

Timetable Alert Application

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Abstract— Most proposed approaches problems from the student point of view, but this approach works from teachers side. This problem solution depends upon availability of teachers with respect to time slots, number of subjects and classrooms. The purpose of this solution to avoid overlapping of lectures between teachers. It also has function to provide alert before 10 min. Teachers have to keep all the information about all the lectures, subjects and classroom. To avoid this hectic task, we have produce this application named Timetable alert application. In this application we work on managing timetables of the colleges for teachers to give alerts before 10 min. This reminder can only be set by the administrator. The additional function of this application is to give warning for overlapping of lectures if occurred. This application is comes into the category of scheduler application developed for Android smart phones. The administrator does not need to set the alert every time. It is designed for scheduling timetable for teachers. Each user who is login in the application, his/her information is stored in the server database. Teacher will get the information of lecture with respect to time slot and classroom.

Key words: Timetabling, Scheduling, Alert, Reduce Overlapping

I. INTRODUCTION

Mobile phones are popular with Teachers, students and can be used in all walks of life. We will attempt to create an application that the Teachers, students can easily access through their smartphones. Now a days there are many mobile platforms are available in the market , Android OS is the most user-friendly and programmer friendly platform. Android Operating System is supporting a large number of applications in smart phones. These applications make life more comfortable and advanced for the users. This application mainly aims to minimize the difficulties that the teachers faces in managing and scheduling their academic life. The user of this application will be the Teachers and Application should have to installed on the smart phone and android device of the teachers.

Event Reminder and Scheduler Application is application developed for reminding and scheduling about lectures in colleges and institutes and can be used by teachers. In addition it also have includes the facility to set reminder for any extra lectures and other events.

The manually created system of time table preparation in colleges is very complicated and time-consuming task which results in either overlapping the same teachers for more than one class at a time or more than one classes arises at the same classroom.

Hence to solve the above mentioned problems, System can be used called timetable alert application. A primary goal of this application is to create a system which can display the personal and common yearly timetable and reduce overlapping lectures of same teachers. It also gives

us warning or alert before 10 min and mobile goes on silent mode at the time of lectures.

This application has several components as follows:

- Web Application
- Android Based User Application
- Authority server.

II. RELATED WORK

A. *Tanvi Jadhav, Raashi Gupta, "Android Based Academic Scheduler"*

This paper provides features like Academic Scheduler is an application which helps the user about the registered events on specified date and time.

User can efficiently schedule and manage all their activities and user can use the application to check their attendance in each subject and track their overall attendance of the term .Thus it helps students to tackle any management related problems in his/her academic life.

B. *Anirudha Nanda, Manisha P. Pai, and Abhijeet Gole, "An Algorithm to Automatically Generate Schedule for School Lectures Using a Heuristic Approach"*

In this paper generated a time-table scheduling automatically by using a Heuristic Approach. This algorithm incorporates a number of techniques, aimed to improve the efficiency of the searching operation. And also addresses the important hard constraint of clashes between the availability of teachers.

Generality of the algorithm operation, it can also adapted to more specific scenarios, e.g. University, examination scheduling and further be enhanced to create different timetables. Thus, through the process of automation of the time-table problem, many an hours of creating an correct timetable have been reduced eventually. C.N. O. Tippenhauer, K. B. Rasmussen,

C. *Datta, Kalyanmoy Deb, Carlos M. Fonseca, "Solving Class Timetabling Problem of IIT Kanpur using Multi-Objective Evolutionary Algorithm."*

In this paper preparation of class timetable for IIT Kanpur can be done by feasibility of evolutionary algorithms (EAs) The feasibility of evolutionary algorithms (EAs) have been exploited in the present work to schedule the even-semester classes of the institute and also by using NSGA-II-UCTO, a multi-objective EA-based university class timetable optimizer, a number of trade off solutions in terms of multiple objectives of the problem, could be obtained very easily.by using this strategy much better results, than the manually prepared one.

In this paper salient features of NSGA-II-UCTO, used to solve IITK2 like Chromosome Representation, Heuristic Approach, Crowded Tournament Selection Operator, Crossover for Valid Resource Allocation

(XVRA), Mutation for Reshuffling Resource Allocation (MRRA).

D. Vinod J.Kadam, Shraddhanand V. Upadhye, M.D.Laddha," Implementation of University Sports Time table Scheduling using Genetic Algorithm-A Case Study":

In this paper Genetic algorithm is used for timetable scheduling problem. It is preferred because of its simplicity and surety to get the optimum schedule.

Genetic algorithm is a highly constrained problem, it can be divided into different parts to work on parallel environment. It helps to mitigate the time complexity. Sports Schedule Design can be done using Selection, Reproduction, Crossover, Mutation.

