Android Application For Assisted Living People

Monali Madhav Shrinath, Pranjali Sanjay Pawar, Ujma Kayyumkhan Pathan, Prof. Deshmukh R. R., Ishwari Dilip Pandit

Computer Engineering MGM's Polytechnic Aurangabad Aurangabad, India
Computer Engineering MGM's Polytechnic Aurangabad Aurangabad, India
Computer Engineering MGM's Polytechnic Aurangabad Aurangabad, India
Computer Enginerring MGM's Polytechnic Aurangabad Aurangabad, India
Computer Engineering MGM's Polytechnic Aurangabad Aurangabad, India
Corresponding author:Monali Madhav Shrinath

ABSTRACT—This Android Application could be a very helpful for assisted living peoples. This application its make assisted people independent**.**

I. INTRODUCTION

With the advances in mobile telephony nowadays, likewise because the improved capabilities of mobile devices, more and more services are provided in a very mobile manner, making this manner the employment of smart phones, together with other similar devices, very practical, handy, and almost a necessity for somebody to hold. Smart phones, not only became a useful pocket-sized tool, but also an excellent source of entertainment for all ages because of their ability to support features like video playback, music, games etc., making their use a very must have experience. Additionally, by taking advantage of the assorted embedded sensors, smart phones became an excellent more compelling asset for everyday use since, by utilizing the functionalities of those sensors, they'll be made possible to collect information regarding the device's surroundings, raising, this way, the curtains for the context awareness era of smart devices. the appliance at hand was created so as to assist those who tend to induce lost, mainly senior citizens, to be found in time by their friends, relatives, or the other designated people, before anything happens to them.

Locations that the user is presumably to be found in, or often visits, may be chosen using Google maps, just by clicking on a desired location. When this happens, circular areas round the determined locations are created which represent the areas within which the user is meant to be in ("Usual Locations"). the placement of the user is being constantly retrieved using the device's GPS, which location is compared to all or any the stored Usual Locations. If the user isn't within the boundaries of any of the chosen ULs, then an SMS message are going to be sent to a collection of predetermined contacts. Additionally, for each 100 meters (the distance is customizable) the user travels, whilst outside of any of the designated areas, a replacement SMS are sent containing the new location of the device, similarly because the distance to the closes UL. The contacts that are set to receive an SMS, regarding the whereabouts of the device, are yet again selected by the user, at any given time, through the phonebook of the smart phone. The application also grants users with the chance of sending customized text messages to phone numbers of their choosing, just by waving the device in an exceedingly certain motion.

I. WHAT IS ASSISTED LIVING ?

An assisted living residence could be a long-term senior care option that has aid support services like meals, medication management, bathing, dressing and transportation. Assisted living residences offer housing, hospitality services and private assistance services to adults who can live independently but may require regular help with daily activities.

II. WHAT SERVICES CAN ASSISTED LIVING SYSTEMS OFFER?

- Alarms/notifications and triggers
- Queries
- Reminders
- Detect anomalies and deviations
- Recognize specific behaviors and assist with task completion
- Keep the person active and connected to the social environment

III. NECESSITY

Smart phones contains variety of sensors like accelerometer, light sensor, as well as other specialized hardware like camera, flashlight, etc. ,

giving them this way of value-added capabilities, apart from the conventional phone call and message exchange. They are able to turn every user into a data gathering, thus information can be collected from both the environment outside of the device, as well as be retrieved from the actual and a;lso digital world.

IV. LITERATURE SURVEY
A. Related Work
Context Awareness Location-based Android Application for Tracking Purposes in   Assisted Living.

1. Accelerometer- The accelerometer could also be a inbuilt electronic component that measure motion. The accelerometer is utilized for tracking a location. The accelerometer activate when user changes their location.

2. Gestures Table- The Gestures is an application which recognise the precise hand moment.

3. Radius calculation- During this we calculate the radius of usual location and up to now location. We use the Google map.

4. Notification Broadcast- After checking a modern Recent Location, the appliance will forward SMS message if the actual RL isn't within the created areas of any of the ULs. The text are going to be sent to any or all the entered contact numbers that are stored within the Contacts table.

5. Custom Algorithm- The custom algorithm is employed to notify the user. When the user misses the regular direction or place then by using custom algorithm, we notify the user that he's visiting wrong way.

