

Developing An Android Application For Emergency Mail Sender

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Abstract

In not many of the organizations we don't have authorization to take mobiles to inside the workplaces. Around then in the event that we get any significant and crisis calls or messages, we don't have choice to see that data till we return to portable. Barely any occasions by not endeavoring calls/Messages for extended periods we may need to confront scarcely any issues later on. To keep away from this we are concocting an application where we can coordinate the versatile with SMTP email framework so representative/client will get the notice of email or SMS to their email customer which is introduced at his/her work stations. This application can be utilized in MNC's or association where mobiles are not permitted in the work place. Henceforth this application will be utilized to give missed calls, messages updates to the mail of individual worker. In this application we can get the approaching messages and missed call info each 5 min and we mail that data to a specific mail id.

Keywords: Android system, Content Provider,SMTP,SMS;

1. Introduction

This paper Emergency Mail Sender helps in employers in MNC's or organization whose mobiles[1] shall not be carried in to the work place. Therefore this application can be used to give missed calls, messages updates to the mail of respective employee. Generally we can go through the messages & missed calls information in mobiles[2] only but we don't have any alternative like mail them to a desired mail id. Through this paper, we get notified by the incoming missed calls and messages[3] in very short time frequently and can get a mail about that information to a particular mail id. Architecture of android in Figure.1 shows different layers such as kernel of Linux, its Libraries, Framework of Application, Android Runtime applications [4]. Application layer is the top most layer where it is the home for so many applications like SMS Program, email client, Browser, Maps, Contacts, etc.,.

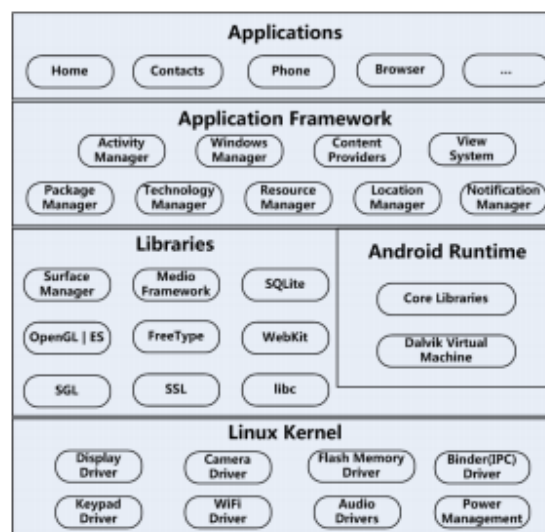


Figure.1 Architecture of android

2. Work Flow

- i. To retrieve the missed call log making use of background services
- i.i Missed Call / Message Collector

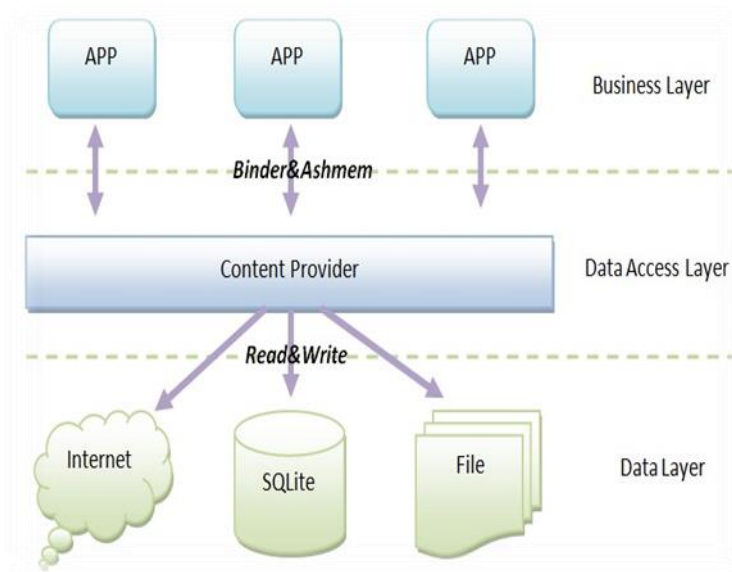


Figure.2.1 Module Diagram

The various functionalities of app's such as missed call or unread messages[5] gets temporarily stored in the Content Provider until and unless the user get through it. Then after a certain time the information gets forwarded through internet to the specified email-id given by the user. As soon as the user goes through it, the information gets stored in the database[6] called SQLite.

