

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ



**An-Najah National University**

Faculty of Engineering and Information Technology

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Graduation Project I

Cleanco ✨

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degree of

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## Abstract

The world is moving towards luxury and comfort and thus meeting all its needs using smartphone applications. And one of the most fundamental essentials of human life is a clean and comfortable environment without the cost of hours of cleaning, **Cleanco** application provides these requirements and more, moreover it works to provide job opportunities for owners of companies and small enterprises in this field and facilitate the access of their customers without tireless research.

The project includes a mobile app that serves two types of users: customer and company. In addition to the web page that serves both types as well as Admin.

For the company, it must create an account and enter all data and prices related to the services. It allows it to track and meet the requests from customers. It also provides the company to follow up on the customer's opinions and comments, as well as to follow the financial development of the company through the charts shown for annual profits. This makes the company to continuously improve its services.

As for the customer, he must create an account and enter his information. And so he can choose what kind of service he wants and so he can see all the companies related to this service based on their valuation, And then after choosing the right company and seeing its information, he can send order to the company with the request information. and thus the order arrives with the company until it confirms it. and upon completion of the service the customer can send the company an assessment of its performance.

One of the most important features of the application is chat between the company and the customer so that the customer can send his enquiries and reviews to the company.

The mobile application and web were built using Flutter , php.

# **Chapter1: Introduction**

## **1.1 Problem statement**

Cleaning is an essential aspect of our lives and greatly affects our well-being and the environments we live in. Maintaining cleanliness goes beyond mere beauty; It plays an important role in preventing the spread of disease.

However, with our busy schedules and diverse cleaning needs, it can be difficult to find reliable and effective cleaning services. This is where cleaning companies come in. Professional cleaning companies specialize in providing comprehensive cleaning solutions that are tailored to the specific requirements of different users. They have the expertise, equipment, and resources to handle a variety of cleaning tasks effectively.

## **1.2 Objectives**

Our main objective in this project is to make an application that bridges the gap between users and cleaning companies and encompasses a wide range of cleaning companies from different categories, so customers can choose and book orders from a suitable company by seeing its profile. Moreover, the company can see the orders that reach them, and accept them, also it inserts the services, also it can see the profit that has been achieved, In addition, companies and customers can communicate through chat.

## **1.3 Scope of the work**

Our application is for cleaning companies and cleaners who don't relate to a specific company. It targets the diverse cleaning needs of various customers. With a wide range of cleaning categories, it streamlines the process of finding and booking cleaning services, simplifying the lives of customers while fostering clean and healthy environments for everyone.

## 1.4 Importance

**Cleanco** can play a vital role in today's job market by revolutionizing the way people with exceptional cleaning skills find job opportunities. With its user-friendly interface and advanced features, it simplifies the process of connecting skilled cleaners with their potential clients. The application streamlines the appointment booking process, allowing users to effortlessly schedule appointments at their convenience. Furthermore, it fosters direct communication between clients and the company through its chat, ensuring quick and efficient access to support and assistance. The application's emphasis on continuous development is noteworthy, as it leverages annual profit statistics to enhance its efficiency continually. By actively seeking and incorporating user feedback and insights, it strives to meet the expectations and motivations of its users, thereby fostering a positive and productive working environment. Furthermore, its comprehensive profiles provide users with access to all relevant company information, eliminating the need for unnecessary communication and enabling users to make informed decisions at any time. Its impact on the job market is undeniable, bridging the gap between skilled cleaners and those in need of their services while promoting transparency, convenience, and constant growth.

Moreover to the app, there is a website, in which the admin can moderate the system, which also reflects the functionality of the app. Users can access the website from different devices, providing flexibility and convenience in their interactions with us

## **1.5 Organization of the report**

**Chapter1:** an introduction and overview. **Chapter2:** shows the problems and constraints that have occurred in this project.

**Chapter3:** Literature Review. **Chapter4:** Programming languages and tools, explains some of the features of the application.

**Chapter5:** Results and Analysis **Chapter6:** Conclusion and future works. **Chapter7:** References.

## **Chapter 2: Constraints, Standards and Earlier coursework**

### **2.1 Constraints and limitation:**

#### **2.1.1 Programming language Constraint:**

Since for the first time we were doing a mobile app, learning the language of programming smartphone apps like Flutter cost us a great time and effort

#### **2.1.2 Time limit:**

Having never created a mobile application before, and not having previous knowledge of some programming languages , we had to learn new ones such as Dart and the mobile framework Flutter to build our app. In order to make certain features of our app we also had to familiarize ourselves with the Firebase Database which is a cloud-hosted database. The time limit and pressure of completing other courses made it more challenging to learn and implement these new technologies effectively. However, we made a concerted effort to quickly become proficient in these skills in order to successfully develop our application .

## 2.2 Standards:

### 2.2.1 MVC (Model View Controller)

Our system utilized the Model View Controller pattern, which allowed us to divide the project into three distinct components: the Model, the View, and the Controller. The Model represents the MySQL database, which responds to requests from both the View and the Controller to update.

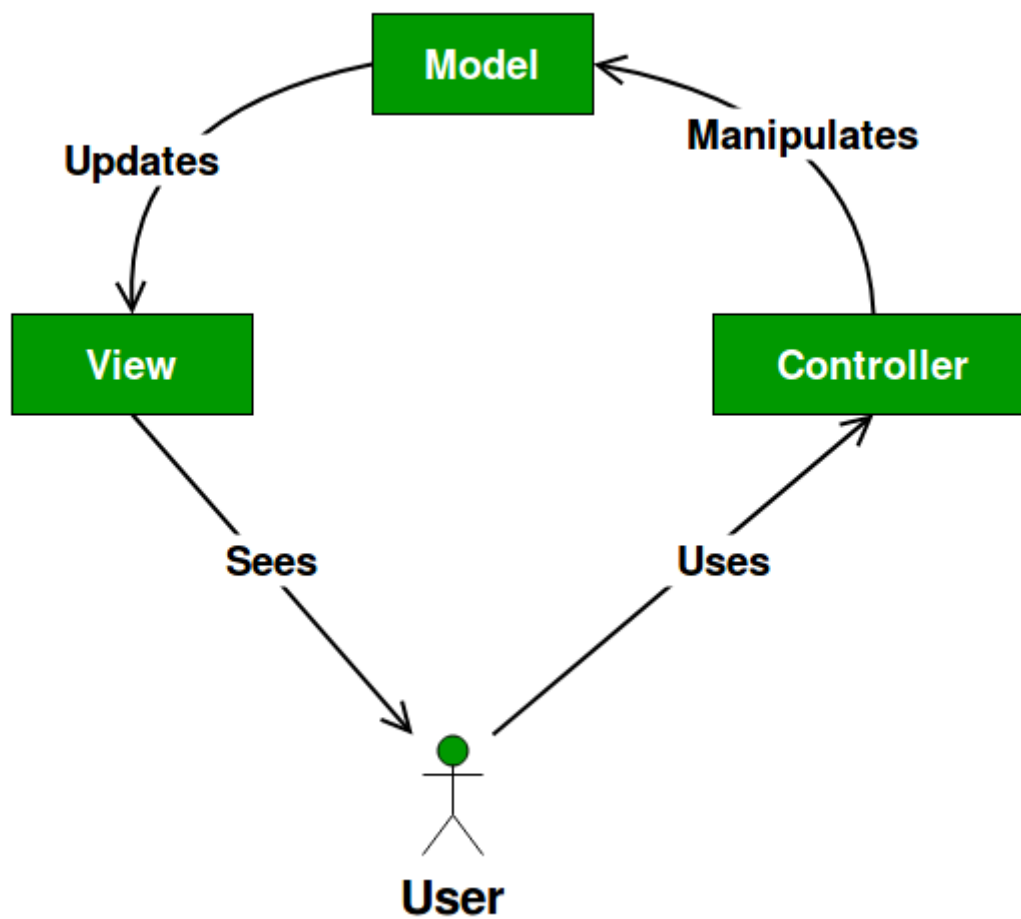


Figure1: ModelViewController

### **2.2.2 Agile Model :**

We used Agile model methodology to model and document our software system. We followed these steps :

- Define the project scope: Identify the goals and objectives of the project, as well as the target audience and any constraints or limitations.
- Break the project into smaller, manageable chunks: we divided the project into smaller, iterative cycles called "sprints." Each sprint should have a specific goal and set of deliverables
- Identify and prioritize the tasks: We worked as a team to identify the tasks that need to be completed in each sprint and prioritize them based on importance and dependencies. 9
- Assign tasks and establish roles: We assigned tasks to each other and established clear roles and responsibilities for each member.
- Regularly review progress: We have regular meetings to review progress and make any necessary adjustments
- Testing : Testing is done continuously throughout the development process, rather than waiting until the end.

### **2.3 Earlier coursework:**

Building our project more efficiently and effectively was made easier by gaining information from university courses like OOP , Data Base , Web , Software engineering , Critical Thinking and English in the workplace .