Android Based Assistive Toolkit for Alzheimer
Personal Information: This includes the user name, age, address and contact number of caregiver all of this will be stored in the database.

Daily Schedule: This include schedule for all the daily activities performed by user starting from morning to night. Like reading books or newspaper, medicine timings and so on. This schedule will be again stored in the database.

Family Information: In that user has to provide his/her family member images along with the details like relationship between the user and the member.

GPS Tracking and Navigation: In that Initially home parameters are provided as input. Location mapping will using GPS and navigation feature as soon as the user will leave from home parameters. And if the user forgets the returning route then, will help the user to map the route for returning back.

Food and Medicine Reminder: User will be reminded about their food and medicine timing through alarms.

SOS Button: When user need help or in an emergency can press this featured button automatically sends a message which will include the user's current location URL with text message to the person whose details mentioned in personal information.

Quiz and Flashcards: It will include certain kind of games which will stimulate the user's brain and overall performance will be recorded in the progress report.

Human Behaviour Cognition Using Smartphone Sensors
Physical Activity Monitoring for Assisted Living at Home
        Human Behaviour Cognition Using Smartphone Sensors Physical Activity Monitoring for Assisted Living reception We combine the newest positioning technologies and phone sensors to capture human movements in natural environmentsContexts during this research are abstracted as a Context Pyramid which has six levels: Raw Sensor Data, Physical Parameter, Features/Patterns, Simple Contextual Descriptors, Activity-Level Descriptors, and Rich Context. Location accuracy of the proposed solution is up to 1.9 meters in corridor environments and three.5 meters in open spaces. Test results also indicate that the motion states are recognized with an accuracy rate up to 92.9% employing a Least Square-Support Vector Machine (LS-SVM) classifier.

Mobile Application Development to Help Dementia and Alzheimer Patients
        This study addresses functioning and quality of life for people diagnosed with dementia via technology. Research technology instruments like iPods, help stimulate those with dementia. This study focuses on innovative devices like iPads and tablets, which are mainstream and straightforward to use, cannot only help determine stage of dementia, but also provide stimulation to enhance cognitive functioning. it's hoped that this research will analyze that specially created apps and existing assistive software will be accustomed decrease the symptoms and improve cognition of older adults laid low with AD or other dementia related diseases.

V. SYSTEM DEVELOPMENT
A. Problem Defination Area of Project
Problem Statement
        In order to come back up with an innovative idea for an application, it absolutely was considered informed firstly study and review what different people want, require and expect, and what already exists out there that fulfils their needs. the most focus of this project was the creation of an application that's

ready to provide assistance to individuals in their everyday lives and not something that might be used for fun, thus, the requirements of kids and senior citizens were primarily taken into consideration. What was taken under consideration was the well being and protection of the younger and senior generation, therefore the start line of the research was the investigation of already existing applications that might provide such services. Family is such an application which lets the users know the placement, likewise because the battery level, of their family members' devices in real-time. It lets parents check the whereabouts of their children and ensure whether or not they need reached their destination. It also enables the users to send messages to every other free through the web.

Similarly to Sygic Family, Mama Bear is additionally capable of location sharing between users. Furthermore, it allows parents to look at any received messages from their child's phone and check for any signs of online bullying or in appropriate language. It also includes location services for letting their members of the family know of their location.

Objective

The application at hand was created so as to assist those that tend to urge lost, mainly senior citizens, to be found in time by their friends, relatives, or the other designated people, before anything happens to them. Locations that the user is presumably to be found in, or often visits, are often chosen using Google maps, just by clicking on a desired location. When this happens, circular areas round the determined locations are created which represent the areas within which the user is meant to be in ("Usual Locations"). the placement of the user is being constantly retrieved using the device's GPS, which location is compared to all or any the stored Usual Locations. If the user isn't within the boundaries of any of the chosen ULs, then an SMS message are sent to a group of predetermined contacts. Additionally, for each 100 meters (the distance is customizable) the user travels, whilst outside of any of the designated areas, a replacement SMS are going to be sent containing the new location of the device, in addition because the distance to the closes UL. The contacts that are set to receive an SMS, regarding the whereabouts of the device, are all over again selected by the user, at any given time, through the phonebook of the smart phone.

