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RESEARCH ARTICLE

STUDENT MESSENGER APPLICATION USING ANDROID

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Abstract: Android is open source software by Google running multiple programs. It is powered by Linux kernel and it supports SQLite software libraries with multiple user interface and phone applications. Applications are programmed in java programming language with UI part in XML and have extension as apk. This project has three major modules where broadcast receiver is an Android component allowing us to register for system or application events. The registered users can receive notifications. We are inspired to work on this project from the existing system E-Beat. This project will ease lecturers by providing platform where they can update and manage the attendance of the students efficiently and also students will remain updated of current events, their performance and other details. Using this application the faculty can login and update the academic results and students can analyze, view their results using this application.

Keywords: Android, SQLite database, Student messenger, Smartphone, Application

I. INTRODUCTION

Organizing and maintaining the student details like attendance and results is very important process. Keeping records of all details could possibly be damaged or lost and time consuming. This application ease the efforts of staffs for updating the student details and also student can know their details and view their notes easily by a click using this application. It helps to store whether the student is absent or not and also their other details, notes in electronic format and also supports broadcast messages for notifying the students of various events and other important updates from the college management and respective subject staffs. Broadcast receiver helps to receive the student details, important notifications from the college server and formats it to display onto the Android activity. Activity with the web page connection helps the students to access their notes uploaded to the Google drive easily by using this application. Details comprises of Student name, Roll no, marks obtained in internal exams, Total, Average, Attendance percent which can be updated only by the staffs but can be viewed by both students and staffs. Thus, this paper discusses the related works in this problem domain and how the system was tested to system design, functional objectives and observations made.

II. LIMITATION IN EXISTING SYSTEM

1. Students need to browse through all the junk and spam e-mails to view the important notifications from college
2. To view the notes navigation through web pages is needed
3. Classical reports should be generated using paper and pen
4. Performance analysis is complicated
5. Records storage is space consuming
6. Maintenance cost

III. RELATED WORK

In 2013, Sharadha S. Chawhan [1] published a paper called “Mobile Phone based Attendance System” through which Students login to their application, get connected to the server and take attendance using smart phones. After taking attendance in the mobile, lectures will be sent it over to the server using GPRS and attendance will be updated automatically.

In 2010, SQLite is a tool that makes easily to store, access and manipulate data by Lars Vogel [2]. It can be embedded into every Android device and it does not require any setup procedure or administration of the database.

C. Prathyusha [3] states that our project is more efficient and user friendly Android mobile application for an Attendance Monitoring. After entering the authorized user id and roll no, the students view their attendance details. Staff can also upload any information through this application and which is visible to student by their own smart phone.

Mattam [4] describes Old conventional methods for student attendance is still used by most of the universities. If this method continues then there is a chance many students help their friends to sign in their attendance in case of their absent in the institute. Once the attendance sheet is lost then the faculty has to take attendance again for that a computerized system is developed. In that the faculty easily accesses the system and the student attendance data have to be taken care by the system.

In 2010, Benny Skogberg describes that an activity is a single screen of an application with which a user can interact easily and intents are used for transition between two activities. A Service is a component that runs in background to perform long running tasks and to exchange data between two applications a component is used. The Broadcast messages from other applications are referred as intents and these component responds to those intents are referred as Broadcast receiver.

Security Engineering Research Group, analysis that Broadcast receiver is a basic component of Android application and used to receive the Broadcast announcements and react according to the arise situation. For example, a Broadcast announcing that the screen has turned off, the battery is low, an SMS is received etc,

There are many smart phones which work on the concept of Student Messenger and the previous work is done to view the student details, maintaining the attendance [3] and broadcast receiver [6]. Finally the student details and their respective subject notes are displayed.

IV. PROPOSED WORK

The Scope of this project is to minimize student time in taking Xerox for their notes instead they can download notes and broadcast messages with each other. This application can also provide the respective student details i.e. their internal marks, total number of days they attend the classes and so on.

A. *Android:*

Android is an operating system based on Linux kernel and it is designed primarily for touch screen mobile devices such as smart phones and tablet computers. It is popular with technology and open nature has encouraged a large community of developers to work on it.

B. *SQLite:*

SQLite is an in-process library that implements a self-contained, transactional SQL database engine. It is a compact library with all features enabled. SQLite stores the entire database as a single cross-platform file on a host machine. It implements this simple design by locking the entire database files during writing. It is a popular choice for storing the user information within the application and it is stored in the client side.

C. *Development Tools:*

Eclipse and Android SDK Tools are Integrated Development Environment (IDE) for designing and developing the Java based application.