## Chapter 3 : Literature Review

Today's world has increased the demand for luxury and comfort. To meet these needs, smartphone applications have emerged as an effective solution. This literature review shows the importance of mobile applications in meeting wellbeing requirements, with a particular focus on our Cleanco application.

Certainly, our project is not the first to serve the field of cleaning, and there are similar applications, but after research we noticed that few or no of these applications exist in our country.

Applications similar to our application : justclean<sup>[1]</sup> and DARI<sup>[2]</sup>.

Despite the advantages of these apps, it is ultimately an application for only one company, and there are no two types of users as in our app.

Moreover, Our project also provides job vacancies for companies and small entrepreneurs and easy access for users, but this idea is not available in the other applications

## Chapter 4: Methodology:

### **4.1 Programming Languages, Tools:**

#### **4.1.1 Programming languages**

##### Mobile Application and Website

We used Dart which is a programming language developed by Google for building web, mobile, and server-side applications. It is designed to run on all modern web browsers, mobile devices, and servers, and is often used in conjunction with the flutter framework. Dart has many similarities to other languages like Java and C , which makes it an accessible language for developers who are already familiar with those languages. Additionally, the similarities to Java make it easier for new users to learn Dart.

##### Database

**SQL** : used to work with relational databases ,using CRUD operations (create , read , update , and delete ) .

**MySQL** : server which is a relational database management system , provides greater scalability and availability .

**phpMyAdmin**: which GUI to MySQL database to make it easier to use .

**XAMPP** : is a free and open-source cross-platform web server solution , XAMPP is used for web development and testing purposes, as it allows developers to easily create a local testing environment for their projects.

**Firebase** : is a mobile and web application development platform developed by Google that provides a variety of tools and services for building, managing, and scaling applications.we used it for

building chat functionality in our application, as it provides a range of tools and services that can help us manage and scale our application.

### **Server and API Testing:**

for testing portions of the server to determine if the API is usable and what happens when we submit the necessary data. We used Thunder Client in Visual Studio code.

#### **4.1.2 Tools**

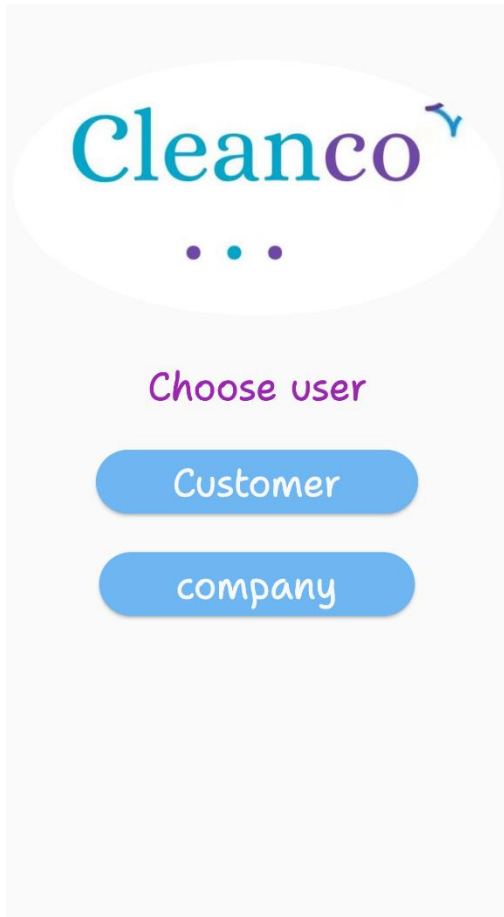
1. Visual Studio Code.
2. Xampp.
3. Android Studio
4. Flutter 3.0.1

## **4.2 About the Application in general**

In this study, we created **Cleanco**, an application aimed at serving the community by facilitating access for customers (individuals, companies, homemakers, etc.) to cleaning companies or experienced professionals in this field. Additionally, it provides job opportunities for skilled individuals who possess the expertise to clean various items mentioned in our application, such as upholstery, windows, gardens, and dry cleaning.

Well, the application caters to two types of users: the customer and the company, We will talk about each one in the next pages.

## A small brief about our application :

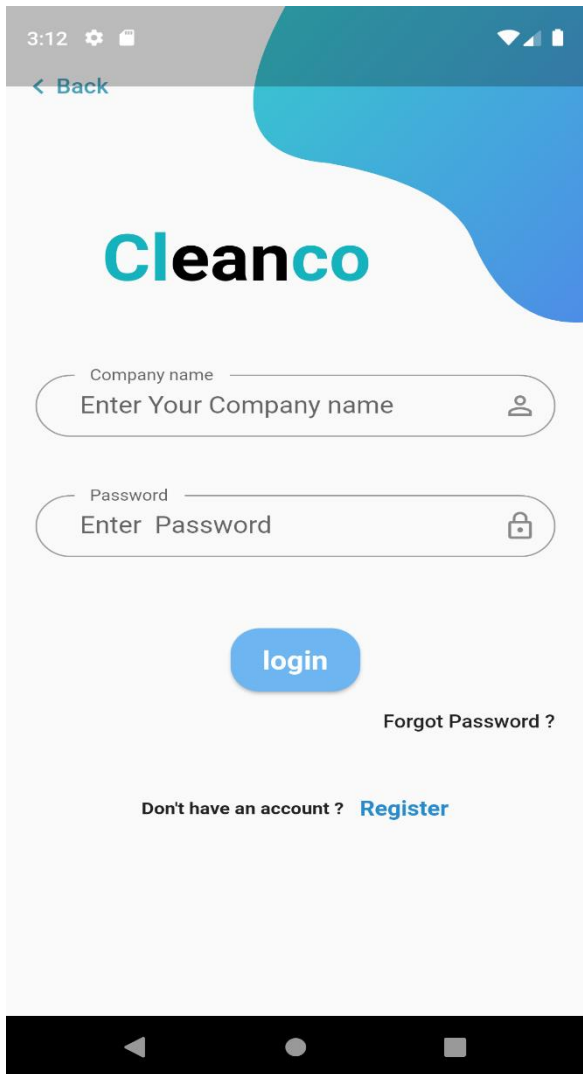


*Figure2 welcomePage*

## 4.2.1 Company side:

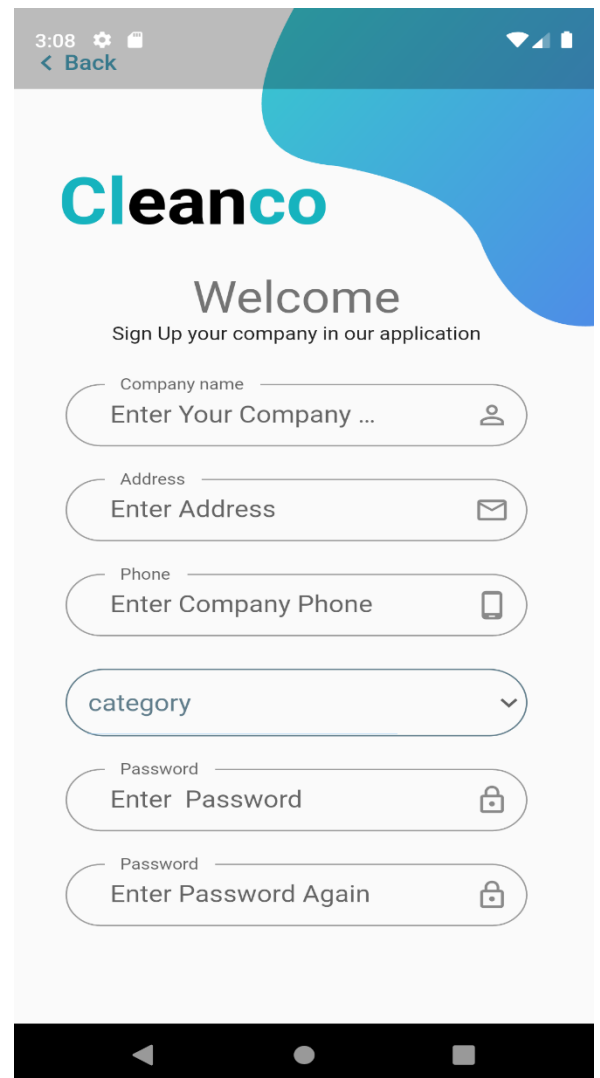
### Sign in and sign up

Initially , the company will register by adding information as (name, address, telephone number, category, etc.) , or sign in if it previously registered, through email and password.



The screenshot shows the login interface for the Cleanco application. At the top, the status bar displays the time 3:12, signal strength, Wi-Fi, and battery icons. Below the status bar is a dark blue header with a white '< Back' button. The main content area has a white background with a blue decorative shape on the right. The Cleanco logo is prominently displayed. Below the logo are two input fields: 'Company name' with the placeholder 'Enter Your Company name' and a person icon, and 'Password' with the placeholder 'Enter Password' and a lock icon. A blue 'login' button is centered below the fields. To the right of the button is a link for 'Forgot Password?'. At the bottom, there is a link for 'Don't have an account? Register'. The Android navigation bar is visible at the very bottom.