Major Inputs

Introducing a service to the application ideal thing to do since there were some operations whose constant running was considered a necessity.

Major Outputs

A SERVICE MAY BE A COMPONENT WITH NO COMPUTER PROGRAM WHICH WILL BE INSERTED INTO ANY APPLICATION, SO AS TO EXECUTE FUTURE OPERATIONS WITHIN THE BACKGROUND, WITHOUT INFLUENCING THE RIGHT FUNCTIONING OF THE REMAINDER OF THE APPLIANCE. IT MAY BE INITIATED BY ANOTHER APPLICATION COMPONENT AND IT'LL PERSISTENTLY KEEP RUNNING EVEN AFTER THE USER EXITS THE APPLYING.

Major Constraints
1] It required Android Phone.
2] Mobile Should Be In Network.
3] Data usages are required.
4] GUI is only in English.
5] User should be comfortable of working with computer or software

Hardware Resources Required
1. Processor : Intel Corei3 or higher
2. RAM   : RAM
3. Monitor   : Any Standard Monitor
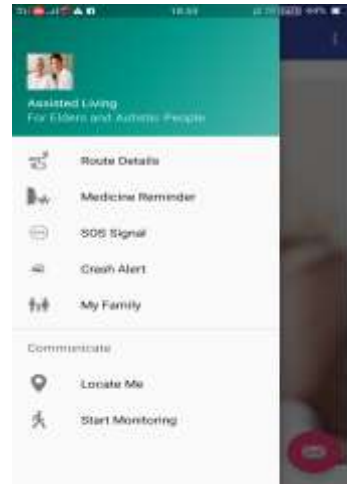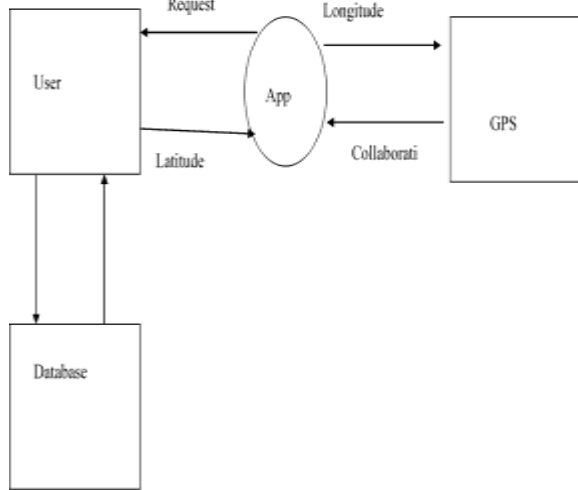4. Keyboard   : Standard keyboard
5. Mouse   : Any Standard Mouse

Software Resources Required
1. Operating Systems   : Windows 8 or above
2. Front End   : Android
3. Database   :   Inbuilt Database of Android Studio
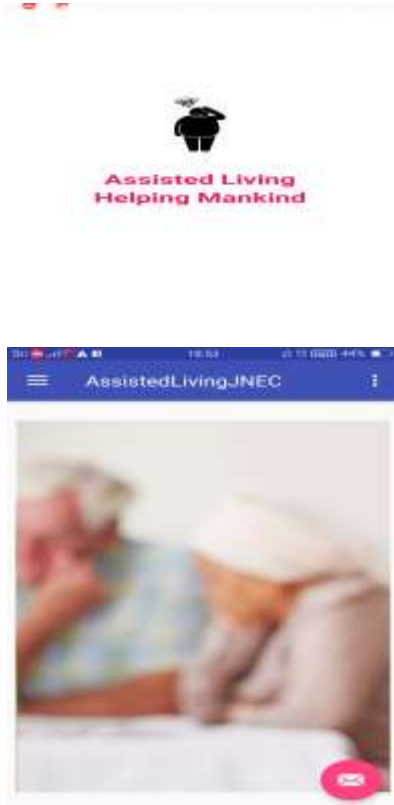
A. Architecture
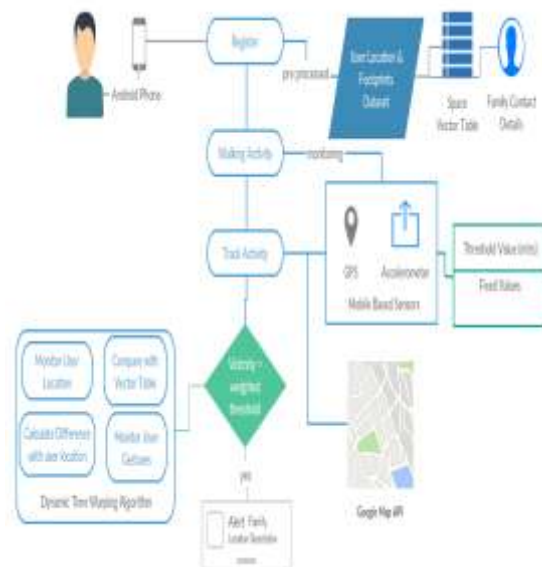
B. Data Flow Diagram

