

# My Help

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**Abstract**— Man finds a lot of difficulties in his day to day life, be it on the security front or the emergency health calls. For instance, first and foremost thing which we will be looking for is the hospital in case of any emergency and any delay, god forbid, would even cost a life. This is when we panic and lookout for all reachable help. Our choices then are limited and those may not be the best of the choices.

So in order to avoid this and give the user the best possible guide during such emergency situations, we came up with an Intelligent and simple mapping system so that all the nearby hospitals, in and around his/her place of search, would be provided. Using which he/she can select and even get to confirm his/her appointment with the hospital of his choice.

**Index Terms**—Android Application, Health, Hospitals, SOS Emergency Services

## I. INTRODUCTION

Android is a Linux-based operating system for mobile devices like smartphones and tablet computers. It's developed by the Open Handset Alliance led by Google.

Google purchased the initial developer of the software, Android Inc., in 2005. The disclosing of the Android distribution in 2007 was announced with the founding of the Open Handset Alliance, a consortium of eighty-six hardware, software, and telecommunication firms dedicated to advancing open standards for mobile devices. Google releases the Android code as open-source, beneath the Apache License. The Android Open more than 450,000 apps on the market for Android, and therefore the estimated range of applications downloaded from the Android Market as of December 2011 exceeded ten.

Android was listed because the best-selling smartphone platform worldwide in this autumn 2010 by Canalys with over three hundred million Android devices in use by February 2012. In step with, as of February 2012 there are over 850,000 Android devices activated each day

## I. LITERATURE SURVEY

In a world where there is an application developed even before the other is launched, we can't overlook the fact that

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similar such applications already exists but these applications out there has its own drawbacks.

There are few apps out there which take maximum time to respond and few of them give improper results and relying on them would just worsen your situation. Well others show random results and end up leading you to some far-off unknown places too. All these inaccurate, unreliable, misleading random results is what made us come up with an app which serves the user with the best possible solution that is reliable and is also retrieved in the best minimum amount of time.

### A. Nearest Hospital

This is an android app that is used to locate all the hospitals in the vicinity.

Sadly according to the user reviews, this app doesn't provide the user with the right results. At times, the list of hospitals shown doesn't exactly lie in the user's vicinity.

### B. In Case of Emergency

This is an android application that enables the user to push a message while the user is in need. But what if the person fails to check your message in time? What if He/she is busy with his/her work on his system and fails to check his phone inbox?

This is where My Help stands out. This app enables the user with an option of calling as well as pushing a mail to the user's preferred list of mail Ids.

### C. Hospital Finder

This similar app which almost does the same task but has its own glitches according to the user reviews. It doesn't have the provision of "my favorites" and also takes a long time to process.

## II. MY HELP

My Help aims at eliminating all the flaws of previously developed similar applications and also provide the user with the best and the most efficient and accurate result. It also aims at providing the same in the least time possible.

To achieve the same, there are two main modules

- Reachable hospitals
- Save our succor module

## III. REACHABLE HOSPITALS

This module aims at locating the closest hospitals in the vicinity of the user and also provides them with all possible

information that includes the address, location; contact details and also enable the user with navigation help.

Here initially the details of the user location is derived i.e. latitude and longitudes of the user. Using this the details of all the hospitals nearby the user's location is extracted using Google Places API Services and the results are parsed in the JSON format and extraction is performed so that the nearest hospitals are displayed on the top of the list and this makes the user to access all the details of that hospital i.e., the user is provided with the facility to call the hospital directly with a single click and also we are providing them the best possible directions to reach the hospital with minimum time.

For this, the Data parsing technique is used to get nearby locations hospitals and then once the details are derived, the distance between the two points is calculated i.e., from the user's current location to the destination hospital, using their location latitude and longitude values and finally a list will be shown having the details like name of the hospital, distance from the current user location and with a click of any of the listed hospitals, the user will be given the details of the hospital in complete and after which user will be given two options:

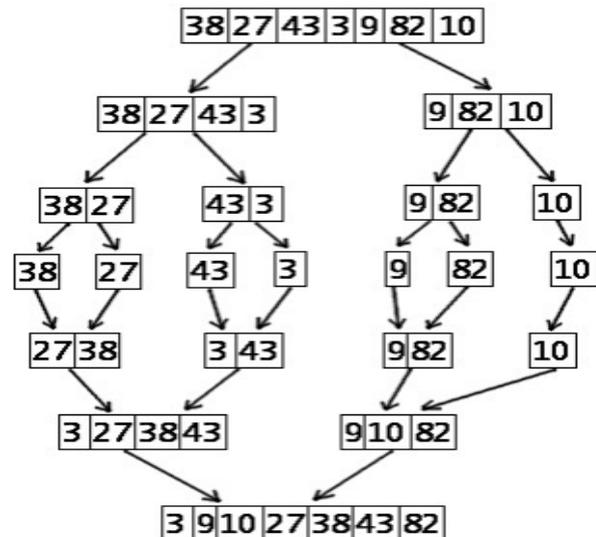
- Dial: is used to make a call to the hospital
- Direction: is to get the driving directions to the hospital from his/her current location.

