

COLLEGE CYBERNETRIC SYSTEM APP IN ANDROID

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Abstract—College Cybernetic System is an Android application to monitoring the department Activities through mobile/Smartphone. By using this application Head of the Department (HOD) can view the Student performance in attendance and marks and also intimate Students marks and attendance percentages to their parents through SMS to the parents mobile. And Sending Notifications to both students and faculty about the department activities. also monitoring faculty status In many colleges teachers use to take attendance manually by using Registers. This Application helps teachers to take attendance through mobile and also keep in touch with student in some aspect. This System allow teachers to take attendance, edit attendance, view student's attendance and also Uploaded into the server etc. By using This Application Head of the Department (HOD) can analyze the student's performance by section wise and subject wise and also helps teachers to inform students about the events that college is going to organize. This system also gives a prior intimation to student as soon as his attendance goes below the specified attendance deadline in the form of an alert. This application also allows seeing the college latest news, placement cell news and also college location in Google maps by using web services and location manager

Keywords: Android, mobility, automation, attendance, location service, web services.

1. INTRODUCTION

The rapid growth of smart phones has lead to a renaissance for mobile services. Go-anywhere applications support a wide array of social, financial, and enterprise services for any user with a cellular data plan. Application markets such as Apple's App Store and Google's Android Market provide point and click access to hundreds of thousands of paid and free applications. Markets streamline software marketing, installation, and update—therein creating low barriers to bring applications to market, and even lower barriers for users to obtain and use them.

Android is a open source mobile application development platform. Mobile applications are executed in mobile device to perform various type of operations. ex: calc, converter. We have seen over the years that the process of manual attendance has been carried out across almost all educational institutions. The process is not only time. consuming but also sometimes inefficient resulting in the false marking of attendance. Today, we need not maintain pen and paper based attendance registers. Similarly to analyze the student performance based on attendance and marks we need to maintain records for that following this thought, we have proposed an attendance monitoring system, performance of students, latest news about campus placements and college timetables, faculty workload which is implemented as an Android mobile application that communicates with the College database residing on a remote server. The mobile application would require connecting to the database using either General Packet Radio Service (GPRS) or Wi-Fi technology.

Our project is an efficient and user friendly Android mobile application for an Attendance Monitoring, faculty workload, and analyzing the student performance based on marks, attendance. The application will be installed on the user's (in this case teacher's) smart phone. It intends to provide an interface to the Head of the Department to interact with modules and it reduces the time provide accurate results. the application would support strong user authentication and quick transmission of data via the web service. Lecturers will login to the phone application and get connected to the server. After login, they will perform required operation like attendance, workload using mobile phone. In this application we provided with sophisticated tracking system when uploading attendance to serve the backup copy will be saved in android internal memory with name of

time and subject id. Staff can also upload the any notice through the mobile which is visible to student by their own smart phone. This application fetches the details of the courses allotted to the respective faculty and the students enrolled in the courses from the server using the internet connection and store it in the mobile database. This application stores the attendance in the mobile internal database and the faculty can view and update the attendance whenever required.

2.EXISTING SYSTEM AND PROPOSED WORK:

2.1 Working of Existing System: In the present system all work is done on paper. The whole session attendance is stored in register and at the end of the session the reports are generated. We are not interested in generating report in the middle of the session or as per the requirement because it takes more time in calculation. At the end of session the students who don't have 75% attendance get a notice. If you want to analyze the performance students you need the college records also if any faculty wants know the current work faculty must maintain the timetable. if any faculty wants know the latest news regarding the website they will open college website and see the latest news, events held in college.

2.2 Disadvantages of Present Working System:

- Not User Friendly
- Difficulty in report generation
- Manual control:
- Lots of paperwork
- Time consuming

2.3 Characteristics of Proposed System:

- User Friendly:** The proposed system is user friendly because the retrieval and storing of data is fast and data is maintained efficiently. Moreover the graphical user interface is provided in the proposed system, which provides user to deal with the system very easily.
- Reports are easily generated:** reports can be easily generated in the proposed system so user can generate the report as per the requirement (monthly) or in the middle of the session. User can give the notice to the students so he/she become regular.
- Very less paper work:** The proposed system requires very less paper work. All the data is feted into the computer immediately and reports can be generated through computers. Moreover work becomes very easy because there is no need to keep data on papers.
- Computer operator control:** Computer operator control will be there so no chance of errors. Moreover storing and retrieving of information is easy. So work can be done speedily and in time.

