

# Self-Care Application Using Android Google Maps and Geofence

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## ABSTRACT

In the current world, everyone is busy with their works so, it is necessary for us to have some aid in caring ourselves and our family. To do so, we have created an android application that cares for you and your loved ones. For example, most of the parents are working today and they don't have time to take care of their children, so we have planned to help the parents in finding a baby sitter to look after the children. The parents can find a baby sitter through our application via GPS services. A person who can't spare time to take care of his household works can use our application. Our application provides freelancer services to its users. It affords services in two ways. Here, the user can also be a customer and a service provider. We offer Location sharing services too. If the user is lost, they do not know where they are then, with the help of our location sharing service they can share their vicinity to their contacts. We offer services like Baby Care, Patient care, Home Care, Orphan Care, Location Sharing.

**Keywords:-** Google Map, GpsService, GeoFence, Payment , Google Account .

## I. INTRODUCTION

Our project consist of the services like baby care, Patient care, home Care, Orphan care location sharing. we use GPS system and Google maps in our services. There are some people who wants to help orphans by sponsoring money for their needs , if a user selects the orphan care service with the help of the gps, he can search his nearby orphanages and he can also customise location for the orphanages . After choosing the orphanage, the details will get registered in our server and the details about the orphans will be given to the user and he can select the way to donate or he can even be a sponsor. In the case of Baby care, the user can search babysitters and once they locate them they can have conversation with them and they can even pay for the service they're availing through our app . we use the concept called "GEOFENCE" to track and monitor the baby sitters and to track position in location sharing.

## II. EXISTING WORKS

There are many Existing systems which offer services as an individual application in the Existing Location sharing system the location will be shared

as latitudinal and longitudinal magnitude via Sms. In the existing orphanage caring systems there are only options for monitoring the health conditions of orphans. In the existing Babysitting application the babies are tracked via Gps and the location will be intimated to their parents through email.

## III. PROPOSED WORKS

There is a need for single application which encompasses all of the services such as Location sharing, baby sitting, orphanage donation and so on. In this application we have used Gps to locate the current vicinity of the user and it will be shared to their friends via sms or by sending the notification to the selected contacts via app. In our proposed system there is no necessity for network to send sms. For availing rest of the services the user first need to register himself in our app .Then the user can choose the location in which he needs to avail the service by clicking near location icon the user will get results from his nearby vicinities. He can choose the location manually by clicking custom location button. For household care, the basic works like plumbing, electrical works etc... can be registered via this application based on the user requirement and the

freelancers who are interested for doing those works can also register themselves with their specifications. There is a new service called “CARE FORUM” and here the users can post job vacancies which will be helpful for free lancers. We have included one more feature in our app called “GEOFENCE” which will be used to monitor and track babysitters and it will also be used to track the person’s vicinity in location sharing system.

#### IV. RELATED WORKS

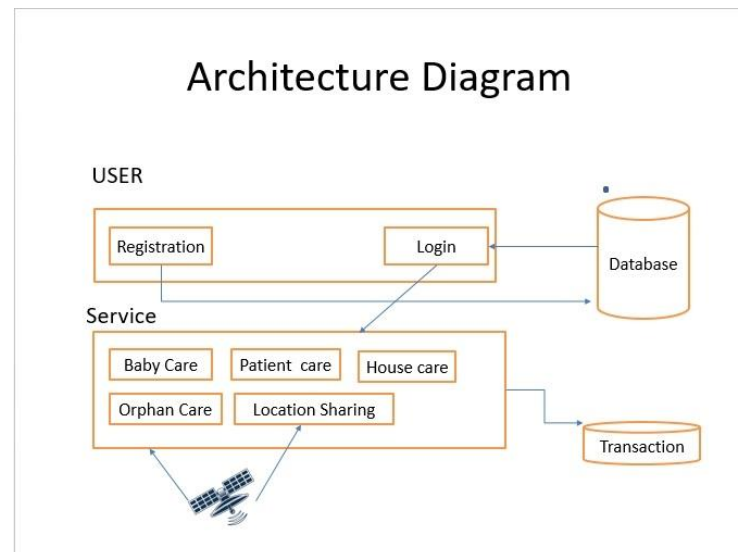
[1]. This survey is also about the location based application .Nowadays, we use mobiles and tablets for most of our daily hoods and we do need to have all sort of information about our vicinity such as nearby malls, café and so on. We can’t take desktops wherever we go. In such a case, we need a mobile application for this purpose. This application provides necessary details about any location, the customer needs and it alerts the user when he is about to reach the erroneous target or he is in danger.

