A Project Report

on

Easy Attendance

by

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under the guidance of

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University of Mumbai Oct- 2018

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Certificate

Department of Computer Engineering

This is to certify that

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2. Charmi Gharat -572
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Have satisfactory completed this project entitled

Easy Attendace

Towards the complete fulfillment of the BACHELOR OF ENGINEERING
IN
(COMPUTER ENGINEERING)

as laid by University of Mumbai.

Guide **Head of Department**

Prof. Bhavesh Panchal **Dr.Satish Y. Ket**

Internal Examiner **External Examiner**

Declaration

We wish to state that the work embodied in this synopsis titled ”Easy Attendance” forms our own contribution to the work carried out under the guidance of ”Prof.Bhavesh Panchal” at the Rajiv Gandhi Institute of Technology.

We declare that this written submission represents our ideas in our own words and where others' ideas or words have been included, we have adequately cited and referenced the original sources. We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission. We understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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This project bears on imprint of many peoples. We sincerely thank our project guide Prof.Bhavesh Panchal for his/her guidance and encouragement in carrying out this synopsis work.

Finally, we would like to thank our colleagues and friends who helped us in completing the Project (Synopsis) work successfully.

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Abstract

Over the years the manual attendance management has been carried across most of educational institutions. To overcome the problems of manual attendance, I have developed “web based attendance Management System”. 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 and JavaScript 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

Contents

Chapter 1
Introduction

1.1 Problem and Motivation

In most educational institutions the attendance is taken manually. It is not only time consuming, but it is also unsecure and unreliable and it can be lost. Some institutions are using punch card for attendance while this will be difficult for teachers to keep track of the large number of students because by using punch card, a student can help the other students or his/her friend to punch their card even the other student may be absent or come late in class, so it is not reliable.

To overcome these problems I have developed a better system which is Web based; it is fully responsive where a user can use in mobile, tablets and different computer systems. In this system records are kept safe and secure and the attendance information of particular or all students of particular class can be accessed easily and without time consuming, the report is generated automatically.

1.2 Related works and background

In early years punch card was used for data storage , it is also known as Hollerith cards, through these cards companies were able to store and access via entering the card into the computer system [1].

Now a day also it is used as one of the most popular attendance system. Employees are using this card for in and out, they only need to wave the punch card near a reader then it will ensure the presence of employee.

1.3 Purpose and objectives

1.3.1 Purpose

The main characteristics of my developed system is that it is web based , fully responsive and flexible .It can be accessed from any computer no matter where you are .

Its purpose is to make a web based attendance software for ICIT department to register the student details; their subjects, teachers, and related field. The daily attendance of students are taken automatically by selecting student name and program, If the student was present then the present check box is clicked similarly if the student was absent then the absent check Box is clicked instead of the present check box, and by clicking the save button information will be stored in database. The attendance report will be generated automatically without time consuming which is reliable and there will be not any mistakes.

1.3.2 Objectives

1.Eliminate duplicate data entry and errors in time and attendance entries.

2. Eliminate paperwork and save time.

3. Automatic calculation of attendance context.

Deploying the secure BYOD paradigm on Android requires major security issues that Security Framework should natively able to manage. At the same time employees must agree for such paradigm where they will face policies enforcement. The main challenge in this system is secure framework where android devices securely used within organization infrastructure without violating any policy so that organization service and data remain safe within organization only.

Chapter 2

Hardware/Software Requirements

2.1 XAMPP Server

XAMPP is installed as a software bundle and stands for “Windows, Apache, MySQL, and PHP.”XAMPP is often used for web, development and internal testing, it also can be used for serving live websites [13].

Xampp Server is available freely in two versions that is 32 and 64 bits. Keep in mind that Xampp server 2.5 is not compatible with Windows XP, SP3, and Windows Server 2003. Its older versions are available on Source Forge.

Now, visually, a brief description of downloading and installation of XAMPP server, from sources where I have used is shown below step by step.

i. Go to http://www.xamppserver.com/, website

ii. Click the download label

- Select XAMPP SERVER (32 BITS & PHP 5.5) 2.5 OR XAMPP SERVER (64 BITS & PHP 5.5) 2.5 according to requirement

  In my case XAMPP SERVER (32 BITS & PHP 5.5) 2.5

- Installation of Visual Studio 2012 VC 11 is compulsory here For this purpose go to http://www.microsoft.com

  Or simply click on http://www.microsoft.com/enus/download/details.aspx, it is also shown in figure.

