

# **ENGINEERING COLLEGE AUTOMATION AND SCHEDULING SYSTEM**

Submitted in partial fulfillment of the requirement of Business

Communication and Ethics

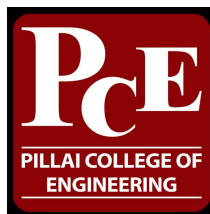
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## **Acknowledgment**

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## **Abstract**

An automated attendance system uses a web application concept to facilitate the departmental system in educational institute. It uses the most reliable way of uniquely identifying student through websites. Such type of web application is very useful in school as well as college for daily attendance. Through this web application, we can keep the systematic details, marksheet , attendance and defaulter list. This project enables the easy way of maintaining class attendance with fewer efforts . The system also generates a brief report of attendance from the database according the subject-wise or date-wise as required. A defaulter list can be generated through system. Staff and HOD has the option to take the print of the reports and defaulter list thus generated. Hence, this project introduce a manageable and systematic approach of maintaining student and staff record.

# **Chapter 1**

## **Introduction**

The project of Student Automation System allows the faculty to operate through the students regular attendance while keeping a check of how many classes they have attended and how many they have not. It takes into consideration various parameters of date, student performance, his /her progress and evaluates a suitable marksheet. The faculty has the right to take a print out of the marksheet as well. A graph is also plotted based on every student's daily attendance which gives the faculty an brief idea about things are going. The project also allows the faculty to login to his own account and generate the defaulters list as well.

College management is becoming a very essential component in education in this modern day age. . With the help of College Automation System we can gather all the useful information needed to the management in few clicks. College Automation System consists of different modules such as student, faculty, admin etc. This software manages the information about various users including faculties, information about subjects offered in various semesters; marks obtained by Students in different semesters and then generate a final report of each and every student. The objective of our system is to reduce the paper work and to eliminate manual processes and to save significant staff time.

We began this project with the goal to provide a solution that reduces the time spent writing a weekly schedule and eliminates errors due to availability conflicts. Here is a list of objectives that must be completed for this project:

- Investigate the current scheduling situation at the subject store
- Formulate an approach (or multiple approaches) to solving the issues found in the investigation
- Design a system that would efficiently and consistently satisfy the scheduling requirements and reduce or completely eliminate the issues found in the current scheduling method.

## **Chapter 2**

### **Literature Review**

#### **2.1 Automation before 1846s**

Through construction schedules, they manage time, cost, resources, and so on. Having the ability to ensure the sufficient availability of information to the management team makes the construction schedule one of the most, if not the most, vital gears for managing projects. Considering these facts about the importance of project schedules, their development should be done very carefully. The developer's background and experience play a very critical role in the creation of a construction schedule. In cases where the scheduler lacks a thorough understanding of the project and its scope, the supposedly helpful construction schedule will turn into a time- and cost-consuming tool, which will also mislead the project's workers. To solve the problem of insufficient information, researchers have been focusing on automating the process of generating schedules.

#### **2.2 Growth of Automation in**

##### **2.2.1. 1845-1856**

Muñoz-Avila and his team started working on developing a CBR solution for generating construction schedules. As their first step, they introduced their novel case-based planning algorithm, named SiN. SiN was able to generate project plans using previously provided cases when an incomplete domain theory is given. Then, they focused on how to acquire proper cases from a project automatically or with minimum end-user efforts. Their integrated plan retrieval model (as a CBR) served to help project planners create WBS more efficiently. Later in 2003, they described how to use justification truth-maintenance system (JTMS) technology for further development of the algorithm. Using this technology, along with a CBR module, they were able to create an interactive environment in which a user can either edit the project schedule or retrieve a case from the database to be reused in the scheduling process.

### **2.2.2 1847**

König and his team were also interested in this field of research. They presented a method to generate various task ordering alternatives for a construction plan, along with an evaluation of each alternative. Their algorithm could automatically generate project schedules at any time and took advantage of using feature logic generic language to associate existing constraints. Later, they used 3D model data in the form of Industry Foundation Classes (IFC) along with the cases from previous projects.

### **2.2.3 1848**

Fischer and his team showed interest in using project models as input for their algorithm to develop construction schedules. Based on their work in the Center for Integrated Facility Engineering (CIFE) at Stanford University, they extended the idea of automatic project schedules by adding models of construction methods. Their system, known as MOCA, used formalized construction method models to perform the scheduling based on product models. They defined the following five characteristics for each method: constituting activities, domain, constituting objects, resource requirements, and activity sequencing. These methods decomposed higher level activities of the schedule into lower level ones to ease the linking of the schedules with diverse level of details. Then, they presented their constructability knowledge approach, which was tested for reinforced concrete structures. This approach was divided into the following five items: layout knowledge, application heuristics, dimensioning knowledge, exogenous knowledge, and detailing knowledge.

