

بسم الله الرحمن الرحيم

AN-NAJAH NATIONAL UNIVERSITY



FACULTY OF ENGINEERING AND INFORMATION
TECHNOLOGY

Computer Engineering Department

Software Graduation Project

We Care

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UNDER THE SUPERVISION OF:

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Abstract

Our parents and our grandparents are the most precious thing we have, they took care of us from the time we were born until this moment, And after seeing the conditions of our society in providing care for the elderly, we read many research studies on this subject, which show many deficiencies in their needs.

And with the advancement of technology and the widespread use of mobile phones in all aspects of life, and as part of their care and concern for them, we saw the idea of developing an application to help take care of them and provide their needs as a beautiful idea. As this application will be useful for both parents and children, and it can solve many problems and deficiencies.

We care, an application that allows user to record his information and then enter and benefit from the available services, such as online shopping, and since the online store in the application contains things for the elderly such as clothes, shoes and other tools, the application allows users to see the nearby events that It is organized for the health of the elderly, and a seat is reserved to attend the event through the application, and reminders of the time of medication by adding medicine information's like name, time, amount and notes , and then it will be a notification and a reminders system to tell them about medicine.

finally we also have the service of asking a doctor by a page contains a list of doctors and a chat system to chat with them and ask anythings at any time .

Android Studio, that deals with the Simulators on which we can run and monitor the software, is the IDE we would use. Flutter and Dart are the programming languages that we will use in Android Studio to write the application. SQLite for the database used. This is not the first elderly care application created, here we are working to strengthen some services , and create own specific services such as the use of shopping online for all needs and the free event's list.

1 Introduction

With the technological advancement these days, the use of the phone has become an essential thing in people's lives, and smart phone applications that provide life services to users have diversified and their fields vary. This application makes it easier for the elderly to benefit from the services and the advancement of technology, which makes their lives easier, and it is not limited to the elderly, but rather enables the children to provide for the needs of their parents, and it also contains a commercial aspect in terms of the electronic store that it contains.

The software product went through the design, development, and testing phases as part of the Software Development Lifecycle. The application's GUI is built with custom art components, the functionality is implemented with the Android SDK, and the software testing process was successfully done

1.1 Motivation

The elderly category is one of the marginalized groups in terms of providing smart applications that serve them and make their lives easier, and we have seen some applications that provide services similar to some of the ones we have developed, but the idea of making these services in one application that serves this category and serves the community was the motive us to develop this application. In addition to that, the presence of a special online store for the clothes and needs of the elderly could be the first of its kind now, and the presence of many free events can support the majority.

1.2 Aims and Objectives

The goal of this project is to provide a way for the elderly to live their lives easily and without having to make an effort to obtain specific services, as well as a source for children to check on their parents and provide for their needs.

In addition, we aim to solve many problems that exist in our society, all of which lead to the marginalization of this group and lack of attention to their many needs, We also aim to provide an opportunity for those who fall into financial problems that may sometimes lead them to not pay attention to their health.

All of these things are in the service of this group and making it easier for their children and for them, It also supports our society, whether financially by having opportunities to work with this application, or even morally and socially.

2 Constraints and Earlier work

2.1 Constraints

In the beginning, we faced some problems and challenges with how to start and set the basics of the project, and then challenge the new programming languages that we learned to develop this project, given that we had not previously dealt with the development of smart phone applications, and the problem of heavy programs that were used and the difficulty of installing them On the devices, as there was a problem of time, and we made a great effort to organize the time specified for working on this project and developing it in the presence of the study tasks that we had to take care of while working on the project .

Limited educational resources is also one of the constraints that we see,the Most of the various training courses and educational resources provide solutions and coding in other programming languages such as React Native and Java, which made us spend more time and effort in researching and solving the problems we encountered and asking experts and those with good knowledge.

2.2 Earlier work

We learn flutter before and during the semester by reading its tutorials, taking online courses, and watching videos about this language.

3 Literature Review

This application is not completely different or unique, but it is a synthesis of very good and useful ideas from various applications that make it simple to use. Some of these applications include Care For The Elderly, All Well Senior Care, and Take Your Pills, which offers services similar to those we offer, such as medicine reminders and chatting with doctor.

It gives you all the options in one application, in addition to the previous services the application provides all needs and many services and makes elderly contact with remaining society and make them a main part of us and make their needs a main thing.

This application brings together services of all kinds, It collects the ideas of several applications at the same time, and this works to make it easier for those who need all these applications, as well as enabling them to benefit from it in many ways.

What distinguishes We Care from the rest of the applications is that it brings all ideas together and provides services in various fields, which makes it easier for everyone to deal with it, reduce anxiety and facilitate the matter for them. It also saves time as well. Therefore, the presence of an application like this in our society will work well to help seniors age and their families.

We Care allows you to shop and get everything you want and need, hears you access to all the free events in your country and takes care of you from a medical point of view and your medicine time.

4 Methodology

4.1 Non-Functional Requirements

Screen Adaption

this program is capable of rendering the interface to different screen sizes. Along with automated font, size and image rendering modification.

Security

in this application the chat's is protected from internal threats from the outside world as well. this done by a log in page to access the chat's, and by password which length more than 8 .

easy to use

On each page there is a set of icons and links that make it easy for the user to quickly access all pages and return to the previous one.

Use-ability

and that means Without any professional advice or support, the software is designed to make it easy for the user to grasp its movement.

4.2 Design

The design functionality of the project must be scheduled early in the development of any application from scratch. The graphical user interface is vital for comprehending how the program is supposed to operate.

When starting to design any application, there are basics that must be considered and taken into consideration, such as looking at similar applications in the App Store, designing the application in a way that is commensurate with the services it provides, the target group, and what design will make this application distinct from other similar applications.

4.2.1 Registration and Log In

The application provides you with multiple services as we talked about previously, and since there are two types of users of the application, a person can use the application as a user who benefits from the services, or as a doctor who answers users' questions, and the regular user account is created by the same person, either The doctor's account is created by an admin responsible for managing the application, and the idea of creating the account is due to the large number of services that the user can benefit from, such as shopping and booking services.

We have both of sign up and log in , if the user has an account that means log in page will used by adding user name and password and if the user hasn't an account ,that means make an account by filling all needed information's in sign up page like email,user name, phone number and address.

4.2.2 Online Shopping

As a kind of service that is provided in the application is the electronic shopping service, as this electronic store contains clothes, shoes and equipment for the elderly and is usually not available in other electronic shopping applications, and we know that it is difficult for the elderly to always go to Market and buy what they want easily.