2.4. Why we choose the Android Operating System:

Android is basically an operating system for smart phones that is based on a modified version of Linux. It was originally developed by a startup of the same name, Android. Now the Android is a market-mover. Now is an exciting time for mobile developers. Mobile phones have never been more popular, and powerful smart phones are now a regular choice for consumers. Stylish and versatile phones packing hardware features like GPS, accelerometers, and touch screens are an enticing platform upon which to create innovative mobile applications. Android hardware will be designed to tempt consumers, but the real win is for developers. Android developers are free to write applications that take full advantage of increasingly powerful mobile hardware. As a result, developer interest in Android devices has made their 2008 release a hugely anticipated mobile technology event. Built on an open source framework, and featuring powerful SDK libraries and an open philosophy. We find it now in integrated into PDAs, touch pads or televisions, even cars or net books. The mobile-application space is crowded and difficult to gain footing for a newcomer. Android is important because of its application model. For users of smart phones, Android provides easy access to social

networking sites like Facebook, Twitter, and YouTube and smooth integration with Google products like Gmail, Google Maps, and Google Calendar. Access to the Android software development kit (SDK) suggests that the number of applications will continue to swell as professional developers provide new offerings. In Addition, the App Inventor, which provides a web-based visual development environment for those new to this kind of programming, is meant to entice students and developers from outside the computer science department to write their own applications and thereby ensure a growing base of apps going,

Android OS powers the following types of devices:

- Smartphone's
- Tablets
- Ereader devices
- Notebooks
- MP4 players
- Internet TVs

Android use, the recommended IDE is Eclipse, a multi-language software development Environment featuring an extensible plug-in system. It can be used to develop various types of applications, using languages such as Java, Ada, C, C++, COBOL, Python, are freely available on Internet and the Android SDK contains a debugger, libraries, an emulator, documentation, sample code, and tutorials are also downloaded from the net. And when the SDK Manager is started, it first checks for the packages that are available for installation. The packages contain the documentation and SDK specific to each version of the Android OS. They also contain sample code and tools for the various platforms.

Sample Android Mobile Phone:



2.5. Proposed System:

College Cybernetic software is used to maintain the day to day operations in a Department. This software help them to maintain the student and faculty Activities and records. So the maintain becomes easier. In the proposed system we should develop an automated system that overcomes the drawbacks of the existing systems. In this system all the management is done on the software. So the time taken to perform a task is reduced, there is no need of maintaining large books and no need of any place to store them. We have developed new system, which is based on Android Smart phone in which all the department activities like attendance posting to server, sending notification to students, intimating students performance to his parents through SMS etc by simply using college cybernetic app in android. It is most reliable & time saving system while conducting some entrances test. Following are advantages of proposed system

TimeSaving:-As the test is conducted on computer it takes very less time for the student to attempt the question by simply clicking on the answer which they thinks to be right.

Accuracy:-Unlike the manual system there is no in accuracy while checking the answer of a question. Since it does not make any calculation mistake while at the same time of checking.

QuickDeclarationofResult:-In the computerized system the results are declared in less time i.e. within the fraction of minutes. So we can say that in computer system are more efficient then the existing system from the point of view of declaring the result

MoneySaving:-Unlike the existing the computerized system does not require the any professor to check the answer sheet so this saves the lot of money.

3. IMPLEMENTATION:

Implementation is the stage of the project when the theoretical design is turned out into a working system. Thus it can be considered to be the most critical stage in achieving a successful new system and in giving the user, confidence that the new system will work and be effective.

The implementation stage involves careful planning, investigation of the existing system and it's constraints on implementation, designing of methods to achieve changeover and evaluation of changeover methods.

This project will be the platform independent, i.e.; project will be run on any operating system. Because any one can be access the project and upload it of their use.

Modules Implementation:

Following are modules in proposed system

Login:

If any user interacting with the application user must logged in to the application with his credential (username and password). Once he enters the username and password application validates if the user authorized or unauthorized. The first thing you will see is a prompt to login to access the application. This username and password must be unique to the every user.

