

MedLink (Final Project Report)

CSE 299 (Team -1; Section - 9)

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1 Introduction

In this corona situation we all notice that everyone has to face some problems whenever we have to seek medical help for all the diseases except Corona. As we can't directly contact with the doctor, we are not sure of the fact that if the doctor attending the normal patients or not. So we have decided to introduce an android application "MedLink" to reduce the communication gap between the doctors and the patients.

MedLink solves the problems given below:

- Suppose I need a dental treatment but I am not sure that which dentist is currently attending the patients.
- To know about the doctors schedule, we don't need to go outside.

How MedLink solves the problem:

- MedLink makes a way to communicate with the doctors directly.
- One can find the nearby doctors list easily.
- People can see the doctor's schedule.
- If the doctor is available, people can easily make an appointment directly through the app.
- They can contact with the doctors by sending email.
- MedLink will also provide the lab report for every lab test from any diagnostic centre.

Impacts:

- If we can make this app happen properly, it will be a great revolution for the health sector.
- In this technology depended world, every health sector should have a proper app like this.

2 Related Work or Project Background

In the most recent researches, we found that there are already many familiar applications available on Google play store and Apple store. Some popular and similar applications are:

- Praava health [1]
- Medex [2]
- Maya-It's ok to ask for help [3]
- Shohoz health [4]
- Sheba ghar: Online doctor video consultation app BD [5]

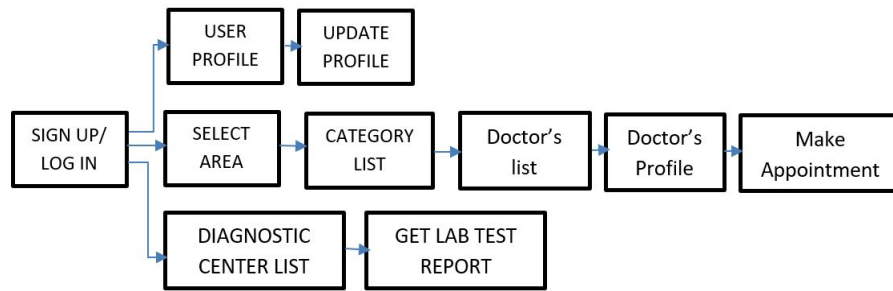
and many more related applications are available in Bangladesh. All of them have many similar features, but there are some differences and limitations in all of them. For example, in Maya app you can only communicate with the doctor in video conference. You can get prescribed through video call. You can buy online medicines from Maya shop. Shohoz health and Sheba ghar are almost same applications like our app but there are some limitations in both. Those applications only contain the information about the doctors that are available inside the Dhaka city. On the other hand Medex is a great platform for medicines, one can get details about one particular medicine like it's generic name, other alternatives, prices, indications and other facts but this platform doesn't have any features like. Praava health provides lot of features like doctor consultation and other stuffs but doesn't have any features like medicine. We desire to make an application which can provide the same advantages all over the country. MedLink also have some extra features like: we have the accessibility with all the diagnostic centre. Basically, from our last few researches we had a chance to go through all of the similar apps and we learnt many things from that. So, we desire to make a better and perfect app than the other apps.

3 Proposed Solution

The main vision of Medlink is to reduce the distance between doctor and patient. Medlink's goal is to minimize the information gap and make the process easier. It will be the middle man between doctor and patient. It will show available doctors, their location and their timing. Patient can easily access doctor's details. The tools and software are given below.

- Java (front-end and back-end)
- Fire-base (database)

We used fire-base as the back-end platform for implementing authentication and database features. As a coding language, we used java. And for the coding platform, we used the android studio. This is the first time we turned ourselves into making an android application. So, we had to go through and learn a lot of new stuff. We found fire-base as the easiest platform for having the authentication and database features for an android application. So we used fire-base as we are in our learning stage.