- ii. Gathering the incoming messages information
- ii.i Content Providers:
 - A content provider provides access to a central repository of data.
 - A content provider gives data in two ways:
 - a. File data: Data which is in the form of files i.e., audio, photos, videos.
 - b. Structured data: Data which is stored in to the database, array, or similar format.
- iii. Mailing the Information.

we coordinate the versatile with SMTP email framework so representative/client[7] will get the notice of email or SMS to their email customer which is introduced at his/her workstations. The Real email framework comprises of two distinct servers running on the fundamental email server machine. One is known as the SMTP Server[8] (Simple mail move convention) which handles active mail and the other is POP3 Server (Post Office Protocol) which assumes the liability of approaching mail. The SMTP server tunes in on notable port number 25, while POP3 tunes in on port 110.

- iv. Configurations setting module

In this module, the user need to provide the input for the fields such as email-id, configuration time, from -time and to-time and should select the week days ,etc. in order to get the information alerts to the specified mail id[9].

3. Architecture of Emergency mail sender

Architecture diagram shows the design of the system where important functions or parts are represented by smaller partitions which are connected with lines that show the relationships between the partitions. The block diagram is very much used for a less detailed description, higher level which is aimed for more understanding of the overall concepts and less at understanding the details of implementation.

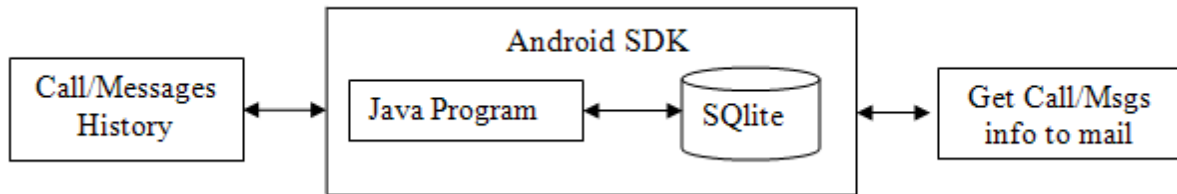


Figure.3 Architecture for Call/Messages Forwarding

This android app behaves like an interface between user and the mobile which actually consists of a database called as SQLite that comes along with Android SDK and SQLite doesn't need other installation. SQLite is the database that is used to store and retrieve information. Here is an application that is implemented in java and therefore all its features are portable, platform independent, data hiding etc.

4. Methodology

SQLite can be used in most of the SQL-92 standard for SQL but it has some drawbacks. A standalone program called sqlite3 can be used to create different databases, defines different tables within it, inserts and changes rows, runs queries and manages an SQLite database files. It is a good choice for local/client SQL storage within the rich internet application framework[10] and within the web browser.

It is different from client-server systems which manage the database, the SQLite engine is not only a standalone process with which the application program communicates. Instead, the SQLite library is connected within it and therefore becoming an integral part of the application program. The libraries can be used dynamically. The application program makes use of SQLite's functionality using simple function calls, which reduces efficiency in accessing the database as function calls within the single process that are more efficient than inter-process communication(IPC).

Well, it's been more accurate to say that it is an efficient Android application & should be fast.. That means, it must get executed as fast as possible in any of the mobile device with its limited data storage, smaller screen, computing power and constrained battery life.

As your application is developed, it may work well in your emulator, running on your dual-core development computer, but may not work properly in our mobile devices — even the most powerful mobile devices couldn't match the capabilities of a typical desktop system. Due to these reasons, efficient code should be written to make it the best possible performance on different mobile devices.

Efficient code means to write code efficiently, avoiding programming and certain language idioms, keeping memory allocations to a minimum can make performance degradation. In object-oriented point of view, most of this work takes place on the order of actual lines of code, loops, and at the method level, so on.

The Implementation period of the framework manages the interpretation of the plan determinations into the source code. A definitive objective of the usage is to compose the source code and the inside documentation with the goal that it tends to be checked without any problem. The code and documentation ought to be written in a way that facilitates troubleshooting, testing and modifications. Framework flowcharts, test run on bundles, test yield and so on as a major

aspect of the usage. An exertion was made to fulfill the accompanying objectives all together determined.

- Minimization of Hard-Coding.
- Minimizing Response Time.
- Simplicity & Clarity of the Code.

We need OS which can be LINUX, Mac and Windows XP, etc., Android SDK 1.5 or later, Java, Eclipse Ganymede IDE, Sample code is given in Table.1 which implements missed call service using java.