The constraints that we are classified as hard or soft. Hard constraints are those to which a sports timetable has to adhere in order to be satisfied and Soft constraints are also those which should not be violated, but if this concept is not possible then there resulting timetable is not optimal. By using genetic algorithm the immense complexity and variety of the problem can be formed automatic sports timetable.

E. J. DongjiuGeng, YueSuo, Yu Chen, Jun Wen, Yongqing Lu, Remote Access and Control System Based on Android Mobile Phonevol.2. Journal of Computer Applications, 2011, pp. 560-562"

In this paper, they present Framework - Cloud Computing is used to store the data of android application online and develop the cloud based application for C program creation, compilation and execution on cheap mobile computing devices. This application authorize various users to access the various education material on the web and also assist them to perform computation on computing machines. Setup a server and deploy the application on the cloud to test it across on the range of different mobile devices. So, with the help of this android application user can do their work, save the data anytime and anywhere from the device. In this paper implementation of Software as a Service (SAAS) is done by using java as an front end.

Working of SAAS, PAAS, IAAS models are explained, Android operating system and android SDK tools which provides the tools and APIs compulsory to begin developing applications on the android platform by using Java programming language.

III. PROPOSED SYSTEM ARCHITECTURE

End user is having android app that has modules to part his placing details with the timetable coordinator Also user can manage his timetable and make an efficient timetable is right for to him.

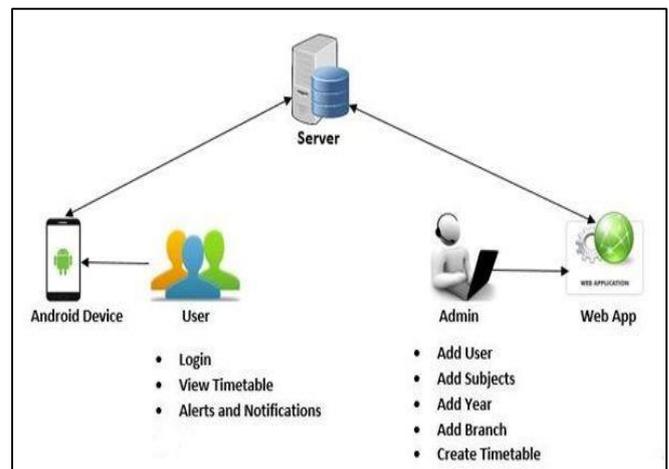


Fig. 1: System Architecture

- 1) Very first user, witness, Admin has to make come into existence an account on the web application. Admin has to make ready nothing like it username and password also to way in the facilities on condition that to the end user. While making come into existence an account of admin all the option are available about timetable uploading.
- 2) Administrator can uploading the timetable through web application of system. Admin upload timetable by using input like Branch, Year, Number of subjects, Number of teachers and also manages all above inputs.
- 3) Administrator adding timetable on server database when admin add teachers on timetable then he can assign username and password for teachers or user.
- 4) Teachers or user can use Android based mobile application on their smartphone and sign in by using username and password which can provided by admin.
- 5) When teachers or user sign in on android application then shows the option like view personal timetable, common timetable and shows advanced option like silent mode of phone.
- 6) Teachers can view his/her personal and common timetable also getting the alert before 10 minute at time of lecture.

IV. MATHEMATICAL MODEL

$S = \{s, e, x, y, Fn, DD, memsh\}$

Where,

s = Start State-Upload Timetable

e = End State-Display Timetable

Input:

x = Input State

$x = \{Ad, Ud\}$ Here

x is input to the S.

Where,

Ad: Admin details require.

Ad is further divided as follows,

$Ad = \{Lreq, Br, Yr, Sub, Te, Ts, Up\}$ Where,

Lreq : Login request

Br : Add Branch

Yr : Add Year

Sub : Add Subjects

Te : Add teachers details

Ts : Allocating time slots.

Up: Assigning username and password to user.

Ud is further divided as follows:

Ud = {ULreq} Where,

ULreq :User Login request

Output:

y = Output State

Op = { VTime,VPPrTime,VCoTime,AN } Where,

VTime: View timetable

VPPrTime: View personal timetable

VCoTime: View Common timetable

AN: Alerts and notification.

Functions: Fn is function

Fn = { LogA , LogU, } Where,

LogA : Login function for Admin .

LogU : Login function for User ,

GetData:Getting required information i.e Branch, Year, Subjects, Teachers.

ManData: If required changes can be evaluated from the managing data.

DispData:Required timetable is displayed.

NotiData:Here we get alerts and notifications for particular time is given.(10 min alert before the lecture)

- Success Conditions: Display personal commonly year-wise timetable and getting alerts, notifications about lectures.
- Failure Conditions: If admin can not uploading timetable data in the database.