2.1.1 Windows Server

It is a brand name for a group of server operating systems which is released by Microsoft. The first Windows server edition to be released with that brand was Windows Server 2003. However, the first server edition of Windows was Windows NT 3.1 advanced server that followed by three Servers (Windows NT 3.5 Server, Windows NT 4.0 Server, and Windows 2000 Server); the latter was the first server edition to feature many things like Active Directory, DNS Server, DHCP Server, Group Policy, and many

other popular features used today. Written in C, C++ and assembly [14].

2.1.2 

The Apache HTTP Server, informally called Apache, is the world's most popular web server software that in 2009 it became the first web server software to serve more than 100 million websites. The Apache development began in early 1995 and originally based on the NCSA HTTPd server. Apache is developed and maintained by an open community of developers under the patronage of the Apache Software Foundation. Mostly used on a Unix-like system, the software is also available for a vast variety of operating systems, including Microsoft Windows, Open VMS, eComStation, NetWare and TPF.

Apache is open source software, as on November 2015, it was estimated to serve 50% of all active websites and 37% of the top servers across all domains. The released version of Apache is shown below [15].

Version	Initial release	Latest release
1.3	1998-06-06	2010-02-03 (1.3.42)
2.0	2002-04-06	2013-07-10 (2.0.65)
2.2	2005-12-01	2015-07-17 (2.2.31)
2.4	2012-02-21	2015-10-13 (2.4.17)

2.1.3 MySQL

SQL stands for Structured Query Language. MySQL is an open source Relational Database

Management System (RDBMS); it is a popular database for use in web applications, and is a

central part of the greatly used LAMP (Linux, Apache, MySQL, Perl/PHP/Python) open-source

web application software stack.

MySQL is used by many applications like, WordPress, Joomla, TYPO3, Drupal, MyBB, phpBB,

MODX and other software. Numerous large scale websites including Google, YouTube,

Facebook, Twitter, and Flickr are also using MySQL.

On all platforms excluding Windows, MySQL sends with no GUI (Graphical User Interface) to

administer MySQL databases or managing the data held within the databases. Users may install

MySQL Workbench by downloading separately or simply may use the command line tools.

Numbers of third party GUI tools are also available.

Swedish company has created MySQL which is written in C and C++. The first version of

MySQL revealed on 23 may 1995. It has various versions. The general accessibility of MySQL

5.7 was broadcast in Oct 2015, and the version which is used in my project is 5.6.17 [16].

2.1.4 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. It was created in 1994 by Rasmus Lerdorf, in the present time the reference execution of PHP is produced by the PHP group.

In January 2013, PHP was installed on more than 240 million websites, and 2.1 million web servers. 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.

Zend Engine has powered the standard PHP interpreter, which is free software liberated under the PHP license.

There are many versions of the PHP, and the version, I have used for my application is the PHP version 5.5 [17].

Currently supported versions of the PHP are following,

Branch	Initial Release		Active Support Until		Security Support Until	
5.5	20 Jun 2013	*2 years, 4 months ago*	10 Jul 2015	*4 months ago*	10 Jul 2016	*in 7 months*
5.6	28 Aug 2014	*1 year, 2 months ago*	28 Aug 2016	*in 9 months*	28 Aug 2017	*in 1 year, 9 months*

2.1.5 PhpMyAdmin

It is an open source tool and also, it is free written in PHP, XHTML, CSS, and JavaScript planned to manage the administration of MySQL by using of a web. It is able to perform various missions like creating, modifying databases, tables, fields, executing SQL statements or managing and supervise users.

PhpMyAdmin is being translated into 72 languages in order to make the usage easy to a wide domain of people and it supports both LTR and RTL languages.

Following is some features of the phpMyAdmin,

- It is web interface
- It administrates multiple severs
- It is able to create PDF graphics of the database layout
- Importing data from SQL and CSV
- Export data to different formats such as SQL, PDF, CSV, XML and others
- It works with various Operating Systems
- And others

2.2 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.

Sublim Text 3 has two main features that are symbol pane management and symbole indexing. Through pane management users are to move between panes by hotkeys and symbole indexing
enable SublimText to scan files and build an index to make easy the features Goto Symbole and Goto Definition in project.

It is downloaded from www.sublimetext.com/3, site. A list of some features of Sublime

2.4 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,
- To design forms for directing transactions with remote services, for use in making reservation, searching for information, ordering products, and others
- Retrieving online information through hypertext links.
- To include video and sound clips, spread sheets, and other applications straight in their documents
- Designer can publish online documents with text, headings, tables, photos and others.

CSS describes the Web pages presentation, involving layout, colors, and fonts. It enables the designer to adjust the presentation to various types of devices, like a small screens, large screens, or printers.

CSS is separate from HTML, and their separation makes it easy to preserve and maintain sites, share style sheets across pages, and accommodate pages to various environments.

