STUDENT STATISTICS SYSTEM USING CONFINED ANDROID APP

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Abstract - *This project aims to accomplish an optimized and comprehensive application which will be highly beneficial for teachers. Here we target mainly on the attendance application for teachers along with e-books ands result updating and publishing .In this paper, we propose a technique which efficiently uses the time. The proposed method here is attendance using android application with two additional features circular and student aid which will to useful to all students .Attendance is being taken manually by teachers and then attendance percent calculated which is finally entered into database. Another big drawback is the attendance system where there can be manual errors while calculating or marking attendance. And it consumes time when it is uploaded in database which also has possibility of mistakes while entering data .To overcome the above mentioned problem we propose an android application where the attendance is time efficient and accurate and attendance is made easy where a click of a button submits the attendance to database with the staff details who took attendance. The main target of this is the attendance application where we also give secure feature like username and password to avoid misuse of the application. To overcome the circulation and time delay in important circulars we have a circular option where staff/students can see the circulars instantly. And to see student information about his leave it can also be seen instantly by typing just his register number. And can update their result and study materials for them. Student module benefits the students by fetching their results calculating their GPA, CGPA, exam schedules and study material. Parents can also use this app, they can see their wards progress just by scanning their ID Cards and can also track their wards college bus in case of emergency or delay in returning home. This application does not need any separate device to run, it is an android application which runs in android mobile devices. This application reduces the time consumption and more user friendly where mistakes can be avoided. And the attendance report can generated instantly and can be export to various formats like pdf, csv, etc.*

Key Words: JSON, Firebase, Mobile Vision, FCM Messaging, SQLite, API.

1. INTRODUCTION

The number of users and mobile application are growing rapidly. According to a recent report in 2017 it was 299 million users of smart phone in India and it grew 45% more in 2018. The Android operating system was first developed by Google in 2008 in response to Apple's iOS, which dominated the smartphone market at the time. Since 2008, the Android OS has proven itself a worthy competitor and officially took over as the market leader in the fourth quarter of 2010. The number of new Android devices being activated each month continues to climb at a staggering rate. Technology is one thing which can change the world and small changes in technology brings a revolutionary invention and Android is one among them and its user friendly too and many users prefer android application to reduce the manual works. Android is the operating system that powers more than one billion smartphones and tablets. Since these devices make our lives so sweet, each Android version is named after a dessert. Networking is another important thing in technology which helps interconnect devices. There are many types of network like LAN, WAN, MAN etc. The LAN mainly helps in sharing information within a network. This project deals with the android application which works in a WAN and data exchange is done between the server which is a system and clients which are the mobile users. The server has the database which stores data and data also can be retrieved from that.

1.1 SCOPE OF THE PROJECT

Our scope is that manual attendance is changed to an advanced and secured attendance application which runs on android platform and staff can take attendance, view circulars and student information instantly, with e-books ands result updating and publishing and the details are submitted to database once the attendance is taken. We require java code to build this application and Internet connection in student end to fetch their result and study material etc.

1.2 PROJECT DESCRIPTION

Now is an exciting time for mobile developers. Mobile phones have never been more popular, and powerful smartphone are now a regular choice for consumers. 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 offers an open and equal alternative platform. Without artificial barriers, Android developers are free to write applications that take full advantage of increasingly powerful mobile hardware. One such application is what this project is about. Student statistics system using confined android app. A comprehensive and secured android application for taking attendance and to calculate attendance percent and to view circulars and student information instantly with student aid .The main target of this is the attendance application where we also give secure feature like username and password to avoid misuse of the application.

To overcome the circulation and time delay in important circulars we have a circular option where staff can see the circulars instantly. And to see student information about his leave it can also be seen instantly by typing just his register number it also includes student aid. Attendance application reduces time consumption and more user friendly where mistakes can be avoided.

1.3 EXISTNG SYSTEM

The number of smart phone users and mobile applications are growing rapidly. Technology is one thing which can change the world. The pace at which everything is happening and changing, we need to cope up with the change. In the existing system attendance, result publishing circulating notes are done manually and separately. Existing system many records have to be maintained properly and every single work is done manually. For e.g. circulars are sent separately to each classes to make announcements and to see students attendance information they have to browse through the records and count the days of present and absent are should see the database which is also uploaded manually. And the exam results are sent most of the time in postal. More time is wasted in searching books by the students.

1.4 LIMITATIONS

- Occurrence of error during uploading or taking attendance.

- It is time consuming process, in today's world a lot of time is wasted especially in this attendance process, circular and getting student's attendance information.

- Circular sometimes does not reach on time.

- More time is wasted in searching the books and study materials.

- Lot of manual work is involved in this which unnecessary for this work and this is a less secured since records are on paper. And it is prone to misuse.

2. PROPOSED SYSTEM

Thus to overcome the above limitations this project is done to change things using Android application for the attendance, Circular can be sent through the application to all devices , Student information , result , study material and attendance details are updated in database and can be retrieved. Whenever needed it can be seen instantly, the main thing here is this attendance reduces a manual work. All things are available for the staff in their hands and what they have to do is just access and update the information. The staff uses this application to take attendance and to calculate attendance percent and the upload student result and study materials for them. Student use this app to fetch their result study material exam schedule etc. This Android

attendance application works username and password. This is mainly done for security reason. This application needs no more signing of staff members once you login into staff it will automatically fetch your name and store in database as attendance taken by this particular staff. This allows for late comers to get permission from the respective staff and make further changes in attendance. The further changes will be done by admin. This data's can be exported are periodically in xls format. And students list can be imported in specified format to add data's excel file can be imported to add data's. Parents can use this to check their wards progress by just scanning their ID card.