V. ANALYSIS AND RESULTS

It is analyzed that admin has to sign in web application first. Admin can upload all branch and year wise timetable on server database also assign username, password to the teacher or user. Teacher or user can sign in through android application and view personal and common year and branch wise timetable. Teacher or user getting alert and notification about lecture. In advanced option Mobile goes silent mode at the time of lecture.

Following are the details of implementation:

A. Following is the home screen of web application of admin side having options to deal with the system

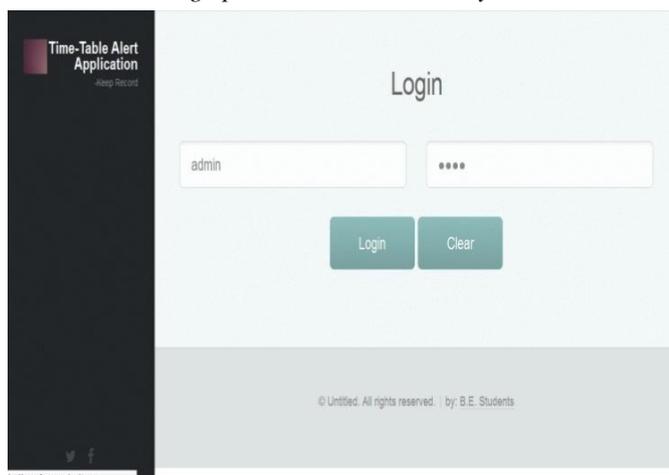


Fig. 1: Screen 1

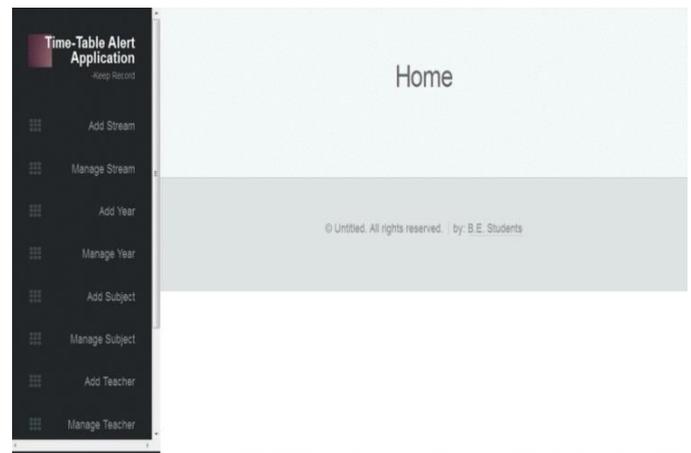


Fig. 2: Screen 2

B. Following is the screen that Admin can upload branch, subject, teachers details and assign username or password to teachers.