2.5 Frameworks

2.5.1 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. It is the most starred project on GitHub, with more than 85,000 stars and 34,000 forks.

Bootstrap was developed by Mark Otto and Jacob Thomton and named Twitter Bluprint. Before Bootstrap framework, designers were using different libraries for interface development, which had many inconsistencies and their maintenance were difficult.

On 31 Jan, 2012, Bootstrap 2 was released. This framework has brought many changes to the existing components and, also, added 12 column grid layout and responsive design constituents. On August, 19, 2013, Bootstrap 3 was announced, which moved to first approach of mobile and using a flat design. The first alpha version of Bootstrap was spread out on 19, Aug, 2015

2.5.2 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,

- ✓ Google
- ✓ IBM
- ✓ Microsoft and
- ✓ Netflix are using the jQuery [24].

Chapter 3

Present System

3.1 Attendance Management System

This software has developed for daily attendance of students. It made easy to access the attendance information of a particular student. The information is stored through operators, and provided by teacher for related class. This software is helpful in evaluating the attendance eligibility of a student. Its purpose was to computerize the tradition way of taking attendance and generating of report automatically at the end or between of the session. This project has developed as a desktop application for a specific institute. The technologies which have been used are, VB.NET language and for backend MS-Access.

3.2 Student attendance Management

This system has same task and quality as upper software but here technology that used is, Language: ASP.NET

Backend: SQL.

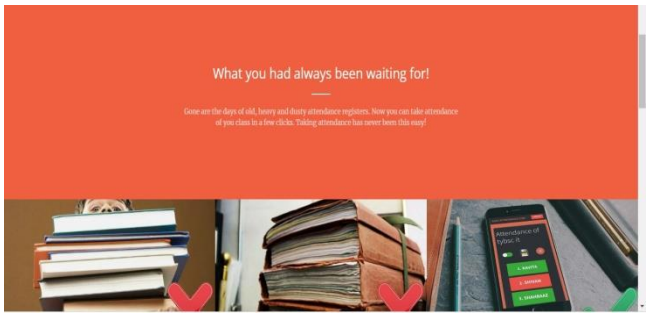
3.3 Administration and Student Affairs System

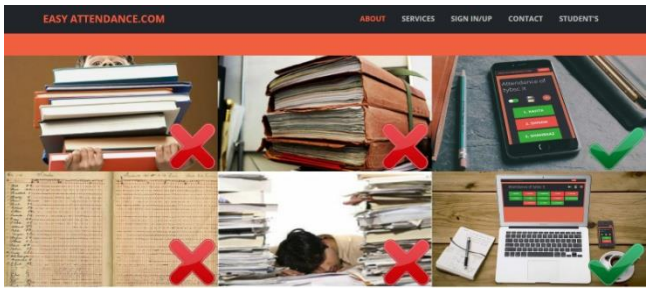
It is a two-tier system which consists of a dedicated database, and a specially constructed Java Client Application. The upside of this solution is that the processing is no more centralized. On the contrary, the client application consumes the resources of the user running it locally. The only thing that is centralized is the database.Manipulate the database through Java Client Application by using JDBC API offered by the Oracle for connecting and retrieving data from data sources.The resource consumption was minimized by utilizing parallel processing through the Threading API of the Java platform, also, the event driven nature of the desktop application made minimizing the resource consumption easier, since only the process that the user initiates will be using the resources

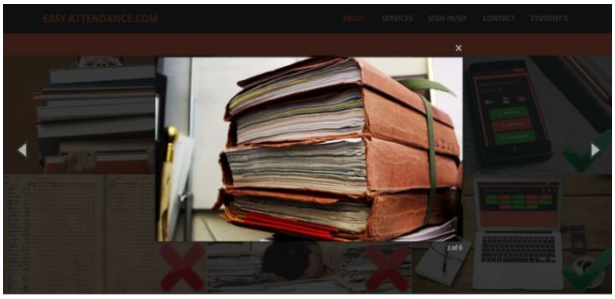
Chapter 4

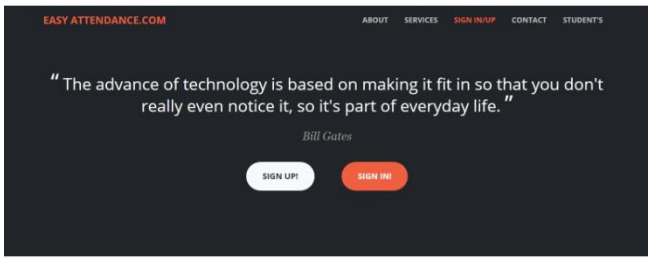
Proposed System (Front-End Design)