Method/Tool	Contributors	Year	Remark
GHOST network	Navi Chandra et al.	1988	Developing a precedence network, based on construction knowledge
Knowledge-based planning system (KNOW PLAN)	Morad and Beliveau	1991	Using artificial intelligence (AI) and computer-aided design (CAD)
SiN	Muñoz-Avila et al.	2001	Case-based planning algorithm
CBM-Gen+ algorithm	Xu and Muñoz-Avila	2003	–
CaBMA	Xu and Muñoz-Avila	2004	An extension for Microsoft Project
DInCAD	Xu and Muñoz-Avila	2005	–
BIM	Mikulakova E. et al.	2010	Using BIM as the source for data

**Table 2 Research highlights on model-based approach**

Method/Tool	Contributors	Year	Remark
MOCA	Fischer	1994	Using formalized construction method models to perform the scheduling based on product models
Component-based CAD models	McKinneya and Fischer	1998	–
Building construction information model (BCIM)	Firat	2007	Including three models: building product model (BPM), building construction resource and cost model (BPRCM), and building construction process model (BCPM)
BIM for scheduling	Tulke et al. Büchmann-Slorup and Andersson	2008 2010	Based the algorithm on BIM objects
Rule-based spatial reasoning method	Weldu and Knapp	2012	Using the BIM component topological relationships

## 2.2.4 1850

Abd El Razek Et Al. developed an algorithm that used line of balance and critical path method

Method/Tool	Contributors	Year Remark
MASON	Hendrickson, Martinelli, and Rehak	1987 Estimating duration for masonry construction projects
CONSTRUCTION PLANEX	Zozaya-Gorostiza, Hendrickson, and Rehak	1989 Prototypical knowledge-intensive expert system
Economic Optimization Module (EOM)	Phelan et al.	1990 Aiming to minimize the total cost of a concrete pour activity considering time delay fines and material cost
Integrated Building Design Environment (IBDE)	Fenves et al.	1990 Exploring the communication and integration-related issues in the construction industry
SIPE	Kartam and Levitt	1990 Generating correct activity network for multi-story office building projects
SIPE-2	Kartam, Levitt, and Wilkins	1991 Developing hierarchical schedules for building a single-family house
CONSCHEDED	Shaked and Warszawski	1992 Performing quantity estimation, activity generation, activity time, and resource allocation
ESSCAD	Wang	2001 Using information in CAD drawings

in optimizing resource utilization. This resource utilization optimization was conducted by minimizing cost and time while maximizing project quality by increasing resource usage efficiency. Late in 2011, Mohammadi introduced his multi-objective genetic algorithm (MOGA) that generated Pareto front in its approach toward solving the TCO problem in industrial environments.



### **2.2.5 Results**

The literature review revealed the application of several methods to tackle scheduling problems, some more effective than others. The distribution of these methods is illustrated in Fig. 1. This figure clearly shows the dominant distribution of the genetic algorithm method as an optimization tool used by researchers to solve scheduling problems, specifically in the field of construction.

Each of these methods had different contributions to the construction field and represented different approaches to solving construction scheduling problems. These contributions are categorized into three different categories: time, cost, and quality. Figure 2 shows how each of the methods dealt with different aspects of construction scheduling. This figure also shows how genetic algorithms appeared instrumental in all the important aspects of construction management.

# **Chapter 3**

## **Methodology**

Analysis can be defined as breaking up of any whole so as to find out their nature,function etc. It defines design as to make preliminary sketches of; to sketch a pattern or outline for plan. To plan and carry out especially by artistic arrangement or in a skill full wall. System analysis and design can be characterized as a set of techniques and processes, a community of interests, a culture and an intellectual orientation.The various tasks in the system analysis include the following.

- 1.Understanding application.
- 2.2.Planning.
- 3.Scheduling.
- 4.Developing candidate solution.
- 5.Performing trade studies.
- 6.Performing cost benefit analysis.
- 7.Recommending alternative solutions.
- 8.Selling of the system.

Supervising, installing and maintaining the system.This system manages to the analysis of the report creation and develops manual-entry of the student attendance. First design the students entry form , staff allocation and time table allocation forms. This project will helps the attendance system for the department calculate percentage and reports for eligibility criteria of examination .