By doing so, the exact details of the hospitals which are nearest to the user in a sorted way is provided and the user will also be provided with an option to give a call to that hospital and extract the required details at one spot and also he is given an option for getting the directions from his current location to the hospital which user chooses and with that he is directed properly even if user misses some route user will be immediately re-routed from his current location.

Merge sort algorithm is used to derive the least distance so as to provide the user the list of hospitals in the ascending order of the distance.

The merge sort splits the list to be sorted into two equal halves, and places them in separate arrays. This sorting method is an example of the “divide-and-conquer” paradigm i.e. it breaks the data into two halves and then sorts the two half data sets recursively, and finally merges them to obtain the complete sorted list. The merge sort is a comparison sort

Fig 1 showing the implementation of merge sort



and has an algorithmic complexity of  $O(n \log n)$ . Elementary implementations of the merge sort make use of two arrays - one for each half of the data set. The following image depicts the complete procedure of merge sort.

**Pros:**

- 1) Marginally faster than the heap sort for larger sets.
- 2) Merge Sort always does lesser number of comparisons than Quick Sort. Worst case for merge sort does about 39% less comparisons against quick sort's average case.
- 3) Merge sort is often the best choice for sorting a linked list because the slow random-access performance of a linked list makes some other algorithms (such as quick sort) perform poorly and others (such as heap sort) completely impossible.

Fig.2 shows a graphical plot of the time complexity of the Merge Sort which gives a pictorial overview about the efficiency of the algorithm.

Thus we can see that the time taken to sort data of increasing instance sizes increases very slowly hence until around 20000 - 25000, and then increases at an increasing rate. So it is better to use it under the size limit of 20000 - 25000 numbers.

But usage of about  $\Theta(n)$  auxiliary space for its working will charge us huge space for such high count of numbers. So depending on the restriction imposed by the availability of free space we will have to consider the input range for which we could apply this sort. For e.g. it will take around 100 - 200 kB of space to sort data of the size of 20000 numbers (considering that each number uses about 4 bytes of memory).

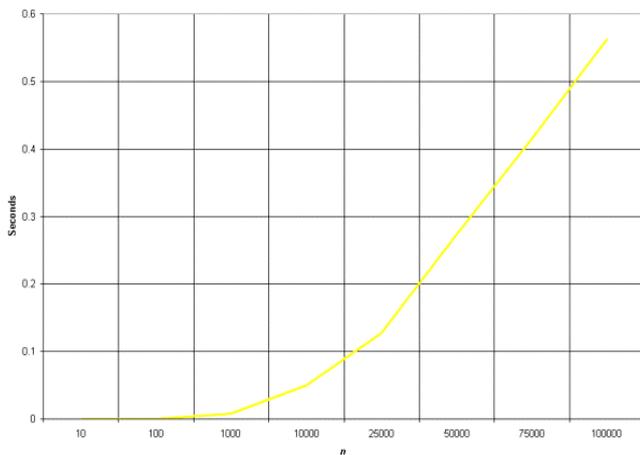
## V. CONCLUSION

Over view of this paper is to give a glimpse of an idea that an emergency app can be developed in a much better way than the existing ones which are not accurate and time taking. A lot of research has been done over the existing apps to tunnel out all the drawbacks that the user is facing, which can be easily rectified with the help of this article.

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Fig 2 showing graphical representation of merge sort algorithm



## IV. SAVE OUR SUCCOR

This module is a very vital part of the app as it enables user to contact friends and family with one click in case of emergency. User has to choose three contact numbers and three mail ids from the Phone book and this app would automatically import cell number and the email id of the contact in to this module. In case of emergency the victim has to just push a SOS message which contains victim's location i.e. area name, city and state based on the user's latitude and longitude. This message will be sent as a text message to the phone numbers which are imported.

The main additional feature of this module is an email option which sends an email to the chosen recipient. The email has an attachment which contains pre-recorded messages of the user and the body of the mail will enclose the location details of the user. This feature distinguishes this app with the other apps that are available in the market.

Here the user is given an option to record his/her voice message. The application achieves the same using an inbuilt media recorder of the android device after which the contact preferences are set. The recorded voice message is configured to be saved in the SD card of the user under the file named "My Help". When in emergency, the user will have to push a button which in turn would send a mail and would also push messages to the contacts previously preferred, during which the prerecorded voice is attached to the mail and pushed to the mail recipient. It also enables victim to call the first contact fed with one click, it also provides an additional feature that helps victim to call help from other sources like ambulance, police and fire with one click of course.

A widget is also provided on the home screen page, with the help of this widget all features of the app can be easily accessed.