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Technology
Computer Engineering Department
Software Graduation Project

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❖ **Dedication**

This work is devoted to our families, who provided the motivation to see our efforts through and inspired us to achieve this milestone. It is also dedicated to all those who supported us, even with a single word of encouragement. Lastly, we dedicate this work to ourselves, as a testament to our perseverance and dedication.

❖ Acknowledgement

We would like to express our deepest gratitude to everyone who has contributed to the successful completion of our graduation project .First and foremost, we are immensely thankful to our supervisor for his unwavering support, guidance, and invaluable insights throughout the entire process. His expertise and encouragement have been instrumental in shaping the direction of our project. We also extend our appreciation to our families and friends for their constant encouragement, understanding, and patience during this challenging journey. Additionally, we want to acknowledge the faculty and staff for providing a conducive learning environment. Finally, we are grateful to all the participants and individuals who generously shared their time and expertise, contributing to the richness of our project. This achievement would not have been possible without the collective support of these remarkable individuals.

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❖ Abstract

We all face some problems in our homes and need a lot of services from handymen. We may face difficulty in finding those who have sufficient competence and experience. Therefore, in this project, we decided to create an application that brings together all these workers with their various services in one place, to make it easier for users to find what they need in the shortest time and best choices.

In order to solve this problem, we're going to implement a mobile application which manages the handymen and the clients who need them to solve some issue.

The system consists of two types of users:

the client which can access the main dashboard which displays the top-rated workers, featured ones, others list which displays mix of new handymen and the oldest ones, and some ads ,Discover dashboard in which you can browse the workers, see their profiles, rate and some additional info, from this dashboard you can contact with the worker that you want and request a task from him, Chat dashboard which contains all the chats that the user made with the workers, and he can send messages and receive ones, Post a task dashboard which allows the user to post one of two types of tasks the first one is the normal task in which he includes the details and the price he can pay for this task and the second type is tender in this type each handyman can see the details and assign a price for this task and the user choose the best offer for the client, these tasks will appear in a specific dashboard in the workers app but it will be based on the requested type for example if the client requests a task looking for a plumber, this will appear only in the plumbers accounts not in the other types, Profile dashboard which allows to edit his information, there is search bar to find workers, Donation dashboard, which the user can donate some funds to the application owners if he enjoyed the service, and assigned tasks dashboard in which he can see his tasks that workers are working on.

The handymen can access their main dashboard in which he can see the requested tasks and respond to them, chat dashboard in which he can communicate with clients, requested services dashboard in which he can browse tasks that clients posted, profile and settings dashboard, advertising dashboard in which can post an ad to appear in main dashboard or can pay to appear in featured and top search results.

We will implement the maps in which the user can specify his location for a certain task, also each worker can filter the posted tasks based on his preferences for working region

There will be web portal for admin, he can manipulate the data, see statics about the system, manage tasks, posts, user's state, featured handymen and the rest of the system.

❖ Introduction

➤ Problem

In our lives we are suffering from the inefficiency and lack of a streamlined process for connecting skilled handymen with potential clients. Many homeowners struggle to find reliable and qualified professionals for various tasks, leading to frustration and delays in getting repairs done. Additionally, the absence of a centralized platform makes it difficult for handymen to market their services and expand their client base. Another problem is the lack of transparency in pricing and scheduling, causing uncertainty for both handymen and customers. By developing an application for handymen, we aim to bridge these gaps, providing a user-friendly platform that facilitates easy matchmaking, transparent communication, and efficient scheduling, ultimately enhancing the overall experience for both service providers and those seeking their expertise.

➤ Objectives

The primary objectives behind developing "Mr. Fix It" application are centered on streamlining and enhancing the entire process of accessing home services. Firstly, our aim is to provide users with a user-friendly platform that simplifies the often task of finding, booking, and communicating with handymen. By integrating a seamless appointment booking system and real-time chat functionality, we strive to make the entire experience convenient and stress-free for users with varying needs. Additionally, the application aims to promote transparency by allowing handymen to showcase their previous work, helping users make informed decisions about their chosen service providers. Moreover, the incorporation of real-time location tracking serves using live location to help the worker in arriving to his destination, overall, this application is designed with the overarching goal of revolutionizing the way individuals' access and experience home services, fostering a more efficient, transparent, and user-

centric approach to household maintenance, and helping workers to find some work offers.

➤ **Significance of The Work**

The "Mr. Fix It" application holds significant value by revolutionizing the way users access home services. It streamlines the process of connecting with handymen, saving time and introducing transparency to home maintenance. The app empowers skilled professionals, providing a platform to showcase their expertise and building trust with users. Overall, "Mr. Fix It" represents a crucial advancement in leveraging technology to enhance the efficiency and accessibility of essential services in our everyday lives.

➤ **Organization of The Report**

The report begins with the first chapter, Introduction, providing a comprehensive background on the research topic. Chapter 2, Constraints and Earlier Coursework, highlights the challenges faced during the project and outlines the solutions and strategies employed to overcome them. It also acknowledges the contribution of previous courses that assisted in the development of the application.

Moving on to the third chapter, Literature Review, an in-depth examination is conducted to establish a thorough understanding of the current research landscape. This section also investigates any similar projects that have been previously undertaken, shedding light on their methodologies and findings.

The fourth chapter, Methodology, presents a systematic plan devised to address the problem at hand. It encompasses the detailed process involved in constructing the robot, including the utilization of specific software tools. This chapter serves as a comprehensive guide for replicating the project.

Next, in the fifth chapter, Results and Discussion. The findings are then compared and contrasted, facilitating a deeper understanding of the project's outcomes. This section encourages meaningful discussions and interpretations of the results.

Finally, the sixth chapter, Conclusion and Recommendation, encapsulates the final project summary, incorporating all the valuable lessons learned throughout the journey. Additionally, it offers recommendations for further improvement and

enrichment, suggesting potential features and subsystems that could enhance the project's capabilities.

In essence, the report structure follows a logical progression, starting with an introduction and background, addressing constraints and earlier coursework, delving into a literature review, outlining the methodology, presenting results and facilitating discussions, and culminating in a conclusive summary and recommendations for future work.

These courses and practical experiences greatly enhanced our skills and apply theory in practical applications.

❖ **Constraints and earlier work**

➤ **Constraints**

When we started the project, we had a lot of problems. First, we struggled to set up a strong foundation and understand the basics. Then, we had trouble with unfamiliar computer languages needed for the project because we didn't have much experience making smartphone apps. Also, we faced issues with heavy software that made it hard to install on devices. Managing time was tough too because we had to find enough time for the project while also handling our schoolwork.

➤ **Earlier Coursework**

1. Software engineering course:

In the Software Engineering course, we learned useful ways to plan and build software, like figuring out what the software needs to do, designing its structure, and making sure users find it easy to use. We then used these helpful ideas in our project.

2. Critical Thinking & Scientific Research course:

In the Critical Thinking & Scientific Research course, students learned how to read scientific papers and create research papers using modern tools like LaTeX, as part of completing the course.

3. Web Development course:

In the Web Development course, the focus was on learning the programming languages needed for the project, including HTML5, CSS3, JavaScript, and Bootstrap.

4.Database course:

this platform's database is entirely made on mysql data base . Database design principles and crucial concepts like dependencies, keys, and indexes were also covered in this course.

❖ Literature review

"Mr. Fix It" is a new app designed to make it easy for people to find and hire handymen using their phones. This review looks at what other similar apps are doing and how "Mr. Fix It" compares. People today use apps like TaskRabbit and Thumbtack to connect with different services conveniently. The app's features, like booking appointments, chatting with handymen, and checking their past work, follow what users find helpful in these apps. There's also a cool part where users can donate money to the app. For handymen using the app, they can say yes or no to tasks, show their live location while going to the client, and even pay to advertise their services. These features match what's working well in other apps. "Mr. Fix It" seems to be on the right track by combining useful tools like appointment booking, live location, and user-generated content. It could be a great choice for people looking for handymen and workers looking for jobs, making the whole process simpler and more transparent.

❖ Methodology

➤ Used technologies:

▪ Flutter:

Flutter is an SDK developed by Google specifically for creating applications on Android, IOS, and Fuchsia (Google's new operating system). It prioritizes both user and developer experiences by offering a comprehensive framework in the Dart language. This framework is dedicated to producing high-quality, original applications with excellent performance, while also providing developers with tools that enable them to build complete applications in the most efficient manner.

Reasons to Choose Flutter:

1. **Reusable Libraries:** Flutter allows the reuse of parts of application code, known as libraries, which perform common functions. This promotes code efficiency and simplifies development.
2. **Complete Development Kit (SDK):** Going beyond just integrated tools, Flutter's SDK encompasses libraries, APIs, and frameworks. It provides everything necessary to build various applications, making it possible to develop applications suitable for multiple platforms simultaneously.
3. **Cross-Platform Development:** Flutter allows developers to use the same code to create applications for both Android and IOS platforms. This eliminates the need for writing new code, saving time, effort, and the requirement to learn multiple programming languages.

▪ ReactJs:

ReactJS stands out as a free and open-source front-end JavaScript framework that focuses on creating user interfaces through UI components. Managed by Meta (previously Facebook), along with contributions from individual developers and corporations, React serves as a foundation for building single-page, mobile, or server-rendered applications.

1. Reasons to Choose ReactJS:

Clean and Simple Syntax (JSX): React employs JSX syntax, a clean and straightforward markup language similar to HTML. It enables developers to seamlessly integrate JavaScript code into the front-end design, offering greater control over components.

2. **Reusability:** React's strength lies in its ability to create reusable components. This means developers can reuse existing components instead of starting from scratch, enhancing efficiency and maintainability.
3. **Library Support:** React supports an extensive range of free libraries that provide ready-made components. This feature significantly simplifies the development process, offering developers a wealth of resources to enhance their applications.
4. **Fast Rendering:** React is known for its fast rendering capabilities. This ensures that user interfaces built with React are responsive and provide a smooth experience for users.