Route Details

II. PERFORMANCE ANALYSIS
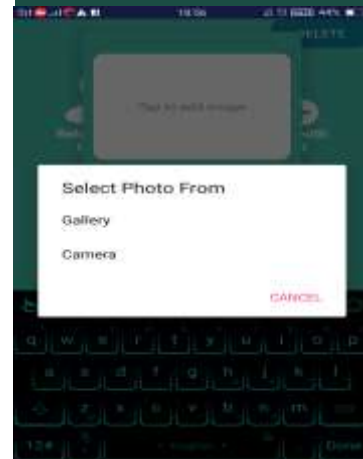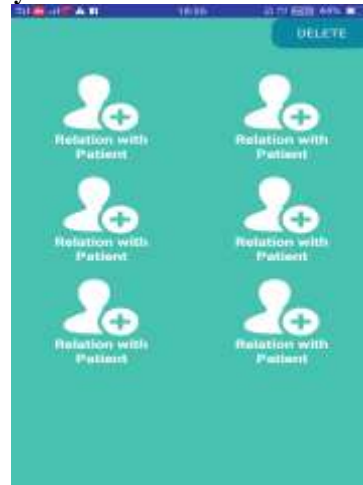**A. Different Modules and their working (output screens)**
Home screen

Add Contact

My Family

Crash Alert

Map

Locate Me

Unnamed location
Shree Society, N 9, Aurangabad, Maharash... ▸ 🚶 5 min

ⓘ   MORE INFO   ◆   DIRECTIONS
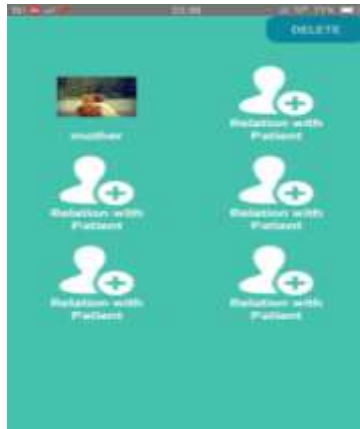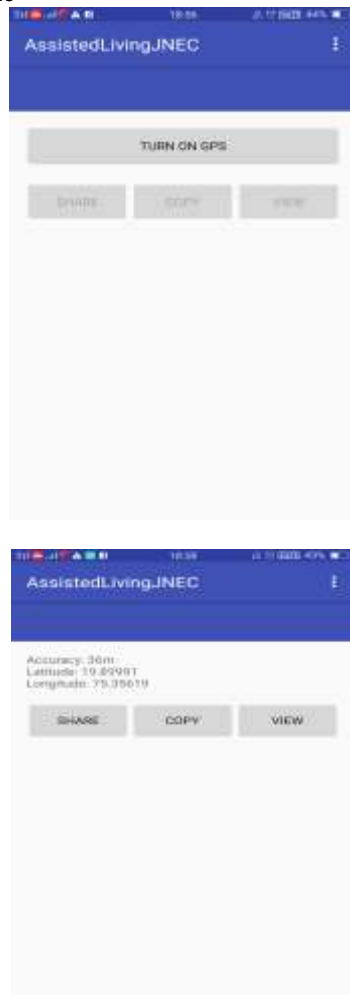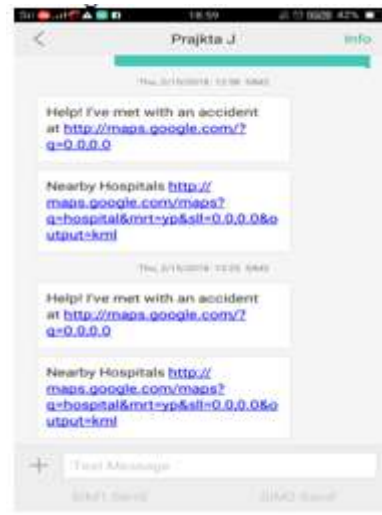
Message Send