Student Marks By Section And Subject Id Wise:

This is one of important module in this application if the any faculty wants analyse the performance of the students. No need to verify the college records simply open the application provides the appropriate information like section name and branch. Performance can be analysed by individual percentage wise. In this module introduce another feature called percentage criteria. If you want analyse the student performance by percentage. In this module we can analyse the student performance both section and subject id wise.

Student Attendance By Section And Subject Id Wise:

This modules helps if the any faculty wants analyse the Marks performance of the students. No need to verify the college records simply open the application provides the appropriate information like section name and branch. Performance can be analysed by individual percentage wise. In this module introduce another feature called percentage criteria. If you want analyse the student marks performance by percentage. . In this module we can analyse the student performance both section and subject id wise.

Student Online Attendance System:

The purpose of Attendance Entry Module is to enter the attendance using cell phone. In this module Lecturer takes the attendance using the cell phone. Lecturers select the branch, semester and year. After this session he enters in to attendance page.

Student attendance is one of the main activity in the department. This is actually done by the every faculty member in the department. Attendance has been taken by hour to hour basis. In the existing system each faculty member is first enter the attendance in his register and then uploaded into the web related software system. (i.e. student monitoring system).This information is not entered instantly.

Our proposed system instantly taken the attendance by using mobile/tablet and uploaded instantly in the class room itself.

Workload of Faculty:

Displays workload/classes on that day and also intimates (or) reminds for each class/lab. It displays dynamically generated time table. It specifies overall time table of course in a particular semester. That means subject name, hour number, section, time in which class faculty is going.

Allocated Subjects Of Faculty:

In general any college the subjects are allocated to the faculty at the time of starting of course or semester. He/she wants to know the what are the subjects allocated to me he/she went to the office and check in the records. Some of them feel difficulty in that process.

To overcome this no faculty need not to go and check records for allocated subjects simply open our application click on allocated subjects tab it displays the list of subjects allocated to him/her.

Sending Messages to the Parents:

It would be safe to say that nearly every mobile phone sold in the past decade has SMS messaging capabilities. In fact, SMS messaging is one great killer application for the mobile phone and it has created a steady revenue stream for mobile operators. Understanding how to use SMS messaging in your application can provide you with many ideas to create the next killer application. The SmsManager manages SMS operations such as sending data to the given mobile device. You can create this object by calling the static method SmsManager.getDefault (). To send an SMS message, you use the SmsManager class. Unlike other classes, you do not directly instantiate this class; instead you will call the getDefault() static method to obtain an SmsManager object. The sendTextMessage () method sends the SMS message.

Sending Notifications To Students And Faculty:

In this we mainly to focuses on sending notifications to the students and faculty i.e. day to day assessment for reducing pending of work, sending information about college events like postpone of exams, college cultural events, what are the workshops held in college. Will be send message by the Hod to the student and faculty numbers.

Latest News Of Campus Placements:

This module helps the user to know the latest news of college events like placement cell, examinations notices and events are held in the college. Usually these are also finding in the college website. But to achieve this we require number of pages to redirect and also it is time consuming process to overcome this problem we simply click on module it will display all the required things in our android mobile.

Location of College:

This module helps the user to view the college location in the Google map. Google provides via Google play a library for using Google Maps in your application. The following description is based on the Google Maps Android API v2 which provides significant improvements to the older API version. The google.android.gms.maps.MapFragment class and the MapView class for displaying the map component.

Logout:

If the user information is stored in the Validating Session, that session should be closed using its close () method. If the information on the other hand is stored in the Http Session or Portlet Session, then that session should be invalidated using the invalidate () method in Validating Session that represents either underlying session type.

Aside from removing the user's information, the user should also be redirected to a logout page to avoid keeping the UI open in the application after all server-side information about is has been removed.

4. USE BACKEND:

As the backend mostly use the SQL, MYSQL, ORACLE these all use. Follows the same query but the way of organizing the data is different in all.

SQLite can be a powerful tool that makes it easy to store, access, and manipulate data. Say that you have designed a game for Android, and you would like to keep track of the user's high scores

for the game. You could store the high scores in a SQLite database, and retrieve the scores sorted from highest to lowest to display to the user.

SQLite is embedded into every Android device. Using a SQLite database in Android does not require a setup procedure or administration of the database. In the Android *SQLite* is an Open Source database. SQLite supports standard relational database features like SQL syntax, transactions and prepared statements. The database requires limited memory at runtime (approx. 250 Kbyte) which makes it a good candidate from being embedded into other runtimes.

