# Timetable Generation and Leave Management System

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*Abstract-* **The Timetable Generation System is used to generate timetable automatically and Leave Management System is used to manage the leave records. Nowadays colleges have many courses in them and each course has many subjects to be thought. The faculty is teaching for more than one subject so creating the timetable for this kind becomes difficult, increases the paperwork and it consumes more time. It is a hands-on tabling method accomplished by taking care of constraints mandatorily, especially for preparing timetable in colleges with a large number of students and resources like classrooms or labs. The application is developed so that admin have to log in and enter the subjects, details of the faculty then the timetable will be generated. The leave management is integrated with the timetable generation system which is used to maintain the leave records of the faculty. It frequently works in related to leave functionality like fill application form, cancellation of leave and view the leave details. With the help of this system, a user can apply to leave online admin can approve it to higher levels and update the leave status online.**

**Index Terms Timetable, constraints, scheduling, web application.**

## I. INTRODUCTION

Bus tracking is associate application that tracks a bus and gathers the space to every station on its route. Tracking System involves the installation of associate device in an exceedingly vehicle, with associate put in Android App on any sensible phone to modify the Administrator/User to trace the vehicle's location. There are two applications one for server and the other for the client. Buses carry ETM devices• to track their positions. One for server and the other for the client. Buses carry ETM devices• to track their positions. By this positions to server are periodically updated. Client application displays map showing the position of bus. It shows where buses are on a map and provide users the updated information at different time interval. The server will monitor location and will store its data in the database. It is a period of time system as this technique mechanically sends the data on the ETM system to a central pc or system/SMART phone. Since this is often associate degree mechanical man application we have a tendency to use WAMP server info for the backend. The users will get flexibility of coming up with travel mistreatment the app, to make a decision on that bus to require or once to catch the bus. The waiting time of the user may be reduced. Easy mode of communication is that the key feature of the Bus following system. This application may be simply extended for central following system to stay track of all the general public vehicles. The various queries and economical route management may be simply done through central server system. Wi-Fi may be a technology for wireless native space networking with

devices supported the IEEE 802.11 standards Wi-Fi may be a trademark of the Wi-Fi Alliance, that restricts the utilization of the term Wi-Fi certified to merchandise that with success complete ability certification testing. Devices that may use Wi-Fi technology embody personal computers, video-game consoles, good phones and tablets, digital Cameras, smart TVs, digital audio players and trendy printers. Wi-Fi compatible devices will connect with the net via a local area network and a wireless access purpose. Such associate access purpose (or hotspot) features a vary of concerning twenty meters (66 feet) inside and a larger vary outdoors. Hotspot coverage is often as tiny as one space with walls that block radio waves, or as giant as several sq. kilometers achieved by victimisation multiple overlapping access points. A vehicle pursuit system combines the employment of automatic vehicle location in individual vehicles with software package that collects these fleet information for a comprehensive image of auto locations. Fashionable vehicle pursuit systems normally use GPS or WI-FI technology for locating the vehicle, however alternative sorts of automatic vehicle location technology also can be used.

## II. EXISTING SYSTEM

In early days, time table scheduling was done manually which takes lot of time and patients. It also increases paper work which is difficult to maintain. Timetable was created by a single person or some group involved in thought of managing time effectively. Even managing the record is done using the attendance register for staff. The staff need to

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submit their leave application manually to respective authorities. There will be a chance of losing the data.

## III. PROPOSED SYSTEM

The application is mainly used in colleges in which it takes less time to maintain. In some cases, it can cause problems like when the faculty are absent then they should fill that empty slot immediately. In such cases application can work by itself with little or no direct human control. Hence, system builds practical approach for constructing lecture course timetabling system. It is also integrated with Leave Management System which is used to maintain and approve the leave records of all staff. All authorized users have unique User-id. Using the User-id the staff can login and request for leave. Then administrator and principal can approve the leave or reject the leave request. The administrator can view the user's details. Only authorized users can login. The administrator has full rights to access the database. The staff details can be viewed or deleted only by the administrator. The staff can be created or deleted or modified only by the administrator. The staff can view details such as attendance, leave record modified or updated details.

## IV. LITERATURE SURVEY

Trying to develop a software which helps to generate timetable for an institution automatically. By looking at the existing system we can understand that timetable generation is done manually. Physically alter the timetable when any of the faculty is absent, and this is the immense task for the automatic timetable generator that handling the timetable automatically when any of the faculty is absent.
As all organizations has its own timetable, managing and maintaining these will not be difficult. Considering the job with this scheduling will make it complex. As stated above when timetable generation is being completed it should deliberate the extreme and least workload that is in a college. In such situation, timetable generation will become additional complex. Also, it is a time-consuming process.

