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Pocket Scheduler: an Android Application using Python

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Abstract

*This technical report describes a python based on android application which provides adequate features to the all users to wish via message for any event to someone without remembering date. We have designed the proposed system named "**Pocket Scheduler**" in order to reduce human effort and make a person free in this busy and fast lifestyle by introducing through this automation system. This system can easily install and for this, the required space is very few, in range of kilo-Byte only. The use of this system is very easy. We store our required friends or relatives or someone else name with their contact no, proper event and date of occurrence into this system. The function of server is just like a postmaster but a little difference is there. Server of this system checks this record and sends the message for a particular date.*

Keywords: SL4A application, android operating system, python programming, server-client.

Introduction

Python: Python is a widely used general-purpose, high-level programming language. Its design philosophy emphasizes code readability, and its syntax allows programmers to express concepts in fewer lines of code than would be possible in languages such as C The language provides constructs intended to enable clear programs on both a small and large scale.

Android o.s. and advantages of applications using python: Android is an operating system for mobile phones. This operating system is developed by Google. Python is one of the best programming languages to write both simple and complex android programs. We can create any android application using python through scripting layer for android (SL4A) project.

Lots of functions are available in python library than Java language library. So length of source code is much less than Java. And also design of any application becomes easier.

Motivation: The main motto of this project is to handle the urgent and required messages automatically. One needs not to remember each event when we have to send a message to someone. Using this android application we can schedule the message delivery along with specific message that we want to send to someone. In this case we just have to register their name and number along with the event (i.e. Birthday, Anniversary, Meeting etc.). The specified message will be send to the registered person on specified date. We can also fetch the contacts from phone and we can also input the Name and contact number while registering, in this case it is not mandatory that the number should be saved in contacts of the phone. We have developed the android application using python language, which require less memory than applications made by java language.

Methodology

Flow Diagram: In this section we can see two figures are shown. Figure-1 describes the flow diagram of client device. And figure-2 stands for flow diagram of server. Server and client both are separate part of this application store into same device.