[2].This survey is about the location tracking application which makes use of google maps to locate the user’s location. This application would be useful in situations where the person was lost and he wants to intimate his friends about his location or to track the location of a child while he is not in home and so on. This application uses google maps, google cloud messaging and android operating system. It uses google cloud to send messages.

[3].This paper is about an android application which was designed for parents and school to track the location of a child when he/she is travelling via school van. This application uses GPS to locate the current vicinity of a child when he/she travels to school and while returning from school. It also stores additional information about the school van like the expected drop/pickup time of school van, the van driver’s location and other contact details and baby sitter’s details who used to take care of the children during travelling. It also provides the time at which the child reached the school and the time at which he/she left the school. It is a multipurpose child security android application

[4]. This paper is about an android application which was designed to support old age people for their medical affairs. This application uses a sensor which will be attached tothe body of the patient. The sensor will measure blood pressure of a person and it sends BPI and some other vital information about the patient to the person who wish to monitor the patient’s health(say doctor) and it will alert the person if the patient’s health condition is at risk.

#### V. ARCHITECTURE DIAGRAM



#### VI. ALOGORITHM

We have used 2 Algorithms in this Application

##### 1. Geo Fence

A **geo-fence** is a virtual perimeter for real world geographic area. A geo-fence could be dynamically generated as in a radius around a store or point location, or a geo-fence can be a predefined set of boundaries, like school attendance zones or neighbourhood boundaries.

The use of a geo-fence is called **geo-fencing**, and one example of usage involves a location-aware device of a location-based service (LBS) user entering or exiting a geo-fence.

In Our application we Use **Circular Geo Fence**,which indicates a circular fence would be

created from Latitude and Longitude , Within any radius (meter or Kilo meter).

**Algorithm:**

**Finding the point**

FindPoint(double X, double Y) // Boolean

Initialize centre= user.current location();

Set pointstatus =false;

Set x1=centre.x,y1=centre.y;

Set x2=X,y2=y;

Calc dist= sqrt((y2-y1)+(x2-x1));

If(dist < =myradius)

set pointstatus =!pointstatus;

return pointstatus;

**creating the circle**

loadData()

Initialize Point p as a new point;

For each i=0 to user ()-1

Initialize String Lat = user[i].currentlocation().latitude;

Set LatSec = (Lat(4, 4)) / 6000;

Set LatMin = (Lat(2, 2)) + LatSec) / 60;

Set p.X = Double.Parse(Lat(0, 2)) + LatMin;

Initialize String Long = user.[i]currentlocation().longitude;

Set LongSec = (5, 4) / 6000;

Set LongMin = ((3, 2)) + LongSec) / 60;

Set p.Y = Double.Parse((0, 3)) + LongMin;

Add p;

Set radius =2000m;

Drawcircle(radius,p);

**main function**

Create circle myRoute as new circle(points);

Set Bool stat = myRoute.FindPoint(lat,long);

if(stat = true)

Print 'Route Found'

else

Print 'Route Not Found'

**2.Geocoder**

Geo coder is used to convert addresses into geographical coordinates( latitudinal and longitudinal coordinates) and reverse geo coder is used to convert geographical coordinates into addresses. We have used reverse geo coder algorithm to translate the geographical coordinates to addressesIn our algorithm , we are going to parse the provided input and we are going to check whether it has valid latitudinal and longitudinal coordinates if so, we are going to lookup for the address of the geographical coordinates in our database and return the address in user understandable form.