In addition, our local market is severely lacking in all things related to the elderly. This is what makes them feel that their needs are not met, Through this service, they can order and put the products in the favorites list, The order will be confirmed by writing the information on the order page

4.2.3 Maps

Since the application provides a reservation service to attend events that are organized by hospitals or centers and nearby places, the user can see his current location and the location of the event on the map, and he can also see the road leading to the location of the event.

that make it easy for them to go and know the hospital and what it has a free event's, so they can be healthy and know if they have a something.

4.2.4 Reminder

The user can set an alarm to remind the medication time with the necessary details for it ,This is done by adding all the alarm information, including the name, time, quantity, and if there are any notes, then a notification will be sent to the patient at that time.

4.2.5 Chatting with available doctors.

As we mentioned earlier, the application provides users with the ability to ask a doctor,Where it will be a list of doctors and contain their information and all the details, and this enables the elderly to choose what he needs and what he misses and ask the questions he wants and they will be answered at any time.

4.3 Implementation

4.3.1 Key Library

Server Side

MySQL

We used the MySQL database, because of its ease of dealing with it and its common use in the field of software development. We also used php as an intermediary between the databases and the application that appears to the user.

Client Side

Flutter

Flutter is a mobile app development platform created by Google. It allows developers to create web, desktop, and cross-platform apps that run on Android and iOS devices. Flutter uses a reactive programming language called Dart, making development faster and easier than traditional methods.

4.3.2 Tools

Android Studio

Android Studio is the official Integrated Programming Environment (IDE) for Android app development that is based on IntelliJ IDEA. In addition to IntelliJ's powerful code editor and developer tools, Android Studio provides additional tools that improve your productivity when creating Android applications.

VS code

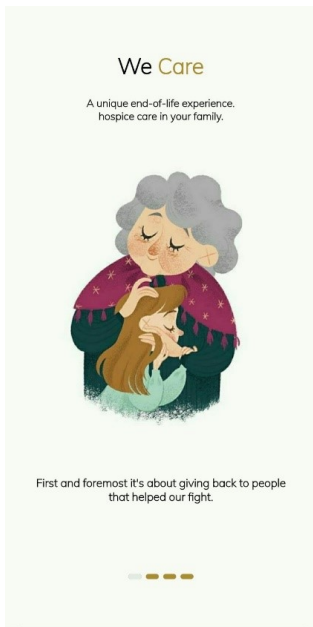
Visual Studio Code is a lightweight but powerful source code editor for Windows, macOS, and Linux that runs on your desktop. It includes built-in support for JavaScript, TypeScript, and Node.js, as well as a robust ecosystem of extensions for other languages and runtimes (including C++, C, Java, Python, PHP, Go, and .NET).

5 Results

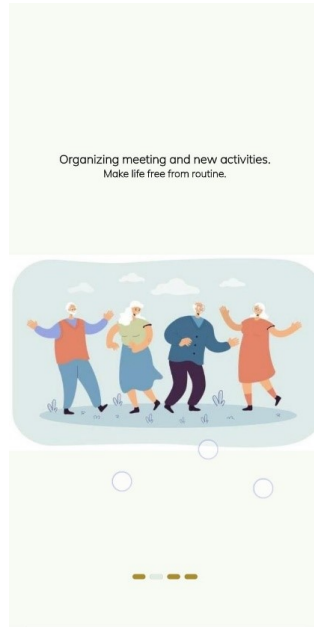
This application aims to serve the community as a whole by providing job opportunities for many groups in addition to serving a marginalized group that does not get its life needs, It provides their daily needs in addition to providing medical needs.

5.1 Start Page

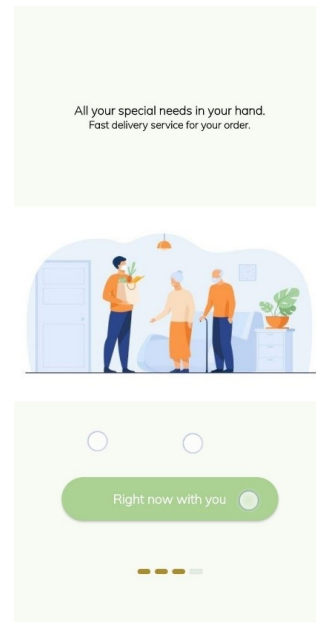
The Sliders start page provides an introduction to the app as well as its purpose, The user can scroll between pages to see all the goals, Finally, he reaches the button that takes him to log in.



(a) First start page.



(b) Second start page.



(c) Third start page.

When the sliding screen is finished, the visitor will choose who is, user or doctor, if chosen a user that means enjoying the app's features.

5.2 Choose user

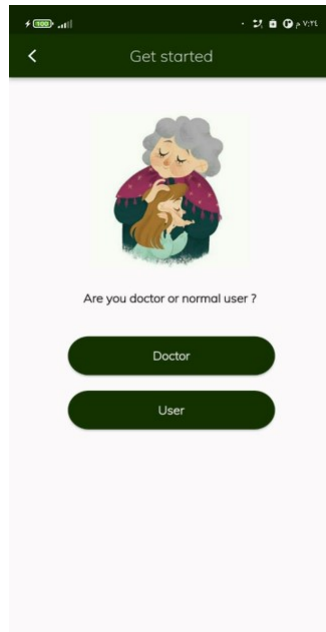
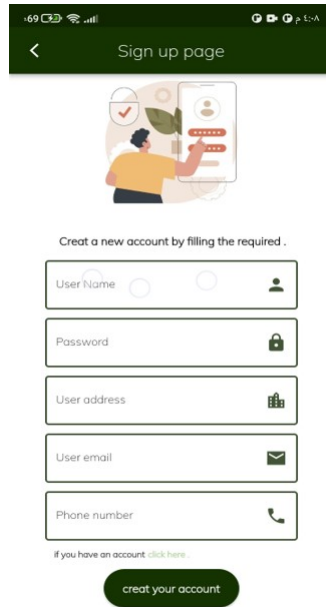


Figure 2: Choose User

When the visitor choose user that means the users will go to sign up or log in page to go for the home page after that.

And if the user choose a doctor that means the log in page will open and if he passes that , he will go to the chat list.(if the users contact with). enjoying the app's features.

5.3 Sign up



The image shows a mobile application interface for a sign-up page. At the top, there is a dark green header with a back arrow and the text "Sign up page". Below the header is an illustration of a person in a yellow shirt interacting with a smartphone. The main content area is white and contains the text "Create a new account by filling the required .". There are five input fields, each with a label and an icon: "User Name" (person icon), "Password" (lock icon), "User address" (house icon), "User email" (envelope icon), and "Phone number" (phone icon). Below the input fields is a link that says "if you have an account [click here](#)". At the bottom is a dark green button with the text "create your account".