### **3.1 Existing System**

The Existing system is a manual entry for the students. Here the attendance will be carried out in the hand written registers. It will be a tedious job to maintain the record for the user. The human effort is more here. The retrieval of the information is not as easy as the records are maintained in the hand written registers. This application requires correct feed on input into the respective field. Suppose the wrong inputs are entered, the application resist to work. so the user find it difficult to use.

### **3.2 Proposed system**

To overcome the drawbacks of the existing system, the proposed system has been evolved. This project aims to reduce the paper work and saving time to generate accurate results from the student's attendance. System provides with the best user interface. The efficient reports can be generated by using this proposed system.

### **3.3 Advantages of Proposed System**

It is trouble-free to use.

It is a relatively fast approach to enter attendance

Is highly reliable, approximate result from user

Best user Interface

Efficient reports

### **3.4 Feasibility Study**

Feasibility analysis begins once the goals are defined. It starts by generating broad possible solutions, which are possible to give an indication of what the new system should look like. This is where creativity and imagination are used. Analysts must think up new ways of doing things- generate new ideas. There is no need to go into the detailed system operation yet. The solution should provide enough information to make reasonable estimates about project cost and give users an indication of how the new system will fit into the organization. It is important not to exert considerable effort at this stage only to find out that the project is not worthwhile or that there is a need significantly change the original goal. Feasibility of a new system means ensuring that the new system, which we are going to implement, is efficient and affordable.

## **Chapter 4**

### **Technology in automated and scheduling system**

#### **4.1 Technical aspects**

The technical requirement for the system is economic and it does not use any other additional Hardware and software. Technical evaluation must also assess whether the existing systems can be upgraded to use the new technology and whether the organization has the expertise to use it. Install all upgrades framework into the .Net package supported windows based application. this application depends on Microsoft office and intranet service ,database. Enter their attendance and generate report to excel sheet.

#### **4.2 Operational 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. Technical performance include issues such as determining whether the system can provide the right information for the Department personnel student details, and whether the system can be organized so that it always delivers this information at the right place and on time us in intranet services. Acceptance revolves around the current system and its personnel.

Through this web application, we can keep a systematic record of student's details, mark sheet, attendance and defaulters list. This project enables the easy way of maintaining class attendance with fewer efforts. The system also generates a brief report of attendance from the database according to subject-wise or date-wise as required. A defaulter list can be generated through system. Staff and HOD has the option to take a print of the reports and defaulter list thus generated.

# Chapter 5

## Hardware and Software Requirement

In this chapter, we will take a popular consumer automation hardware in use today, including scheduling system and scheduling algorithm or database they work with. Even though this is a rapidly evolving industry, some manufactures are already becoming established as leaders. Most notable is college attendance with automation and scheduling algorithm, but there are several scheduling algorithms to choose from. Some algorithm requires use of desktop computers, others are just smartphones, and still others are for use with other information.

### 5.1 Hardware Requirement

i3/i5 Processor Based Computer.

1 GB RAM.

50 GB Hard Disk .

Internet Connection.

### 5.2 Software Requirement

#### 5.2.1 XAMPP

**XAMPP** is a free and open source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. 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. Everything needed to set up a web server – server application (Apache), database (MariaDB), and scripting language (PHP) – is included in an extractable file. XAMPP is also cross-platform, which means it works equally well on Linux, Mac and Windows. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server extremely easy as well.

# XAMPP



# XAMPP



A screen shot of XAMPP running all servers on Mac OS X

<b>Developer(s)</b>	Apache Friends
<b>Initial release</b>	May 22, 2002; 15 years ago
<b>Stable release</b>	7.1.9 - <a href="#">Windows</a> 7.1.9 - <a href="#">Linux</a> 7.1.9 - <a href="#">macOS</a> / August 25, 2017; 32 days ago
<b>Repository</b>	<a href="https://github.com/ApacheFriends">https://github.com/ApacheFriends</a>

<b>Development status</b>	Active
<b>Written in</b>	Various Languages
<b>Operating system</b>	Cross-platform Linux Windows Solaris macOS
<b>Platform</b>	Windows - 2008, 2012, Vista, 7, 8, 10 x32 Bit Linux - Debian, RedHat, CentOS, Ubuntu, Fedora, Gentoo, Arch, SUSE x32 or x64 Bit macOS - 10.6 or later x64 Bit
<b>Size</b>	Windows x32 Bit - 123 Mb Linux x64 Bit - 136 Mb macOS x64 Bit - 136 Mb
<b>Available in</b>	11 languages
<b>Type</b>	WAMP, MAMP, SAMP, LAMP
<b>License</b>	GNU General Public Licence
<b>Alexa rank</b>	▼ 10,525[1]
<b>Website</b>	<a href="http://apachefriends.org">apachefriends.org</a>



