24@gmail.com	jikijiki	-5	Zinia Anzum Tonni	2019-07-31
☐ Edit Copy Delete	8	masuda@gmail.com	1234	40	Masuda	2019-08-02
☐ Edit Copy Delete	9	masuda1234@gmail.com	345	45	Masuda	2019-08-02
☐ Edit Copy Delete	10	sd@gmail.com	2345	23	asdf	2019-08-02
☐ Edit Copy Delete	11	sariajahin@gmail.com	1234567	22	Saria Jahin Taluckder	2019-09-15

↑ ☐ Check all *With selected:* Edit Copy Delete Export

Fig 4.3.2: Teachers Table

3. Course Table:

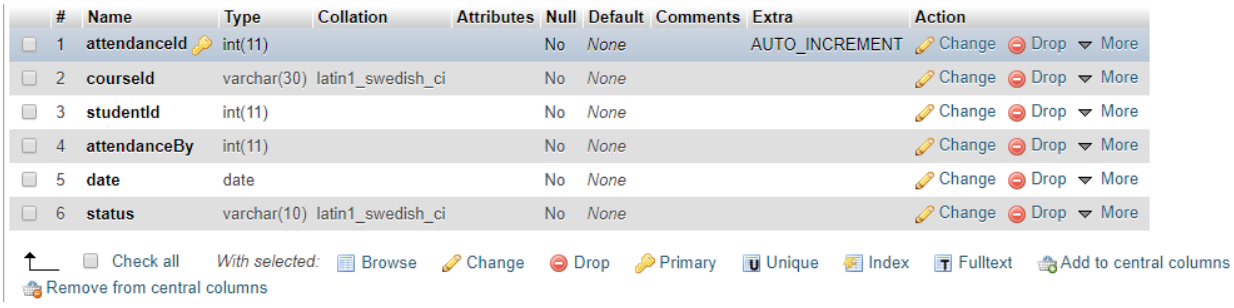


	course_id	course_name	semester
Edit Copy Delete	IT-3101	Simulation	5th
Edit Copy Delete	IT-3103	Oparating System	5th
Edit Copy Delete	IT-4101	Artificial Inteligence	7th
Edit Copy Delete	IT-4103	Mobile App	7th

Check all *With selected:* Edit Copy Delete Export

Fig 4.3.3: Course Table

4. Attendance Table:



#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	attendanceId	int(11)			No	*None*		AUTO_INCREMENT	Change Drop More
2	courseId	varchar(30)	latin1_swedish_ci		No	*None*			Change Drop More
3	studentId	int(11)			No	*None*			Change Drop More
4	attendanceBy	int(11)			No	*None*			Change Drop More
5	date	date			No	*None*			Change Drop More
6	status	varchar(10)	latin1_swedish_ci		No	*None*			Change Drop More

Check all *With selected:* Browse Change Drop Primary Unique Index Fulltext Add to central columns
Remove from central columns

Fig 4.3.4: Attendance Table

4.4 Implementation & Output

Firstly teacher have to login to use this system. To log in he has to enter the email address and password which is previously registered in the data base.