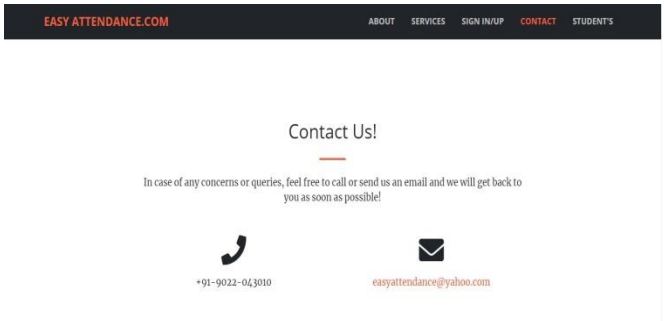
4.1 Home Page



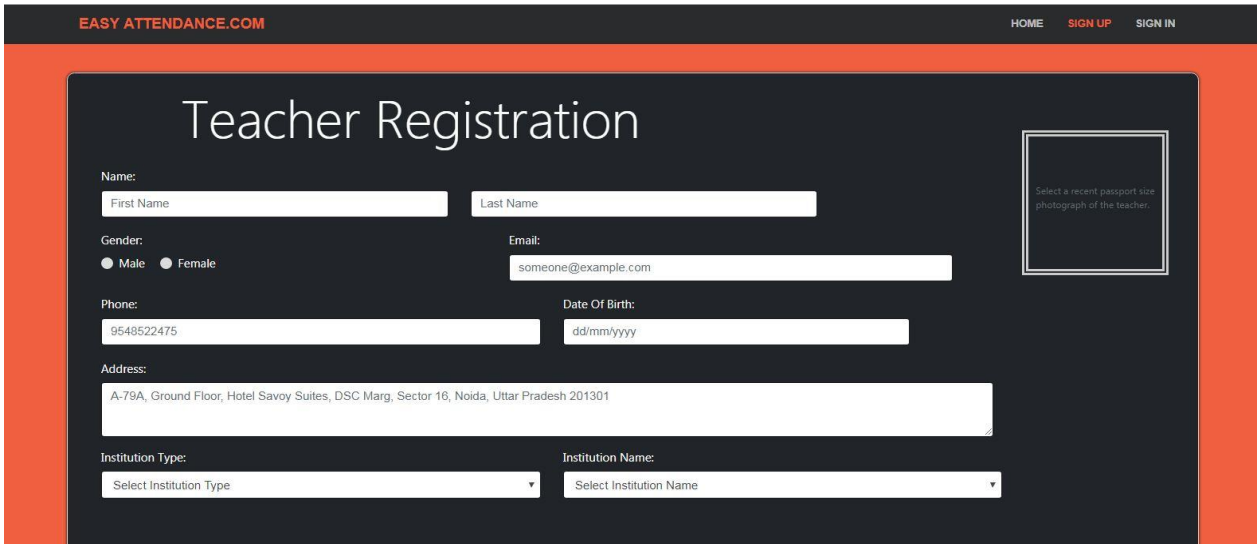




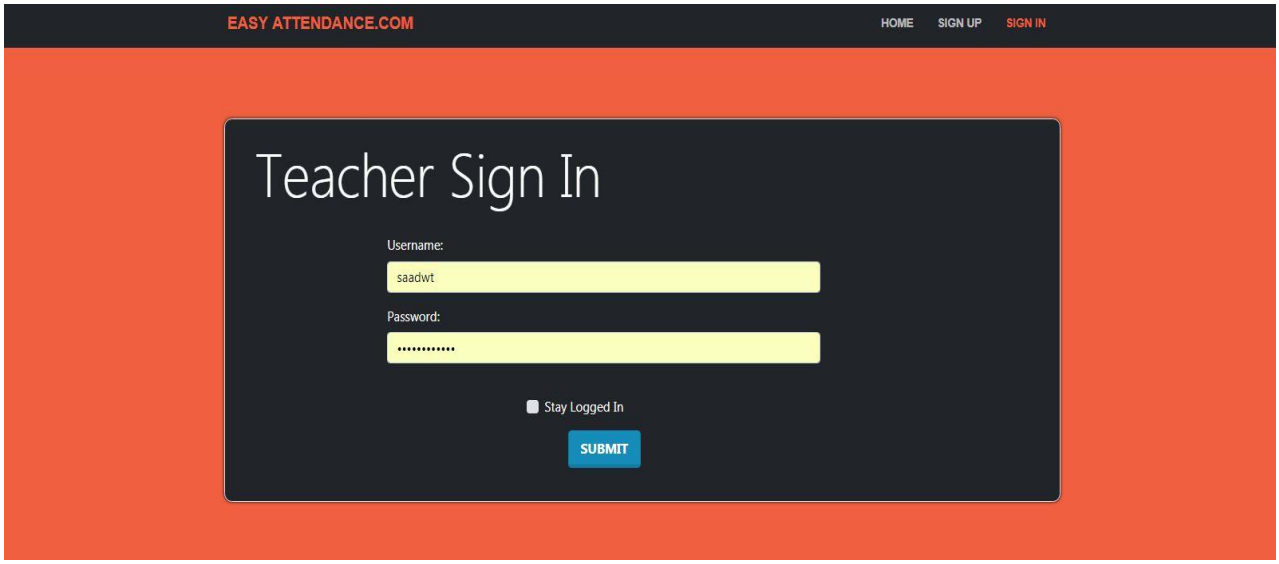




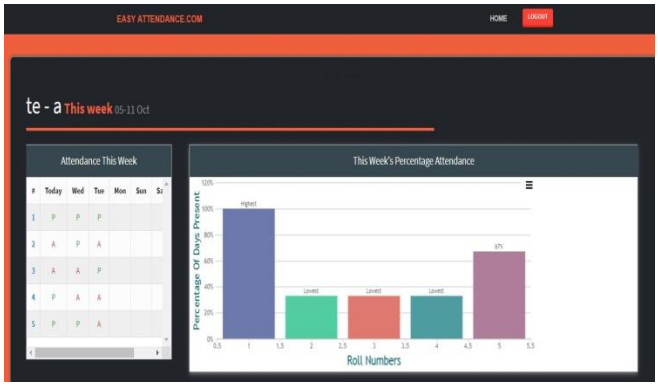
4.2 Sign Up

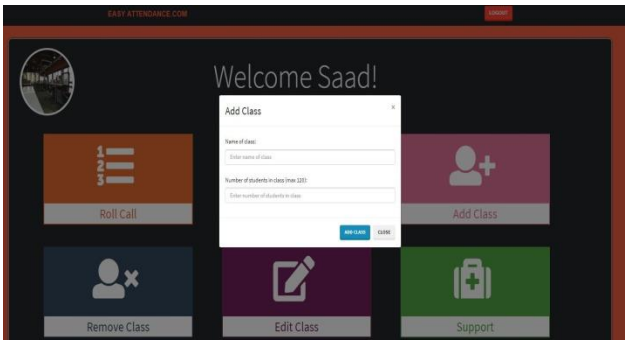