Figure 3 login company



The screenshot shows the sign-up interface for the Cleanco application. At the top, the status bar displays the time 3:08, signal strength, Wi-Fi, and battery icons. Below the status bar is a dark blue header with a white '< Back' button. The main content area has a white background with a blue decorative shape on the right. The Cleanco logo is prominently displayed. Below the logo is the text 'Welcome' and 'Sign Up your company in our application'. There are six input fields: 'Company name' with placeholder 'Enter Your Company ...' and a person icon; 'Address' with placeholder 'Enter Address' and an envelope icon; 'Phone' with placeholder 'Enter Company Phone' and a phone icon; a 'category' dropdown menu; 'Password' with placeholder 'Enter Password' and a lock icon; and 'Password' with placeholder 'Enter Password Again' and a lock icon. The Android navigation bar is visible at the very bottom.

Figure 4 sign up company

**main page :**

After the company has registered in the app, it will show the homepage from which it starts to its app interfaces.

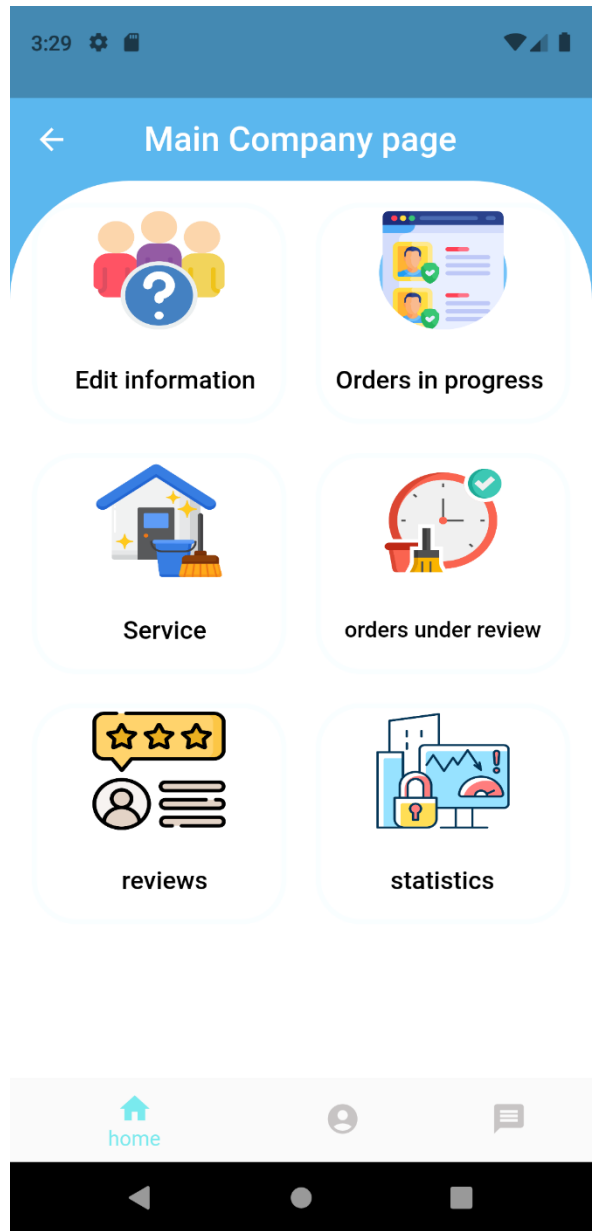
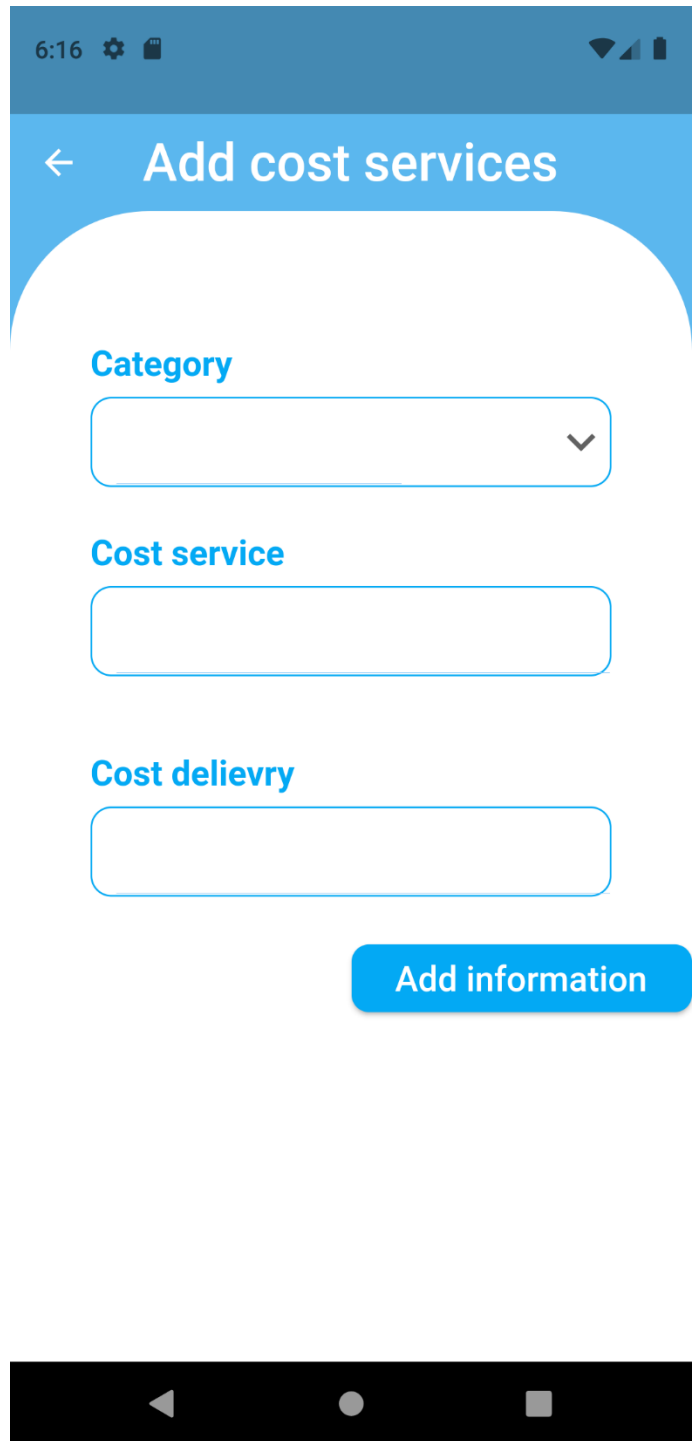


Figure 5 Main page company

## Services

On this page the company should enter the prices for each category plus the delivery price for the order.



The screenshot shows a mobile application interface for adding cost services. At the top, there is a status bar with the time 6:16, a settings icon, a battery icon, and signal strength indicators. Below the status bar is a blue header with a back arrow and the text "Add cost services". The main content area is white and contains three input fields, each with a blue label above it: "Category" (a dropdown menu with a downward arrow), "Cost service" (a text input field), and "Cost delievry" (a text input field). At the bottom right of the form is a blue button with the text "Add information". At the very bottom of the screen is a black navigation bar with three icons: a back arrow, a home circle, and a recent apps square.

Figure 6 insert service company

## Orders under review:

On this page the Company shows the orders sent by the customers to the Company upon its confirmation percentage, if the Company deems it appropriate to approve the order, it agrees to the order by pressing it, and then the cost of the order is calculated based on the prices that have been stored in the Database according to the number of pieces entered by the customer multiplied by the service price and added to the delivery price.

This information is sent to the list of orders in progress.