## V. ARCHITECTURE

Abstractly speaking, software architecture describes the elements of the system. It also shows the interactions between the elements, models governing its composition and the constraints of these models.
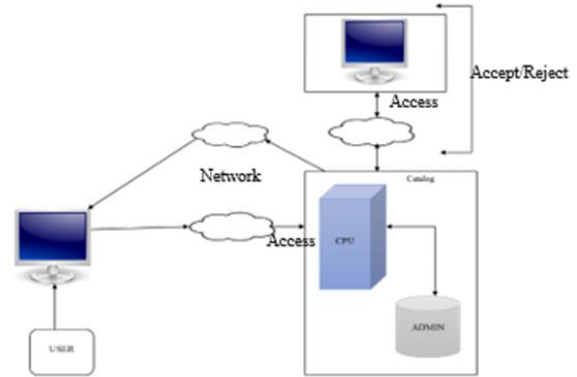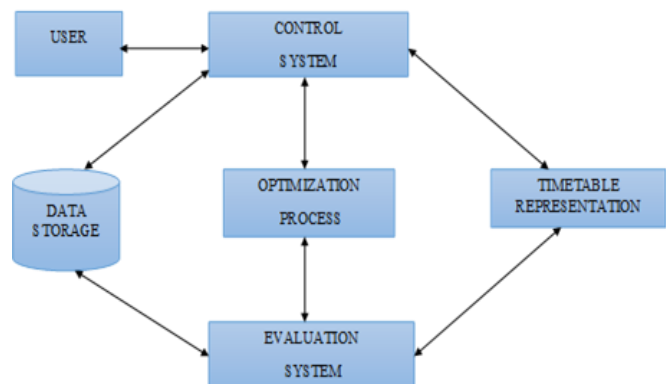
**TIMETABLE:**



*Fig: Architecture of Timetable*

**LEAVE MANAGEMENT:**

## VI. IMPLEMENTATION

The timetable generation system and leave management system is classified into eight modules which demonstrate the work flow of application. The modules are:
For timetable generation system
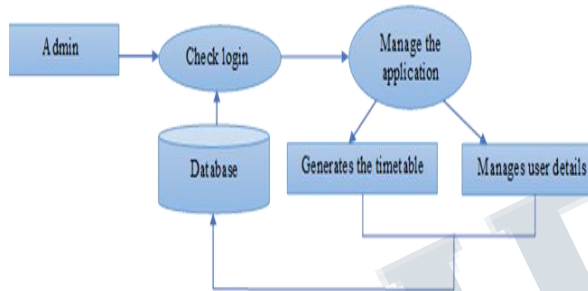- login module
- administration module



- staff module
- student module
- admin module

For leave management system
- administration module
- principal module
- staff module

**Administrator module:**

In administration module the admin plays a major role in this system and can allocate the subjects for staff. Admin is the super user for this system and can manage the application. So, the admin can view all the details and he can update and delete the information. The admin can view the admin and the user register details and mainly can generate the timetable.



• administration module
• principal module
• staff module

**TIMETABLE**

**Login module:**

The system performs all the operations of the login and registration functionality. All the users can register for this application by providing their details. The users can login into the application by specifying their user-id and password.

**Staff module:**

The staff should register in the registration page before entering to the timetable view. Once the staff login into the page then can view the timetable, can check for which semester and subject they are been allocated. The staff module is based on the admins allocation where the staff can view their specific timetable and the department timetable.
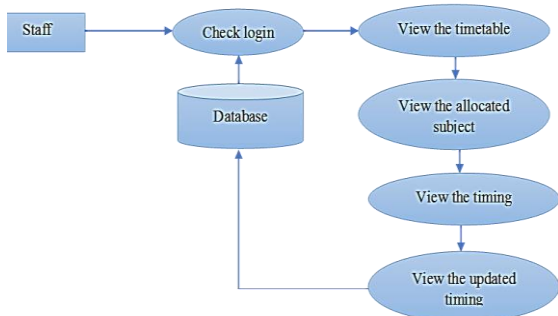


week and should be allotted with one first hour and one fifth hour of classes for that subject.

• The labs should not only be conducted at afternoon sessions, in some consequences they can conduct labs at morning session also.
• The same lecturer should not get continuous class, after each class they should get one free hour.
• During the lab hours particular lecturers should not be allotted with the theory classes