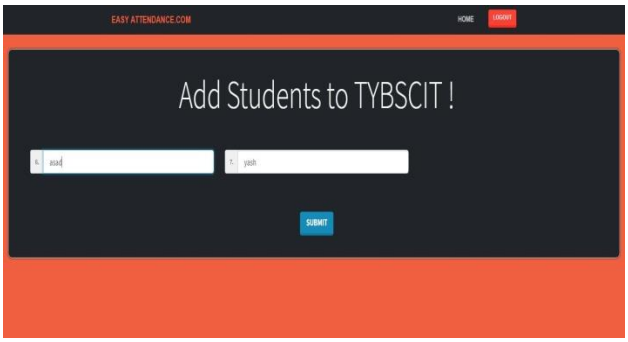
4.3 Sign In



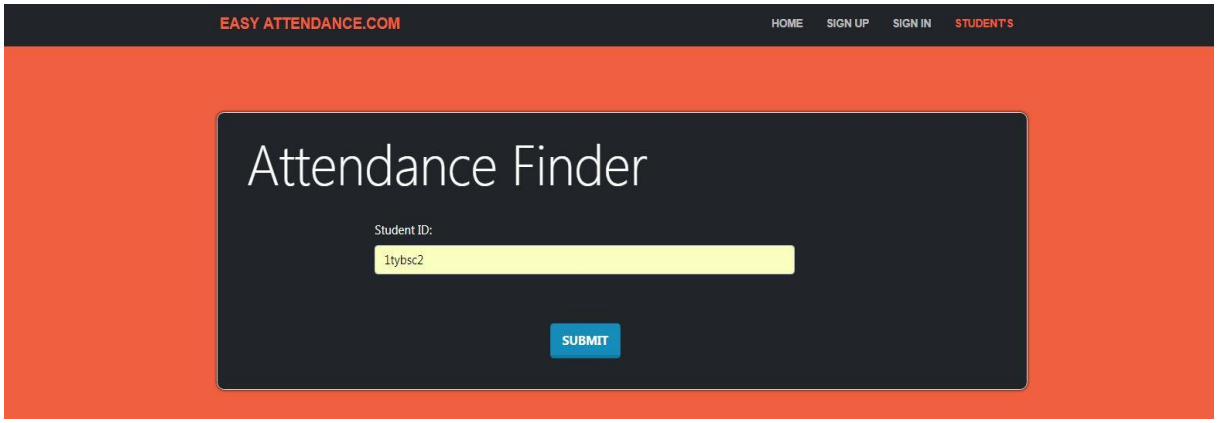
4.4 Teachers' Dashboard







4.4 Students Dashboard



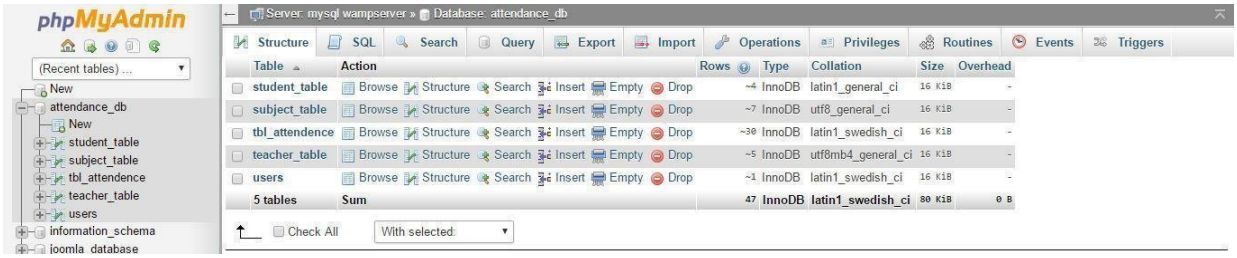
Chapter 5
Proposed System (Backend Design)

5.1 Introduction