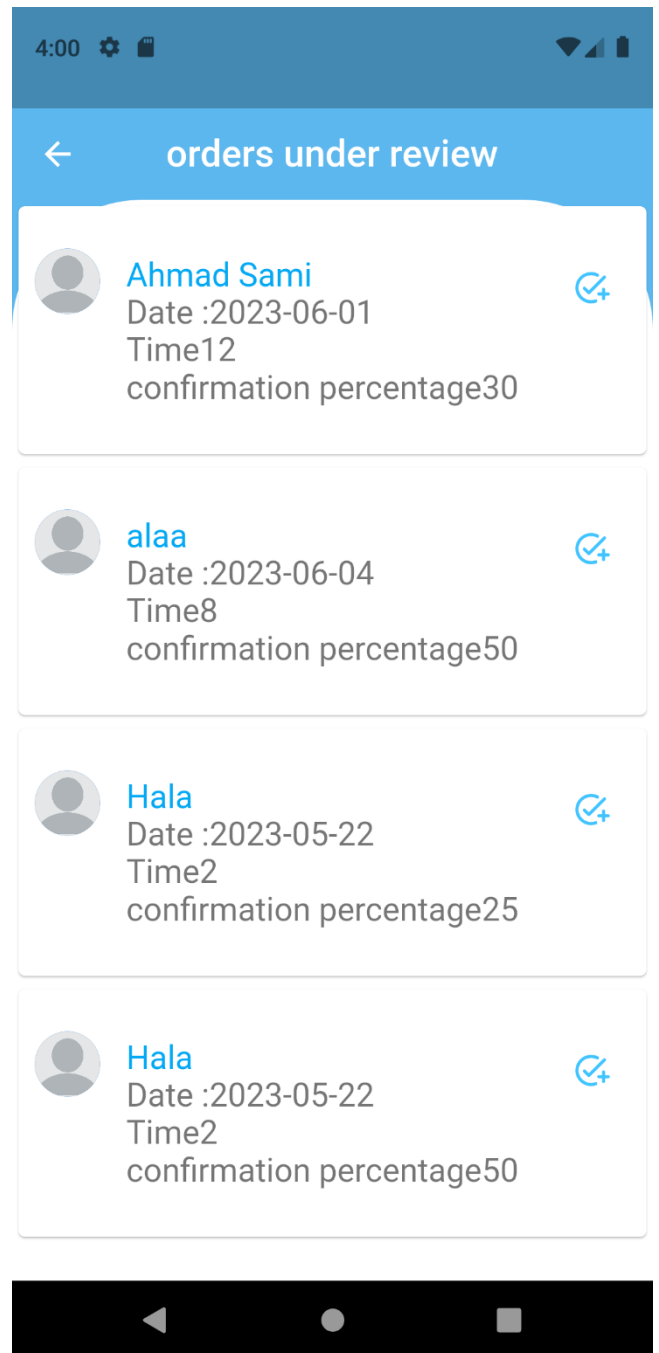


Figure 7 orders under review

## Orders in progress:

On this page, the orders approved by the Company are displayed on the page "Orders under review". When the Company finish the order, it clicks on the request so it disappears from this list and moves to the list of completed orders.

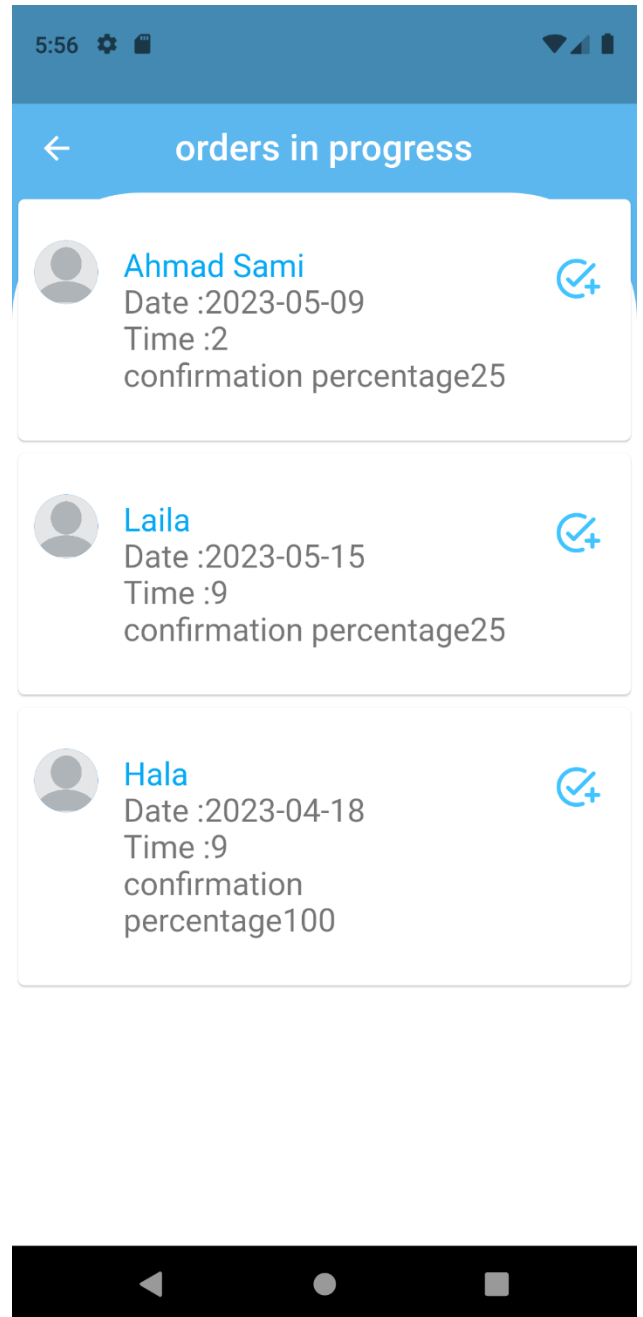


Figure 8 orders in progress

## Reviews:

On this page, the company sees the feedback and valuation by customers, which stimulates and further motivates the company to continue to work passionately.

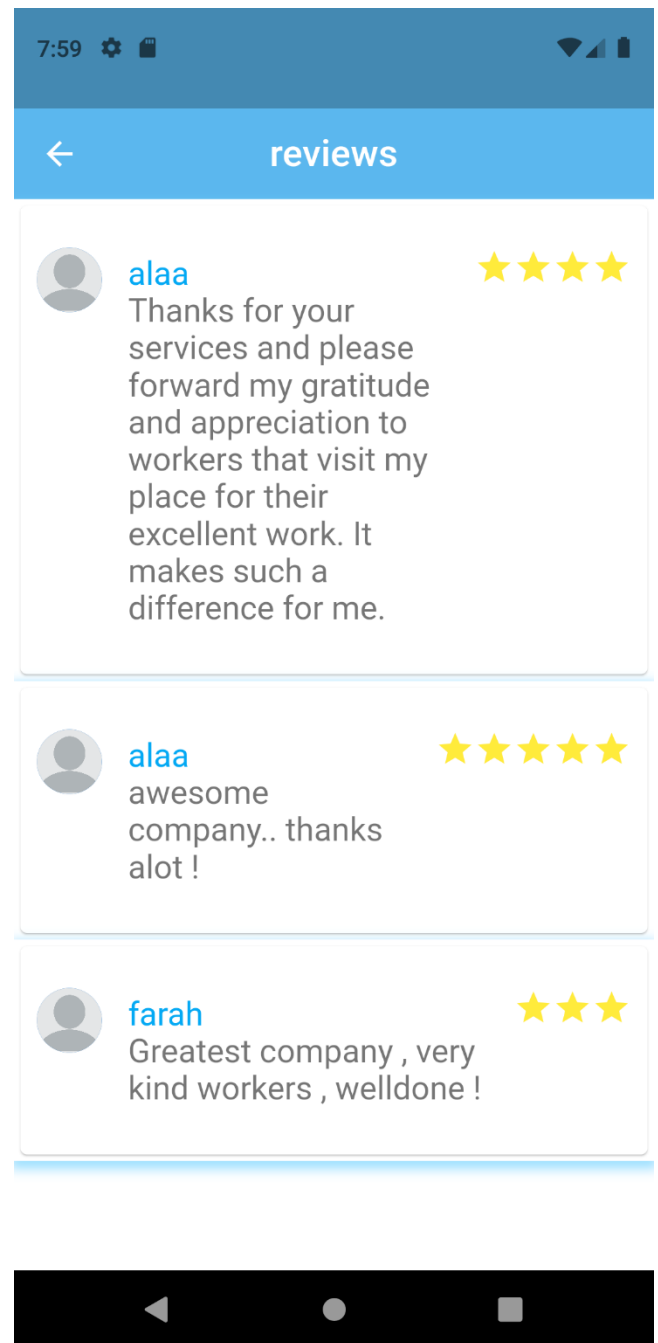


Figure 9 reviews company

## Statistics:

Through this page, the company can choose the year and then see its annual profits, as shown by the profit charts made during each month, so as to remain aware and continuous review of the company's performance, and thus work on the necessary improvements to avoid loss in the coming years.