2.1 ADVANTAGES

- Reduces time for teachers to take attendance and upload them.

- Error reduction.

- Staff can see circular instantly.

- Staff can upload books and result.

- Student's information can be seen and attendance is updated automatically to database.

- Students can check their result, exam schedule etc.

- Parents can also see their wards academic progress.

2.2 IMPORTANT ANDROID COMPONENTS

An Android application consists out of the following parts:

- **Activity**-It represents the presentation layer of an Android application. It presents a screen in your application. Activity can be displayed as dialogues or can be Transparent. An Android application can have several activities.

- **Views and View Groups**-"Views" are user interface widgets. The base class for all the views is android .View. Views has attributes which is used to configure their appearance and behavior.

- A "View Groups" is for arranging other views. They are also called as layout managers the base class for "view Groups" android.View.viewgroup which extends the class.

- In order create complex layout View Groups can be nestled. It should not too deeply nestled since has a negative impact on the performance.

- **Intents**-These are asynchronous message which allows application in order to request functionality from other components of the Android Systems.

- Applications register themselves to intent via an Intents filter. To perform certain tasks Intents allow to combine loosely coupled Components.

- **Services**- It perform background tasks without providing a user Interface can notify the user via the notification framework in Android.

- **Content Provider**-It provides a structured interface to application data via a content provider applications can share data from one to another. Along with content provider SQ Lite database is used in conjunction. The SQ Lite database stores the data which is accessed by content provider.

- **Broadcast Receiver**-Broadcast receiver registers the messages and Intents In the case when specified situation happens a Broadcast receiver will get notified by the Android system.

- **Widgets (Home Screen)**-These are interactive components used on the Android home screen. They display a kind of data and allow user to perform via then.
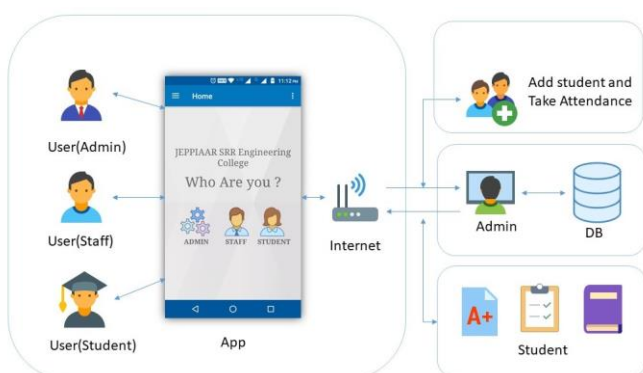
2.3 SECURITY AND PERMISSIONS

Android defines certain permissions for certain tasks. For example if the application want to access the internet it must define in its configuration file that it would like to use the related permission.

During the installation of an Android application the user get a screen in which he needs to confirm the required permissions of the applications.

2.4 ARCHITECTURE

The Architecture explains about the communication between the Android user who are the group of clients and the server database. User operates as admin to add data's for staff , staff operates to take attendance ,update notes and result and students use the app to fetch their result, notes etc.,.

2.5 ADMIN

Admin has two main responsibilities, managing the database importing and exporting reports from database. Another is admin has a separate login. He has certain

functions to do in both cases. In the first case the data's will be uploaded in database which is in the server and admin should make sure he regularly visits the database and exports the required data's and import the data's required periodically. For the security purpose the admin has to take care of the passwords and student details. The passwords can be changed regularly for security purpose and the status of student can only be changed by the admin with prior permission from the respective staff members and the head of department.

The admin has to send circulars whatever needed on that particular day through his login. This circular is stored in the database and staffs/students are able to see that retrieving it, admin only has the permission to add new department or section when needed for a college.

2.6 STAFF

The staff have three options in their login, staff have to login only with their passwords. The first thing in the selection page is attendance, staff should select the class and take attendance, they have to just select the absentees and submit automatically others will be marked as present. Once the attendance is taken and submitted to database the staff can take the attendance for the second time on that day if there is an another hour. The second thing in the selection page is E-Center, where the staff can upload the study materials books and mark details of the student. The third thing in the selection page is student information, staff no more needs to check the student's attendance detail using the attendance register or database. All staff has to do is to enter the register number of that particular student he wants to see the details. Staff can mention the date 'from' and 'to' to know number of working days and student's present and absent details.

2.7 STUDENT

Each student as a separate login using which he can check his results both Anna University and college assessment and can see exam schedule and can get study material for exam. Parents of students can instantly login to check their wards academic progress by just scanning their ID card.

3. CONCLUSION

In this project, we have made the attendance application which changes the old system of manual attendance along with student aid. One thing which all people are afraid of in their life is 'change', people do not accept the change and they resist change. But change is the most essential thing in the world. Technology is one thing which can change the world, the same is implemented here. This project's aim is to try and bring change in attendance system which has lot of drawbacks which is mentioned earlier.

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