Figure 3: Sign up

- Username: Unique username, numbers, and symbols accepted.
- Phone Number: Should fill with an unique available phone number.
- Password: It should include at least 8 characters, but it hasn't any restrictions.
- Email: it must be a real email, because it used to verify your account.
- Address: your living address and it used in maps.

5.4 Log in

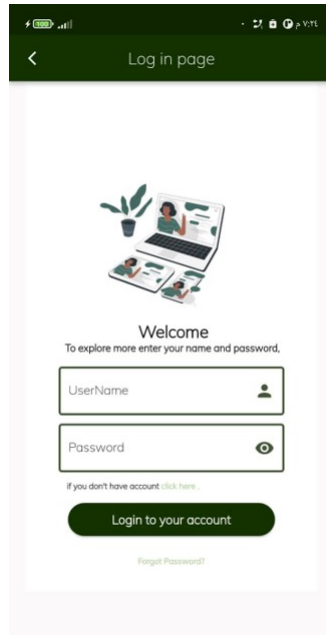
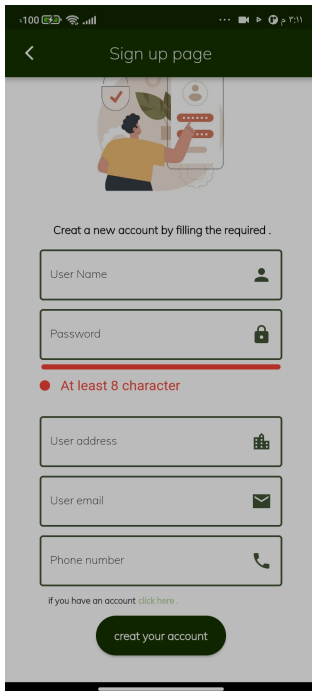


Figure 4: Log in

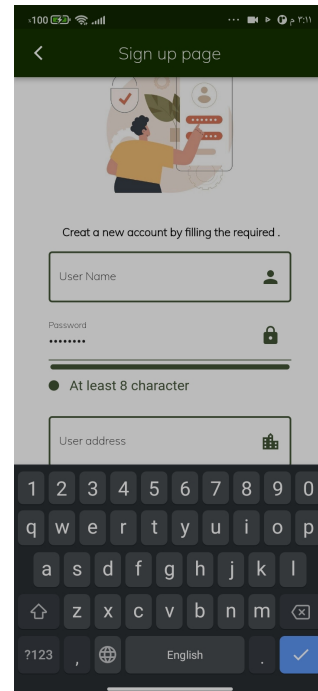
To log in, you need to log in using a registered Username and the correct password. If the user forgets the password, tap Forgot Password to reset it.

when user fills the correct information's, the next page is the home page and our services will appear.

5.5 Password Validation



(a) Password Validation.



(b) Password Validation.

To sign up and create a new account , user must put a password not less than 8 ,after that the account will create.

5.6 Forgot password

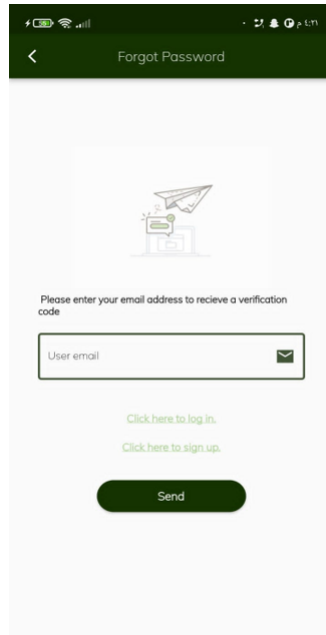


Figure 6: Forgot password

If the user forgot his password, the he could reset it by the following screen, he will enter his email and click the button to check if it's existed in the database, then we well send him a link on email message with new password.

5.7 Home page

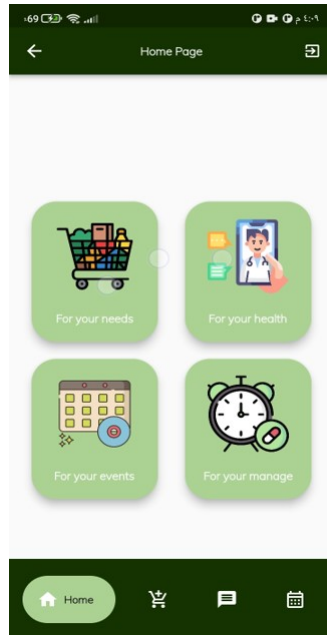


Figure 7: home page

The user's main screen represents 4 main types of services that are provided in the application, which are shopping, booking, chatting with doctors, and alarm services, and at the bottom there is a bar for quick navigation and benefit from the available services.

in this bar ,users can see their own order's , chat's ,event's list and the home page that contains all services.

and in the upper app bar we have a log out icon , when pressed it ,user will log out and go to sign in page.

5.8 Shop

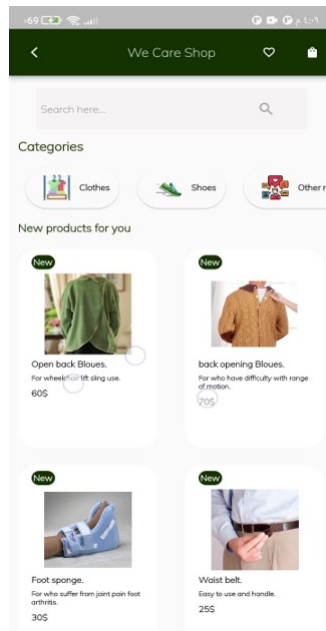
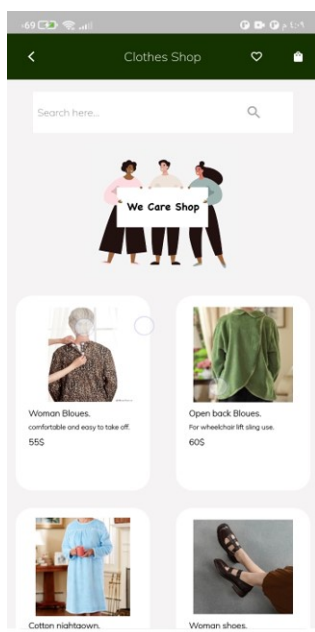


Figure 8: Shop page

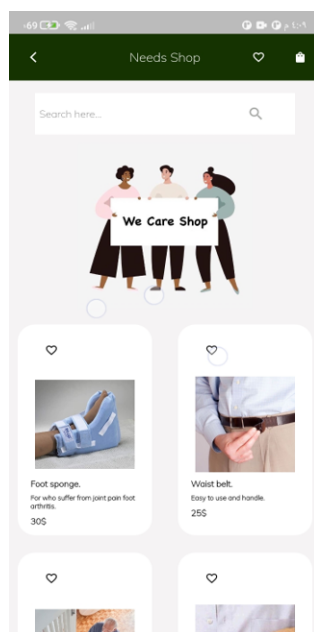
This page contains all the new products that are added to shop, and it contains branches. There is a branch for clothes and a branch for shoes, in addition to a branch for additional needs, which includes things to help move, aids to get out of the car, in addition to other things.