- **Springboot:**

Spring Boot is a powerful and user-friendly framework designed to simplify the development of Java-based applications. Developed by the Pivotal team, it follows a convention-over-configuration approach, minimizing the need for extensive setup and reducing boilerplate code. Spring Boot comes with embedded servers, enabling developers to build and deploy applications seamlessly without manual configuration. This framework is particularly well-suited for microservices architecture, offering modularity and scalability. With a rich ecosystem that includes Spring Data, Spring Security, and Spring Cloud, Spring Boot provides ready-to-use solutions for common enterprise challenges. Its emphasis on simplicity, rapid development, and a comprehensive set of features makes it an excellent choice for building efficient and robust Java applications.

Reasons to choose springboot:

1. **Rapid Development:** Spring Boot follows convention over configuration principles, allowing you to quickly set up and develop applications with minimal boilerplate code. This can significantly speed up the development process
2. **Modularity and Maintainability:** Spring Boot promotes a modular architecture, making it easier to break down your project into smaller, manageable components. This modular structure enhances code maintainability and facilitates future updates or modifications.

3. **Dependency Injection and Inversion of Control (IoC):** Spring Boot utilizes dependency injection, making it easier to manage and test components independently. This promotes a cleaner and more maintainable codebase by reducing tight coupling between classes.
4. **Built-in Security Features:** Spring Boot comes with robust security features that can help you implement authentication and authorization seamlessly. It supports various authentication mechanisms and allows for the customization of security configurations.
5. **Spring Data JPA for Database Interaction:** Spring Boot integrates with Spring Data JPA, simplifying database interactions by providing a higher-level abstraction for data access. This reduces the amount of boilerplate code required for database operations.
6. **Spring Boot Starter Packages:** Spring Boot provides a variety of starter packages for common tasks, such as web development, data access, and security. These starters come pre-configured, allowing you to quickly set up and use essential features without extensive manual configuration.

- **MySQL database:**

MySQL is a popular open-source relational database management system (RDBMS) known for its reliability and versatility. Developed by Oracle Corporation, MySQL is widely used for managing and storing data in various applications, ranging from small websites to large-scale enterprise systems. It supports multiple platforms and is compatible with various programming languages, making it accessible for developers across different tech stacks. MySQL is known for its speed, efficiency, and robust security features, ensuring the integrity and confidentiality of stored data. Its active community and extensive documentation contribute to its widespread adoption, providing users with resources and support for seamless integration and optimal database management.

➤ **Other technologies and tools:**

1. Visual Studio Code, often abbreviated as VS Code, stands out as a source-code editor created by Microsoft, compatible with Windows, Linux, and macOS. Its notable features encompass debugging support, syntax highlighting, intelligent code completion, snippets, code refactoring tools, and integrated Git functionality [vscode].
2. IntelliJ idea , is a sophisticated integrated development environment (IDE) developed by JetBrains. It primarily focuses on maximizing developer productivity by providing a host of features tailored for seamless coding. IntelliJ IDEA supports a variety of programming languages, including Java, Kotlin, Scala, and Groovy, and is widely appreciated for its powerful code analysis, ergonomic design, and intelligent code completion. Additionally, it offers advanced tools for software development, such as version control, database tools, and a rich set of plugins.
3. Amazon Web Services (AWS) is a comprehensive cloud computing platform provided by Amazon. It offers a wide array of services including computing power, database storage, and content delivery, making it an essential tool for hosting and managing applications in the cloud.
4. Docker is a prominent open-source platform designed for developing, shipping, and running applications. It uses containerization technology to enable developers to package applications with all their dependencies into a standardized unit, known as a container, for software development.
5. Postman serves as an API platform designed for constructing and utilizing APIs. It simplifies every phase of the API lifecycle, facilitating smoother collaboration to help you develop superior APIs.
6. GitHub is an online hosting service tailored for software development and version control with Git.
7. Zego cloud: it was used for audio and video meeting.
8. PayPal: was used for payment.
9. Firebase: was used for notification and file storage.
10. JWT (JSON Web Token) is an open standard for exchanging security information between a client and a server, and is commonly used for user login authentication.
11. Google maps: it was used for navigation.
12. Gmail api: it was used for mails.

➤ Database Schema

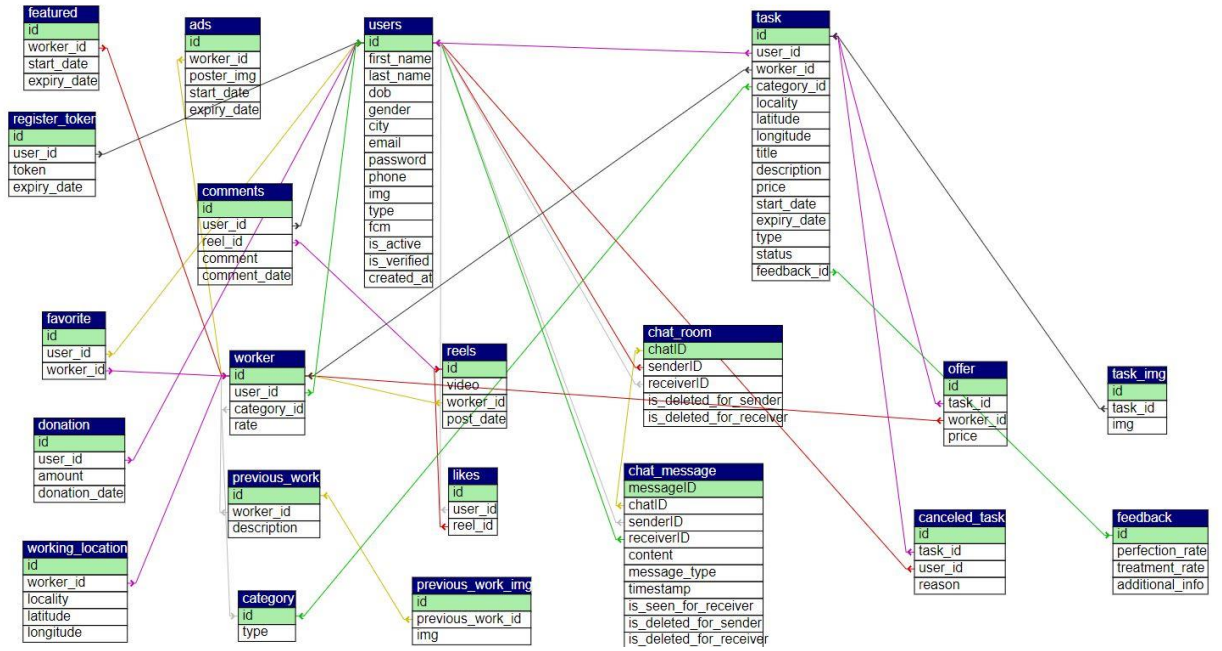


Figure 1 Database Schema

➤ MR. Fix it Client application

Each user has to register into the application in order to make an account and be able to use the application.

▪ Register:

in order for the user to register he needs to put his first name and last name also choose his birthday and his gender either male or female and he need to put his city and email address and the password and his phone number. He also needs to add a profile picture, and if he was client he can press register, but if he was a worker, he chooses worker radio button and a map will appear in order to choose the working locations and combo list will appear in order to choose the category he works in.

When any user register to the application either as a client or worker, a token will be generated and last for 10 minutes, after that an email will be sent to the user, this email contains a verification link, each user should press on the link within the 10 minutes to verify his email and be able to login to the application, if this link expired after the 10 minutes the user won't be able to verify and has to sign up again.

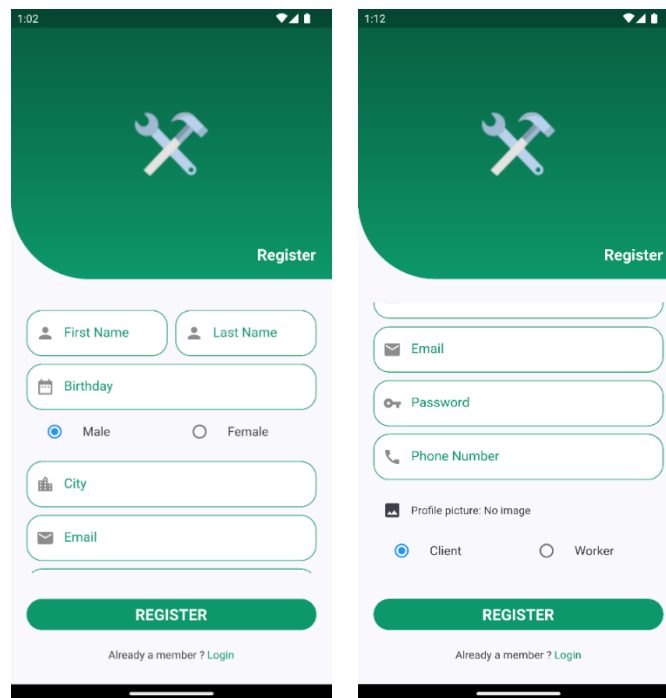


Figure 2 register page for client

The worker can choose worker radio button and a map will appear for him to choose his working locations, and a combo list also going to appear for him to choose the category he works in.

