

## Introduction

The application I have developed, is a wellbeing and healthcare application that can be used by different health organisations like health section of the city council, in order to provide support for wellbeing of users and people who live in a city and prevent any health issues by the facilities it provides for the users.

Each user can Register in the application entering a username, email address, and a password. The users then need their chosen username and password to log in the system.

When the user is logged in, they can use different facilities provided by the application. They can book a test in a laboratory to check their health factors and status. There are 5 different test including immunity check, Thyroid check, and full body checkup.

The users can also order some medicine they need by choosing the different types of medicine and add them to their cart. Then they can checkout by entering their details including their address, pin code and other personal information.

Users also can book an appointment with a doctor. There are 5 types of doctors the users can book an appointment with, which are dieticians, cardiologists, dentists, surgeons, and family physicians. The users first choose which type of doctor they want to be visited with, then they can see a list of doctors of that type, their details and their address. After that the user chooses a doctor a sets a date and time for their appointment.

There is also a section called as 'health videos'. By clicking on this section, users can find some videos of different subjects that gives them some useful information about how to be and stay healthy by for example walking on a daily basis.

In the other section, the user can see their orders and appointments which are recorded so far and their details.

And finally, users can log out of the application.

This application provides good health and wellbeing services and facilities for the users and as mentioned before, can be used by a health related organisation in a city, for instance the medical and health part of the city council.

The two interactive features that I have used are populating and using a database, that is an internal database (SQLite); and the other one is handling files and videos.

# Application Design

## Initial Design


<div><div>username</div><div>Email</div><div>Password</div><div>Register</div><div>Log in</div></div>	<div><div>username</div><div>Password</div><div>Login</div><div>Register</div></div>
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## Final Design

### Registration

 Username

 Email

 Password


 Confirm Password

REGISTER

Already have an account?

### Login

 Username

 Password

LOGIN

Register for new user

## **Android Design Guidelines (material io)**

Firstly, when I checked the website and the guidelines, I remembered that designs (colours and styles) should be defined due to the theme of the application. Things are different regarding whether you want to have dark theme or a light theme.

I comprehended that on each page some information should be given to the user in order to tell the user on which page they are now and what they should expect and do. I understood that adding icons to the text fields can kind of improve their quality, although this is not mandatory.

I learned that paddings are important and there are some principles for padding in different components which should be adhered to.

Furthermore, I understood that corner radii are also important and there are different guidelines for different components, some should be rounded to a certain degree and some should not be.

I learned that all colours should be adjusted due to the theme of the application and not all colours can be used together.

There were many other points and guidelines that all learned about the many things including the foundations, styles, and components but not all of them were applicable in my application. Of course there are some guidelines missing in my application because I did not know how to use and implement them and also because I had very limited time for doing all these.

## **User Feedback**

I showed my initial design to two friends of mine and asked them of their opinion. Of course they are not familiar with designing and implementing principles but as ordinary users their opinion can still be of high importance.

Here are their opinions about the design:

- The first user: He said that although this seems to be working for the purpose of registration and logging in, this is too simple and needs some interesting colour and style so that the user gets willing to work with that. He also mentioned that for the registration page it seems that some field is missing and after we talked about that I understood that he is talking about a field to confirm password. Actually he was right and this field is absolutely needed for any registration page. Otherwise, the user might register entering a wrong password that will not be remembered later and this causes problem for that account.
- The second user: She also had many common thoughts about the design, similar to the first user which is normal and understandable in my opinion. She said that on the whole she prefers dark theme and style. She mentioned that she thinks pages should have titles to show that what is that page intended for and what the user can expect from that page

actually. She also said that she thinks adding icons to the text fields can make them more visually appealing and comprehensible. She added that the texts that are below the filled buttons, do not seem to be actual text buttons, instead, they seem to be just normal texts and suggested me to do something for them in order to make it clear that they are text buttons and users can indeed click on them and by that an action will take place.

### **Changes made from the initial design**

These are the two sections that the user needs to interact with in order to enter the system and start using the application, the login page and the registration page. In the beginning, I wanted to design them on a light theme (using a light background) but then I changed my mind and decided to design my application using a dark theme (using dark backgrounds). According to the research I did on the Android design guidelines (material.io) and the intention I had, firstly the pages should have a title showing the users the name of the page they are in and give them information. Therefore, I added a title to each page, of course I think the titles design should have been a bit different according to guidelines (for example it should have appeared on a bar) but I thought this way could be better, also the users who tested it asked me to do so as well.

I changed the background and used a dark background to give them a dark theme. I added icons with proper paddings to the text fields for more visual clarification. I also adjusted other paddings that were needed within the text fields. I added another text field called 'confirm password' to the register activity because it was needed essentially. I adjusted the corner radii for the register and login buttons due to the guidelines and made them rounded as much as needed. In addition, I changed the text that are below the buttons and gave them the proper style due to guidelines for text buttons (as they are actually text buttons). I changed all components and their text colours according to material.io guidelines regarding a dark theme. I also considered that not all corners of the text fields should be rounded, unlike filled buttons, according to the design guidelines.

## Conclusion

Like any other application, this application has some strengths and weaknesses as well, about which I am going to talk in this section.

The application has good functionality and most key features of it work well, although there could be some improvements in some parts in order to make it flawless in this regard. The code is well-organised to a good extent and easy to understand, variable names are understandable as well. However, if it had more comments explaining more about different parts of the code, it would be even more understandable.

Level of modularity is also good but not perfect and code modules are well-encapsulated to a good extent. Most components can be reused or replaced but not all of them. It would be better if some data were stored in a more suitable way and using firebase (an external database) would be a better option instead of using SQLite (an internal database).

About the scalability, it can be improved to be able to accommodate future changes and additions and to scale with increasing complexity and features.

Regarding maintainability, it would be good to use a proper version control like git and commit and push changes regularly.

In terms of error handling, the application performs goof in some aspects. However, in some aspects it can be improved to genuinely minimise the probability of receiving erroneous input and data and also be more flexible when dealing with errors within the application.

The code is not too complex, making it less difficult to understand or modify.

Some Android design guidelines (material.io) have been utilised and some are missing because I was not familiar with the fact that how I can implement them and also because The time for handing in the project was very limited.

The application can be used by different health organisations like health section of the city council, in order to provide support for wellbeing of users and people who live in a city and prevent any health issues by the facilities it provides for the users. Users can make use of this application and use its facilities to be and stay healthy, to book appointments with doctors, to order some medicine that they need, and to book a lab test to check the health factors, for example they can book a full body checkup or a thyroid check. They can also watch some informative videos to stay healthy.