D. *Eclipse:*

Eclipse is the Multi-Language Integrated Development Environment (IDE) which comprises a base workspace with extensible plug-in systems. The applications are mostly developed using Java and other languages can be used by adding plug-ins.

E. *Android SDK Tools:*

Android Software Development Kit (SDK) which is a set of development tools. They include the tools like debugger, libraries, emulator, tutorials, documentation and sample codes. Eclipse and Net beans supports Android Development via plug-in. The older tools and platforms are downloaded at any point of requirement. Android Application are packaged file system with .apk file extension which holds the .dex and resource files etc.

This paper focuses on the development of mobile application which can be exploited for viewing the student details, uploading and downloading the notes and broadcast messages with each other. The previously application will helps the recipients to view their respective college details such as “Attendance management System” but this application allows the students to broadcast messages each other within their departments and can also download notes which saves time instead of taking Xerox for the notes.

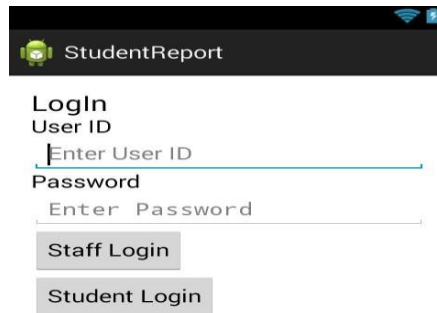
Initially it will be added in Google play store since it is an application for particular management. The students or recipients can follow-up by downloading this application and installing it in their mobile phones or tablets.

V. RESULTS AND OUTCOME

The Application consists of sequence of activities are mentioned below:

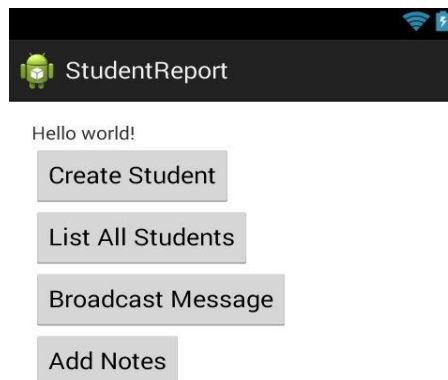
A. Login Activity:

This activity displays the login User ID and Password.



B. Staff Activity:

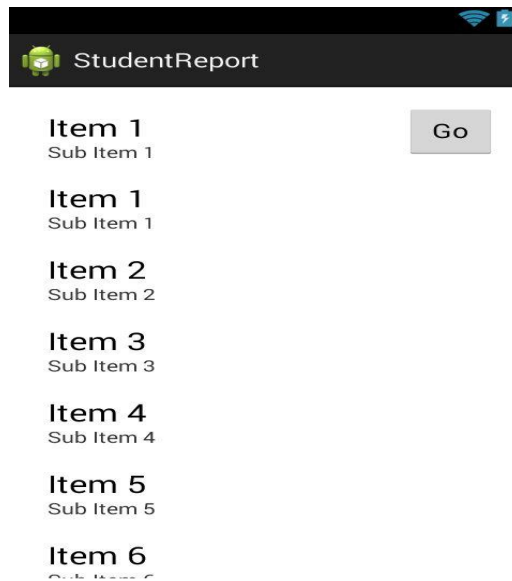
This activity displays “List of Students” which lists total number of students, ”Broadcast messages” to send and receive messages between the recipients and “Add Notes” in this module the staff can upload their subject notes.



C. Department Activity:

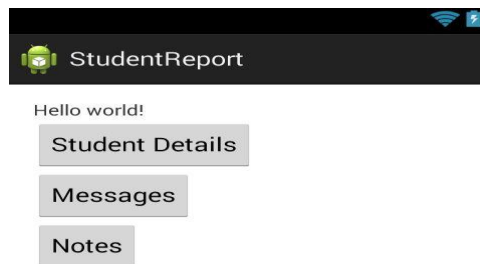
This activity displays the various departments and semester for the students in College management. Students can select their respective departments and semester to view each of their individual respective details.

- Items refers to the “Department”(i.e., Information Technology, Mechanical, Electronic and Communication Engineering).
- Sub Item refers to the “Semester” through which students can select their respective semester to view their details.



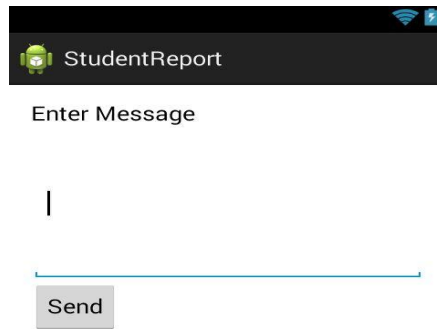
D. Student Activity:

This activity displays the Student details, Broadcast messages and Notes are viewed by the students.