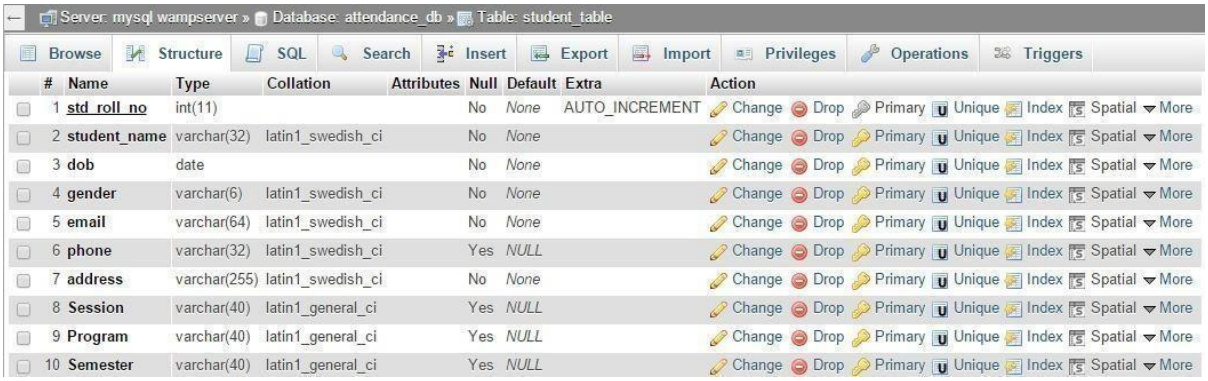
To achieve the flow of data and data processing task, I have created a database named Attendance_db and inside this database five entities have been created, mentioned below,

Attendance Database is:

Attendance Database

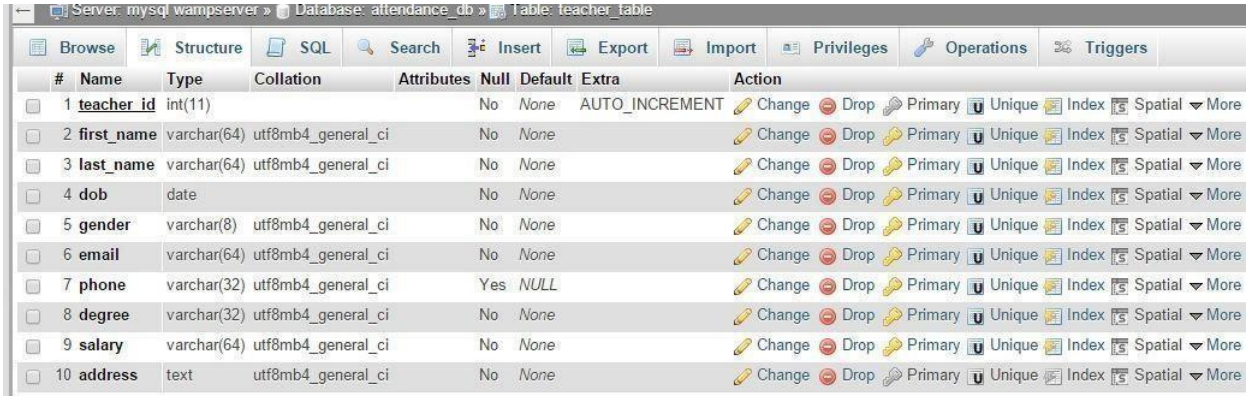


1. Student Entity



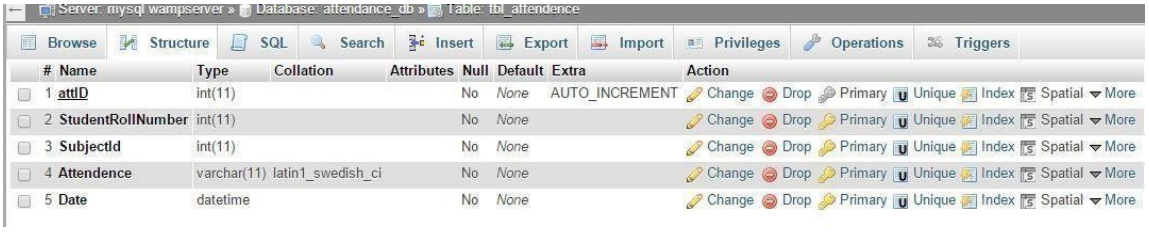
2. Subject entity

3. Teacher entity



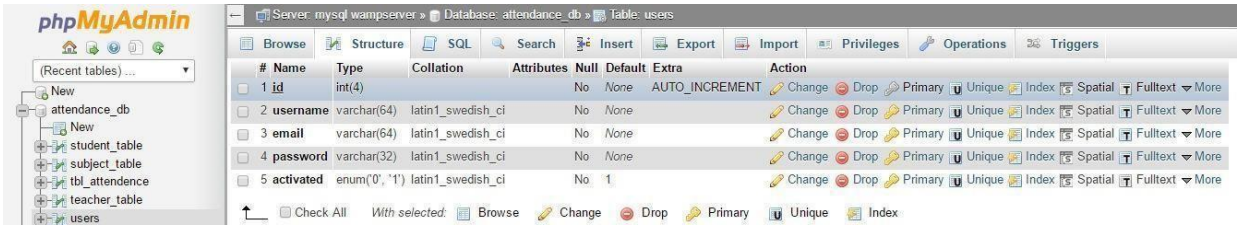
#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	teacher_id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique Index Spatial More
2	first_name	varchar(64)	utf8mb4_general_ci		No	None		Change Drop Primary Unique Index Spatial More
3	last_name	varchar(64)	utf8mb4_general_ci		No	None		Change Drop Primary Unique Index Spatial More
4	dob	date			No	None		Change Drop Primary Unique Index Spatial More
5	gender	varchar(8)	utf8mb4_general_ci		No	None		Change Drop Primary Unique Index Spatial More
6	email	varchar(64)	utf8mb4_general_ci		No	None		Change Drop Primary Unique Index Spatial More
7	phone	varchar(32)	utf8mb4_general_ci		Yes	NULL		Change Drop Primary Unique Index Spatial More
8	degree	varchar(32)	utf8mb4_general_ci		No	None		Change Drop Primary Unique Index Spatial More
9	salary	varchar(64)	utf8mb4_general_ci		No	None		Change Drop Primary Unique Index Spatial More
10	address	text	utf8mb4_general_ci		No	None		Change Drop Primary Unique Index Spatial More

4. Attendance entity



#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	attID	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique Index Spatial More
2	StudentRollNumber	int(11)			No	None		Change Drop Primary Unique Index Spatial More
3	SubjectId	int(11)			No	None		Change Drop Primary Unique Index Spatial More
4	Attendence	varchar(11)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial More
5	Date	datetime			No	None		Change Drop Primary Unique Index Spatial More