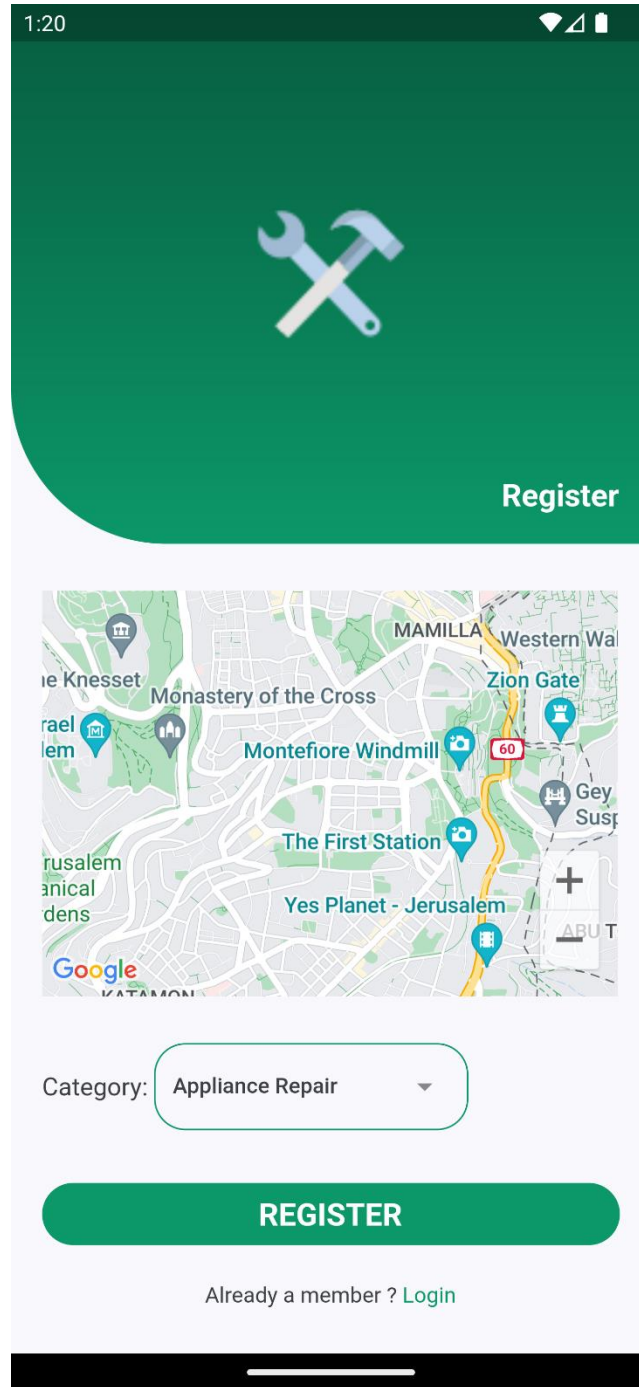


Figure 3 register page for worker

if the user keeps any field empty, a field is empty in red is going to appear and if he tries to insert an existing email or mobile phone number an alert message appear.

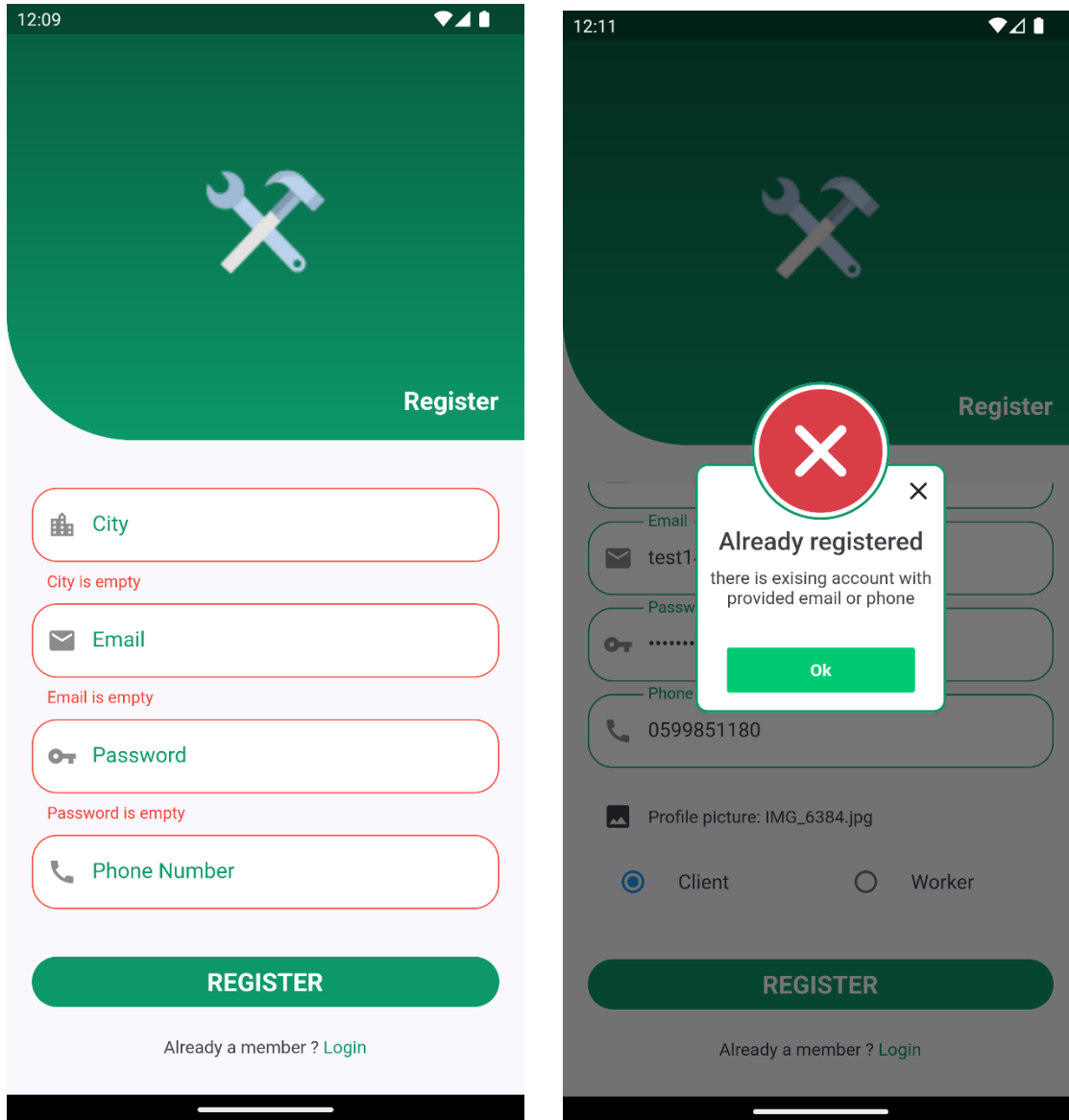


Figure 4:field is empty & alert already exist

And if he registered right, he will receive an alert that verification link was sent to his email, and when he goes to the email, he will find the link if he presses on the link in the first 10 minutes he will be verified, but if he presses after the 10 minutes, the link will be cancelled.

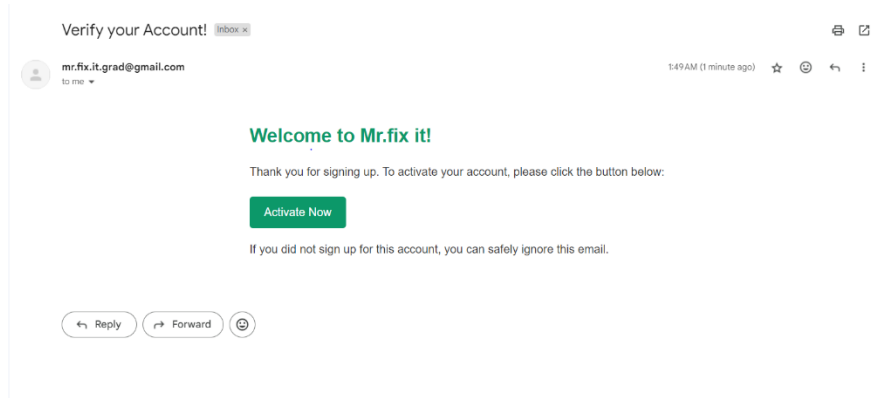


Figure 5: the email verification message

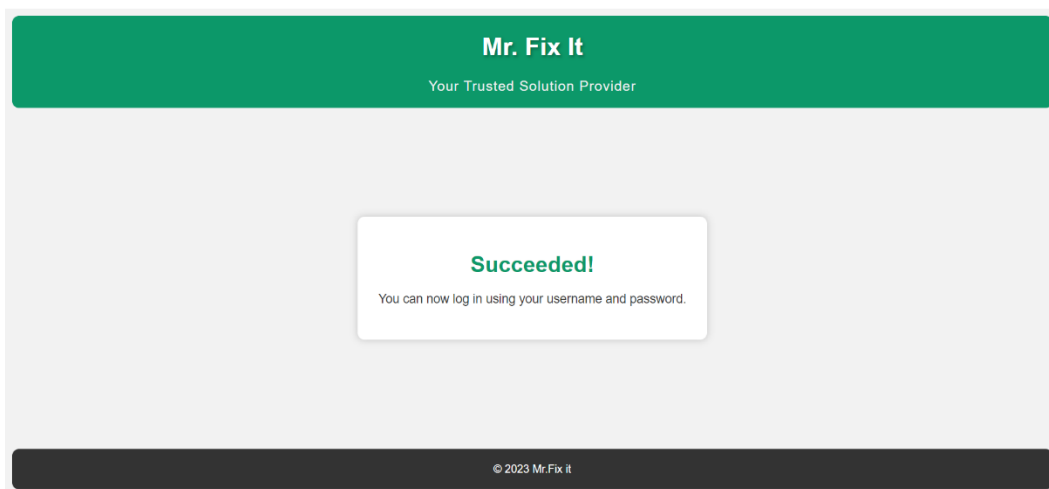


Figure 6:message if he verified

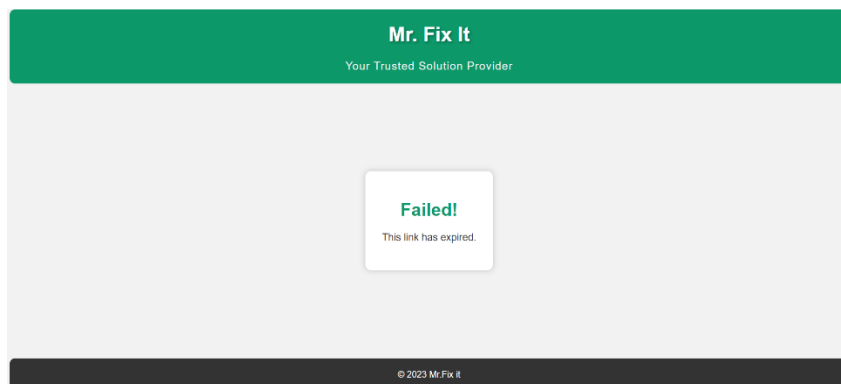


Figure 7:message if he failed to verify

- Forget password:

If the user forgets his password, he can press forget password in the login page after putting his email in the email field and an email will be sent to his email for him to recover his password.