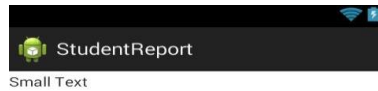
E. Message Activity:

This activity allows recipients to enter the messages and click “send” option to send and receive messages between the recipients.



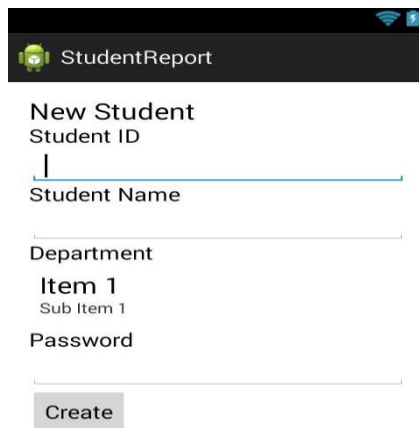
F. Notes:

This activity displays the notes sent by the faculty and allows the students to download the notes.



G. Account creation for New Student:

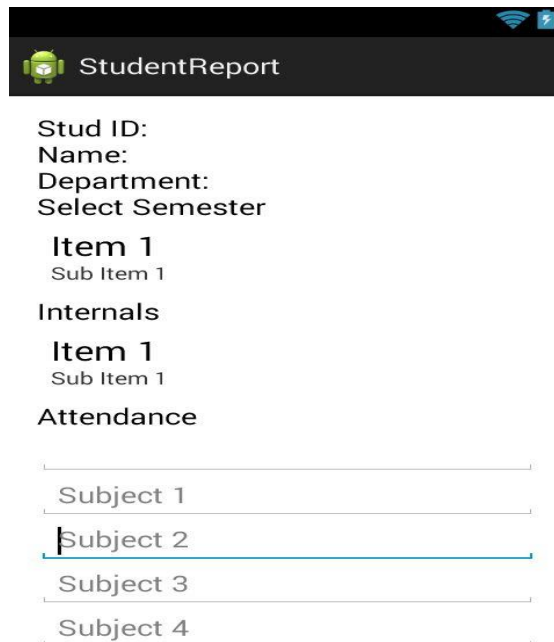
This activity allows a new student to create his/her account in this application and access broadcast messages to send and receive between the students or recipients can know their respective details and this application allows recipients to download notes.



H. Student Details:

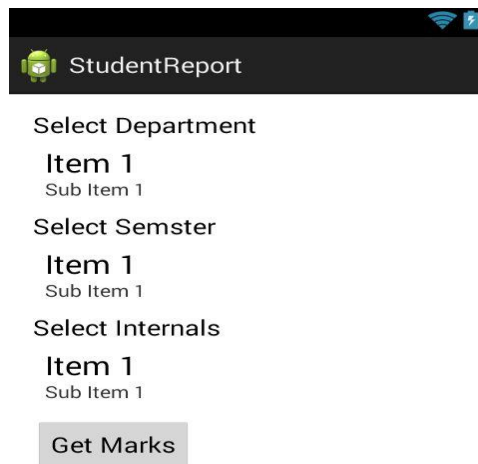
This activity displays the student details in their respective student or recipient account. The student details includes

- Total number of absentees days taken by the student
- Student's Internal marks
- Says whether the student is present or absent at the current day (i.e., Attendance).



I. Student Semester wise activity:

This activity allows the student to enter their respective department, current semester of the student and select the internals to get their respective internal marks. Finally click "Get Marks" to get their respective marks.



VI. ADVANTAGES

1. This application helps students to download notes sent by the faculties. In case of urgencies i.e., during examination time this application will be helpful for the students to get notes from the faculties.
2. Allows students to check their respective internal marks and can inform their respective faculty if there are any corrections.
3. Provide good relationship between the students and their respective management.
4. Helps students to broadcast messages which help in forwarding some important information sent by their departments or faculties or management.
5. Save time and less effort.

VII. LIMITATIONS

1. This application has to provide good user interaction between the students or recipients.
2. The video tutorials are not developed.

VIII. CONCLUSION

Finally in this paper we have presented a Student Messenger application, developed using Android software. It is mainly designed for the students to know their respective details such as internal marks, number of days they are present and absent, uploading and downloading notes and so on. Finally students can get their respective details and notes forwarded by their respective department. This will help the students to get their respective details which saves time in taking Xerox for the students and students can also broadcast messages each other.

IX. FUTURE WORK

The future work is to improve the cloud messaging for this application and can develop coding for uploading and downloading the video tutorials which helps the students to understand their respective subjects easier.

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