**Algorithm:**

import reverse\_geocoder as rg

class AlgorithmError(Exception):

def \_\_init\_\_(self, value):

self.value = value

def \_\_str\_\_(self):

return repr(self.value)

def parseInput(input):

if not isinstance(input, dict):

raise AlgorithmError("Input type can only be a dictionary.")

if "lat" not in input or "lon" not in input:

```
        raise AlgorithmError("You must provide lat and
long coordinates.")

    return ((input["lat"], input["lon"]))

def apply(input):

    coordinates = parseInput(input)

    results = rg.search(coordinates) # default mode =
2

return results[0]
```

## VII. MODULES DESCRIPTION

### REGISTRATION

To avail any service, the very prior step is to register or enroll for that service and our application is not an exception in this case .We value our user’s precious time and we don’t want to make them spend time more than a couple of second over here. By just giving sign in button a single tap, they can register themselves using their google account in our application.

The prerequisite is the user should have a Google Account in his phone, which is a must for every android phone. When the user clicks on the Sign in button, it displays the list of Google Accounts which are currently signed in by the user in the phone. The user has to select one account to sign in. After signing in, all the details of that account will be registered in the database . The need for keeping Google sign in instead of old Login and Registration module is , the user’s time will be saved and they don’t need to sit and register , because all the details will be stored inside the google account, and once a user logs in with his google account he is the only one, who can able to use it . In case of any security issues, with the help of the google account the user can be tracked.

### SERVICE

Baby Care

Patient Care

Orphan care

Home Care

### *Baby Care*

The baby care module consist of services for taking care of the baby such as finding a Baby Sitter, finding a nearby Child Doctor and so on. This module uses Global positioning system, Google Maps and Database. The Google Maps plays the important role in this module. The user can search nearby location and customize the search location for baby sitters and doctors. They can also register themselves as a Baby Sitter with a formal registration form. There is a new Concept called GEOFENCE which is used for tracking and monitoring the baby .This will alarms user in case of emergency.

### *Patient Care*

This module is similar to the Baby care module. Here, the user can search the nearby doctors, nurses for taking care of their family members who are ill, physically challenged and needs to be look after by someone. Aged people with the help of Gps and Google Map services they can find the doctors by themselves and even the doctors can register themselves as a doctor in this application by providing certain details to assure their doctorate and it will be saved in our database. Here, the user first searches for the doctor and he can choose the doctor who met with the stipulations of user that may be symptoms or the kind of doctorate (such as ENT). The details of the doctor will be displayed based on the user requirement to the user. The user can call them or even send a notification to them. The user can even Pay Them Using PayTm option.

### *Orphan Care*

In this module, we use Gps , Google maps , Geo Fence system. When the user wishes to donate for Orphans, he can look for orphanages in the nearby area .After selecting the Orphanage he can view the details of the Orphanage and he can donate them. Similarly, an Orphanage can also Post a requirement in our application by registering themselves as a user in our application. After selecting the Orphanage ,the user can contact them via the application or even Ping them.

### *Home Care*

Here, we use Gps and Google maps. when the user wants to select a Free Lancers based on the Requirements of his Household works ,he can search the nearby Area or even customize the location in which he wants to look for free lancers .After selecting a Free Lancer, he can view the details of the Free Lancer. Similarly, A Free Lancer a can Post themselves as a job seeker by registering themselves as an user with the application. After selecting the free lancer, the user can contact them via the application or even Ping them. All the services such as Electricity work , Garbage work, Plumbing will be offered here. After the Successful Completion Of the task the user sends the notification to the customer stating the completion of the job and the payment Can be done Via PayTm.

### LOCATION SHARING

Location Sharing is one of the important part of the application. In this,a user can share their location to their contacts on a single Press of a button. The user’s particular location address, nearby locations, their status will be Sent via the Application, or even with sms. First the user has to click share button to select the contacts that they want to send their location. After selecting the contacts, with the help of Gps and Google maps they can Track their Location and using Geo fence they can track their status in reaching their destination.

### TRANSACTION SYSTEM:

It is the Common module for all the Services offered here. In this module, the user has to pay for the service he availed and for this we have Integrated PAYTM with our application. Here, the user can Register in the PAYTM or use their old accounts and they can Perform Transactions as they do with paytm.

### VIII. CONCLUSION

Thus, hereby we conclude that our project will be very useful for this generationpeople.our application provides a basic care for the people. With the help of Google map and Geo fence,Our application Provides a great use to the users and also the developers. In Future Our Project will be having More number services in multilingual with Artificial Intelligence in Built in it.

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