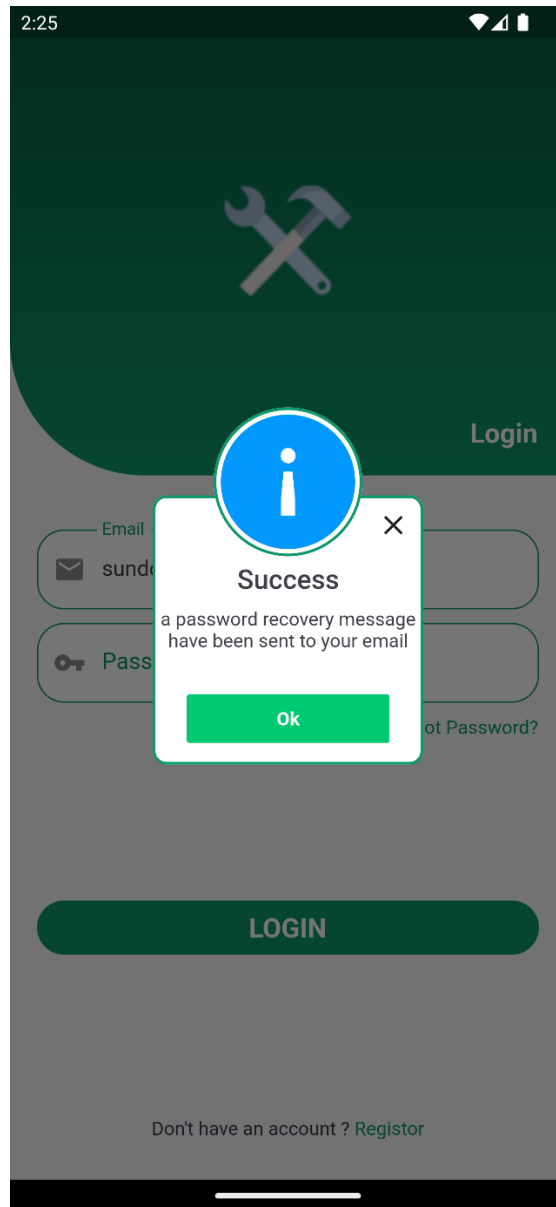


Figure 8:alert password recovery message sent

Reset your password! Inbox x



mr.fix.it.grad@gmail.com
to me ▾

4:25 AM (2 minutes ago) ☆ 😊

Reset Password

To reset your password, please click the button below:

[Reset Password](#)

If you did not request to reset password, you can safely ignore this email.

Figure 9:reset password email

The screenshot shows a web interface for Mr. Fix It. At the top is a green header with the text "Mr. Fix It" and "Your Trusted Solution Provider". Below this is a light gray background area containing a white form titled "Reset Password". The form has two input fields: "New Password:" and "Confirm Password:". Below the second field is a green button labeled "Reset Password". At the bottom of the page is a dark gray footer with the text "© 2023 Mr.Fix it".

Figure 10:set new password

- **Log in**

when the user verifies his account successfully, he will be able to login to the account by putting his email and password and homepage will appear.

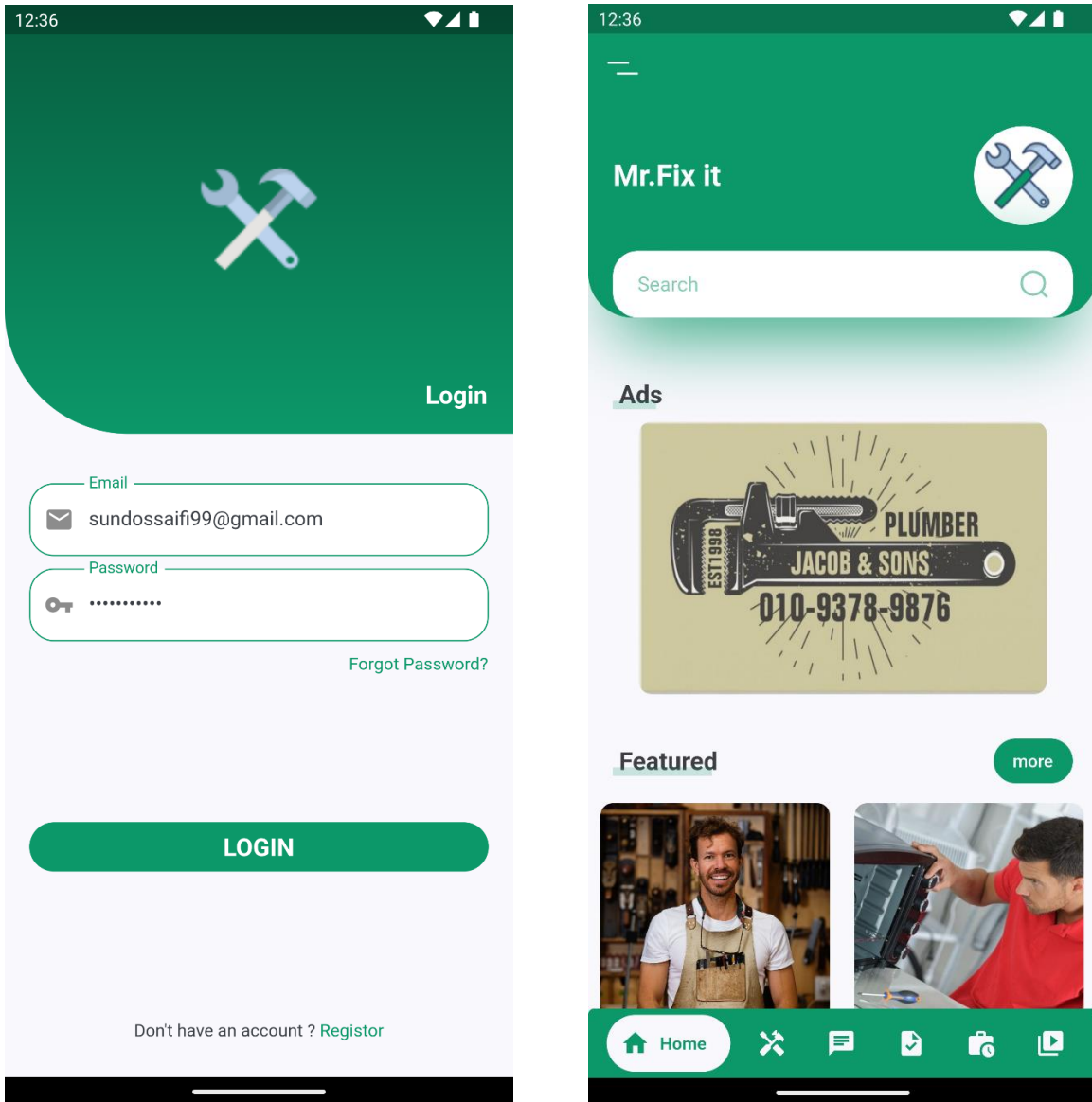


Figure 11: login page

- Home page:

once the client logged in, he will see homepage. In this page there is the search field, below the search he is going to find the ads that workers post, these ads are switching automatically from one ad to the other. Also he can see featured category, this category have cards of workers that are paying to appear at the top of homepage in this category, below of it is top rated, in this category there will be workers that are having the highest rating from clients, there is also a field also for new comers, in this one, the workers that assign to the application in the past a few days will be here for the next 3 days of their register day.

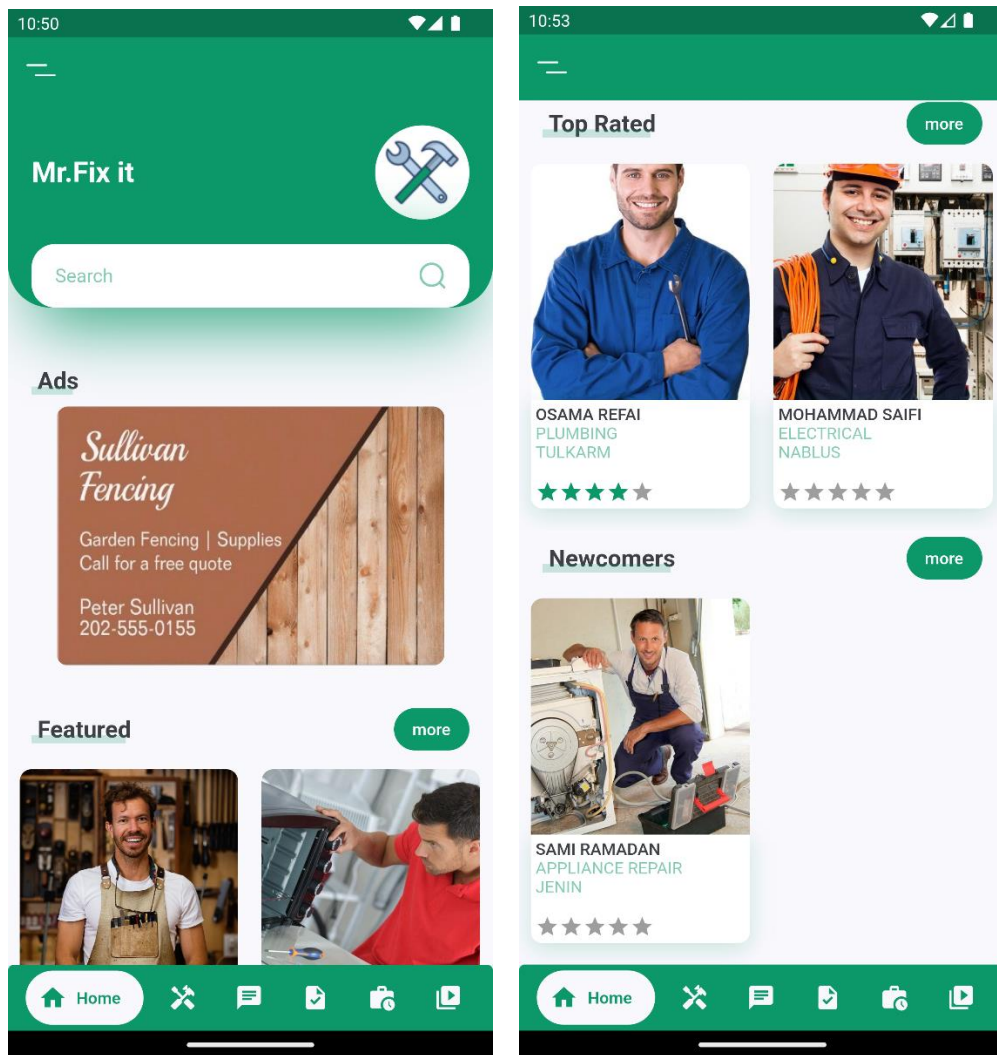


Figure 12: Home page for client

As shown above each category has the more button, this button moves the client to a new page where he can see all the workers.