SQLite supports the data types TEXT (similar to String in Java), INTEGER (similar to long in Java) and REAL (similar to double in Java). All other types must be converted into one of these fields before getting saved in the database. SQLite itself does not validate if the types written to the columns are actually of the defined type, e.g. you can write an integer into a string column and vice versa. Access to a SQLite database involves accessing the file system. This can be slow. Therefore it is recommended to perform database operations asynchronously. The android. Database package contains all necessary classes for working with databases. The android.database.sqlite package contains the SQLite specific classes.

PHP based web service that communicates with our Android app and our MySQL Database. Our web service will have to send the database and privileged user credentials every time that we want add to, select from, update, or delete anything from our MySQL database.

5. FLOW DIAGRAM:

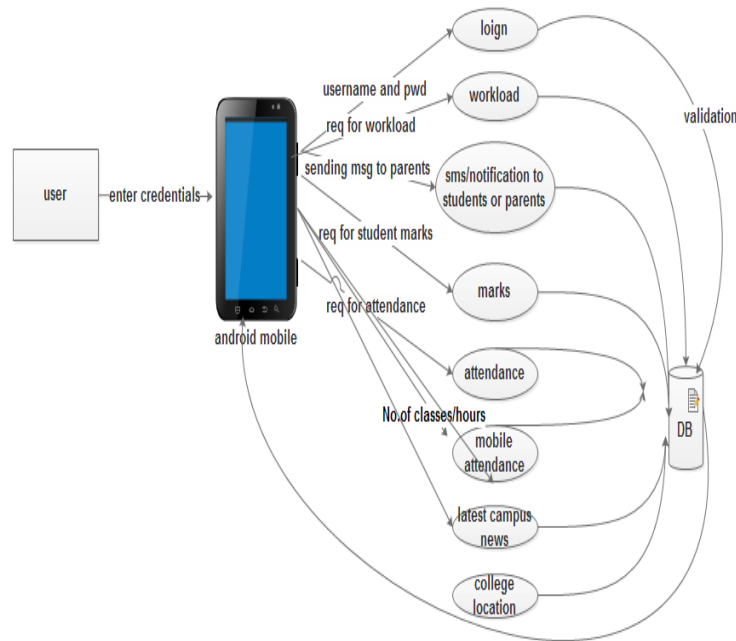


Fig 1: Data Flow Diagram

6. ADVANTAGES:

After installing this software into the android smart phone

- Calculating the attendance it will too time consuming for the staff.
- Easily analyze performance of students.
- Easy to know the latest news of college activities.
- Improve the accuracy.
- Less paper work

- No chance of the mistake while calculating the attendance manually.
- Staff work will be less.

8. FUTURE SCOPE:

- On the college level this software is beneficial for the staff as well as student also.
- As soon as the students log in the application in the class, they will be available for the attendance. The lecturer will then submit the attendance using the availability of the students those who are logged in.
- It informs students about low attendance and various events.
- Student and faculty don't have to visit the notice board every time.
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9. Results