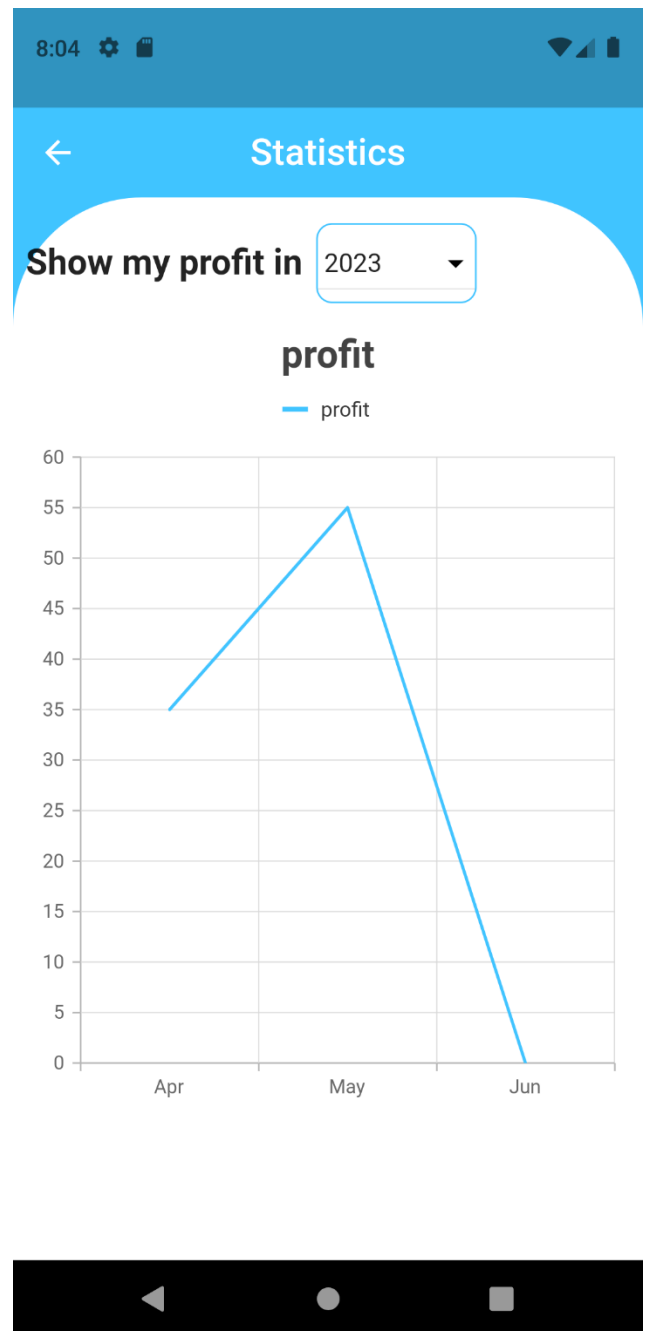


Figure 10 statistics company

## 4.2.3 Customer Side:

### Sign Up and Sign in:

On the other hand, the customer should register by entering your name, number, email and password. But If he already have an account, he only have to enter his email and password.

8:10   
< Back

# Cleanco

Welcome  
Sign Up in our application

customer name

Gmail

address

Phone

Password

Password

Figure 12 signup customer

8:10   
< Back

# Cleanco

Sign in

Customer email

Password

[login](#)

[Forgot Password ?](#)

Don't have an account ? [Register](#)

Figure 11 signin customer

## Home page

After the client is registered with the app, it will display the home page from which HE starts to its app interfaces.

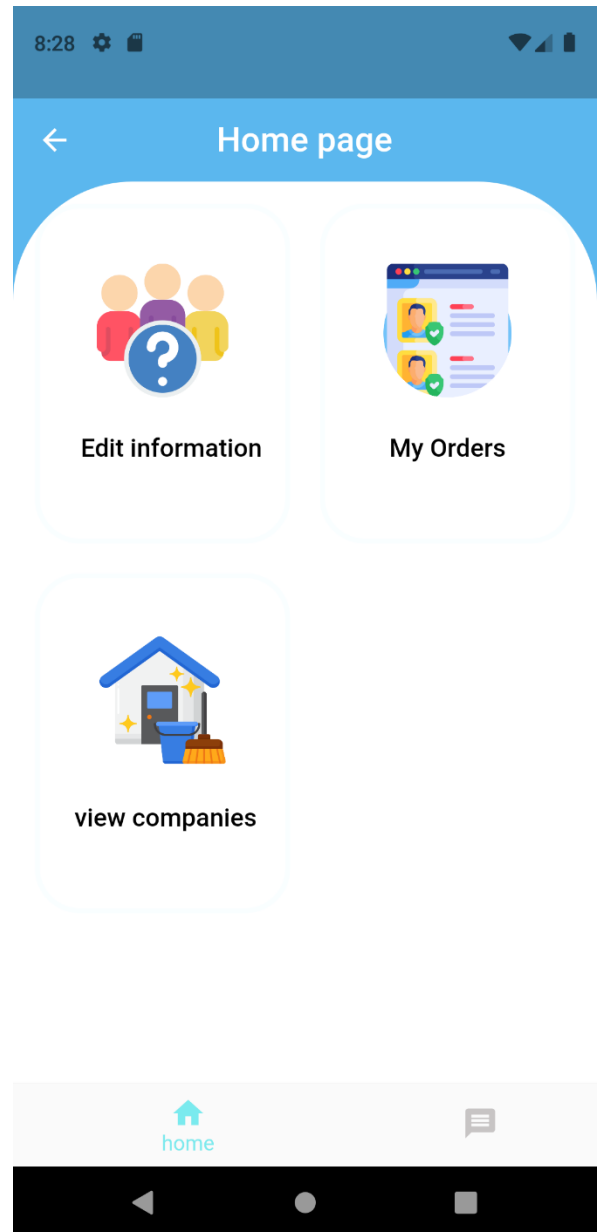


Figure 13 home page customer

## View Categories and companies

On this page, the customer shows the services provided by the application, and when choosing the appropriate category, the list of companies concerned with this type will be shown, which will be displayed ordered by the highest rate.

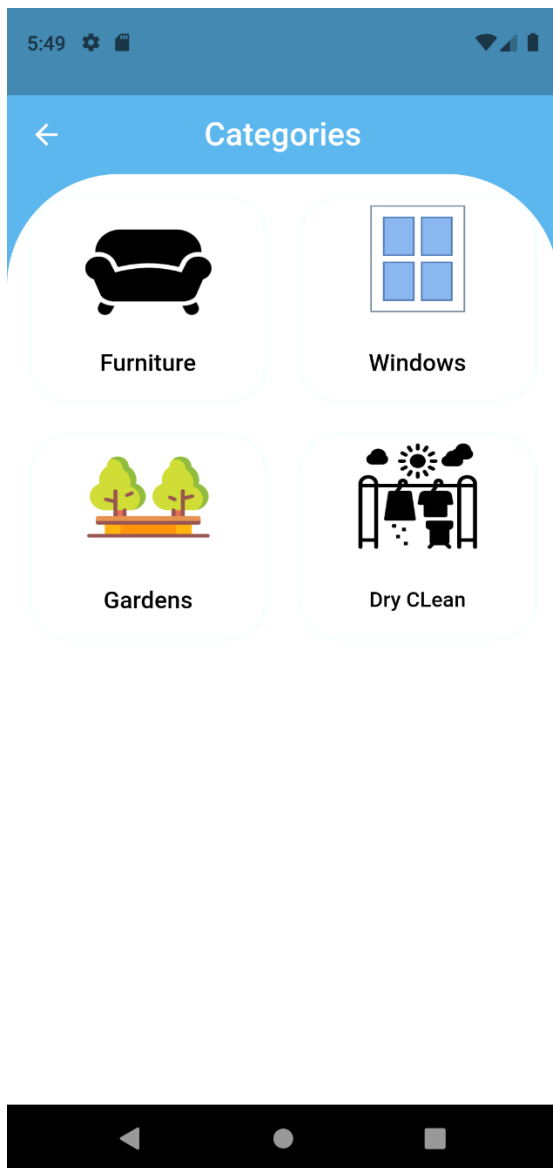


Figure 15 Categories

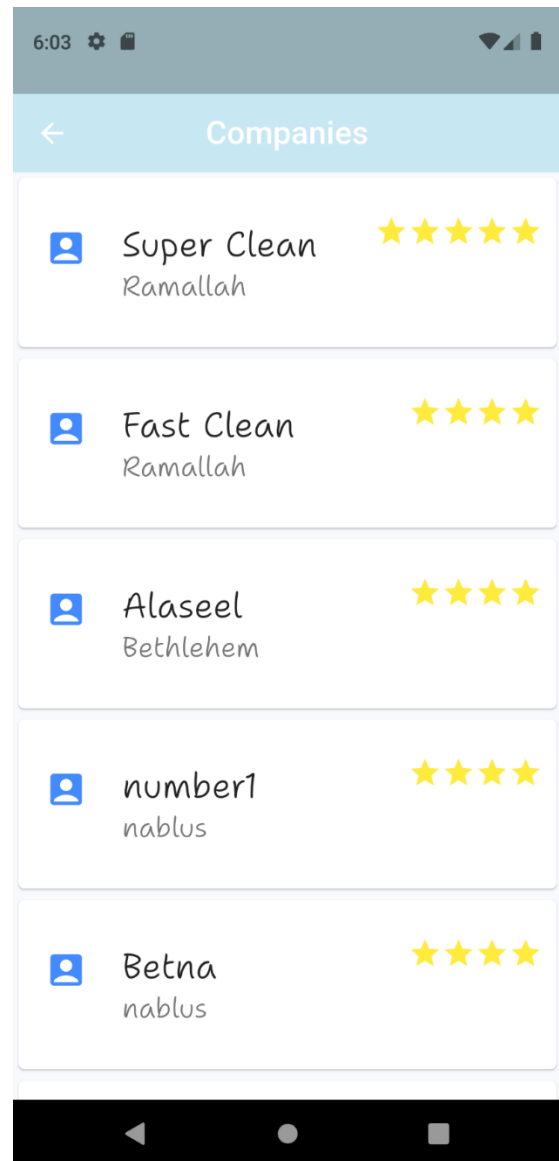


Figure 14 Companies

## Profile Company

When choosing the company, the company information is displayed as description and prices and if the specifications are suitable for the customer, he can book an appointment through the next page.