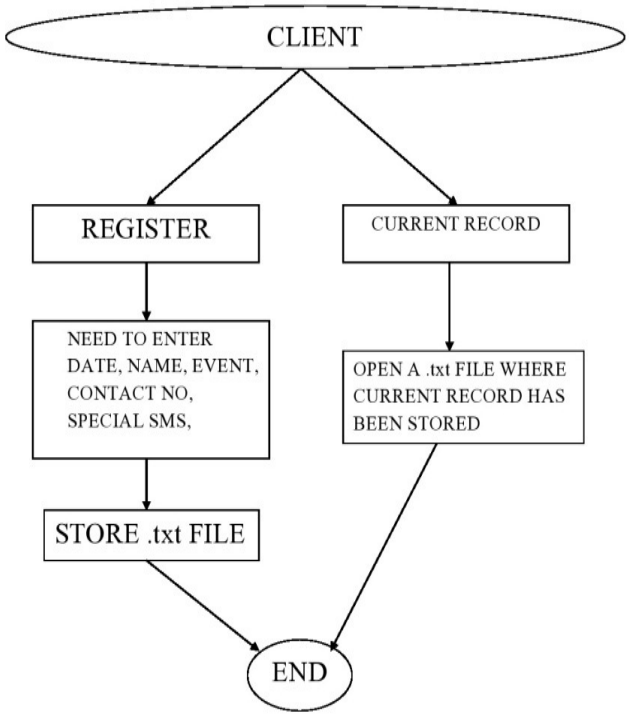

Figure-1
Flow-Chart of Client window

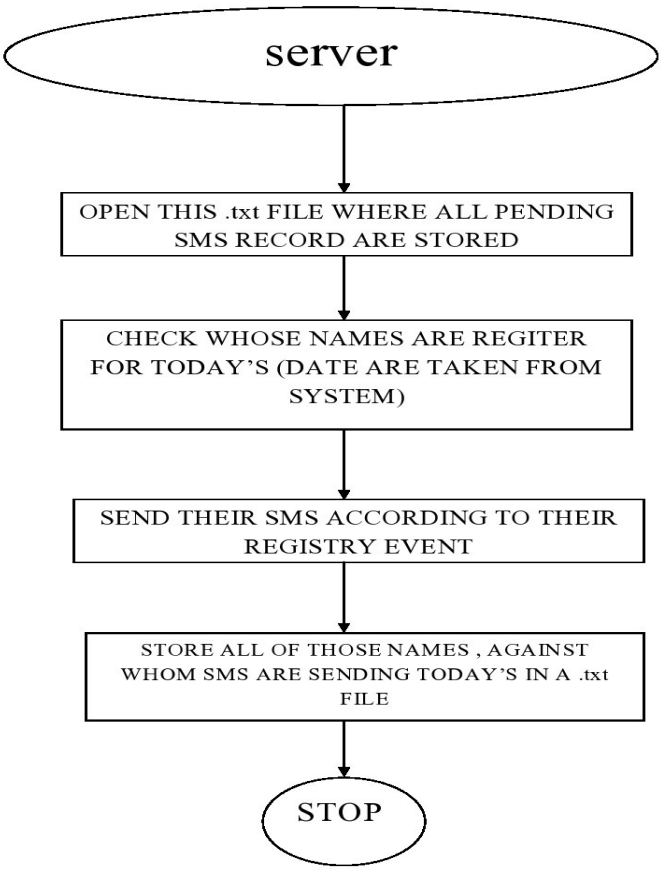

Figure-2
Flow-Chart of Server window

Step Algorithm: Client: Step I: Start this application. Step II: press either 'Register' button or 'Current Record' button, Step III: If 'Register' button will be pressed, then some data need to entry within server. First of all is 'Date of Event', and after those others is 'Name of receiver', 'Name of Event', 'contact no. of receiver', 'Special message (if any)' respectively and press 'OK' button after each entry. Step IV: After complete all the entry, data will be saved into a .txt file which easily accessible by server. Step V: If 'Current Record' button will be pressed, then the receiver name will be shown for current date. Step VI: End.

Server: Step I: Start server. Step II: Open this .txt file where all pending message record is stored. Step III: Check whose names are registered for current date. Date is picked from O.S. Step IV: Send their SMS according to their registry event. If any special message kept against any names, then this message also send. Step V: Store all of those names, who receive SMS. Step VI: End.

Results and Discussion

Data Structure and Result: This application has two part- Client and Server. The home window of client's part is looked like in figure-3. We can see that there are two buttons- first one is called 'Register' and another is 'Current Record'. By pressing 'Register' –button, we can store our message details previously in the following ways.

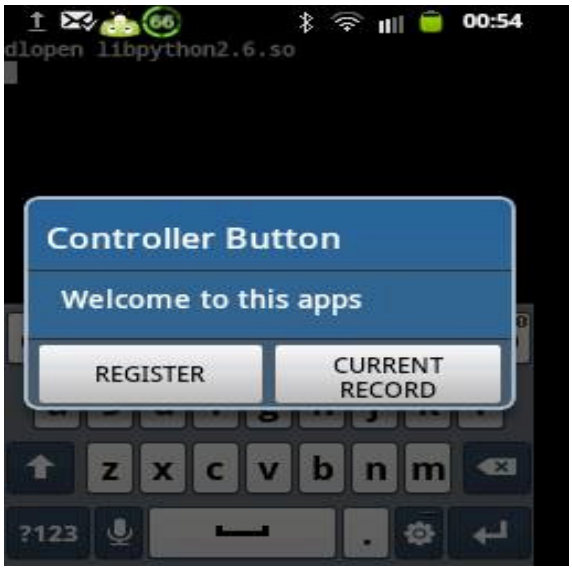

Figure-3
Home Window

Figure-4
Date Entry

After pressing this button, we can faced with this window, where we need to entry the date of event like the figure-4 then we press 'OK' button for proceed. In the next step, we should be given the name of this person, who receives this message like figure-5.