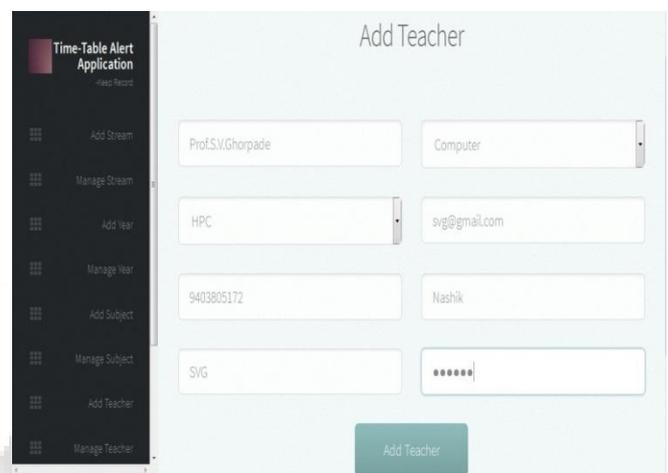


Fig. 3: Screen 3

C. Following is the home screen of android application at teacher or user side having options to deal with the system

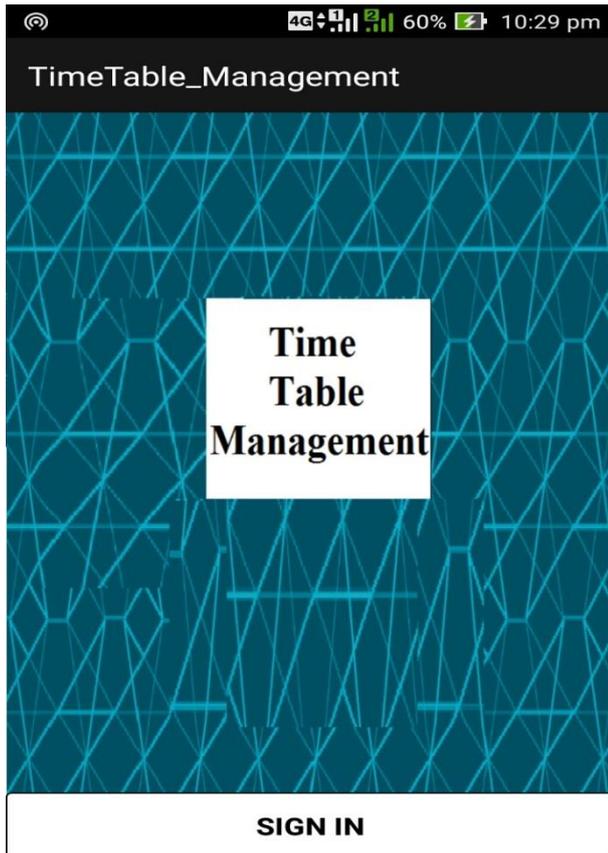


Fig. 4: Screen 4

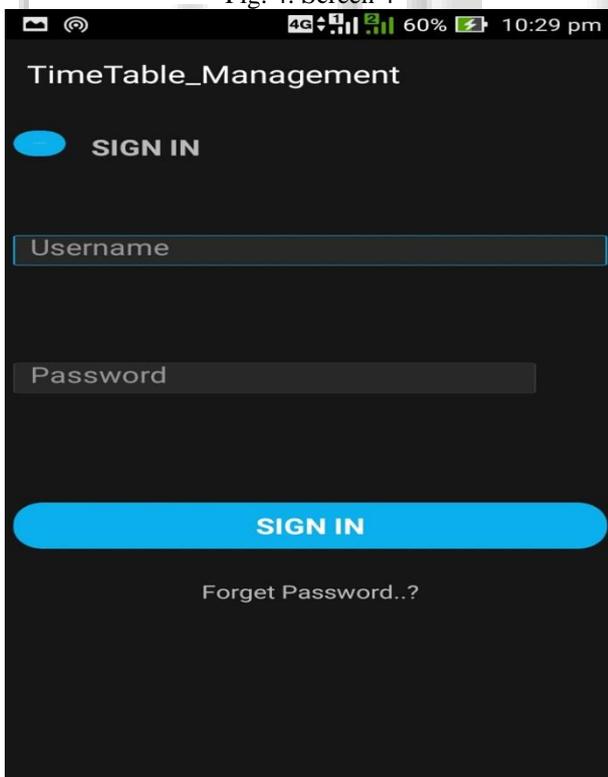


Fig. 5: Screen 5

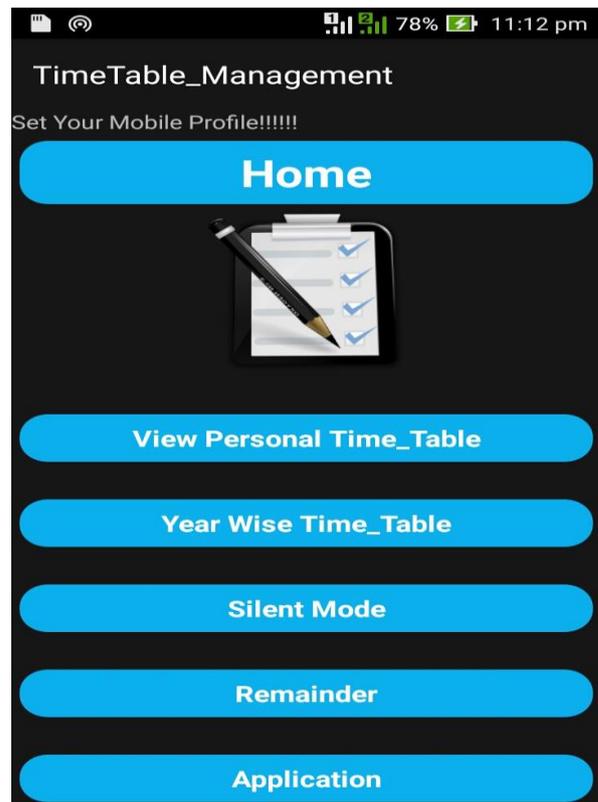


Fig. 6: Screen 6

VI. CONCLUSION

In this paper we proposed a system is mainly for android phone users. Timetable alert is an application which helps the user about the lectures on specified date and time. Reminders for these lectures can be customized by the user. User can efficiently schedule and manage all their activities and alert before 10 min of lectures also teachers can inform to timetable coordinator if any overlapping can be occur at the same time. Thus it helps teachers to tackle any management related problems in his/her academic life.

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