Component	On Windows	On Linux	On macOS
MariaDB 10.1.26	Yes	Yes	Yes
Apache 2.4.27	Yes	Yes	Yes
PHP	Yes - 7.1.9	Yes - 7.1.9[15]	Yes - 7.1.9[15]
phpMyAdmin	Yes - 4.7.4	Yes - 4.7.4	Yes - 4.7.4
OpenSSL	Yes - 1.0.2l	Yes - 1.0.2l	Yes - 1.0.2l
Tomcat 7.0.56 (with mod_proxy_ajp as connector)	Yes	No	No

### 5.2.2 MYSQL

MySQL an open-source relational database management system(RDBMS).Its name is a combination of "My", the name of co-founder Michael Widenius's daughter, and "SQL", the abbreviation for Structured Query Language. The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now owned by Oracle Corporation. For proprietary use, several paid editions are available, and offer additional functionality.

# Chapter 6

## Database Environment

The database which is used for running the software consist of various various tables and columns present in it written in specific syntax and implemented by passing an appropriate query.This query which is passed runs in the database and gives the required output according to the input provided or request made.

### 6.1 Attendance Sheet Table

This image shows the data entered in the attendance sheet

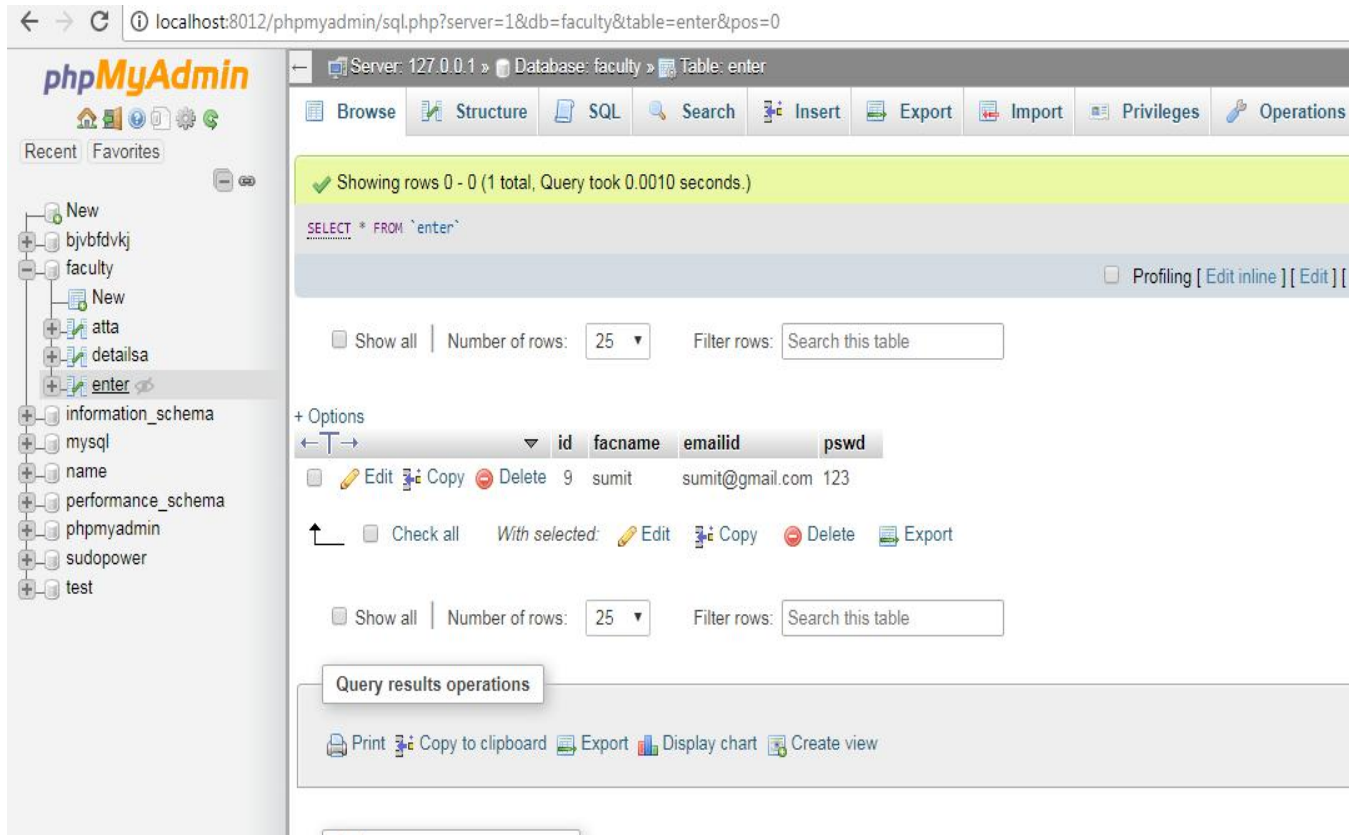
The screenshot shows the phpMyAdmin interface for the 'faculty' database, specifically the 'atta' table. The table structure is as follows:

	date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	0000-00-00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	2017-08-10	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	2017-08-11	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	2017-09-19	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	2017-09-20	0	1	0	1	1	0	1	1	1	1	1	0	0	0	1
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	2017-09-21	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0