At the top there is text for searching, and when the user searches for a specific matter, it appears to him quickly.

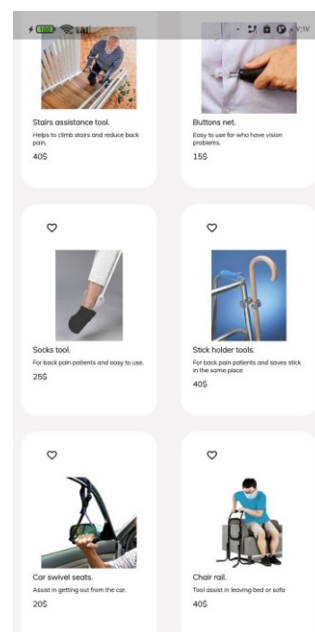
5.8.1 Shop page



(a) Clothes shop.



(b) Others needs shop.



(c) Others needs shop.

Here, the rest of the branches in the online shopping are shown to us, and two icons appear at the top, which send the user to the orders page and the favorites page.

When the user clicks on a product, it will send him to the product details page, which we will see later. He can also make orders and add to favorites.

5.8.2 Items details

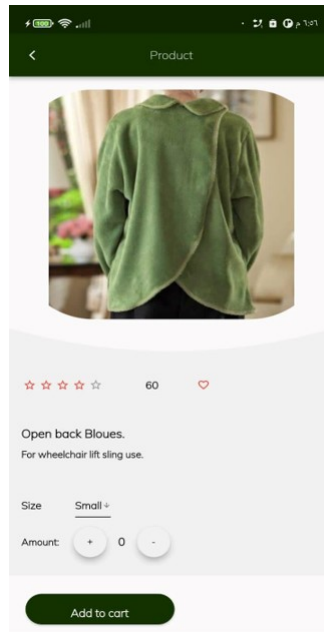


Figure 10: item details

If the user clicked on item, then he could see the item details as follows, and from this page he can put the item on the shopping cart or in the favourite.

On this page, the user can specify the quantity and size of the product, in addition to knowing the price. Then he can add it to the basket of products or even to the favourites. After adding it to the cart, it can install the order.

5.8.3 Favourite's page

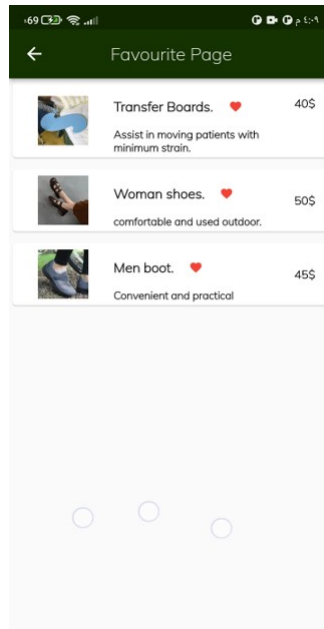


Figure 11: Favourite's page

The user can add to this page all the products that he thinks are beautiful and he can think of buying them one day. He can also remove it from favorites by clicking on the red heart. Here is the right place for all the products that the user likes.

But if he is thinking of buying it, he can easily add it to the shopping cart and then place the order.

5.8.4 Order's page

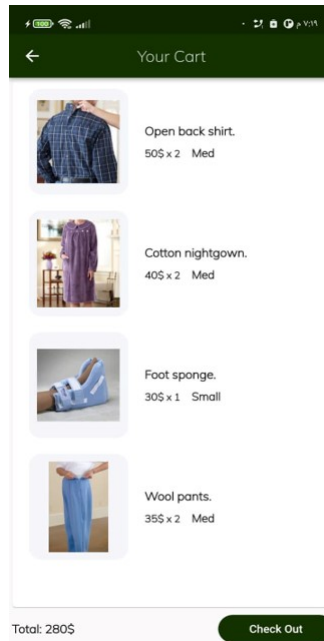
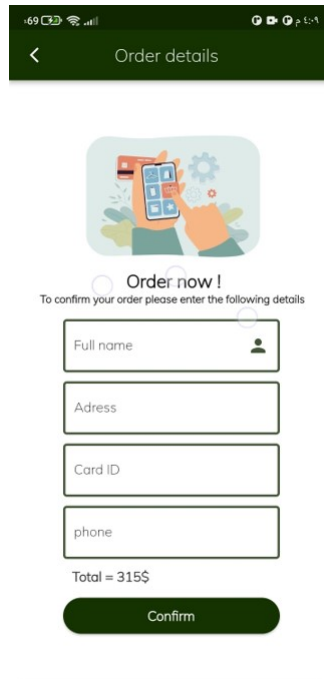


Figure 12: Order's page

Here, the user places the products he wants to buy, followed by all the details that suit him, which include size, quantity, and other's .

It also shows on this page the total price of the user's request. If the user confirms, he can install the order in the next page.

5.8.5 Order's details



Order details

Order now!

To confirm your order please enter the following details

Full name

Adress

Card ID

phone

Total = 315\$

Confirm

Figure 13: Order's details

The user initially fills in all the necessary information, which is the mobile number and the area to which delivery is intended, in addition to the payment method.

If the user clicked on checkout button, then it will switch him to the order page to confirm his order.

5.9 Medicine Time

5.9.1 Reminder

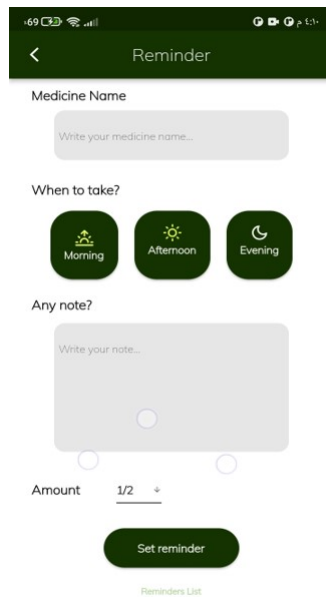


Figure 14: Reminders

This page is used to set an alarm for the date of the medication, so that the user enters Medicine name in addition to its quantity, time he wants to take it, time divided into three periods, either in the morning, in the afternoon, or in the evening, and notes are added such as drinking water and others.

when the button is pressed, it will be in the reminder's list.

