

# Position Based Profile Matching Algorithm for Vibrant Alert Method

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**Abstract:** There are cases where we would have been in a situation of not having the phone in a profile that is supposed to be, say having it on a general mode during an important meet at office or in a silent mode while at home causing us to miss an important call. This "Location management profiling" helps the user to have the profile under control. The user has the freedom of creating his/her own profile and configure it. One can be able to choose the ring type, ringtone, wallpaper and the destination location using GPS. The geocoding technique displays the address of the selected location. Once the configuration is done, the application notifies the user if he/she is within the given radius and changes the profile automatically in the handheld device. It is possible to have 'n' number of profiles for a single user.

**Keyword:** Location, Profile, Radius, GPS.

## I. INTRODUCTION

The main objective of the paper is to create an android application for managing the profile system of the mobile based on location using Global Positioning System. Once the predefined location coordinates is reached, the profile changes according to the user's need. This application allows user to manage user profile (silent, vibrate or normal) based on their mobile's location[3]. The application uses GPS or Network Provider to get the user's location and user can create a task for changing the profile based on his current location[4]. A background service will be running to listen for the device's location and will calculate distance between current location and saved location. Once mobile is located to the nearby saved location, a notification will be displayed to show the Alert and Profile will be changed.

## II. EXISTING SYSTEM

In the existing system the user need to change the profile manually and finds the location only using GPS and Service provider. GPS(Global Positioning System) is combination of latitude and longitude like X and Y Axis ,The satellite only send that value(Latitude and Longitude) to our smart phone using that value it will show the corresponding location. Through The present system the user change the Profile only based on time. By setting a time the profile will be changed during that time prescribed by the user.

## Drawbacks

- GPS allows only the current location.
- Profile changed based on Time.
- User can change the profile manually.

## III. PROPOSED SYSTEM

In the proposed system user can manage the profile automatically based on the location value (latitude and longitude values). In our paper we maintain the database which contain the some of the locations and that corresponding values. We can find the distance between the current location and corresponding instance location. The User can create a profile for each location (i.e.) the user can create many numbers of profiles .In proposed system the user need to select

location in which the profile to be changed and he needs to assign ringtone and wallpaper as per needs. Once the location is reached (i.e.) when the saved location is reached a background task is been running to calculate the distance between the current location and the saved location. Once the certain range is reached the profile will be automatically changed as per user needs and also the ringtone and wallpaper will be changed.

#### Advantages

- Automatically changes profile based on location.
- Many number of profiles can be created.
- n number of locations can be saved.
- Location in the map are fetched accurately.

#### IV. BACKGROUND STUDY

TITLE	DEMERITS
<b>Vehicular Ad Hoc Networks: A New Challenge for LocalizationBased Systems</b> by Azzedine Boukerche , Horacio A.B.F. Oliveira, Eduardo F. Nakamura, Antonio A.F. Loureiro	<ul style="list-style-type: none"> <li>• The Direct communication affects the localization services.</li> <li>• Need to improve the message integrity in a multihop cooperative approach</li> </ul>
<b>DYNAMIC PRIVACY-PRESERVING KEY MANAGEMENT SCHEME FOR LOCATION-BASED SERVICES IN VANETS</b> by Rongxing Lu, Xiaodong Lin, Xiaohui Liang, Xuemin Shen.IEEE Transactions on Intelligent Transportation Systems ( Volume: 13, Issue: 1, March 2012 )	<ul style="list-style-type: none"> <li>• Efficiency is low in terms of average key update delay and average key update ratio during each key update procedure.</li> </ul>
<b>A USER MOBILITY-PATTERN-BASED LOCATION STRATEGY FOR NEXT GENERATION WIRLESS MULTIMEDIA NETWORKS</b> by Wenchao Ma, Yuguang Fang Global Telecommunications Conference, 2003. GLOBECOM '03. IEEE	<ul style="list-style-type: none"> <li>• PBS scheme only works well for very small CMR.</li> <li>• The total cost increases quickly with the paging cost.</li> </ul>
<b>KEY ESTABLISHMENT USING SECURE DISTANCE BOUNDING PROTOCOLS</b> by Dave Singelee, Bart Preneel Mobile and Ubiquitous Systems: Networking & Services, 2007. MobiQuitous 2007. Fourth Annual International Conference on	<ul style="list-style-type: none"> <li>• The user of a mobile device to visually verify within a small physical space the presence of the other trusted device.</li> <li>• A secure communication channel has to be established in the absence of other (untrusted) nodes or adversaries.</li> </ul>

#### V. SYSTEM DESCRIPTION

A system is a set of components that interact with each other to accomplish some purpose. System analysis specifies what the system should do. System analysis is the process of gathering and interpreting facts, diagnosing the problems and recommending feasible suggestions for improving the system functioning.