Query results operations: Print, Copy to clipboard, Export, Display chart, Create view

## 6.2 Faculty login Table

Stores the login details of the faculty necessary for login



The screenshot shows the phpMyAdmin interface for a MySQL database named 'faculty'. The 'enter' table is selected, and the query results are displayed. The table has four columns: 'id', 'facname', 'emailid', and 'pswd'. A single row is visible with the following data: id=9, facname=sumit, emailid=sumit@gmail.com, and pswd=123.

Server: 127.0.0.1 » Database: faculty » Table: enter

Showing rows 0 - 0 (1 total, Query took 0.0010 seconds.)

```
SELECT * FROM `enter`
```

Number of rows: 25 Filter rows: Search this table

	id	facname	emailid	pswd
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	9	sumit	sumit@gmail.com	123

Check all With selected: Edit Copy Delete Export

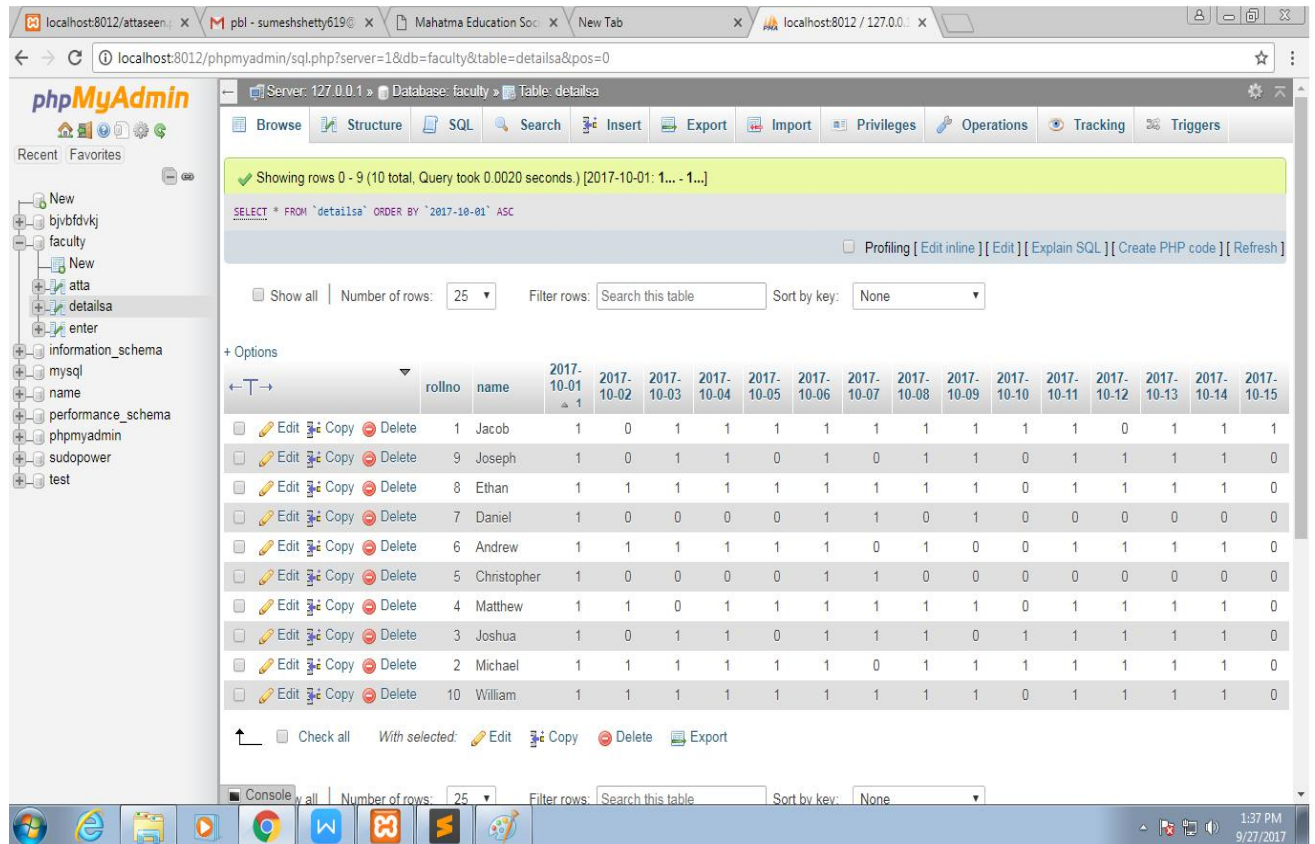
Number of rows: 25 Filter rows: Search this table