5.9.2 Reminders list

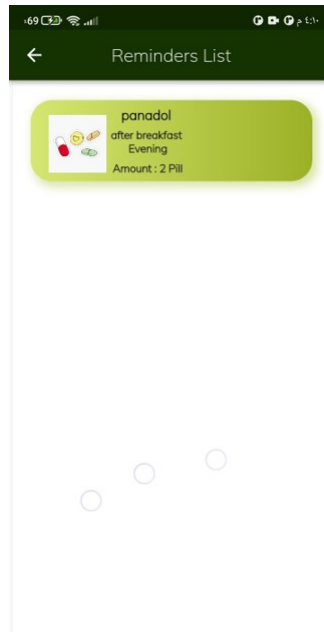


Figure 15: Reminders list

This page contains all alarms that have been reset by the user, for which notifications will be sent at the appropriate time.

in this list we can delete any reminders by pass the alarm aside and we can go back to the previous page by the upper icons.

5.9.3 Notification



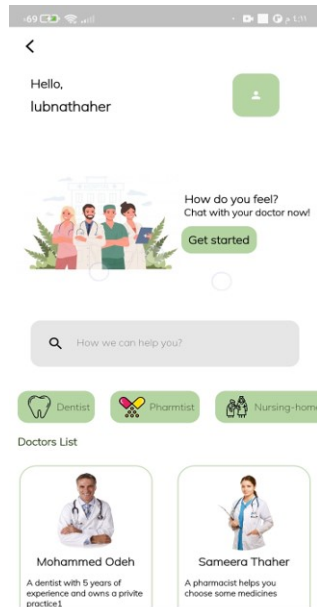
Figure 16: Notification

The notification will be sent to the user when the time for the medication that was set in the alarm previously comes.

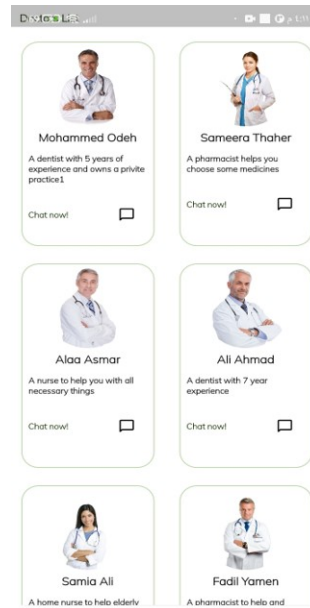
and if the notification is sent when the user is outside the application, the notification will be shown on the application from outside.

5.10 Doctor's Page

5.10.1 Doctor's list



(a) Doctor's list.



(b) Doctor's list.

On this page, a list of doctors specializing in the application is displayed, whose task will be to answer questions and inquiries of users, especially in emergency cases.

It is also possible to request the doctor closest to the region, so that all doctors' information is displayed, starting from the name to the region.

Also, on this page, we show the user's name in the foreground, in addition to enabling him to search for a doctor through the existing search text.

5.10.2 Chatting system

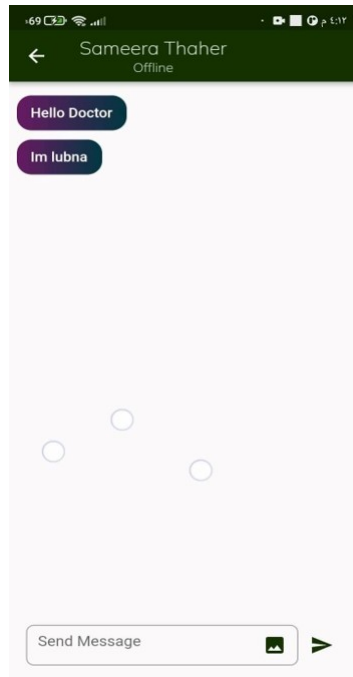
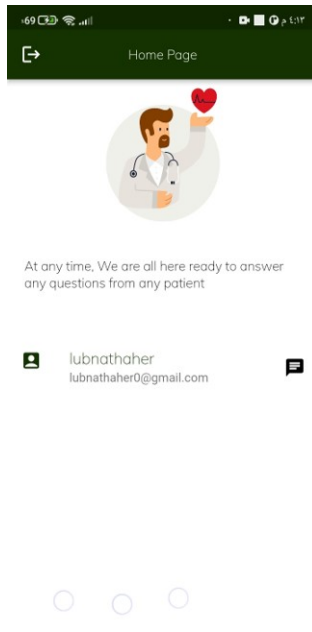


Figure 18: Chatting system

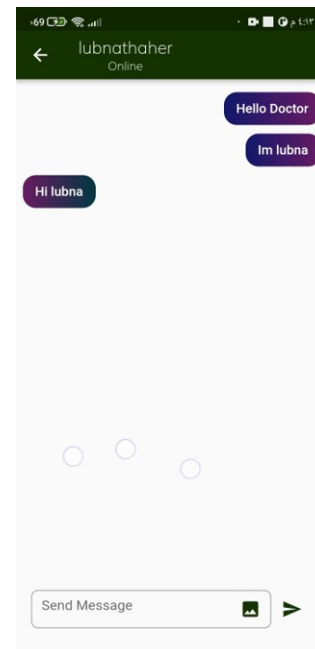
The user can send chat's to doctors to answer all his inquiries and question's , so that it will appear to him if the doctor is active in his account now or not.

after that the doctor will see this chat in his account and answer all the questions.

5.10.3 Doctor Chat's



(a) Doctor's Chat's.



(b) Doctor's Chat's.

All conversations that were sent to the doctor will be shown to him after he logs into his account. Where it will appear inside a list showing the name of the sender, and when open it, the incoming and existing inquiries will be answered.

The doctor can also log out of his account through the icon on the home page. Thus, a chat system has been established that facilitates communication and responds quickly.