System study is the accomplishment of information about the existing system, which helps to determine how and where a computer information system can benefit all users of the system. System analysis for the development was carried out based on the following objectives in mind.

- Identification of the drawback of the existing system.
- Identification of the need for conversion problem feasibility analysis.

#### Architectural Design

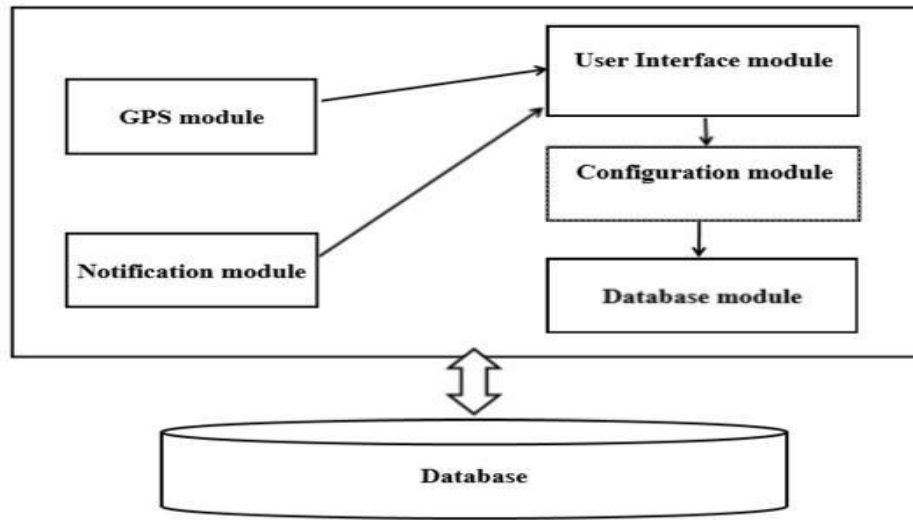


Fig 5.1. Architectural design

The above shown figure depicts the architectural design for the paper. It comprises a total of five modules with each having its own functionality and features. The GPS and the notification module are linked with the user interface module enabling the user to use the interface in order to attain its functionality. The configuration module is again used to set the profile ringtone, mode and wallpaper by means of the user interface module where the user gives his/her choice. The database module stores all the saved profiles along with their configuration and location. The GPS module helps in tracking of location; it enables the user to choose his current and destination location. The notification module performs the task of notifying the user when he /she is available within the preferred, already set profile, thus enabling the profile to be changed automatically in the handheld device and alerting the user.

#### VI. MODULE DESCRIPTION

This paper consists of six main modules and the modules are as follows

- Create New Profile Module
- Get GPS Module
- Wallpaper Module
- Ringtone Module
- Notification Module
- Database Module

##### *1. Create New Profile Module*

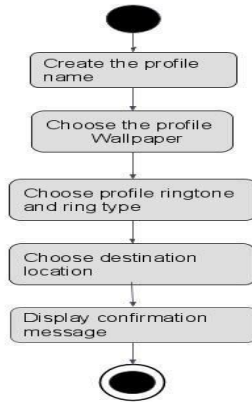


Fig 6.1 Create new profile module activity diagram

This is the user interface module and is mainly used to create and save an user profile. The profile contains profile name, wallpaper, ringtone and destination location .The user can create any number of profiles. A name has to be provided mandatorily, the user can have same name for more than one profile. Ringtone and wallpaper can be selected both from phone memory and from SD card. Through GPS, the current location is displayed and lets the user to choose the destination location and the same is displayed.