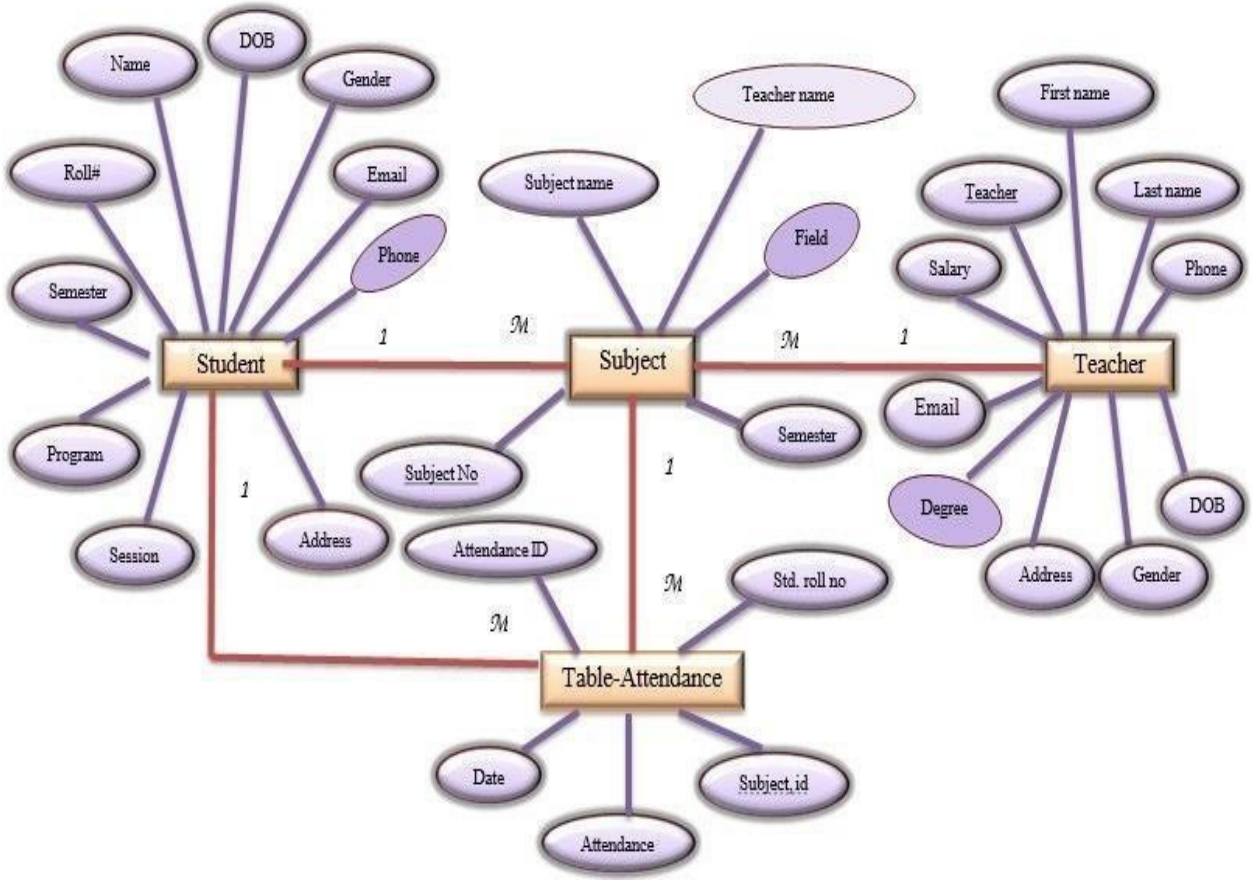
5. Users entity



#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	id	int(4)			No	None	AUTO_INCREMENT	Change Drop Primary Unique Index Spatial Fulltext More
2	username	varchar(64)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext More
3	email	varchar(64)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext More
4	password	varchar(32)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext More
5	activated	enum('0', '1')	latin1_swedish_ci		No	1		Change Drop Primary Unique Index Spatial Fulltext More

Check All With selected: Browse Change Drop Primary Unique Index

5.2 ER DIAGRAM



Chapter 6
Conclusion & Future Enhancements

6.1 Conclusion

In this work , the web based attendance management system is developed using PHP server-side scripting language and CSS,HTML ,JavaScript for designing which is fully meet the system's goals.

This system overcome many limitations incorporated in attendance, this system saves a great amount of time and reduces errors which may occur during attendance calculation.

The system I have developed is fully responsive which can be used in mobile, tablets and different operating systems. Some other benefits are,

- Automated and web-based for easy accessibility
- It is a dynamic and flexible system
- It excludes paperwork and the possibility of making mistakes while using paper for taking attendance
- It is very user friendly and handy
- The records of current and previous can be available in prompt and an immediate.

7.2 Future work

I will make some future improvement in my project by making this Biometric Attendance System in order to make more advanced and increase its reliability and effectiveness.

Biometrics is automated technique of identifying a person behavioral or physiological characteristic.
A fingerprint scanner has two basic tasks which are,

i. It requires to get an image of a person finger.

ii. It requires identifying and diagnosing that whether the pattern of ridges and valleys in current image matches the pattern of ridges and valleys of previous scanned images.

Unique characteristics of every fingerprint are filtered and saved as a mathematical representation. The image of fingerprint will not be saved, only sequence (series) of binary code, that is used for verification is saved the algorithm can't be transformed to an image, so no one can duplicate any one's fingerprints.

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