**LEAVE MANAGEMENT**
**Admin module:**

HOD will accept or reject the leave request. Admin can view the attendance details of staff. They can edit, view and update the leave records of staff. Admin will maintain the entire database.
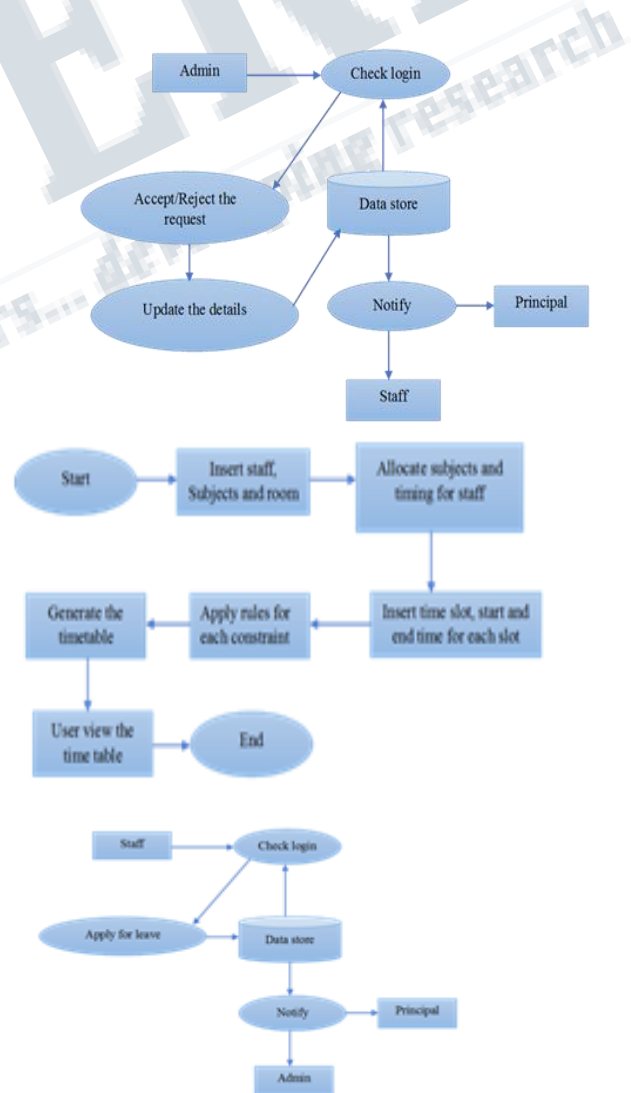
**Principal module:**

Principal can view multiple leave request at the same time and can approve leave request after checking the leave availability and status. Principal can also view leave balance of staff of concerned department, even cancel future leave request even after approved and can view the staff response after sending approved or rejected reply.
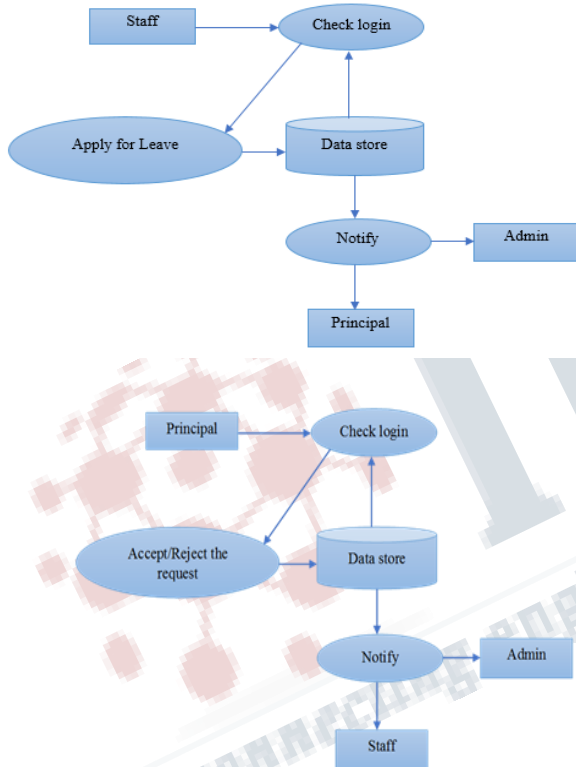




**Staff module:**

Staff can enter leave request using a leave request form. Each leave request can be viewed in real time. Staff can view response from principal for the requested leave to be either approved or rejected according to status. Staff can cancel the leave after principal response for the leave. Staff will send message to cancel the leave request
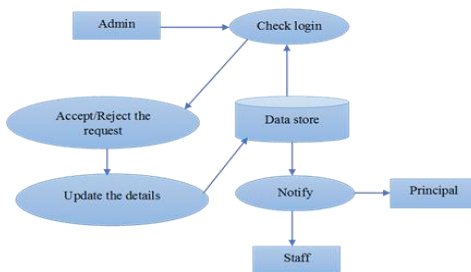


## VI. CONCLUSION

The application will work based on the user needs. Several user-friendly coding has also accepted. This demonstrates to be a strong package that assures all the necessities of college, the objective of the software planning is to provide a framework that enables manger to make practical estimates made within a time limit at the commencement of the software project and should be updated regularly as a project growth. The graphical user interface used in this application provides an easy way in understanding how application works and also makes ease in providing the input. The application is provided with the necessary details of faculty and subjects which are stored in database (sql server) and then by making easy of the available data it generated the lecture course timetable with minimum time when compared to manual generation of timetable. This web application can be used any staff of the organization for easy managing all their leave related work like requesting for the leave application and getting notification on whether their leave request is granted or not. Further, it will provide both flexibility and convenience for the staff of organization.

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