Figure-5
Name Entry

After pressing 'OK' button in figure-5 system want to take information about the event's name like figure-6

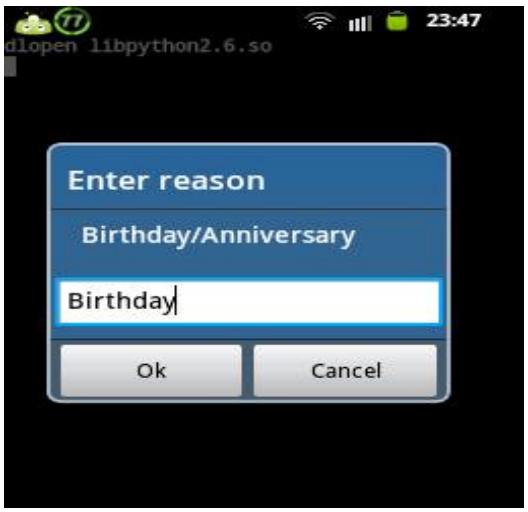

Figure-6
Event Entry

And then we need to given the contact no. where this message will be send like figure-7.

Figure-7
Contact No Entry

If we want to send any special message then we press just 'Yes'- button otherwise press 'No' –button like the figure-8.

Figure-8
Special SMS Entry

And the data base structure of storing record is shown in figure-9. Where the format of data base is like that- "date of event, name of receiver, name of event, contact no of receiver, any special message (yes/no only)". After complete registration we can close this application.

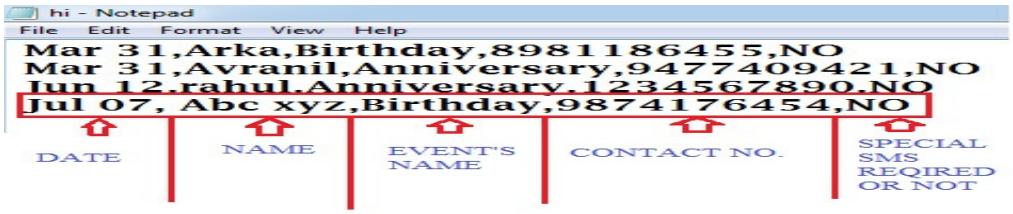

Figure-9
Data Base Structure

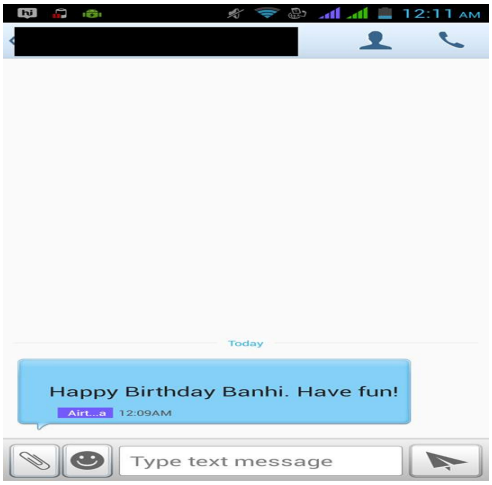

Figure-10
Server Response

Server part are installed such in way that when O.S start, it start automatically. And then taking the current date from O.S server check that if any pending message are store into data base or not, if it is store then message will automatically send to this person like the figure-10 and a his or her name will be stored into another data base of storing the receiver name with their event and sending date. If we want to see those records, we need to start again the client part and press now "Current Record" button then those records is shown like the figure-11.

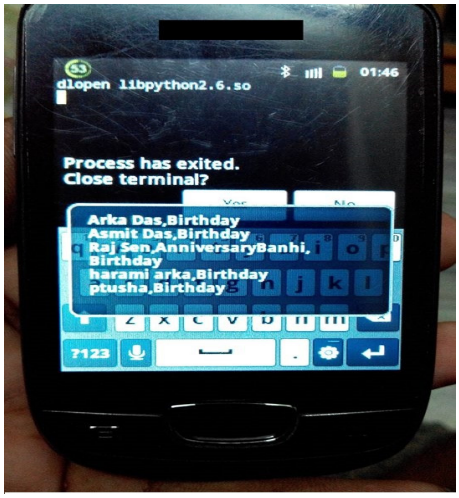

Figure-11
Current Record Window

Conclusion

The methodology and result sections show that the system works as per our expectation. We haven't introduced security in this system, but in order to prevent outside attacks we need to import security features. We will include cryptography and use the encryption, decryption techniques on data base of this application.

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