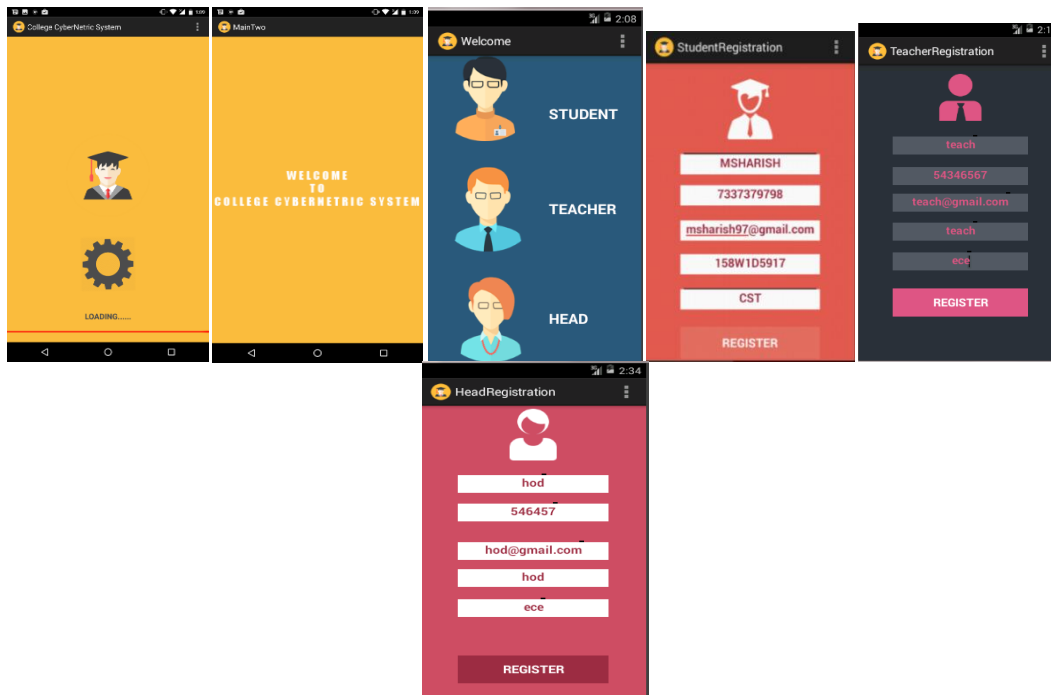


Fig 1: Shows No. of Modules

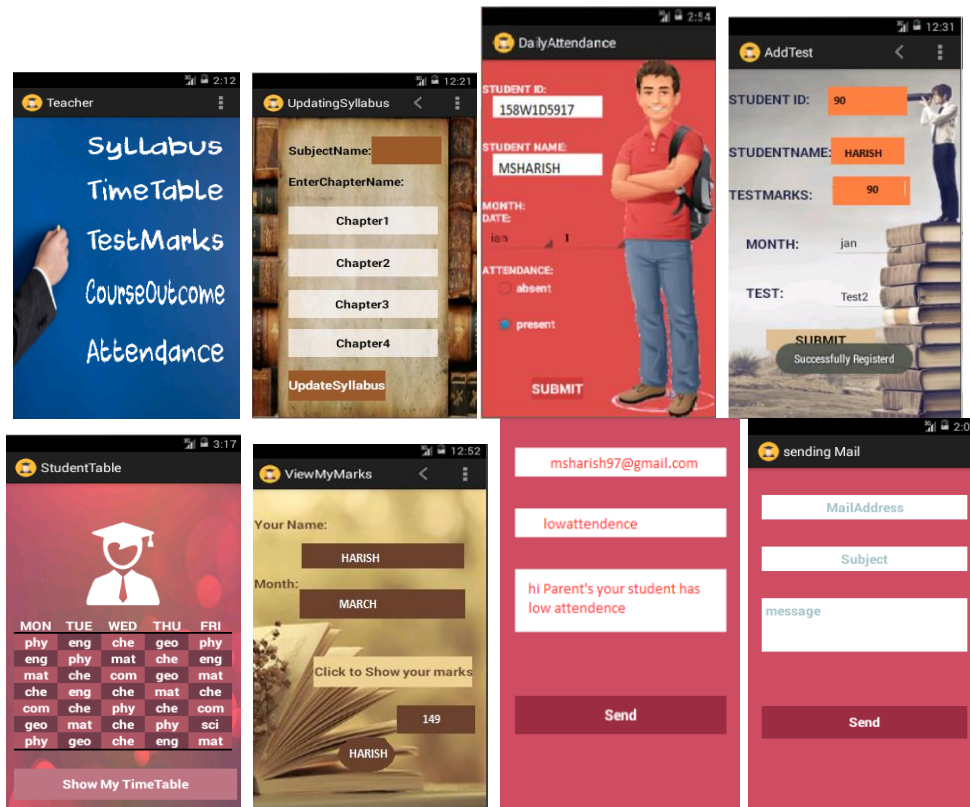


Fig 2: Shows No. of Modules

10. CONCLUSION:

It was a wonderful and learning experience for me while working on this project. This project took me through the various phases of project development and gave me real insight into the world of software engineering. The joy of working and the thrill involved while tackling the various problems and challenges gave me a feel of developers industry. It was due to this project I came to know how professional software's are designed. I enjoyed each and every bit of work I had put into this project. The project is further extendable.

In my application develop a college automation The framework maximizes the aggregate utility of department activities through android phone. The proposed framework readily leads to a simple and effective admission control mechanism on department.

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