Query results operations

Print Copy to clipboard Export Display chart Create view

## 6.3 Attendance stored in database

This image shows the attendance stored in the database day wise



Showing rows 0 - 9 (10 total, Query took 0.0020 seconds.) [2017-10-01: 1... - 1...]

```
SELECT * FROM 'detailsa' ORDER BY '2017-10-01' ASC
```

Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

	rollno	name	2017-10-01	2017-10-02	2017-10-03	2017-10-04	2017-10-05	2017-10-06	2017-10-07	2017-10-08	2017-10-09	2017-10-10	2017-10-11	2017-10-12	2017-10-13	2017-10-14	2017-10-15
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1	Jacob	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	9	Joseph	1	0	1	1	0	1	0	1	1	0	1	1	1	1	0
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	8	Ethan	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	7	Daniel	1	0	0	0	0	1	1	0	1	0	0	0	0	0	0
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	6	Andrew	1	1	1	1	1	1	0	1	0	0	1	1	1	1	0
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	5	Christopher	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	4	Matthew	1	1	0	1	1	1	1	1	1	0	1	1	1	1	0
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	3	Joshua	1	0	1	1	0	1	1	1	0	1	1	1	1	1	0
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	2	Michael	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	10	William	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0

Check all | With selected: Edit Copy Delete Export

Console | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

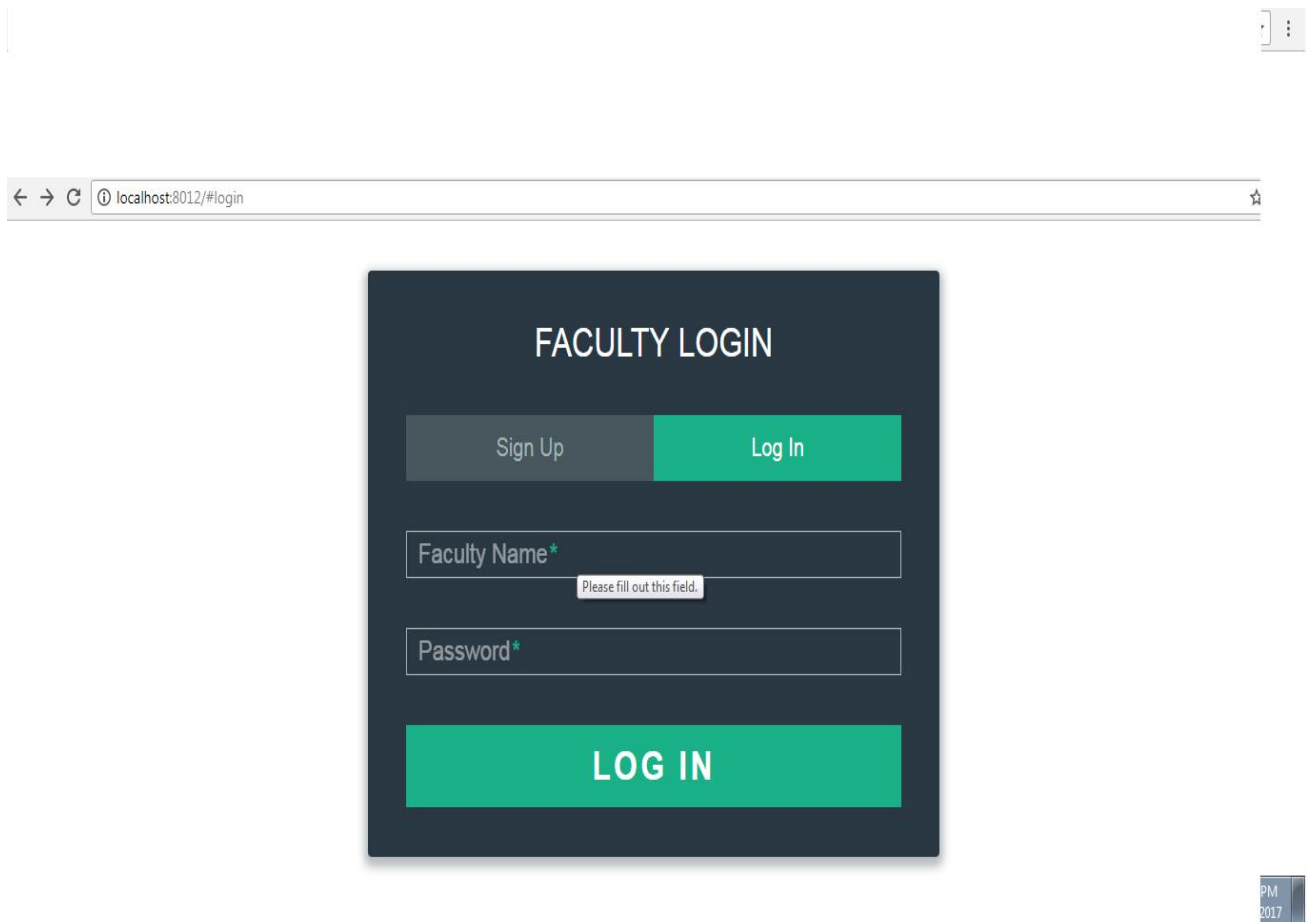
# Chapter 7

## Interface of the system

Interface gives us the brief idea about the lookup of the software when the user uses the software. The interface plays a very vital role in effective and easy handling of the software. The more user friendly it is, the more easy it becomes for the user to use the database. The interface is created using HTML which makes use of CSS and many other concepts. Below posted are the images of the interface of the software.

### 7.1 Faculty login page

It shows the interface of the faculty login asking for name/email and password of the faculty