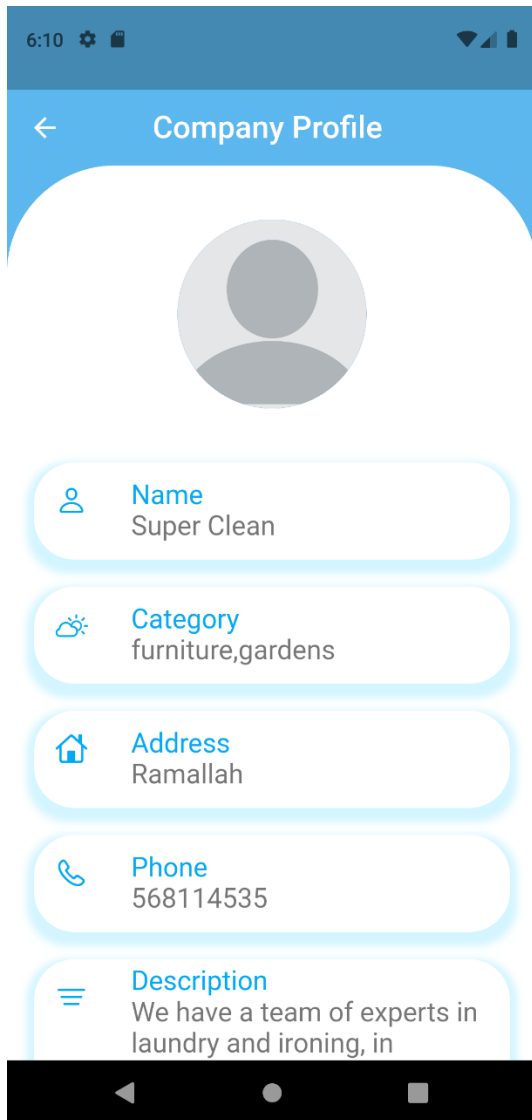


Figure 16 company profile

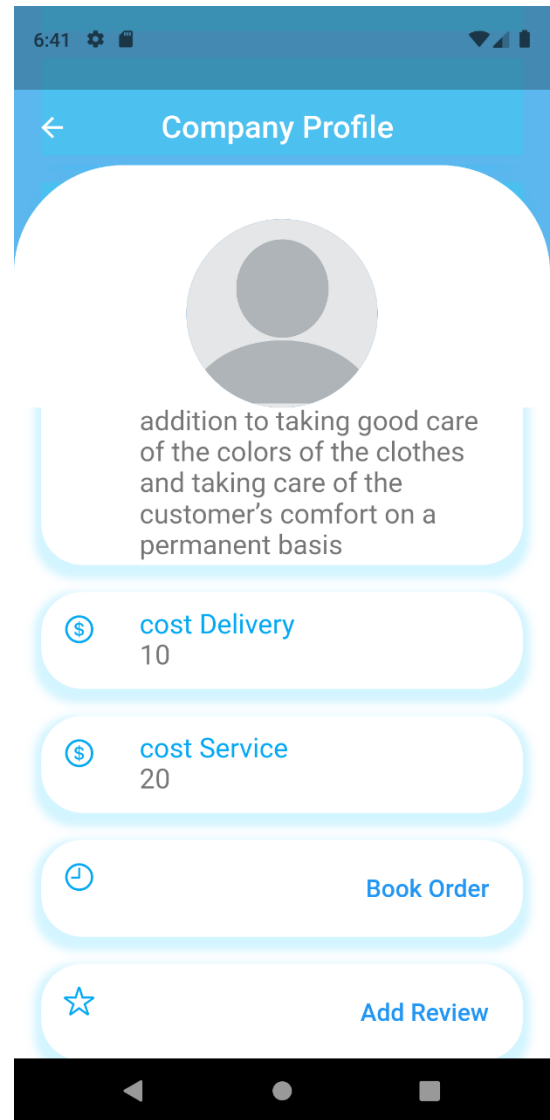


Figure 17 company profile cont.

## Add Order & Add review

-On this page, the customer add the information of the order as the time , date , number of pieces to be cleaned and the percentage confirmation for this date, thereby reaching the order with the company in the list of orders under review.

- After the order is over, the user can evaluate the company's performance by entering his negative or positive comments, and the number of stars.

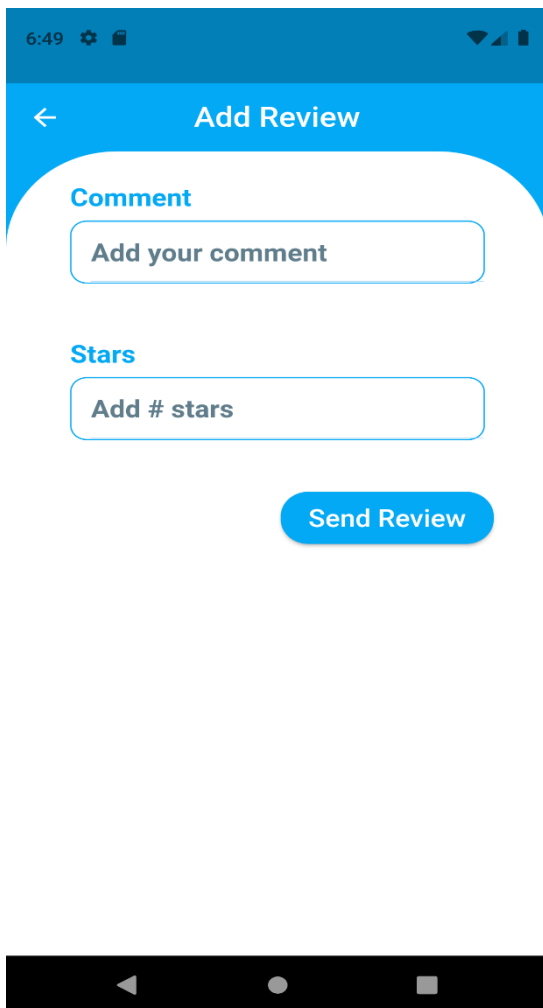


Figure 19 Add review

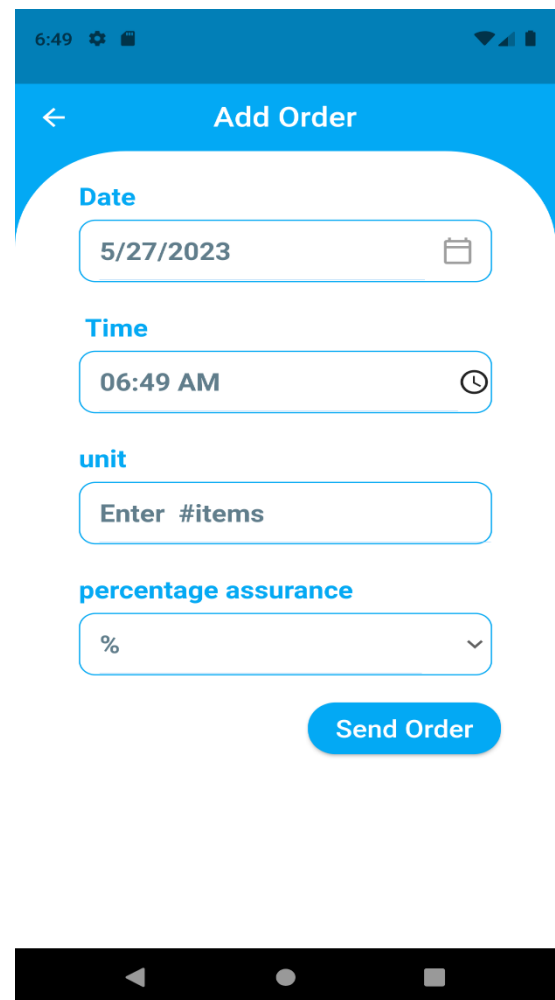


Figure 18 Add order

## My Orders:

On this page the orders prepared by the customer, as well as the information of each order, are shown to keep the customer on track of the order status.