➤ **Miss Service.java :**

```
public class MissService extends Service {  
  
    SQLiteDatabasemydb;  
  
    String today;  
  
    DbhandlermyDbhelper;  
  
    String todaytime,fromtime,totime,t,callno,callname,emailid,dfromtime,dtotime;  
  
    intactive,crt,frt,tot;  
  
    String dayOfTheWeek,curtime,msg,ft,tt,ct;  
  
    public void onCreate() {  
  
        final Calender ca = Calender.getInstance();  
  
        intmHour = ca.get(Calender.HOUR_OF_DAY);  
  
        intmMinute = ca.get(Calender.MINUTE);  
  
        StringBuilder s1=new String Builder().append(pad(mHour)).append(":").append(pad(mMi  
todaytime=(String )s1.toString());  
  
        super.onCreate();  
  
    }  
}
```

5. Result

- Start Up Screen

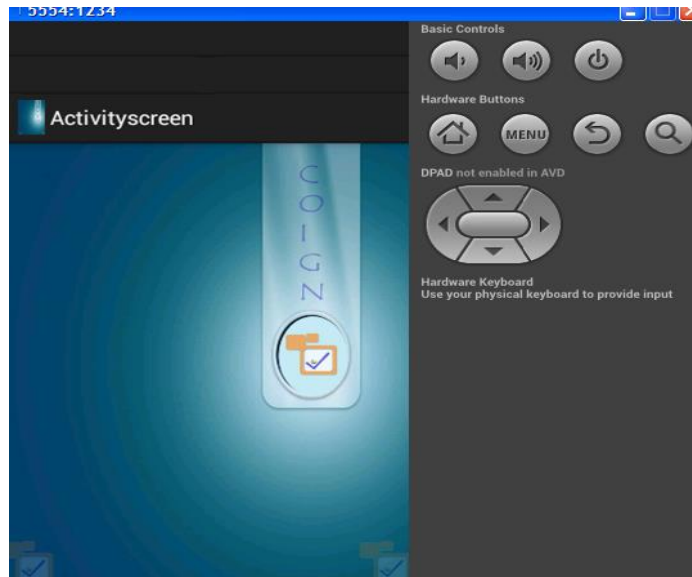


Figure.4 Startup Screen

- This Screen informs user how to use the app. After reading this click on Start App button.

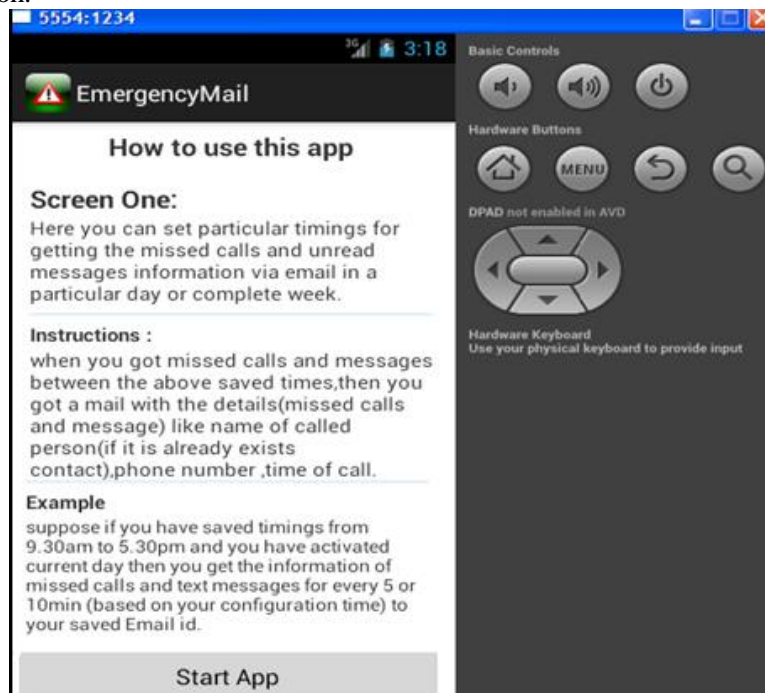


Figure.5 SCREEN 2

- Enter the details in the screen such as Gmail id of the user, from time, to time.