B. Analysis

Smart phones contains variety of sensors like accelerometer, light sensor, as well as other specialized hardware like camera, flashlight, etc. , giving them this way of value-added capabilities, apart from the conventional phone call and message exchange. They are able to turn every user into a data gathering, thus information can be collected from both the environment outside of the device, as well as be retrieved from the actual and a;lso digital world. So smart phones have become an indispensable device in data gathering and telecommunication, the features that they provide can also be taken advantage for improving the living conditions of people around the world. So smart phones become which device is collects data and telecommunication, the features that they provide advantage for improving the living

conditions of people around the world. The various sensors are embedded in there mobile phones for keep track of their surroundings any information. This way, a smart phone can be used for remotely acess monitoring, and keeping an eye, on people. This paper presents the steps of development and location-based Android application which can be used for the tracking purpose of people that are in need of such services. Also it will be able to inform a number of the users chosen peoples.

C. Testing Testing can be a process of executing a program with the intent of finding miscalculation. System Testing might be a important phase. Testing represents a stimulating anomaly for the software. Thus a series of testing are performed for the proposed system before the system is prepared for user acceptance testing. an honest action at law is one that has a high probability of finding an as undiscovered error. A successful test is one that solves an error.

D. Testing Objectives 1.Testing could even be a process of executing a program with the intent of finding a mistake. 2.A good action is one that contains a probability of finding an hitherto undiscovered error. 3.A successful test is one that solves an ocurred error.

E. Testing Principles
1.All tests should be track to complete user requirements 2.Tests should be planned long before testing begins 3.Testing should begin on a touch scale and progress towards testing in large 4.Exhaustive testing isn't possible

F. Testing Strategies In that strategie low-level tests that are necessary to verify that every one small ASCII text file has been correctly implemented yet as high-level tests that major system functions against customer requirements.

G. Test Cases The action is specification for system testing must be submitted for

Table 5.3.1 Test To Pass

Step	Input Data	Expected Result	Actual Result	Status
1.1 Test to Pass	Route details	Alert and message When go out off route	Alert and message When go out off route	Pass
1.2 Test to Pass	Time for medicine	Alarm on given time	Alarm on given time	Pass
1.3 Test to Pass	Contact Numbers	By click on SOS button SMS will be send	By click on SOS button SMS will be send	Pass
1.4 Test to Pass	Gesture Movements	By recognising unwanted activity SMS send	By recognising unwanted activity SMS send	Pass

Table 5.3.2 Test To Fail

Step	Input Data	Expected Result	Actual Result	Status
1.1 Test to Fail	Route details	Alert and message When go out off route	No Alert and message When go out off route	Fail
1.2 Test to Fail	Time for medicine	Alarm on given time	No Alarm on given time	Fail
1.3 Test to Fail	Contact Numbers	By click on SOS button SMS will be send	By click on SOS button SMS will not be send	Fail
1.4 Test to Fail	Gesture Movements	By recognising unwanted activity SMS send	By recognising unwanted activity SMS not be send	Fail

III. CONCLUSION

A. Conclusion

The purpose of this paper was to present the steps and technologies that were utilized so as to implement an application for the Android package which might be wont to run people who may well be lost. By employing a smart phone's embedded GPS sensor, the applying is capable in successfully retrieving the precise location of the device and check whether or not it's located where it's expected to be, and if not, send an SMS messages to variety of designated contacts. Using this android application we are able to make Alzheimer's patients independent. this is often user friendly application. anyone can use and understand easily.

B. Future Scope

1. This information about the patient is globally stored and accordingly doctor or treatment is provide.
2. Application will provide some logical game to enhance mental condition of the user.

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