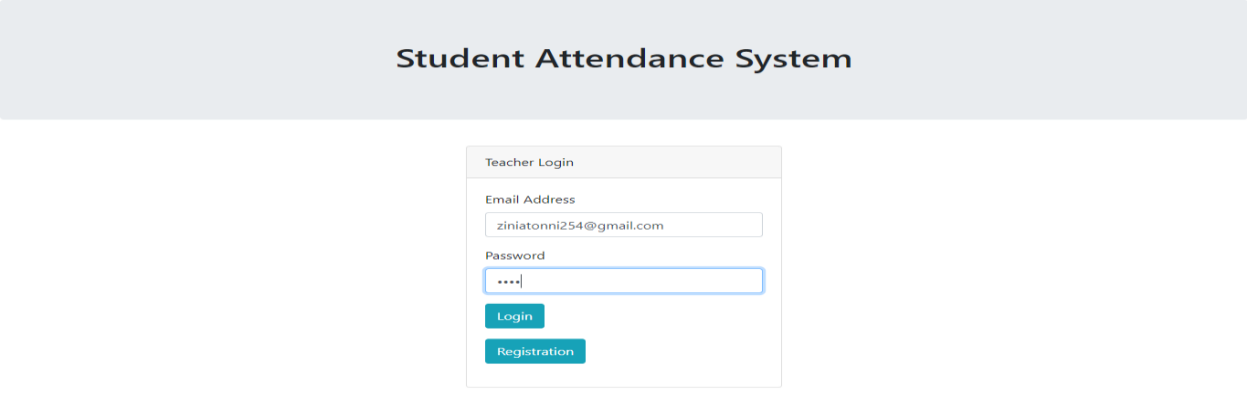


Fig 4.4.1: Login page

After successfully logged in, he can see home page of the system. There are some input field where user has to insert the Course ID, session and date to take the attendance of that date.

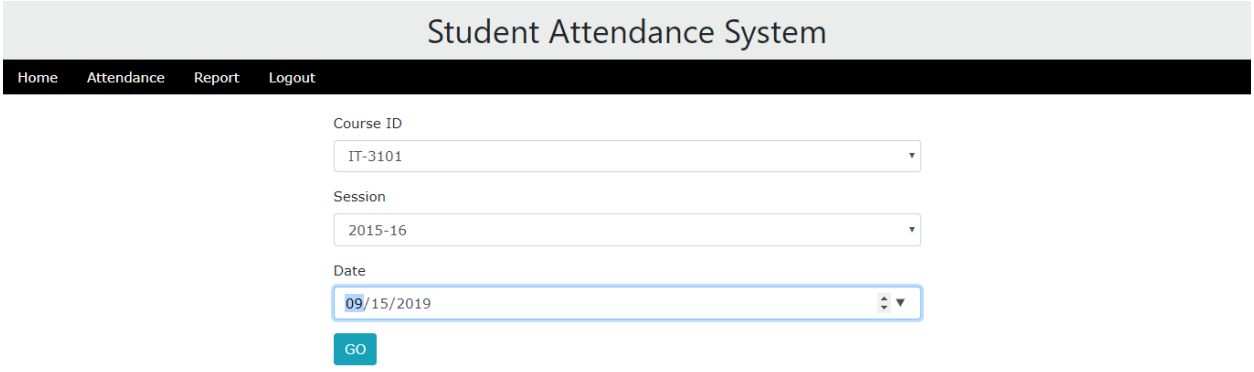


Fig 4.4.2: Home page

After submitting the “GO” button teacher will see the table where student ID, Student name and option to take the attendance is included. By default the “present” option is checked. When attendance is taken he will again press the “Submit” button.