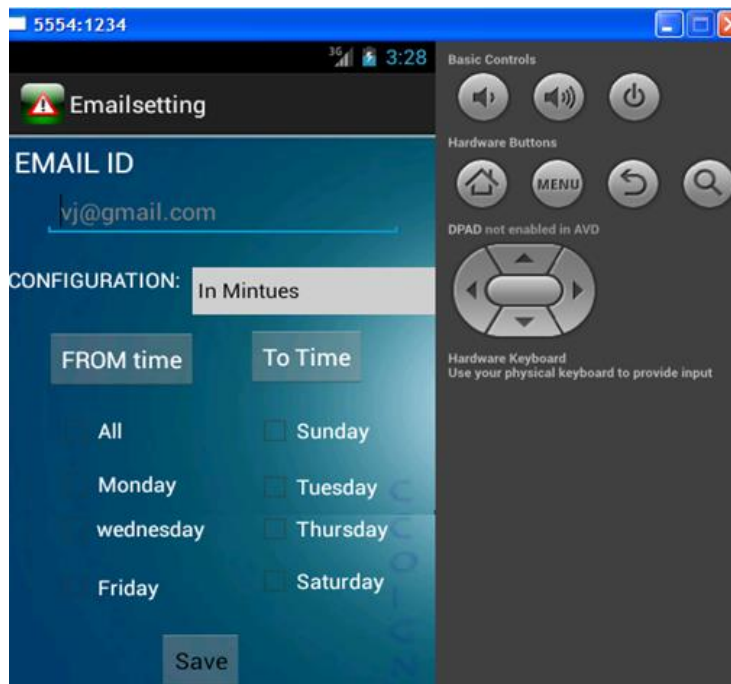


Figure.6 SCREEN 3

- Choose the Configuration (minutes) in spinner i.e., after how many minutes do you want to get alerts to the mail.

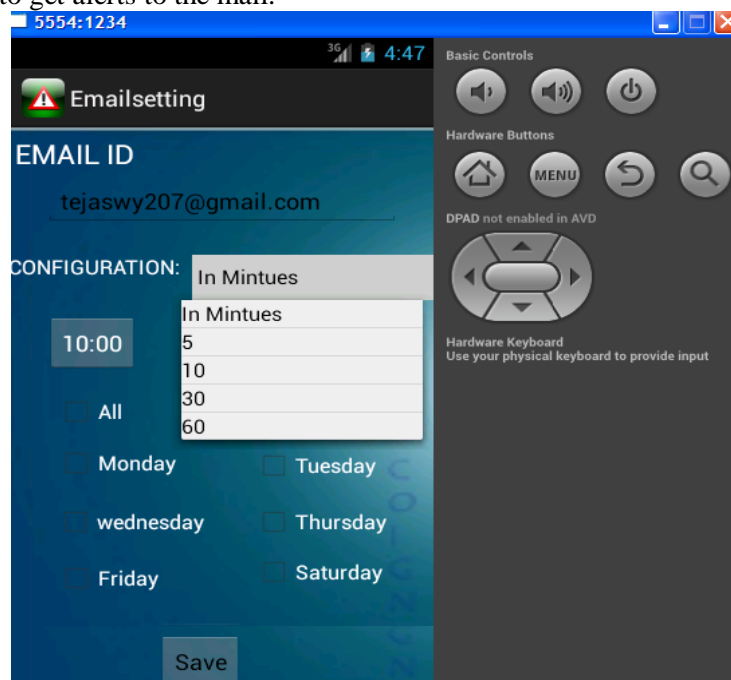


Figure.7 Configurations Screen

- Select the week days i.e., during which days you want to get the alerts to the mail.

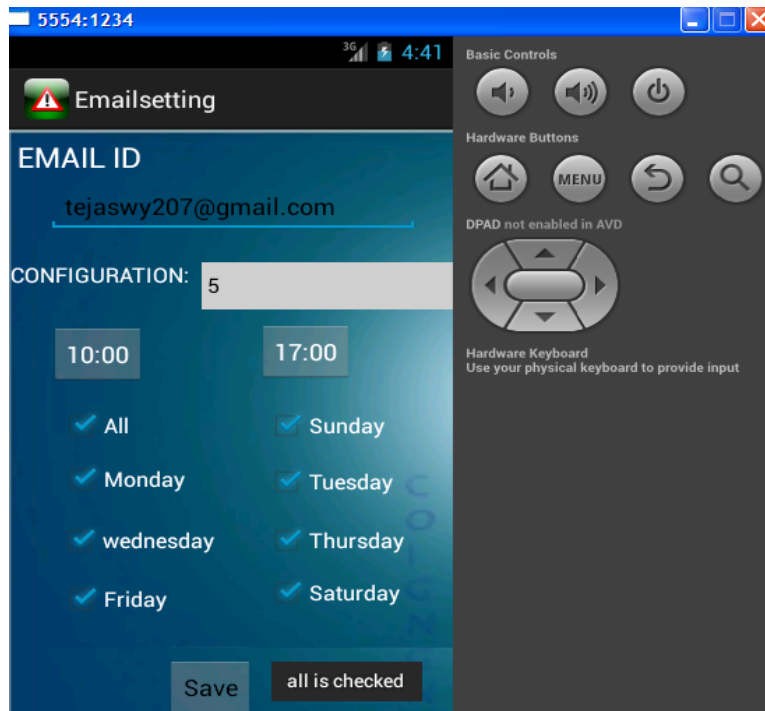


Figure.8 SCREEN 5

- After entering all the details click on the save button.
- Now sign in to your given mail id.