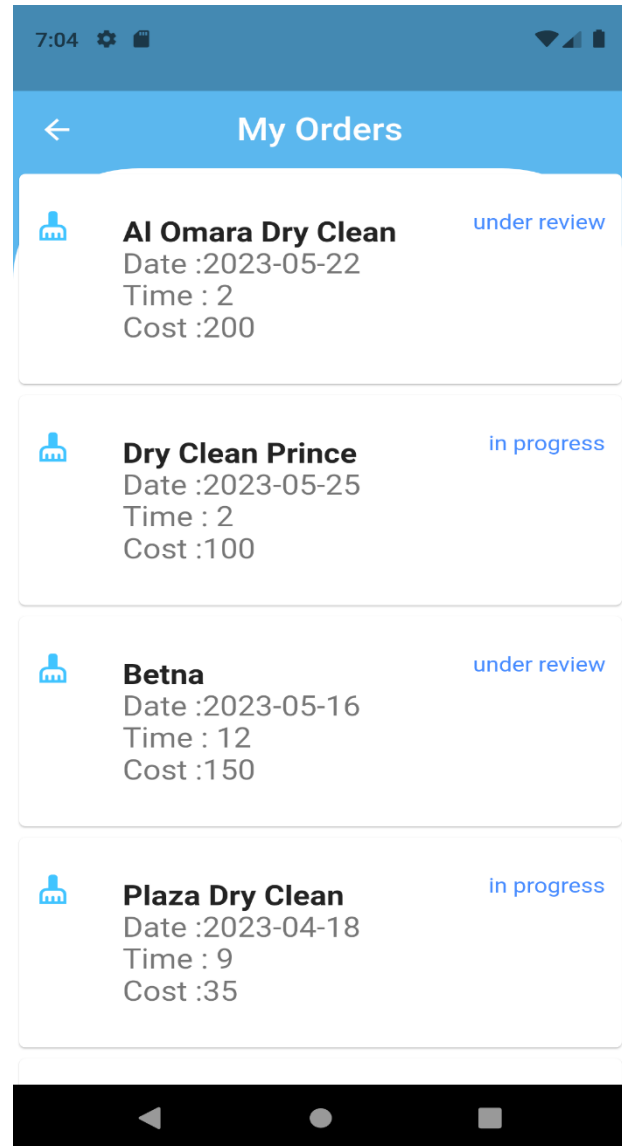


Figure 20 customer orders

## 4.2.3 Admin side :Web pages:

### Log in Admin :

For the web page, at the beginning the Admin logins and then shows his web pages of the project.

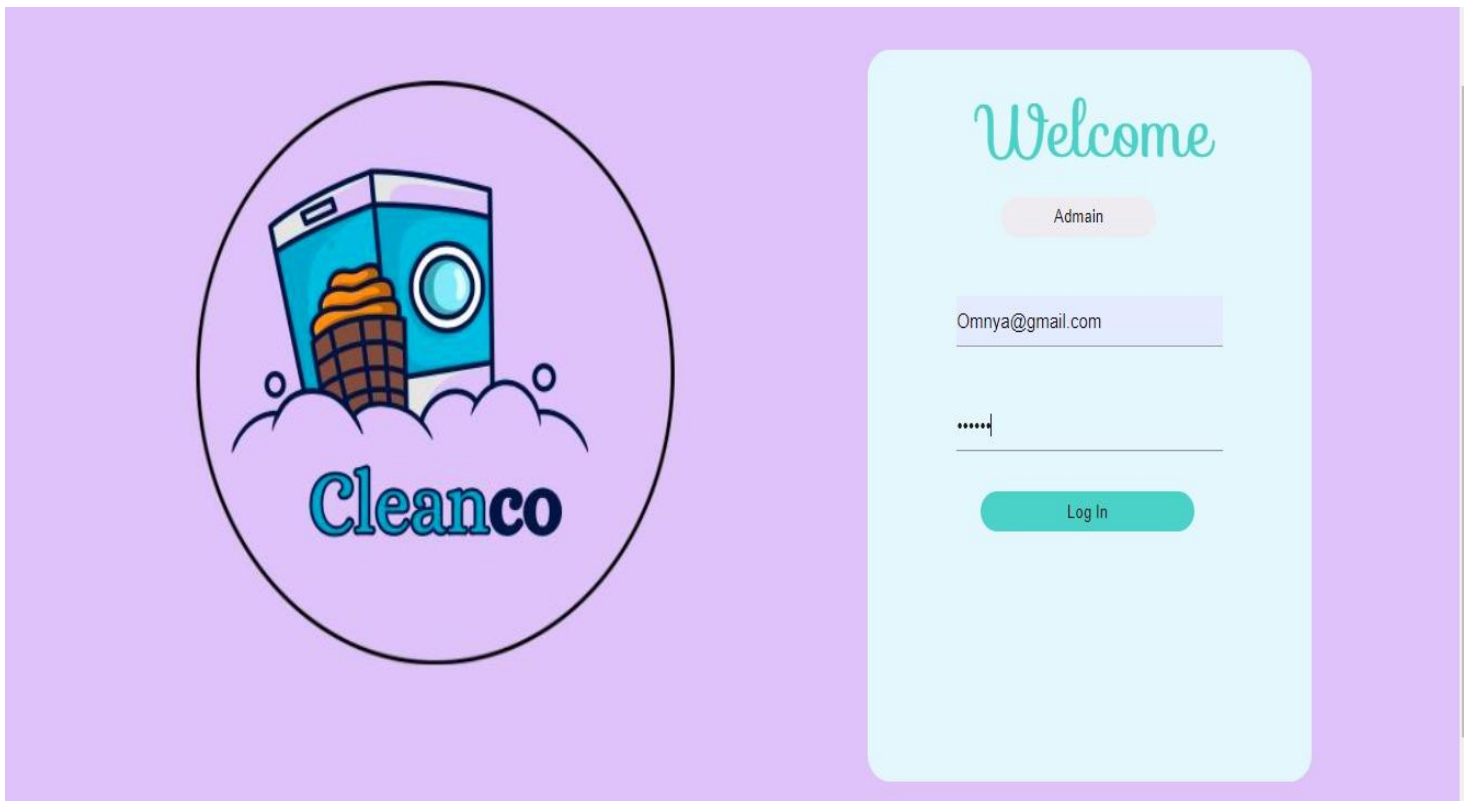


Figure 21 signin admin

## Dashboard:

Admin can see the number of companies and customers who have registered with the app, as well as the total orders and comments.

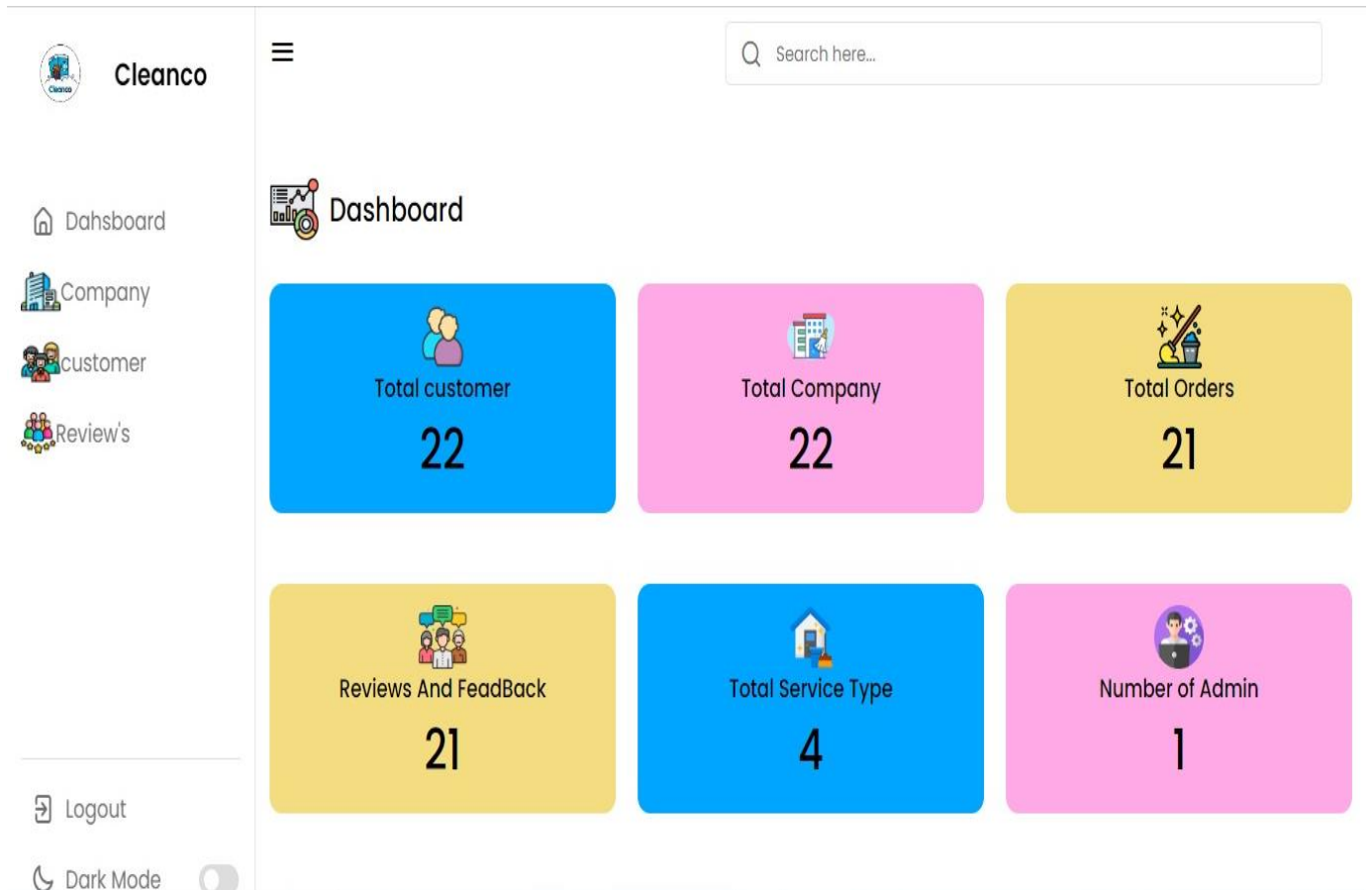


Figure 22 Dashboard

Admin also can reach and view the information of all companies, and it can delete the company with less valuation or fewer customers, because it may affect the level of evaluation of the application.