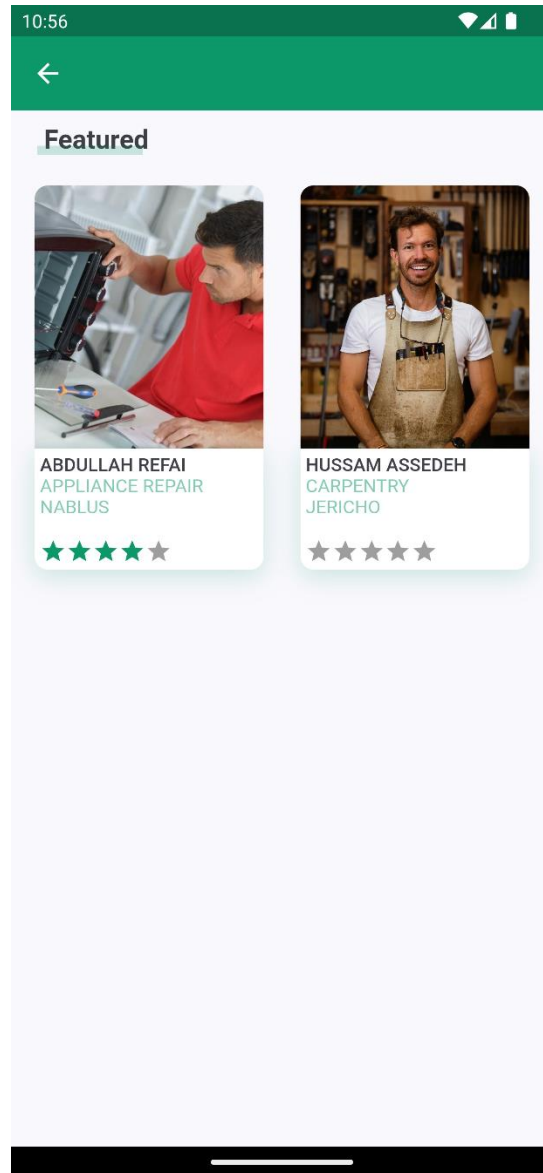


Figure 13: The page that appears after pressing more button

- Search field:

once they use the press on the search field, he will be moved to this page. At first the featured workers will be shown for him and he can search for any worker he wants. There is also the filter button that when he presses at, he will have the opportunity to filter the workers according to their categories or working locations or both.

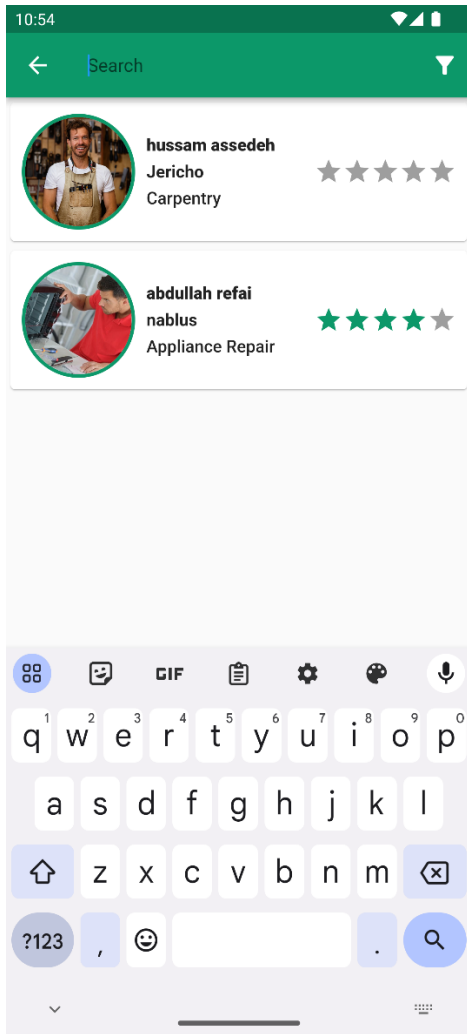


Figure 14: Search field at home and discover page

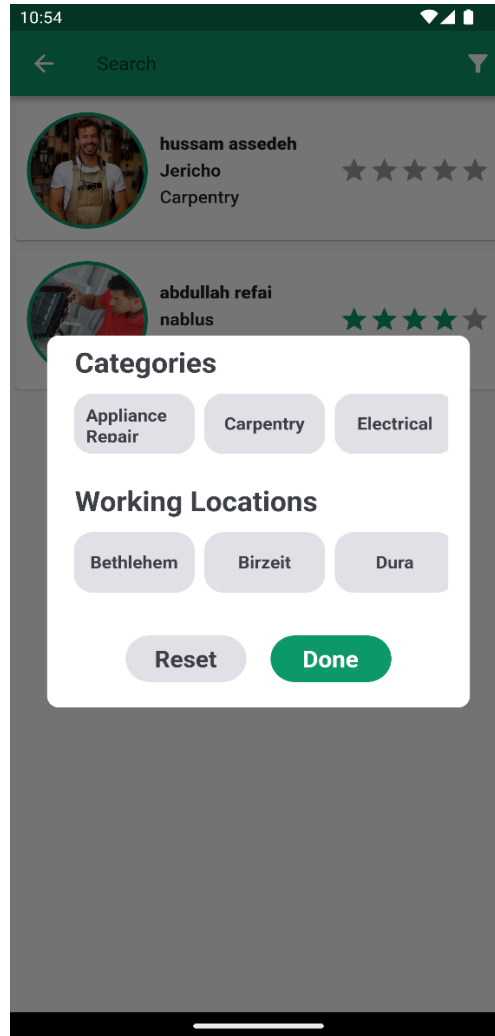


Figure 15: Filter button for search

- Discover page:

in the Discover page, the client will see the search field, this field is the same as the one in the homepage and he will see the categories that he can horizontally switch between them. These categories are the categories that workers work in, he can choose the category he wants and the workers working in this category will appear at first, and there is the more button that when he presses, he will be moved to another page that shows all the workers in this category.

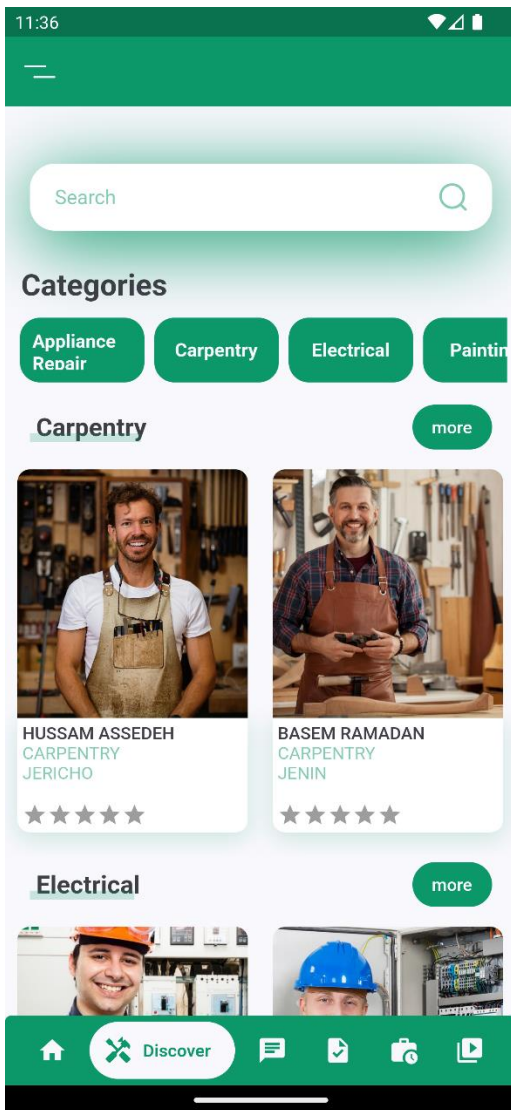


Figure 16: Discover Page

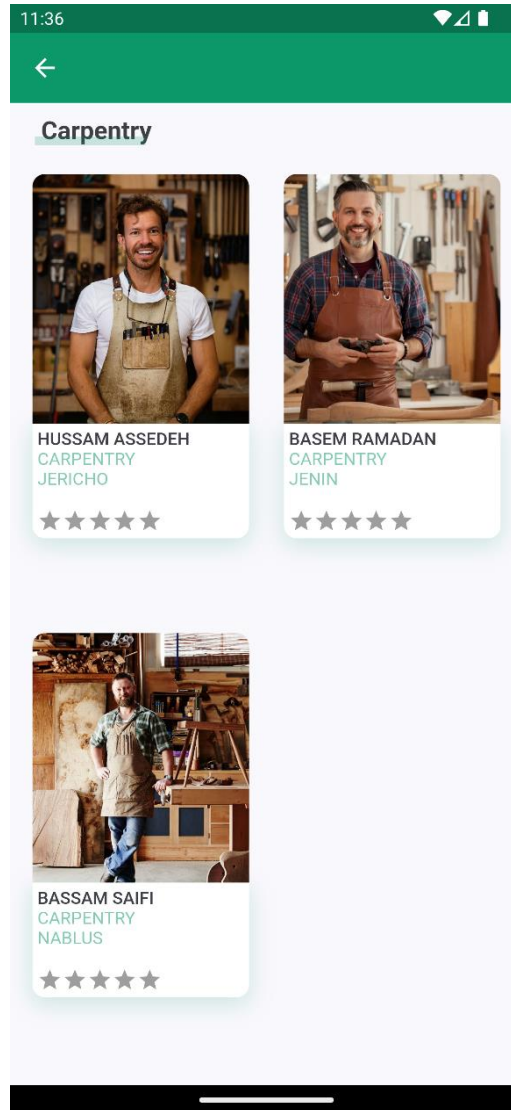


Figure 17: More Button Page

- Chat Page:

In the chat page, the user will see all the chats that he had with different workers and he will have search field that he can use in order to search any conversation he wants. Whenever he presses on any conversation, the chat will open and he can send and receives text messages from the worker, he also can send him some pictures and he can have voice and video meetings, he can also delete the chat by swiping the chat to the left.