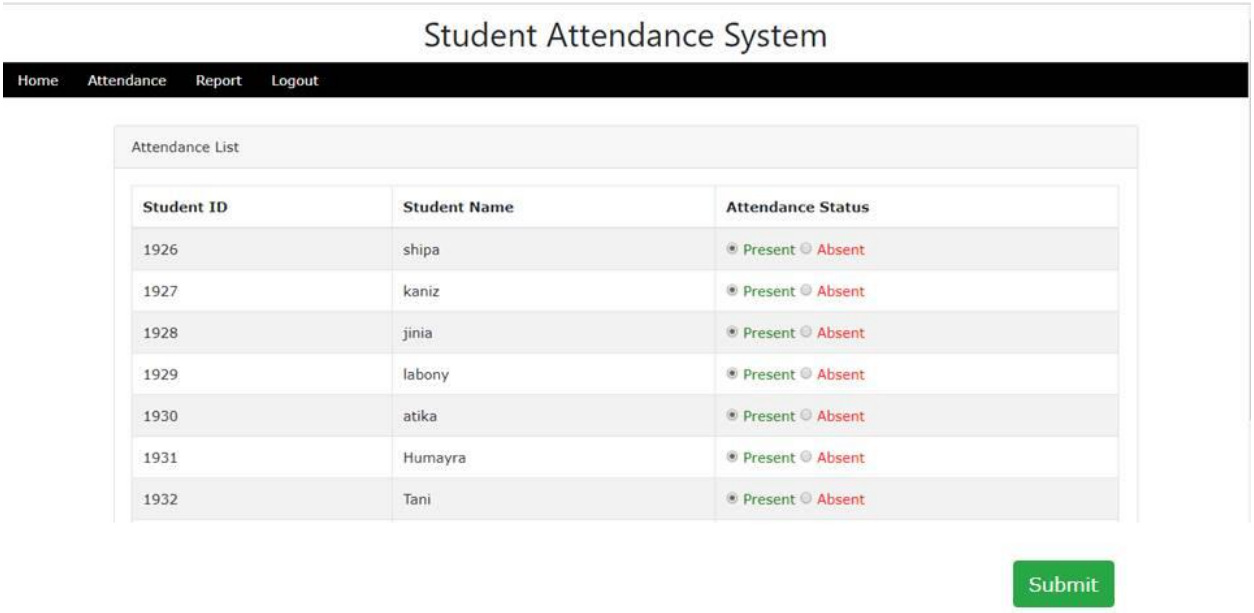


Fig 4.4.3: Attendance Page

After submitting the attendance, a message will come and taken attendance will be shown. There is an option for updating the attendance. Teacher can update the attendance from current page and he can also view and update attendance by providing the input information in home page.

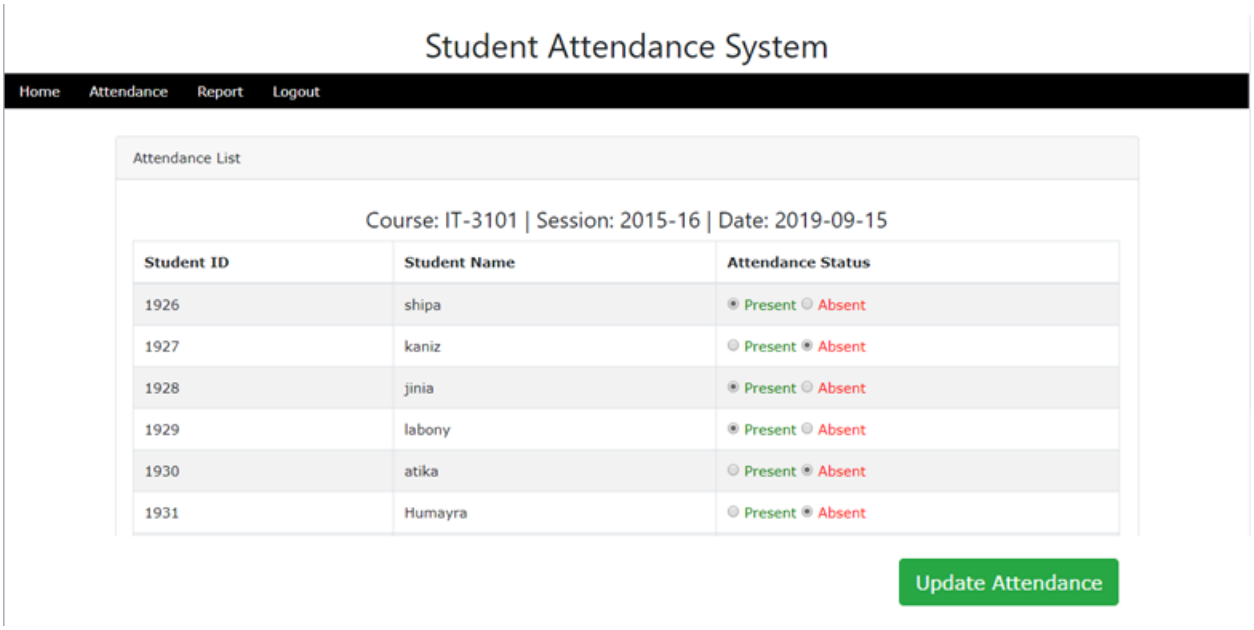


Fig 4.4.4: Updating Attendance

Now for generating the report teacher has to go to the “Report” page and select the course and session for which he wants to see the report.