The screenshot shows the Cleanco admin dashboard. On the left is a sidebar with navigation options: Dashboard, Company, customer, Logout, and Dark Mode. The main content area displays a table titled "Display Company's table" with the following data:

Name	ID	phone	Category	Adress
Super Clean	10	568114535	furniture,gardens	Ramallah
Fast Clean	11	569200792	furniture	Ramallah
Alaseel	12	568121989	furniture,windows	Bethlehem
Al-masri	13	598642692	windows,gardens	Ramallah
Land and apartment cleaning number1	14	599106539	gardens	nablus
majd-milleh	15	598812928	furniture	nablus
majd-milleh	16	568853541	gardens	Ramallah
Bright dry clean	17	568042223	Dryclean	hebron
Al Omara Dry Clean	18	599106539	Dryclean	hebron

Figure 23 companies details

In addition, Admin can see the information of all customers, and their comments as shown in the figure:

**Cleanco**

Dashboard  
Company  
customer

Logout  
Dark Mode

Search here...

### Display Review's table

Review_id	Company_id	Stars	comments
1	10	4	awesome company !
2	11	4	High level of hygiene, thanks for your efforts!
3	11	3	I don't have any word for quality and workmanship, and more importantly tim
4	12	4	What a wonderful company in all respects, cleanliness and quality to the high
7	12	4	The team always does a great job, but today they went above and beyond to
8	14	4	Thanks for your services and please forward my gratitude and appreciation to
9	15	5	awesome company.. thanks alot !
10	15	3	Greatest company , very kind workers , welldone !

Figure 25 All Reviews

**Cleanco**

Dashboard  
Company  
customer

Logout  
Dark Mode

Search here...

### Display users table

id	Name	Gmail	Phone	location	enter the id of the user y	Delete
100	Ahmad Sami	Ahmad@gmail.com	05959595	Nablus		
102	lina Omar	lina@gmail.com	056987321	Ramallah		
103	maha	maha@gmail.com	059874631	jenin		
104	Rami	Rami@gmail.com	0598746321	Nablus		
106	sama	sama@gmail.com	056321478	Ramallah		
107	Fatima	Fatima@gmail.com	05987456	Hebron		
108	Aseel	Aseel@gmail.com	059631478	Ramallah		
109	alaa	Alaa@gmail.com	059748133	Nablus		

Figure 24 All customers

## 4.2.4 Chat:

The customer can contact the company to inquire more information, through chat:

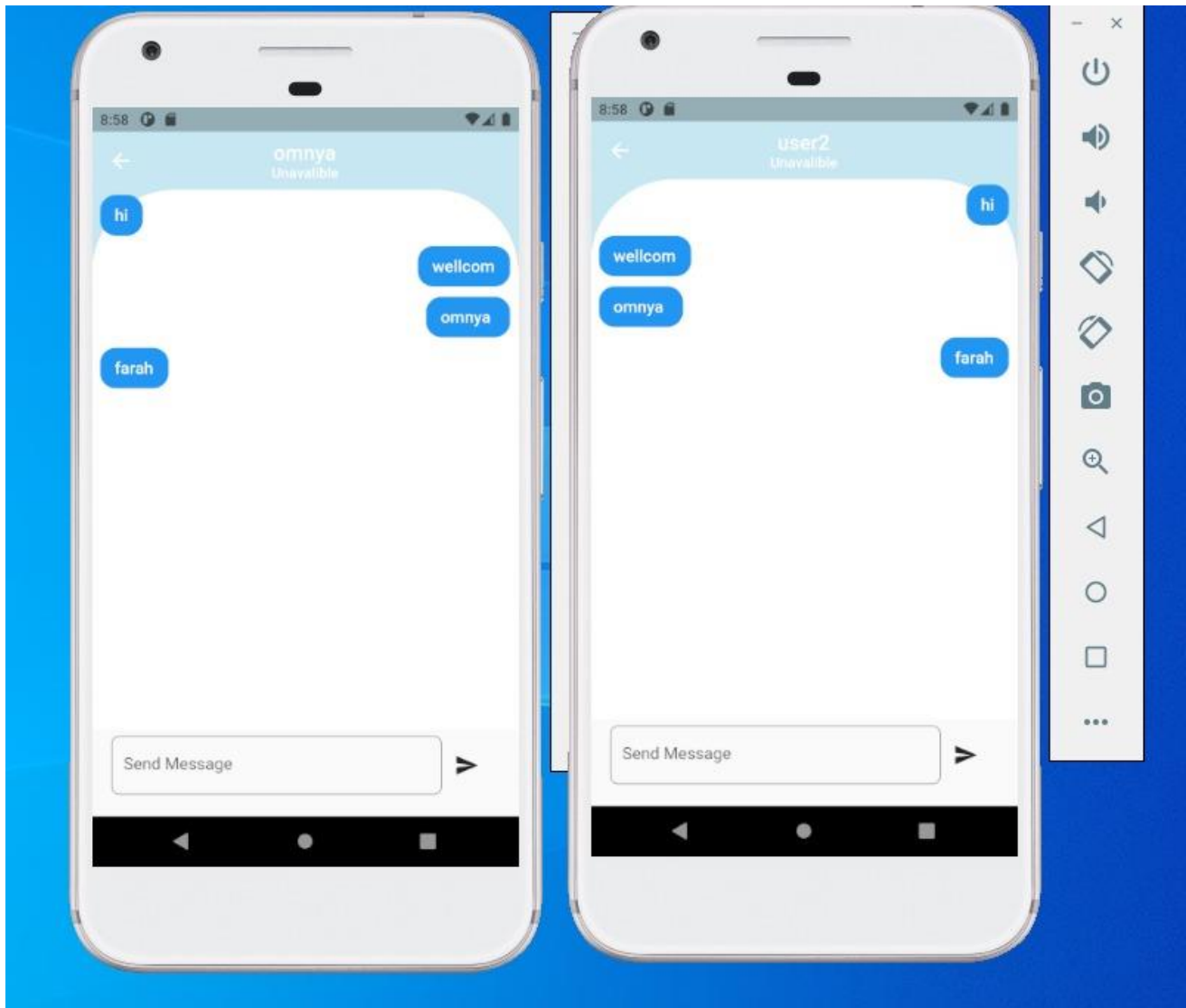


Figure 26 Chat

## **Chapter 5: Conclusion, Recommendations and Future Work**

### **5.1 Conclusion**

The aim of the project is to create an easy-to-handle application, serving two types of people, This makes our application easier for customers of all kinds to access cleaning companies and experienced and the ease of booking, tracking orders and accessing all company information making it easier for the user to make the decision in choosing the right company, Also, the company's ability to improve its performance by following annual profits , seeing customer comments and communicating with them through the chat system, , so our project contains a lot of features not included in other similar applications .

#### **The skills that we have gained by building this application:**

- ✓ Creating a mobile app with Flutter and the Dart programming language.
- ✓ Creating a chatting system.
- ✓ Dealing with relational and non-relational databases, for example (MySQL and Fire-base).
- ✓ Integrating developer APIs and utilizing data from websites in our app.

### **5.2 Recommendation:**

The world is moving towards the Internet, and most people use mobile phones and websites, so given the importance of mobile applications, and the importance of the student being experienced in this field, we suggest making the course of smartphone programming a compulsory one, such as a web course.

### **5.3. Future work**

- 1- Design the application to support multiple languages.
- 2- Add map system so the company can get the directions to reach to the customer address, also Calculation of delivery cost based on the distance between customer and company by meters.
- 3- Chat system: enhance it to include voice messages, pictures, video clips
- 4- Add more Categories and services

## Chapter 6 :References

[1]: just clean

[2]: DARI.

[3] <https://stackoverflow.com/>

[4] [YouTube](#)

[5] <https://www.w3schools.com/>

[6] <https://docs.flutter.dev/>