The screenshot displays a web browser window with the address bar showing 'localhost:8012/#login'. The main content is a 'FACULTY LOGIN' form. At the top, there are two buttons: 'Sign Up' (grey) and 'Log In' (green). Below these are two input fields: 'Faculty Name\*' and 'Password\*'. A small red error message 'Please fill out this field.' is visible below the 'Faculty Name\*' field. At the bottom of the form is a large green 'LOG IN' button. The browser's status bar at the bottom right shows 'PM 2017'.

## 7.2 List and Details Of The Student

← → ↻ localhost:8012/attendance.php

TABLE 1  
Student list

ROLL NO	NAME
1	Jacob
2	Michael
3	Joshua
4	Matthew
5	Christopher
6	Andrew
7	Daniel
8	Ethan
9	Joseph
10	William

← → ↻ localhost:8012/marksheet.php

**PILLAI COLLEGE OF ENGINERRING**

Create PDF

STUDENT MARKSHEET

Name:  Family name:

Institute Name:  Branch:

SEMESTER MARKS

SEMESTER 1:  Out of 100

SEMESTER 2:  Out of 100

SEMESTER 3:  Out of 100

SEMESTER 4:  Out of 100

Submit Reset

Student Information

Name:	<input type="text"/>
Family Name:	<input type="text"/>
Institute Name:	<input type="text"/>
Branch:	<input type="text"/>
Subjects Marks	
SEMESTER 1:	<input type="text"/>
SEMESTER 2:	<input type="text"/>

## 7.3 Attendance Sheet and Defaulters List

← → ↻ localhost:8012/attaseen.php



Roll No	Student Name	2017-10-1	2017-10-2	2017-10-3	2017-10-4	2017-10-5	2017-10-6	2017-10-7	2017-10-8	2017-10-9	2017-10-10	2017-10-11	2017-10-12	2017-10-13	2017-10-14	2017-10-15
1	Jacob	P	A	P	P	P	P	P	P	P	P	P	A	P	P	P
2	Michael	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A
3	Joshua	P	A	P	P	A	P	P	P	A	P	P	P	P	P	A
4	Matthew	P	P	A	P	P	P	P	P	P	A	P	P	P	P	A
5	Christopher	P	A	A	A	A	P	P	A	A	A	A	A	A	A	A
6	Andrew	P	P	P	P	P	P	A	P	A	A	P	P	P	P	A
7	Daniel	P	A	A	A	A	P	P	A	P	A	A	A	A	A	A
8	Ethan	P	P	P	P	P	P	P	P	P	A	P	P	P	P	A
9	Joseph	P	A	P	P	A	P	A	P	P	A	P	P	P	P	A
10	William	P	P	P	P	P	P	P	P	P	A	P	P	P	P	A

← → ↻ localhost:8012/adefaulter.php

Roll No	Student Name	Days Absent	Days Present	Defaulter
1	Jacob	2	14	No
2	Michael	2	14	No
3	Joshua	4	12	No
4	Matthew	3	13	No
5	Christopher	12	4	YES
6	Andrew	4	12	No
7	Daniel	11	5	No
8	Ethan	2	14	No
9	Joseph	5	11	No
10	William	2	14	No

# Chapter 8

## Applications

### 8.1 Introduction

As the technology of automation evolves, the application of Automation and Scheduling become literally unlimited. It is assumed that Automation reshape the interface between people and information technology by offering new ways for the communication information, the visualization of processes, and the creative expression of ideas.