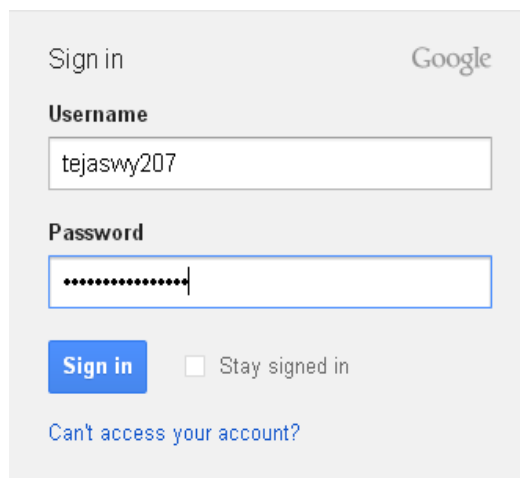


Figure.9 SCREEN 7

- Check your alerts.

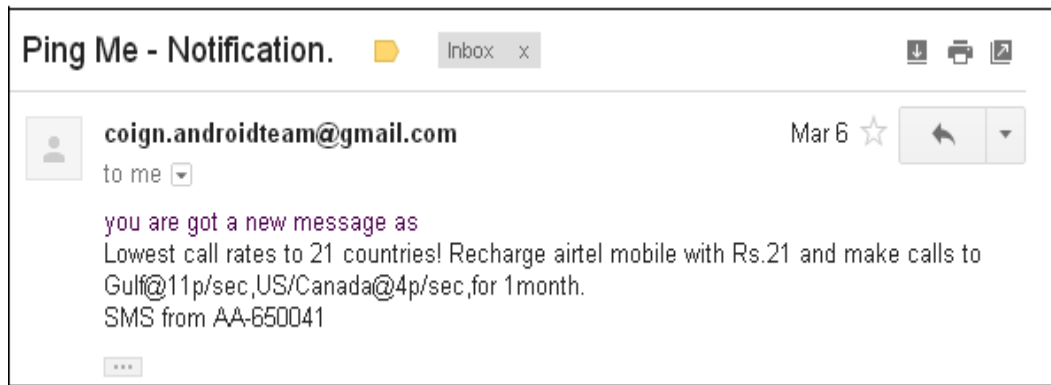


Figure.10 Mail Notification(SCREEN 8)

➤ A missed Call alert to mail is as follows.

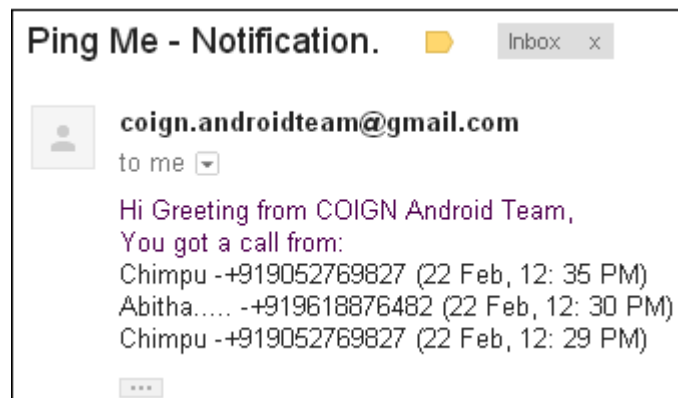


Figure.11 SCREEN 9

6. Conclusion

An Electronic mail system need to integrate SMTP email framework with our mobile devices, so that the employers or worker/clients can fetch the notifications of messages & missed calls information to their mails within their organizations. Apps can be installed in android mobiles by making use of Android Software Development Kit. It is a tool that is on top of android platforms. When compared to existing system, this is more advantageous as single mobile device is enough for the application to get deployed. one can easily retrieve required information as this is a mobile application. Users can search required books whenever user wants to without waiting for some system. Therefore, this is the application which is efficient, easy to use and convenient. User satisfaction is important factor for any developer. Therefore, this paper makes so many users satisfy.

7. References

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