There are also some interactions that user can notice like real time seen annotation for his messages also when the other side user types on keyboard the user can see typing word below chat username.

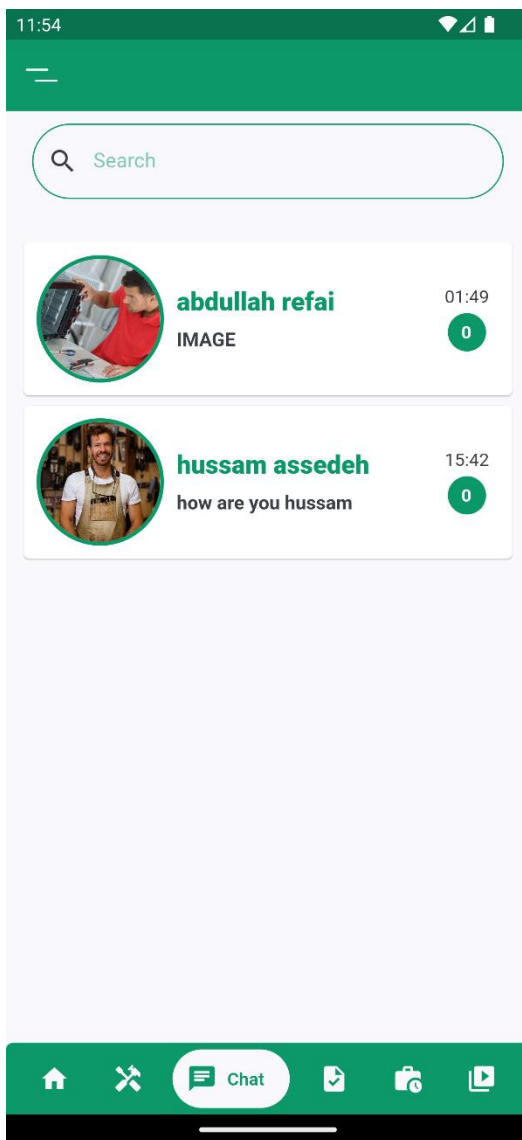


Figure 18:Chat Page

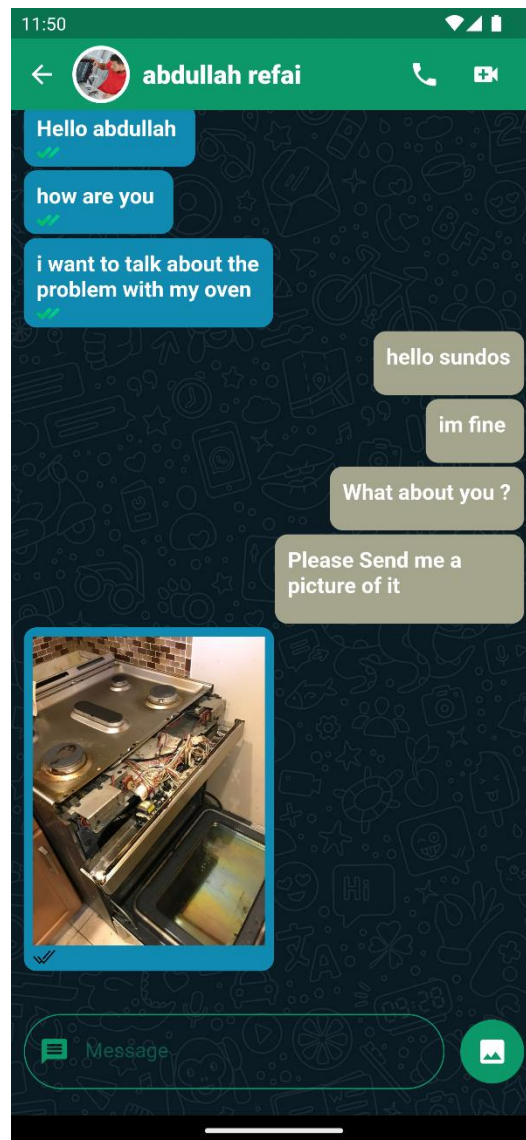


Figure 19:Conversation Page



Figure 20:Video meeting

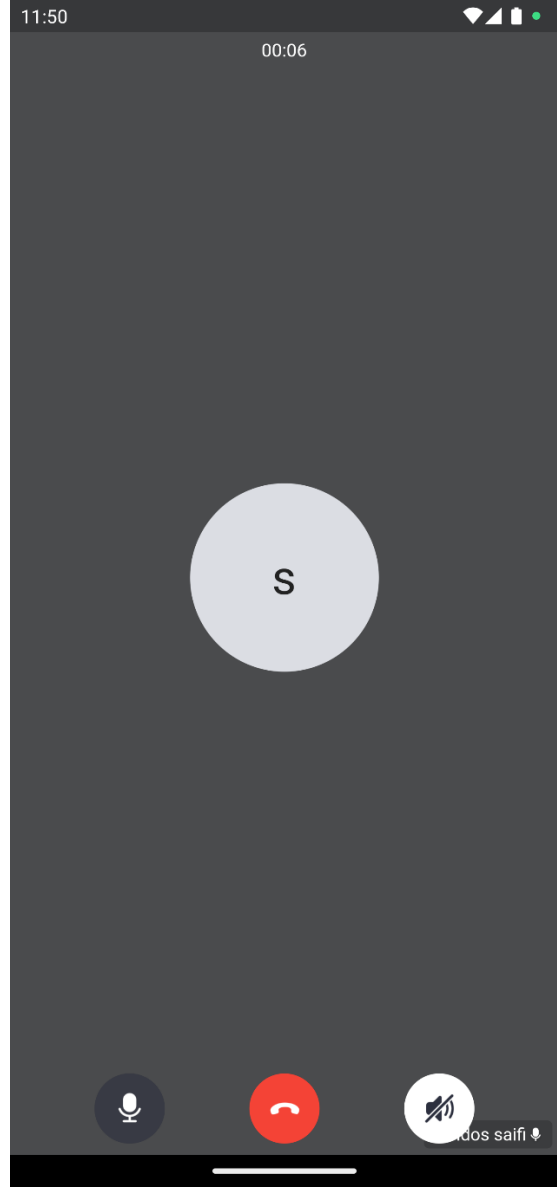


Figure 21:Voice Call

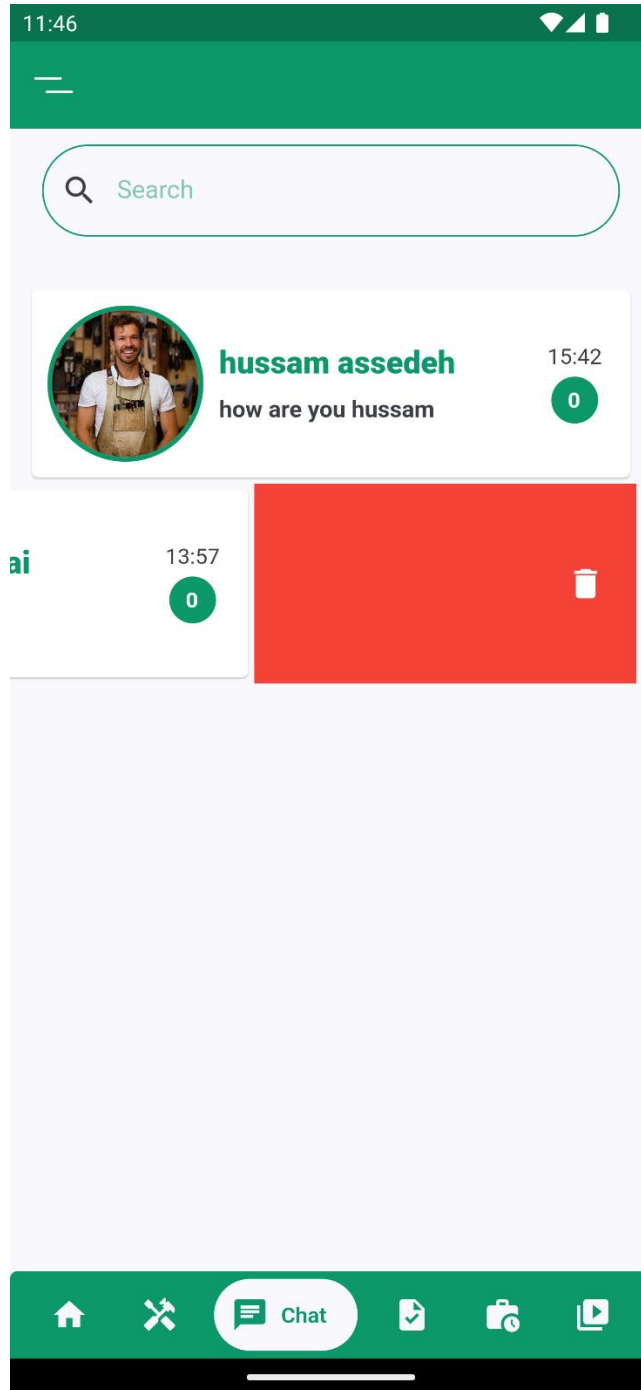


Figure 22:Swipe left to delete conversation

- **Post Task Page:**

In the post a task page, the client can post two types of tasks. The first one is post and the second one is tinder. In each one, he has to put the title of the task a, description of the task, decide the category of the task, and put an image of what he wants to do and put the location for his tasks. Then he choose the type of the task if he choose to put it as a post he had to decide the price and if he choose tender he don't put price because workers well offer him prices for their work and he can choose the best offer.