2. Get GPS Module

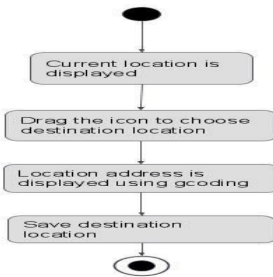


Fig 6.2 Get GPS module activity diagram

In this module, through GPS, the address of the location is displayed. Then the location is chosen by the user, it automatically shows the current location of the user. When the user places the icon in the destination place the location address is displayed in the profile creation process. An background task runs to calculate the current location distance and saved location distance. Global is used for location improvement.

3. Wallpaper Module

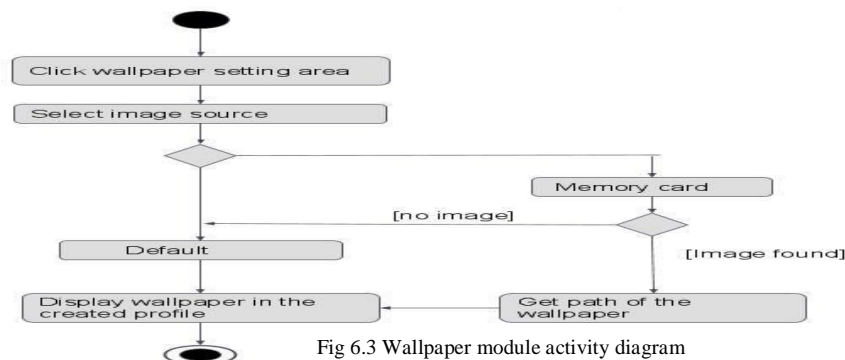


Fig 6.3 Wallpaper module activity diagram

In this module ,the wallpaper for mobile is chosen. By clicking the wallpaper settings, it shows an option of both default setting and memory card .The user can choose the wallpaper using the memory card or select the default option. The chosen wallpaper gets displayed in the created profile. This module helps the user to choose a particular wallpaper for an already created profile thus ensuring that the wallpaper too gets changed along with the profile mode.

4. Ringtone Module

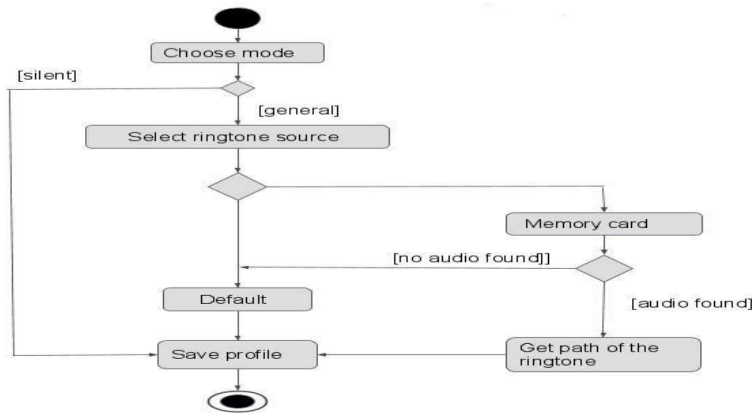


Fig 6.4 Ringtone module activity diagram

In this module the ringtone is said to be assigned for the profile. There is an option of choosing the ringtone either from the memory card or from the phone memory. The user can choose the ringtone from either one. The ringtone chosen is displayed in the profile. There is an option of silent mode as well. When the silent mode is chosen, the user need not select the ringtone. When the already created profile gets activated and if it is not on silent mode, the chosen ringtone will be played.

5. Database Module

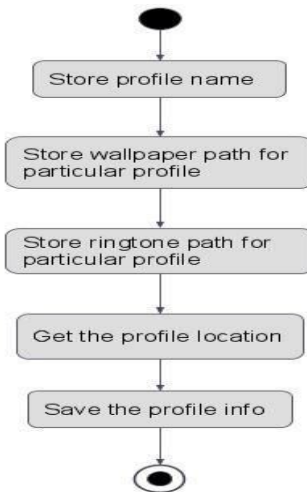
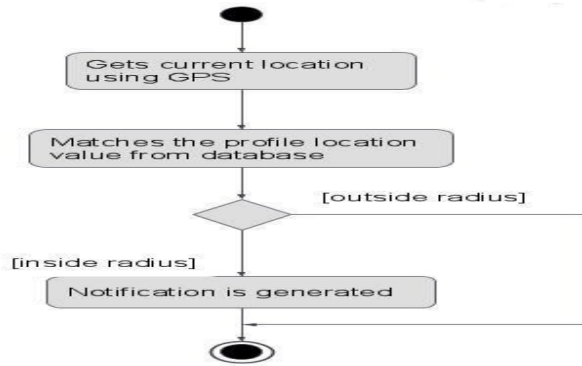