5.11 Event's Page

5.11.1 Maps

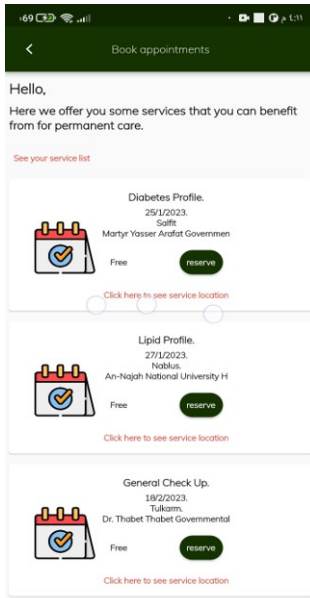


Figure 20: User address

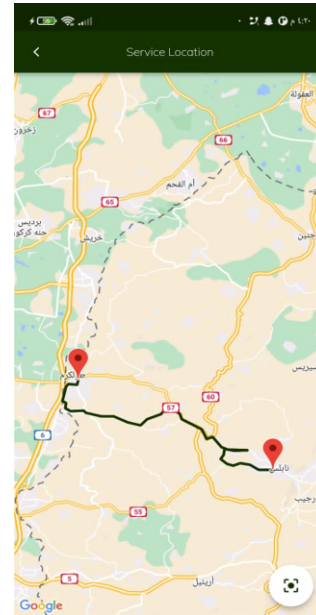
In the beginning, the user's location will be shown via Google Map, in order to facilitate the selection of the event closest to him and his region.

And when the user moves on the map to see the locations, he can press the button below to return. And when you click on the icon at the top, it will be sent to the next page.

5.11.2 Event's list



(a) Event's list.



(b) Event's list

On this page, a list of existing events is shown, in addition to all its information, such as the date, hospital, and address, and to facilitate access for the user, he can show the route between his location and the location of the existing event, as shown above. user can go to any page fast by the icons in all page.

In addition, the user can book any event he needs and add it to his reservation list.

5.11.3 Reservation list

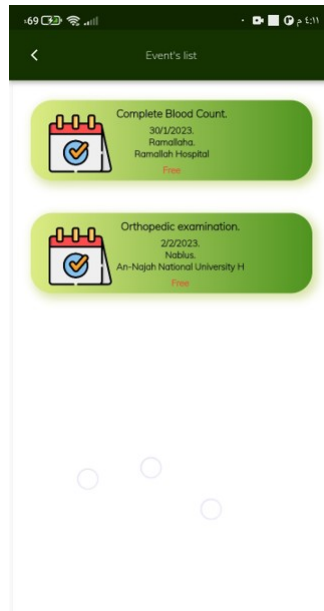


Figure 22: Reservation list

On this page, all the events that the user has booked are displayed, and the user can delete any of them by swiping right only.

The user can see the location of the event and return to the previous page as well.

5.12 Admin Page

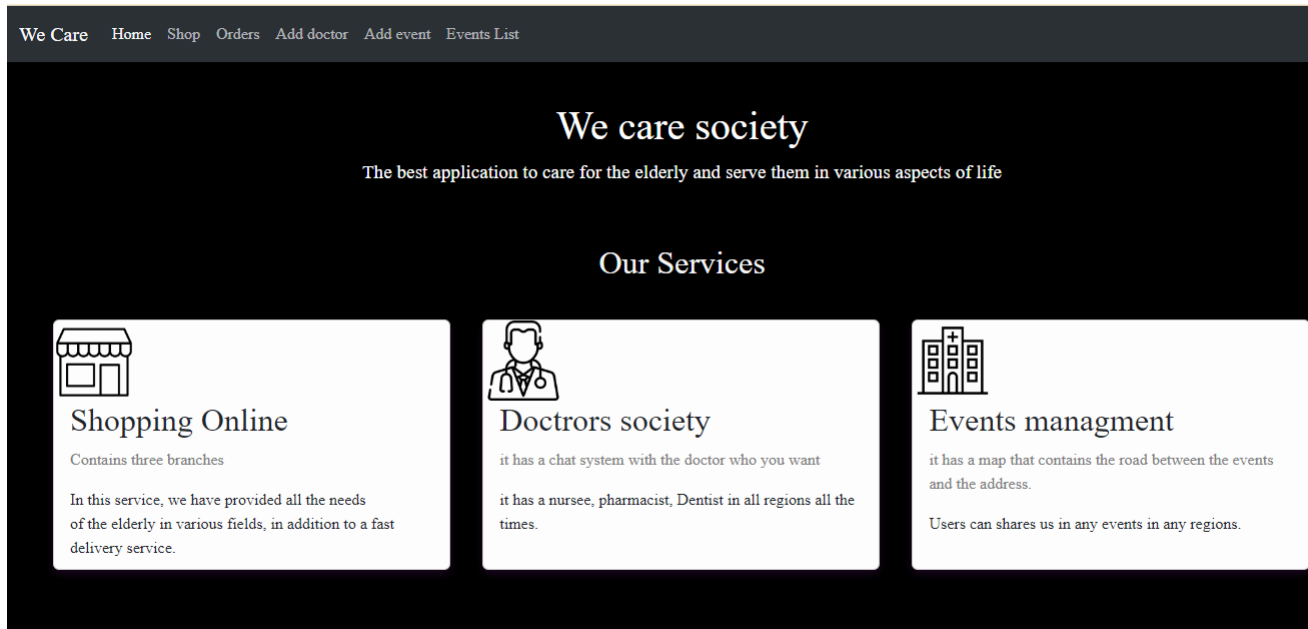
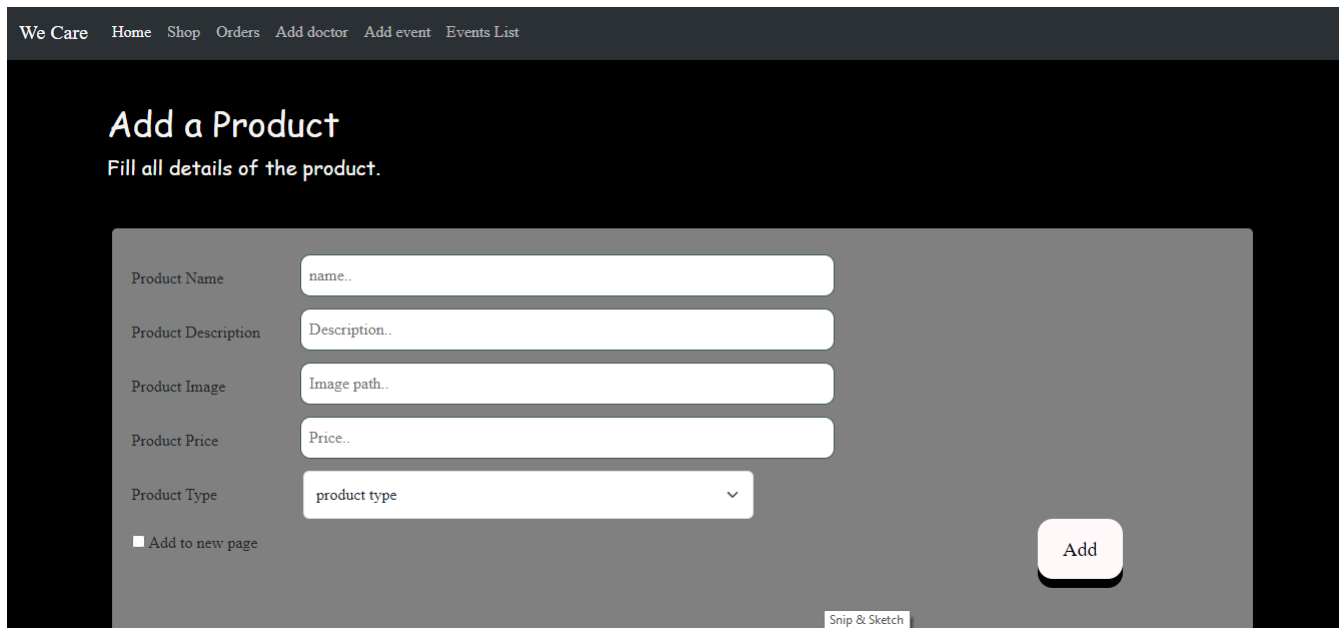


