

Extra Hand - An Android Application

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Abstract: *Extra Hand, as we all know every country is currently (2020-2021) suffering from COVID VIRUS and people with higher age group (50+) are at more risk. The main reason is that some of the Senior Citizens or Disabled citizens were stuck alone in this pandemic, and they had no other choice instead of going out and this android application (Extra Hand) is built to help them. This application allows the user to raise a request for the things (Grocery, Medicines, etc.) they want along with their location. Other User who are willing to lend an Extra Hand or someone is passing through any particular area will see the Request Raised by someone and if they are willing to help that particular person they can directly message them and clear their queries or confirm them that they are helping the person so that the one who raised the request will delete the Request so that other person won't message them for same help.*

Keywords: COVID VIRUS, Android Application, Pandemic, Grocery, Medicines

1. Introduction

It is known from the reports that in India 10.5 million+ people have been affected till now in which over 56% were in the age group of 50+ years. Many youths are leaving home for work or some other reason, and some of them also want to help the needy one. Extra Hand is the platform which will allow users to raise the request with the things they need as well as for other users who want to help. They will also be able to see the lists of requests in home-screen and they'll easily contact any user by just sending them a message, and afterwards they can share any details they want like phone number etc. So, Extra Hand will give an easy facility to help other people or ask for help.

2. Description of Problem

As we know, the global pandemic is being faced by everyone, worldwide 90 million+ people have been affected by it, and almost 2 million+ people have died. Most of them were from the age group of a senior citizen (i.e., 50+). People with that age group generally have low immune systems which make them the major target of COVID. So, going out would be more dangerous for them. It would be more dangerous in this pandemic. There is no such market opportunity in this application, it is an application which is meant for the lifesaving purpose and will be a major step for saving the lives of senior citizens and people suffering from physical disability.

Risk of COVID-19 Infection, Hospitalization, and Death By Age Group									
Rate compared to 5-17 years ¹	0-4 Years	5-17 Years	18-29 Years	30-39 Years	40-49 Years	50-64 Years	65-74 Years	75-84 Years	85+ Years
Cases ²	<1x	Reference Group	3x	2x	2x	2x	2x	2x	2x
Hospitalization ³	2x	Reference Group	7x	10x	15x	25x	35x	55x	80x
Death ⁴	2x	Reference Group	15x	45x	130x	400x	1100x	2800x	7900x

All Rates are relative to 5-17 year age category. Sample interpretation: Compared with 5-17 year old, the rate of death is 45 times higher in 30-39 years old and 7900 times higher in 85+ years old. Compared with 18-29 years old, the rate of hospitalization is 8 times higher in 75-84 years old (55 divided by 7 equals 7.9)

3. Brief Description of innovative solution

People have started going out and started going to work after the quarantine. But the risk of COVID isn't over yet. So avoiding going out would be better for everyone without any major reason, especially senior citizens or a person with a disability. Any citizen of our country who carries an android smart phone can use this application, irrespective of their location.

As this application is new of its kind and the user Interface of the application is user friendly so user might not face any problem everything has one tap solution whether you want to help or you want help, each and everything has allotted its own button whether it is about helping someone just a click to send DM (Direct Message) or delete the helping post or posting a help query everything is a one click function. Later users can share the contact number so that they can contact and share details or address to get help or to help.

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At present, there is not any other android application that is known to the users for helping them in the current situation (i.e. COVID Situation). The android application named “Extra Hand” will have the technologies like OTP and GPS location which will verify the user’s phone number and save the GPS location of the users, which will help the users to know that someone around them is in need, so they can help. All the details of users with location will be saved in the real-time database. I’m using the Firebase Real-time Database because it allows secure access to the database directly from the client-side code. For about 10.5 million+ People have been affected till now in which over 56% were in the age group of 50+ years and there were more than enough amount of people who were willing to help but they didn’t had any platform or the way to get the information who needs help and who doesn’t, Extra Hand is a platform which will provide this information they need and it will help many people and might save many life’s.