Fig 6.5 Database module activity diagram

This module is basically used to store all the information related to the profile. It helps in storing and retrieving the details of a particular profile. The whole architecture is linked with this database module. It stores the path of both ringtone and wallpaper and also gets the profile latitude and longitude. With the help of this module, an already saved profile can be set any number of times.

**6. Notification Module**

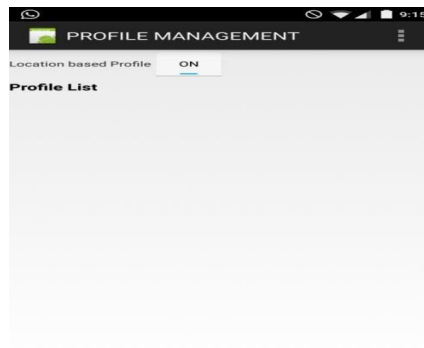


**Fig 6.6 Notification module activity diagram**

This is used to intimate the user regarding their location. When the user moves from one location to the configured destination location, the android application uses the information in the database and notifies the user that he/she has reached the required radius within the destination location. Thus the notification is generated in the handheld device in which the application is stored. It makes use of the database module to fetch the profile inform

**VII. IMPLEMENTATION**

*Home Page*



**Fig 7.1 Screenshot for the home page**

The above screenshot depicts the home page where the ON button allows the user to enable the android application. When the button is in ON condition, the created profiles gets changes based on their location accordingly. The right corner button indicates the different options available for the user to interact with the application.

*Menu Page*

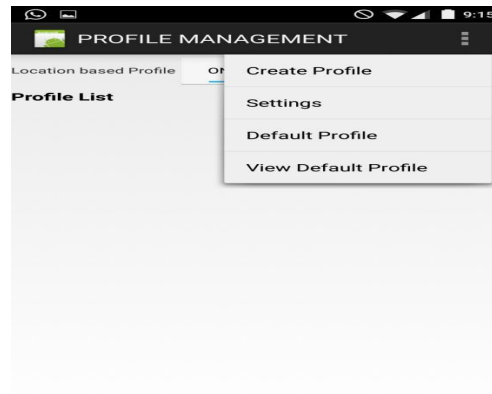


Fig 7.2 Screenshot for the menu page

The above screenshot depicts the number of menus available with each involving different modules. The create profile menu is where the user creates a new profile and saves the same. The settings option includes the radius of the location. In other words, it is the distance covered in the area within which the profile is updated. The Default profile option is used to create and save a profile by default and having it in use and the View default profile allows the user to view the created default profile.

*Profile Creation*



Fig 7.3 Screenshot for the new profile creation

This screenshot depicts how the profile is created with the user giving his choices and entering the details. The profile name is used for reference to be understood by the user when it gets listed in the home page. Since, number of profiles can be created, it is advisable to provide proper names to make the user understand them in an easy way. The select ringtone and wallpaper allows the user to choose the preferred ringtone and wallpaper and the same will be enabled when a profile gets changed. The mode comprises of silent and general type.

*Ringtone Selection*

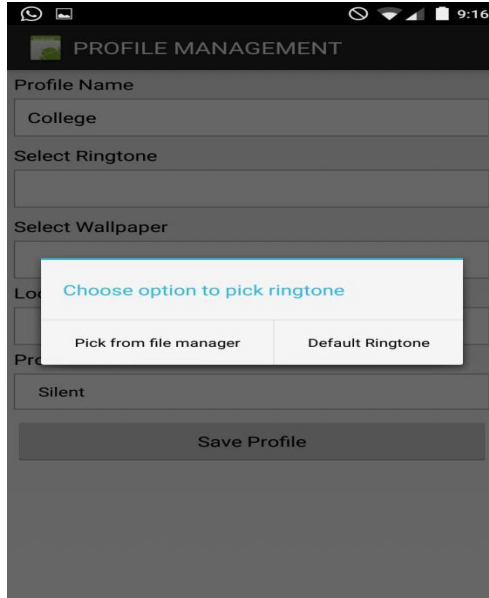


Fig 7.4 Screenshot for the ringtone selection

The above screenshot depicts the two ways in which a ringtone can be selected. The default ringtone option allows the user to choose the default ringtone that has been used in the android device. Another option is used to select the ringtone from the memory used in the android device. The same method is followed for wallpaper selection.