User feature diagram

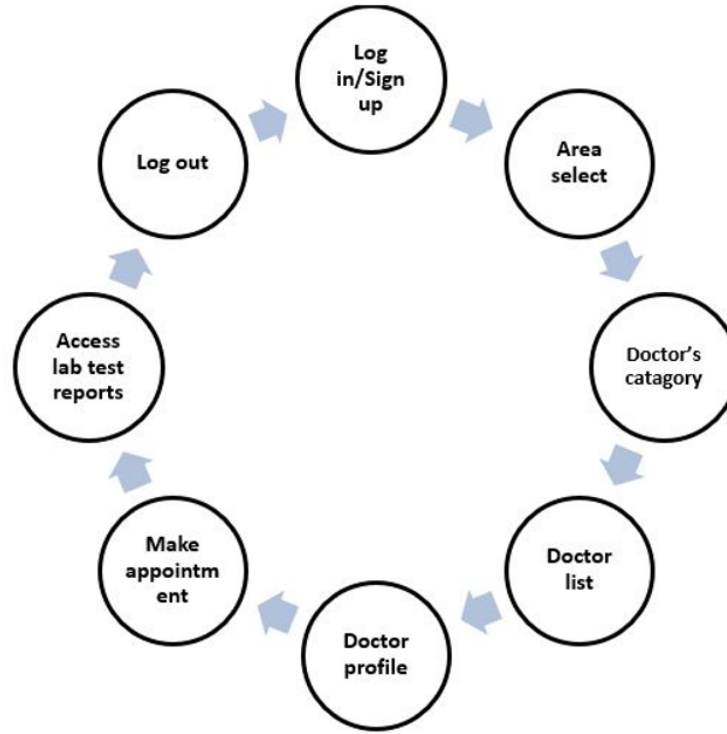
4 Purpose of Our App

Many doctors are busy combating Covid-19. So, their regular consultation hours are not available like before. Basically, this app will be the middleman between the doctor and the patient. We often have some information gaps and communication problems between doctors and patients. Users can log in and access pieces of information easily from our app. They can search for nearby doctors and access the information where doctor details are given. In this app, users can check the doctor's schedule and book appointments according to their preferences. Users have the ability to check prescriptions. In other words, they have easy access to their medical records. This app is designed in the simplest way possible so that patients or users can easily navigate.

5 Project Growth

This section shows the progress of our app development. Till now we've achieved the features given below,

- New user create
- User login
- User logout
- Doctor search based on area and category
- Access doctor profiles
- Book appointments
- Access lab test reports



Process Diagram

6 Future Goals

We have a lot of flaws in our current app which can be improved in the future. The main thing of an app is a database. So we need to have a proper relational database. In that case, we will shift our app to react-native for the back end and a relational database such as MySQL. We did area selection in our app using a simple method but we intend to use the google location service for real-life experience. We will develop a proper web for proper maintenance as we need to collaborate with the doctors and pathological test labs. In the future, we will implement a user profile feature and it is possible when we have a functional database.

7 Conclusion

All in all, "MedLink" is a platform where people can find doctors and book appointments according to their preferences or needs online. As Corona is at its peak now doctors are having hard times to have a scheduled timeline for their

regular sessions. Here comes “MedLink” aiming to reduce that miscommunication. If we survive to crack this app in primary level, we are determined to enhance its features in future such a way that people can rely on this app easily and it becomes a top grossing app.

8 Project code link

- <https://github.com/MoshfiqueUddin/Medlink-App>

References

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9 Appendix

9.1 Mohammad Moshfique Uddin 1812082042

This was a great experience for me doing this project. I had small knowledge about app development before doing this project. For this project i learned a lot of new features, java coding for app development, fire-base, android studio features. The below features done by me.

- User Interface design of whole app
- User authentication using fire-base
- Fire-base database setup link with app
- Fragment for home menu and lab reports menu
- Lab reports view option on RecyclerView
- Doctor list based on area and category
- All bug fixes

9.2 Rohit Roy 1811270042

As this was my first encounter with android app development, I encountered some difficulties to deal with the bugs and new features. I learnt a lot through different resources on android studio, fire-base and its’ components. Android Studio is an easy to use (and free) development environment to learn on. To work as an Android developer, it is expected to face many challenges because Android applications are very easy to use but they are quite difficult to develop and design. There are many complications involved in the development of Android applications. Though we have successfully completed our proposed project and my contribution is little but efficient. My notable contributions are given below:

- RecyclerView for doctor list
- RecyclerView for lab report list
- Lab report fragment to RecyclerView

9.3 Tamzid Alam Alvi 1813130642

I was new to android development, previously I did web based projects so doing a android based project was a whole different experience. I got to learn java and fire-base, also got introduced to android studio for programming. Learned to overcome the problems we had during the development process, in this case team work helped me the most. Though the whole project was a teamwork but doctor profile feature was done by me.

9.4 Nusrat Pathan Meem 1811078642

I always aim for projects that is new for me, this was no exception too. I never did a project that was based on android development. I got to know about new things about android development. I gathered new knowledge about firebase. I have learnt about android studio from scratch. Everything, we had to test and trial and learn. So, this project is my beginning towards android development. It was a group project and all my members helped me a lot in every steps. I did the doctor appointment feature.