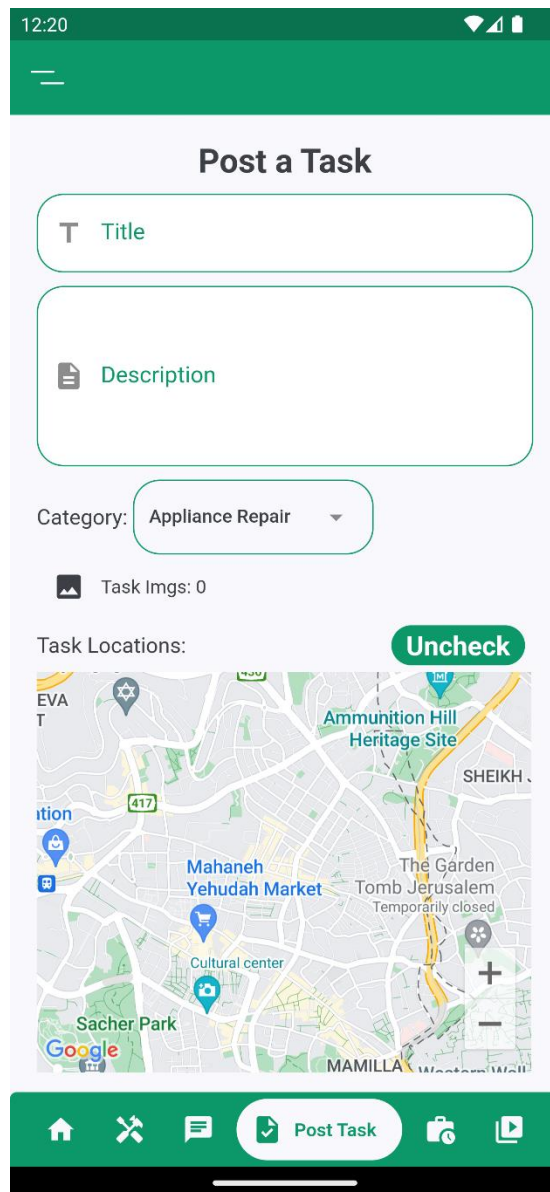


Figure 23:Post Task Page

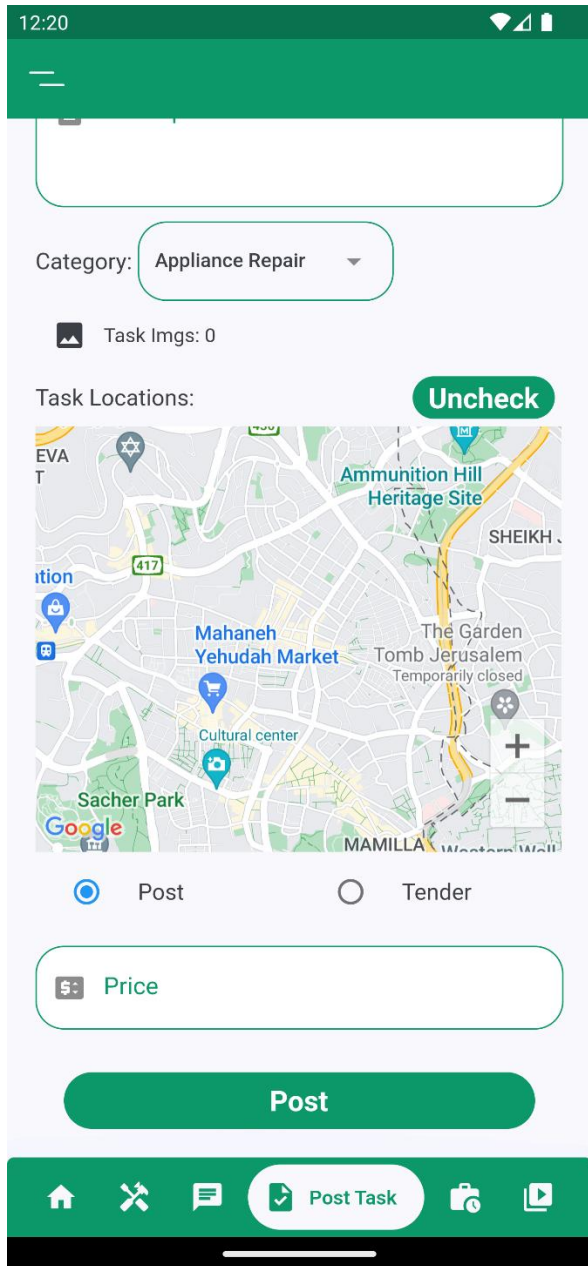


Figure 24: Task of type post

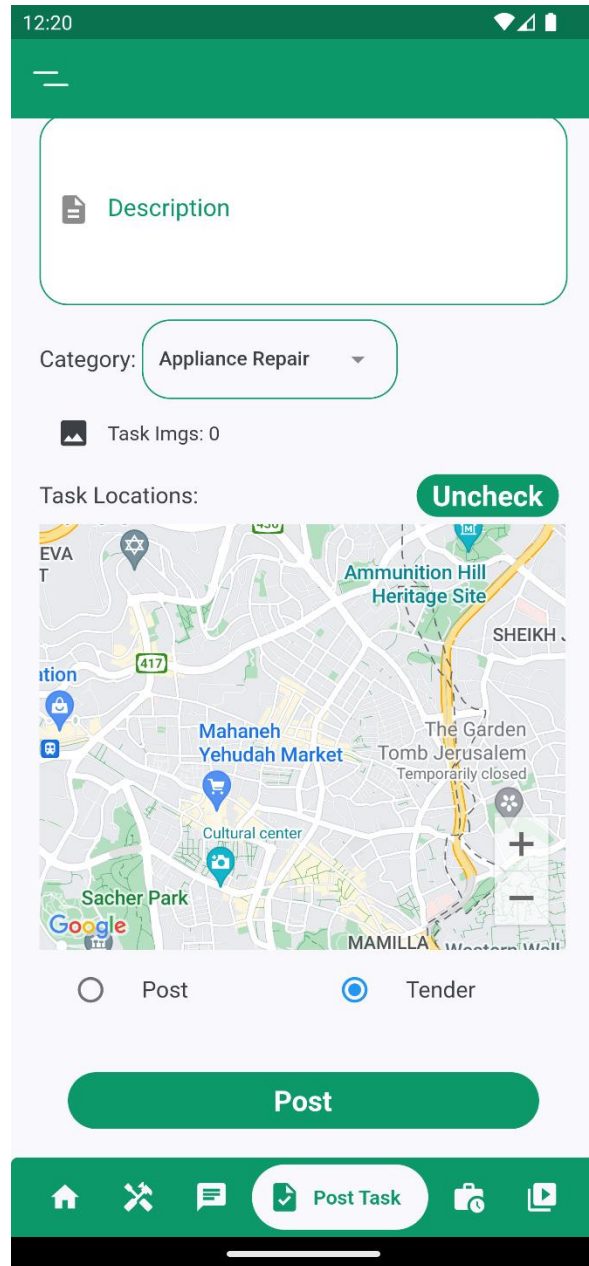


Figure 25: Task of type tender

- My Tasks Page:

In this page, the user can see all the tasks that he required in all different categories whether they were requested, assigned, posted, declined canceled or completed and he can see the percentage of the tasks that are completed in each category. He also can delete any task that is still requested by pressing on the delete button. He can also search for any tasks he wants in any category he wants and he can press on the sort button in order to sort the tasks according to their dates.

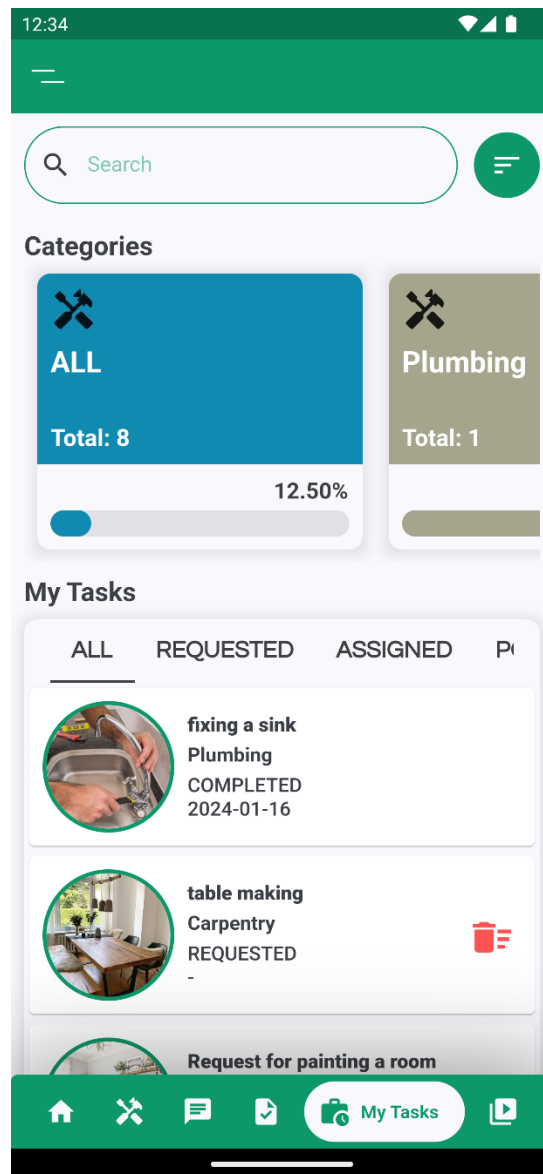


Figure 26:My Tasks Page

He also can press on any task that he wants to see its details.