Working and Methodology of Application

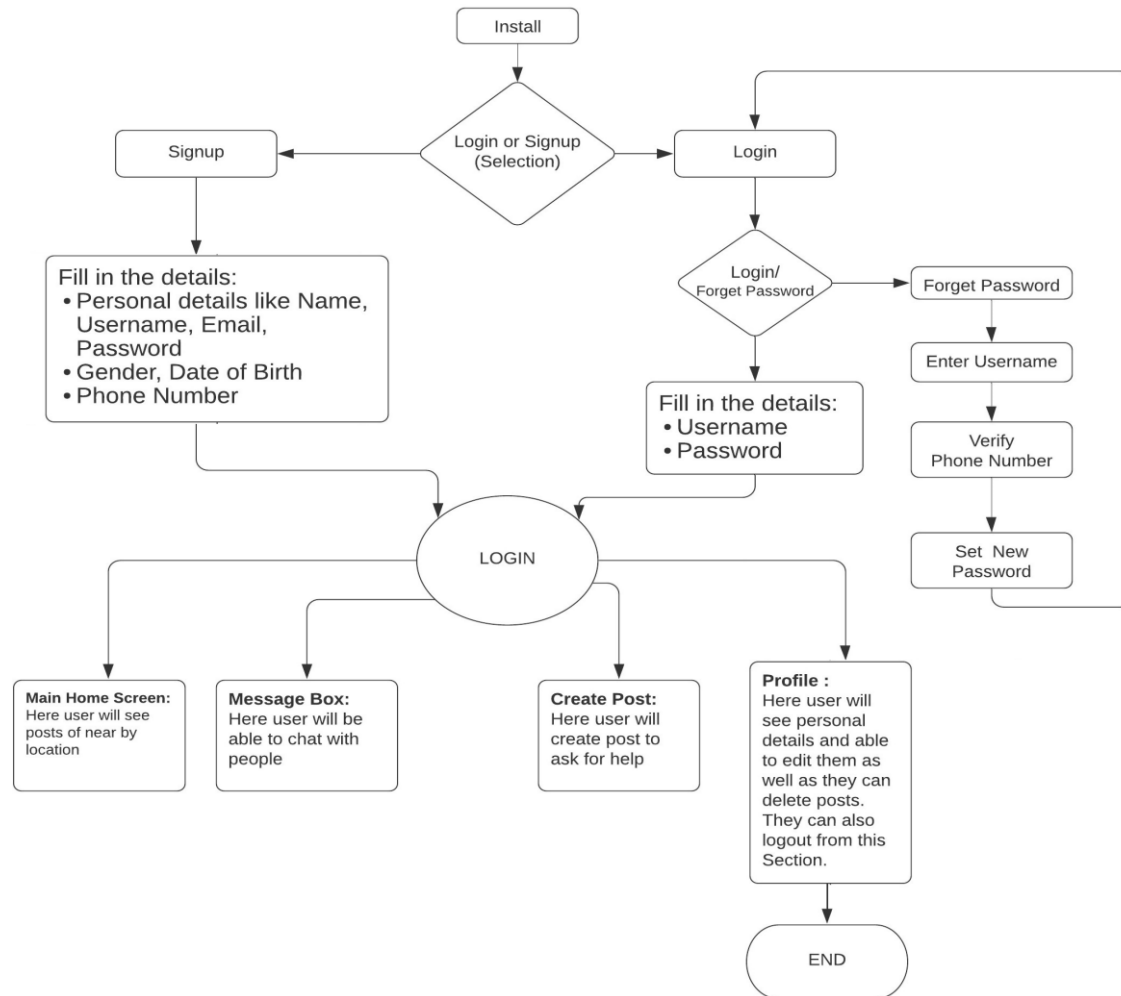
At first, after installing the application, a splash screen will appear and then after that another screen will appear which will let the user select whether they need to login or sign up, according to their choice they will be transferred to their chosen screen respectively. The signup button will take them to a new module for creating an account where the user will have to fill in the respective details they have been asked for, the user should be above 16 years old, and else it will show an Error message. After filling all the details, the user will be asked to verify the phone number. Once the phone number is verified, the user account will be created. Similarly, if a user clicks on the Login button, they will be moved to the login screen where they have to write the username and password to login. If a user doesn’t remember their password, they can click forget password on some screen later on in the next module. The user will get verified by phone number using OTP verification. After the user confirms the verification, he will get to set a new password, and then he can Login again.

Once a user logins, the user will be moved to the Profile Screen. At the bottom of the screen, the user will be able to see four Options:

- 1) Profile
- 2) Home Screen
- 3) Message Box
- 4) Create Post

- 1) **Profile:** Here in this section, the user will see their personal details like their name, email id, phone number, gender, date of birth, photo, logout, Username, Edit profile and Delete post. Edit Profile will allow users to edit their personal details. Delete post will delete the previous post that the user has posted (for example, if the user has posted a post for help and someone is willing to help the user, then they want to delete the post, so they will use this feature to allow the user to delete the post). The logout button will help the user to end their logged-in session.
- 2) **Home Screen:** Here on this page, a user will see the post of users in their nearby area. Posts in which the user is asking for help. For example, if they need groceries or any other stuffs. If you are willing to help any particular person, just click on a button present in the post. It will take you to the Message Box where you can chat with the other user who needs help. After chatting, if you are willing to help them you can ask for their contact details and contact them on calls and messages and help them.
- 3) **Message Box:** Here in this section, users will see the list of people whom they have chatted with talked and ever helped them. Here they can also contact an old user if they need help, so if he is interested or available, then he will help them again.
- 4) **Create Post:** Here in this section, the users will create the post of help they need, and then after writing the post, the user has to add the location, and for adding the location there is a button named ‘Add Location’ available. On clicking the button, the user will be moved to another screen where they have to fill in the detail asked. Then after adding, submit the location and verify everything you have written and then post, and it will appear on the Home Screen of the users nearby you who are willing to help, and they will contact you.

4. Application Flow Chart



5. Future Scope

In the future we can use this application for many purposes, like it will be useful in hostels, senior citizens or disabled people. We can also add store facilities direct, so the users can directly order it from the store and the store will make the delivery. If we add the stores of grocery and medical and any other store, it will work as ordering from any store, and they'll deliver it to your home directly so they don't have to wait for someone to help them.

6. Conclusion

This application will be the most user-friendly platform to enrol people in such a good activity and will save many lives of people who may die in the pandemic and people with disabilities will also get help. It will create a long-term helping role for every citizen in our country. Our prime target is to provide help to those who are in need, the seeker may get help through an application with just a simple post.

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