Figure 23: Home Page

when the admin log in ,this is the first page will see, it is used to define the things that the user does and the things that he can modify, add or even delete.

5.12.1 add product



The screenshot shows a web application interface for adding a product. At the top, there is a navigation bar with links: We Care, Home, Shop, Orders, Add doctor, Add event, and Events List. Below the navigation bar, the main heading is "Add a Product" with a sub-instruction "Fill all details of the product.". The form contains several input fields: "Product Name" with a placeholder "name..", "Product Description" with a placeholder "Description..", "Product Image" with a placeholder "Image path..", "Product Price" with a placeholder "Price..", and "Product Type" with a dropdown menu showing "product type". There is also a checkbox labeled "Add to new page" and a prominent "Add" button. A small "Snip & Sketch" watermark is visible in the bottom right corner of the form area.

Figure 24: add product

On this page, the admin adds a product by entering all its information, such as the name, picture, type, and price. The product is added to the application according to its type.

5.12.2 Orders Page



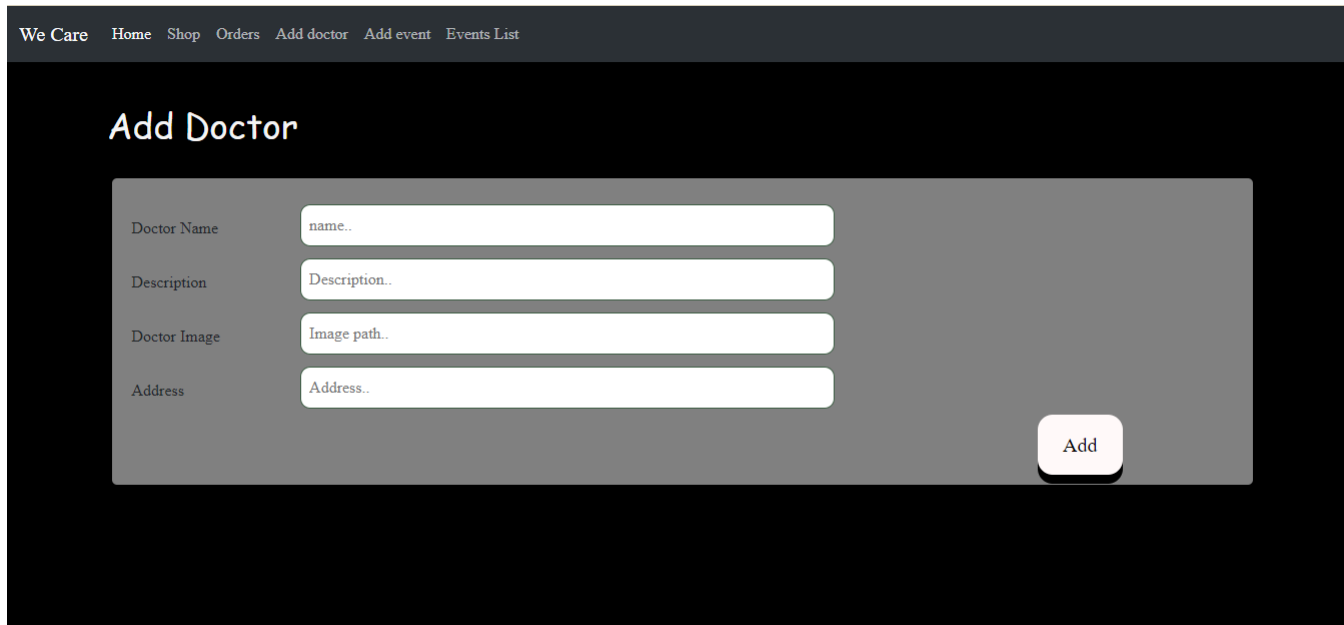
The screenshot shows the 'Orders' page with a navigation bar at the top containing 'We Care', 'Home', 'Shop', 'Orders', 'Add doctor', 'Add event', and 'Events List'. Below the navigation bar is the title 'Orders' and a table listing two orders. Each row in the table includes an order number, user name, address, phone number, total price, a detailed list of items with their prices and counts, and a 'Delete' button.

Order #	User name	Address	Phone number	Total Price	Details	Delete
5	lubnathaher	nablus	0597944913	215	Foot sponge. , price = 70 , count = 2, size = Small Waist belt. , price = 25 , count = 1, size = Small Open back shirt. , price = 50 , count = 1, size = Med	Delete
6	rana maraabe	qalqelyah	0592433412	170	Open back shirt. , price = 50 , count = 1, size = Med Convenient and practical , price = 40 , count = 1, size = Small Cotton nightgown. , price = 40 , count = 2, size = Small	Delete

Figure 25: Orders Page

On this page, the admin shows all the orders that the users have requested, showing all the details of the order and the user. And after completing the order, he can delete it.