*Location Tracking*

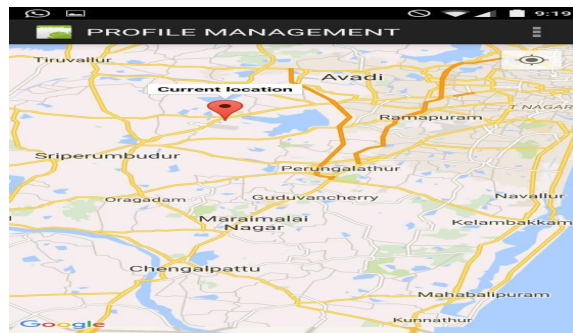


Fig 7.5 Screenshot of location tracking

The location tracking is used to select both the current and destination location where the profile is expected to be changed. The address of the destination location is also displayed and the save option saves the created profile.

*Displaying The Created Profile*



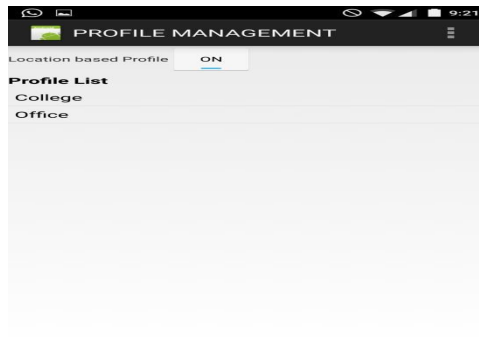


Fig 7.6 Screenshot for displaying the created profiles

The created profiles are listed in their order in the home page. This is why it is best to name the profile accordingly as it would be easier to choose the desired profile when it needs to be set. Any number of profiles created are listed in this page.

#### *Setting Menu to Set Radius*

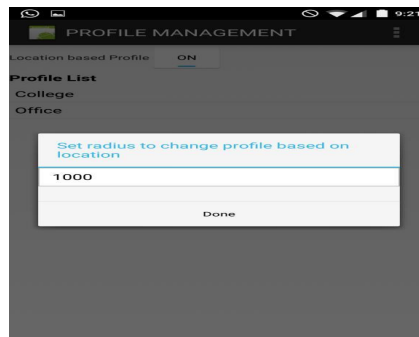


Fig 7.7 Screenshot of radius setting

The settings menu allows the user to choose the coverage area within which the profile will be activated and out of the radius area will disable the previous profile setting.

#### **Default Profile Creation**



Fig 7.8 Screenshot of default profile creation

The screenshot depicts the form design for the default profile creation. This is another mode other than general and silent modes. The default profile can have its own ringtone and wallpaper setting that will be displayed when the profile is set.

## VIII. CONCLUSION AND FUTURE ENHANCEMENT

### *Conclusion*

There have been many applications out in the market for tracking one's location using GPS. But what holds them back is that the existing applications are either used only for location tracking or route tracking. There has been no such application that can manage user profiles dynamically based on location. Hence the Automatic Switching of Mobile Profile Based on the location using GPS offers the user a unique way of tracking locations and managing different user profiles according to their respective locations. It also provides a feature of notifying the user about the change of profile. Thus, this application provides a great use in the field of travelling helping the users manage user profiles automatically based on locations.

### *Future Enhancement*

The proposed system can be further enhanced by introducing automatic messaging feature which can be used to send a message automatically to a predefined recipient when a certain location is reached and the same can be intimated to the user through alerts. We also wish to provide a feature in which a group can be created consisting of users so that when ever a user of that group reaches a predefined location set for that group it would automatically manage user profiles . We are planning to create this application in other platforms such as windows, IOS so that it doesn't restrict the users to use this application to android alone.

## REFERENCES

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