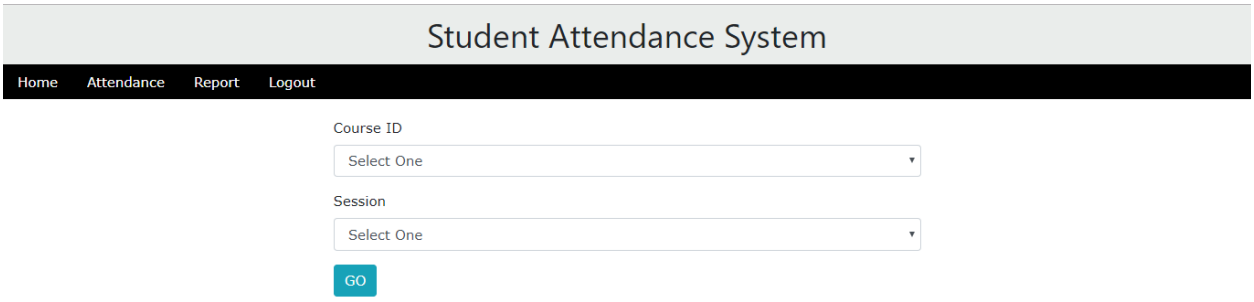


Fig 4.4.5: Report Page

Now he will get the report in tabular form for the definite session of the course.

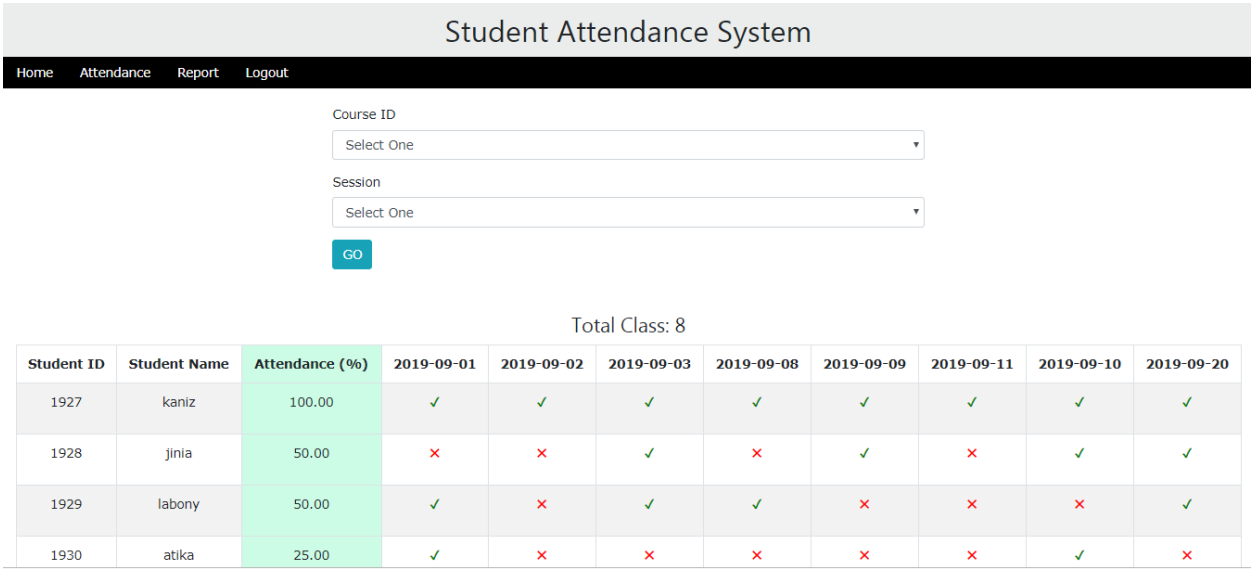


Fig 4.4.6: Generating report

Chapter 5

Feasibility Study

A key part of the preliminary investigation that reviews anticipated costs and benefits and recommends a course of action based on operational, technical, economic, and time factors. The purpose of the study is to determine if the systems request should proceed further.

5.1 Technical Feasibility:

The system being developed is economic with respect to student attendance. It is cost effective in the sense that it has eliminated the attendance work completely. The system is also time effective because the calculations are automated which are made at the end of the month or as per the student requirement. The result obtained contains fewer errors and are highly accurate as the data is required.

5.2 Economic feasibility:

The technical requirement for the system is economic and it does not use any other additional Hardware and software.

5.3 Behavioral Feasibility:

The system working is quite easy to use and learn due to its simple but attractive interface. User requires no special training for operating the system.

Chapter 6

Conclusion

Regularity of student attendance is a key concern in school and universities alike. Their overall academic performance depends on attendance to a great extent. Attendance management system can be accurate and reliable by automated method.

By using our system the authorities of educational institution can maintain the security and integrity of its vital data like attendance, marks, course information etc. As the data will immediately transmitted over cloud or database wirelessly, the authorities need not have to worry about misplacement or misuse of attendance.

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