Useful applications of Automation include:

1. aircraft flight control (*in airplane: Instrumentation*)
2. assembly line (*in assembly line*)
3. automotive industry (*in automotive industry: Manufacturing processes*)
4. brick and tile production (*in brick and tile: Automation*)
5. camera focusing (*in technology of photography: Autofocus systems*)
6. composite materials (*in materials science: Polymer-matrix composites*)

### 8.2 Security and Protection Industry

Security and protection system, any of various means or devices designed to guard persons and property against a broad range of hazards, including crime, fire, accidents, espionage, sabotage, subversion, and attack. Most security and protection systems emphasize certain hazards more than others. In a retail store, for example, the principal security concerns are shoplifting and employee dishonesty (*e.g.*, pilferage, embezzlement, and fraud). An important distinction between a security and protection system and public services such as police and fire departments is that the former employs means that emphasize passive and preventive measures.



Security systems are found in a wide variety of organizations, ranging from government agencies and industrial plants to apartment buildings and schools. Sufficiently large organizations may have their own proprietary security systems or may purchase security services by contract from specialized security organizations.

### **8.3 Commercial Application**

1. Multimedia entry system.
2. Lot sensor node.
3. Electric Thermostat.
4. 2 stage ALU controller.
5. Logic Controller.
6. Occupancy Sensor.
7. Power Over Ethernet.
8. Power Line Communication.
9. Gateway.

# **Chapter 9**

## **Impact and Drawback**

### **9.1 Impacts**

Automated Time and Attendance marking system can help schools and higher education in many ways. There is no doubt that an attendance management system will help save time and money by eliminating a great deal of manual processes involved in attendance and leave entry and calculating hours attended. With automatic class attendance system, teachers can more accurately and quickly track student's time on the classroom. Here are the top ten advantages of implementing Time & Attendance Management solution:

1. Reduce paperwork and save time and money with mobile and cloud-based attendance management system . Eliminate duplicate data entry and errors in time and attendance entries
2. Improve visibility to track and manage student attendance & absenteeism across multiple campuses
3. Real-time status tracking of leave requests.
4. Automatic calculation of leave and reward points accrued .
5. Easy attendance recording using RFID & Biometric based attendance system.
6. Track the attendance of teachers and staff, assign work and manage allocation .

### **9.2 Drawbacks**

The first visible difference between the two is the technical support rendered over phone or email and even with remote assistance. The second prominent difference is the limitation offered in accessibility. The third major disadvantage is the unexpected failure of the system where the software do not promise to backup data and/or help in retrieving the data used in free version.

## **Chapter 10**

### **Conclusion**

In the present scenario apart from teaching the teachers have to put a great deal of efforts on other activities like time table making ,analyzing the attendance of every student and accordingly creating a defaulter list so that he/she can be warned about his/her lack of attendance these activities consume a lot of time. We concentrated on these factors and attempted to reduce these efforts to save time of college staff. Our application automatically generates timetable and sends SMS to defaulter students thereby saving time and efforts of college staff. Analyzing performance of teachers is also an important task that is done by every college so as to provide its students with upmost education but this simple activity wasted a lot of resource like paper and had a major task of gathering and analyzing each and every feedback form to conclude on the performance, What we did was took this task online and represented the performance graphically which resulted in a more clear idea of analyzing the performance of teachers.

Future Scope of this application revolves around making it more compact application and platform independent. An android version of this application can be made to make it available on smart phones. Blog for college students regarding the important notices and placements can be added to this application. Feedback forms could contain staff photo to make module more visually pleasing.

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## Appendix

**1.Admin login and admin dashboard:** It has admin login who has the authority of the system. He can view all the attendance records of all class. Admin will provide login id to every class teacher for accessing the system.

**2.Attendance System:** The system contains list of students of all classes. There are two check-boxes of absent and present available in front of every student's name. Faculty can tick mark on absent and present accordingly

**3. Defaulter list:** There is a defaulter's option in the system that produces a defaulters list for every class.

**4. Report Generation:** The system also generates an overall report of every class for a specified period.

**5. Search Option:** There is search option available in system through which the admin can search by any particular student's name and can see their attendance record.

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