5.12.3 Add doctor

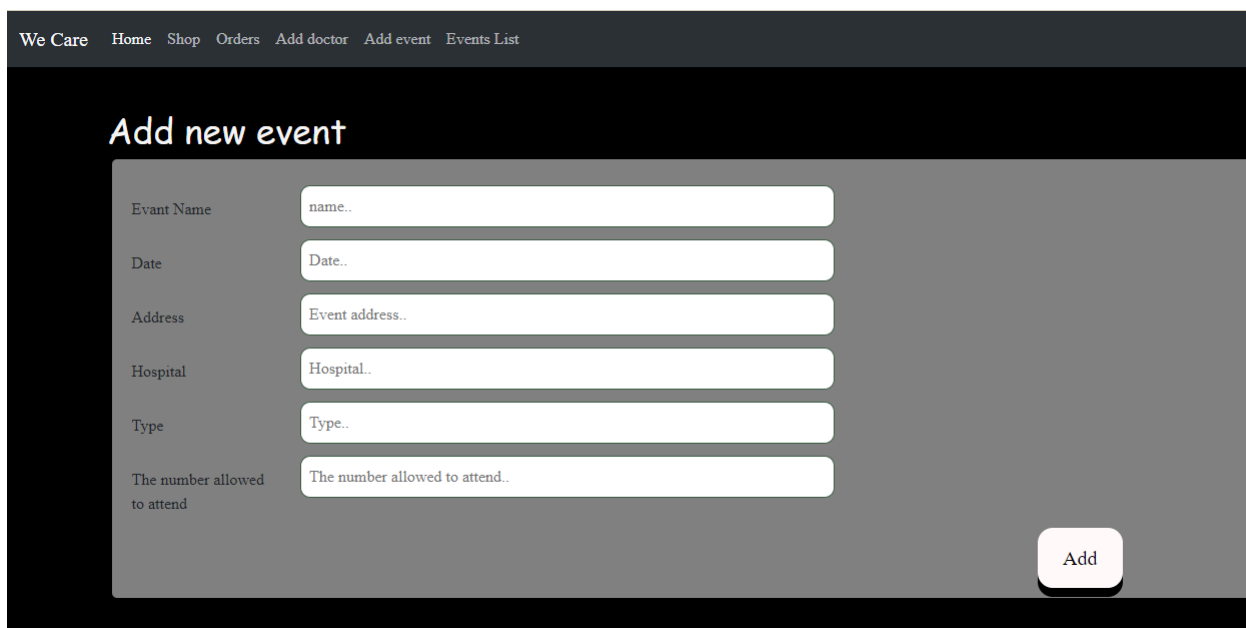


The screenshot shows a web application interface with a dark header. The header contains navigation links: "We Care", "Home", "Shop", "Orders", "Add doctor", "Add event", and "Events List". Below the header, the main content area has a title "Add Doctor" in white text. The form itself is a light gray rectangle with four input fields, each with a label to its left: "Doctor Name" (input: "name.."), "Description" (input: "Description.."), "Doctor Image" (input: "Image path.."), and "Address" (input: "Address.."). A white "Add" button is located in the bottom right corner of the form area.

Figure 26: add doctor

On this page, the admin adds doctors by entering all their information, such as the name, picture, and address. The doctor is added to the application and then user will chat with and ask questions.

5.12.4 Add events



The screenshot shows a web application interface for adding a new event. At the top, there is a navigation menu with the following items: We Care, Home, Shop, Orders, Add doctor, Add event, and Events List. Below the navigation, the main heading is "Add new event". The form consists of several input fields, each with a label on the left and a text input field on the right:

- Event Name: name..
- Date: Date..
- Address: Event address..
- Hospital: Hospital..
- Type: Type..
- The number allowed to attend: The number allowed to attend..

At the bottom right of the form, there is a white button with the text "Add".

Figure 27: Add events

On this page, the admin adds events by entering all its information, such as the name, hospital, and address. The admin will determine the number of attendees as well. If the specified number is reached, a message will appear to the user upon booking informing him that the number has been completed.

5.12.5 Event's list

We Care Home Shop Orders Add doctor Add event Events List

Events

Name	Date	Place	Hospital	Type	The number allowed to attend	The number of attendees	Delete
Diabetes Profile.	25/1/2023.	Salfit	Martyr Yasser Arafat Governmen	Free	30	1	Delete
Lipid Profile.	27/1/2023.	Nablus.	An-Najah National University H	Free	40	0	Delete
General Check Up.	18/2/2023.	Tulkarm.	Dr. Thabet Thabet Governmental	Free	55	1	Delete
Osteoporosis.	10/2/2023.	Salfit.	Martyr Yasser Arafat Governmen	Free	20	0	Delete
Anemia Investigations.	15/2/2023.	Tulkarm.	Dr. Thabet Thabet Governmental	Free	70	1	Delete
Complete Blood Count.	30/1/2023.	Ramallaha.	Ramallah Hospital	Free	120	0	Delete
Orthopedic examination.	2/2/2023.	Nablus.	An-Najah National University H	Free	0	0	Delete
Complete Blood Count.	30/1/2023.	Ramallaha.	Ramallah Hospital	Free	120	0	Delete

Figure 28: Events list

On this page, the admin shows all events, the number allowed, and the rest of the information. In addition, the number of users who have booked events is displayed from the total number.

6 Results and discussion

People use mobile apps to get their work done, making their lives easier, with the advent and rise of smartphone sales over the past few years. Smartphone applications are available in different ways, such as entertainment, sports, lifestyle, education, gaming, food and drink, health and fitness, banking, etc.

There are many applications that provide many medical services that were mentioned previously, but we were seeking to bring these services together and provide an application that facilitates and provides all needs, especially in which we saw a great shortage in our society.

From our point of view, we have seen that we have reached our current goal, in addition to that there are many features that can be applied later when increasing the use of this application, including providing a complete reservation system for specialized doctors for the elderly and assisting them.

And with the development of services, many of them can be added in our application to suit the services that were found, or even if they were added later. All of these things increase the development and efficiency of the application and lead to an increase in the number of its users

7 Conclusions

With the advent and rise of smartphone sales in recent years, people use mobile apps to get their work done, which makes their lives easier. Mobile apps are available in a wide range of categories, including entertainment, sports, lifestyle, education, gaming, food and beverage, health and fitness, banking . . . etc.

However, given our surroundings, we see that most of the electronic applications are lacking in serving specific groups and are limited to specific activities and things. From this standpoint, we thought to make all groups benefit from these applications, so we read the research and chose the elderly category.

And our application is located in several sectors of community life, including the sector of care and concern for the elderly and the provision of their needs easily and without the need to make a great effort to accomplish their work that is difficult to accomplish due to the difficulty of transportation, and part of it is located in the economic sector in terms of providing the online store so that The owner of the application can display and sell his products, and part of the medical aspect that enables users to communicate with doctors in one application that brings them together without the need to visit them.

And we seek and hope that this application will be a qualitative leap in our community and in the case of the elderly in it, in addition to facilitating everyone life.

8 References

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