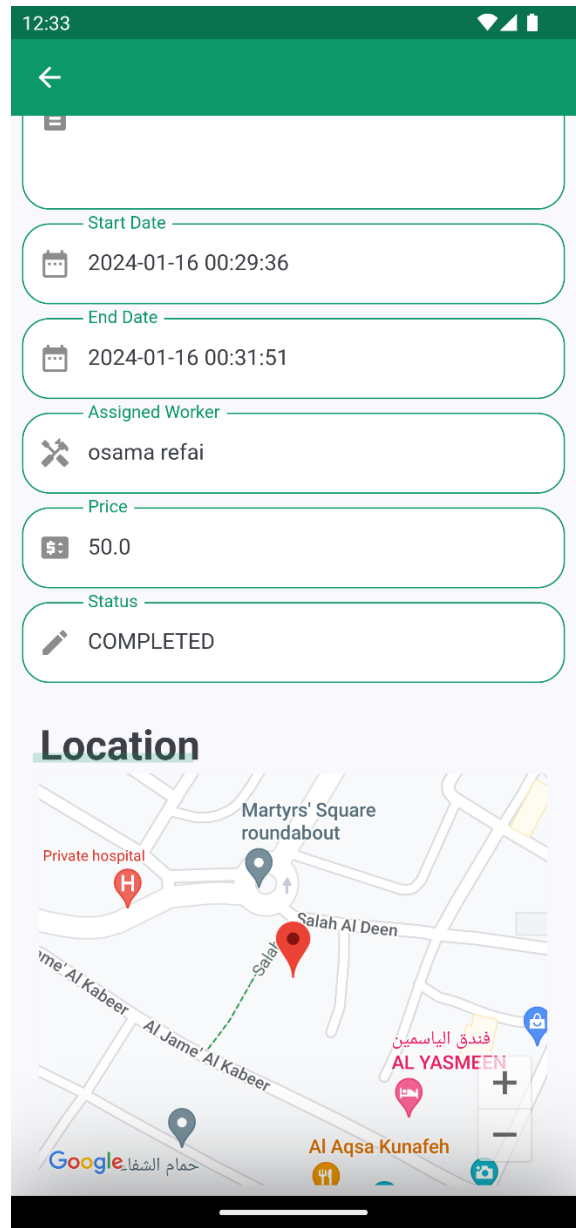
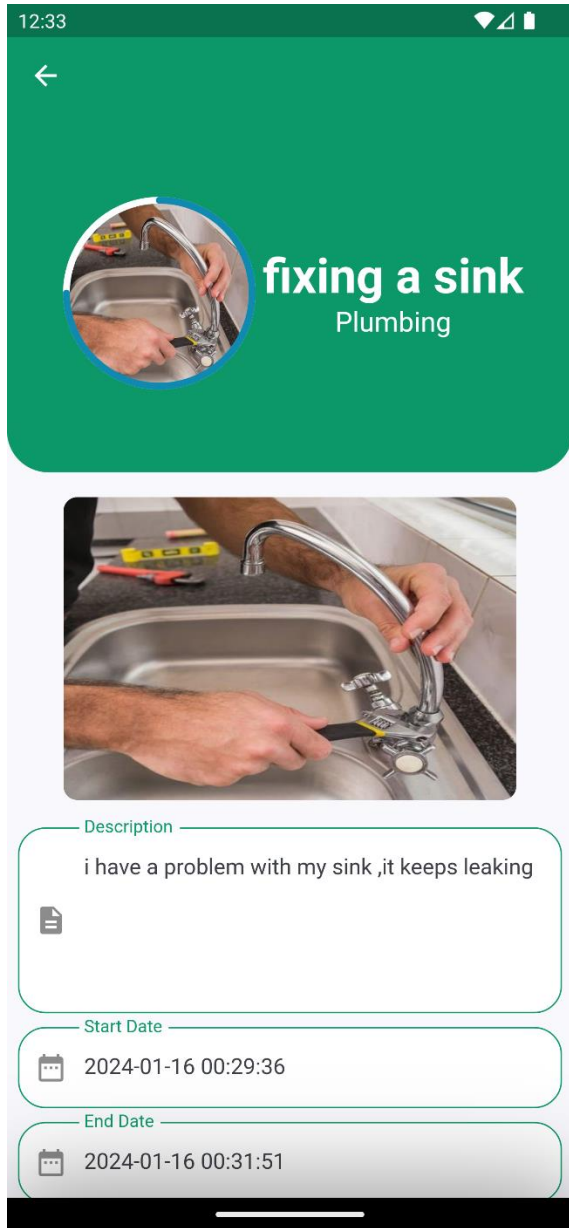


Figure 27:Task Details

If the type of the task was posted, when the user press on the task to see its details, there is workers offers buttons, if he presses on this button, he will see the offers that workers apply to his task and he can choose the offer he wants.

Also, when this task is assigned, he can cancel it and give fill a simple cancel form

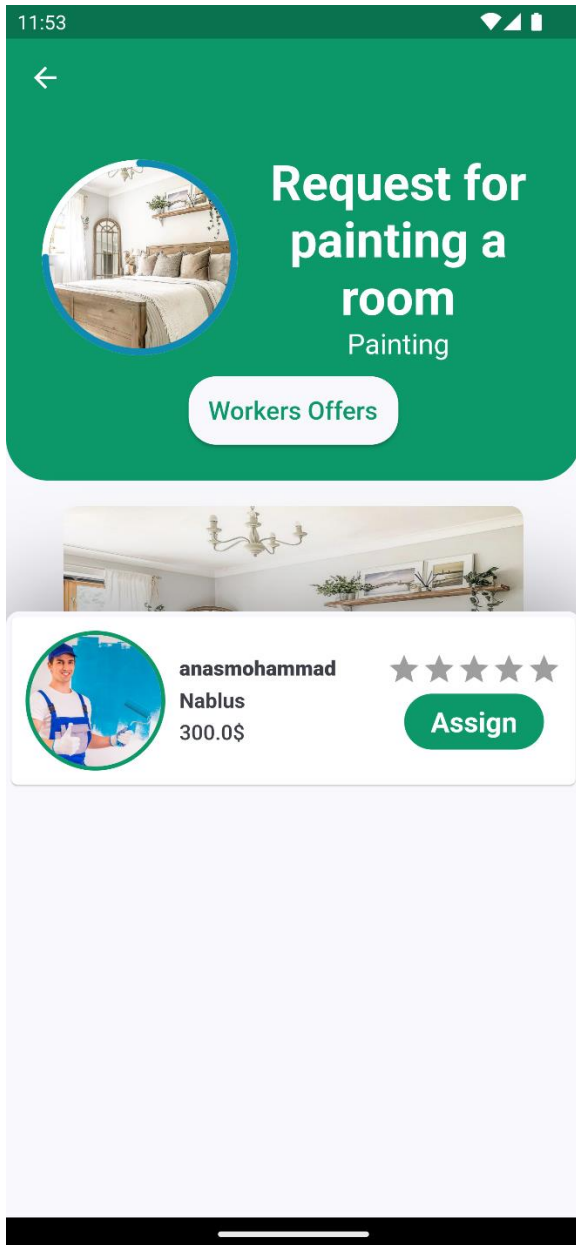


Figure 28: Workers Offers

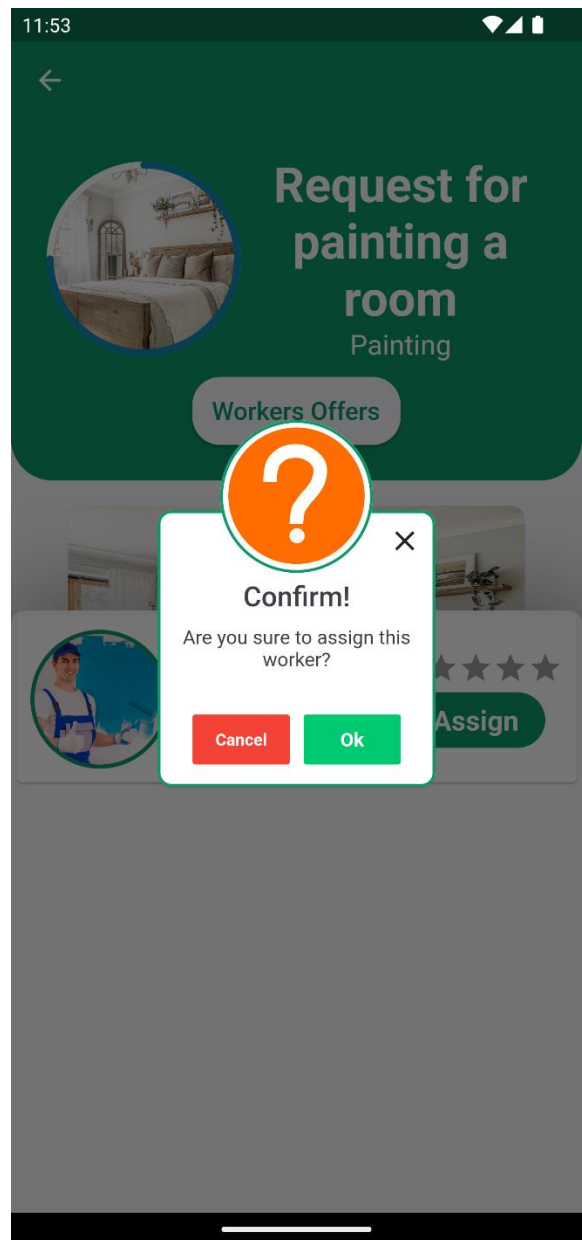


Figure 29: Confirm alert about the worker offer

Also, if the task is assigned, you can cancel the task by filling simple cancel form

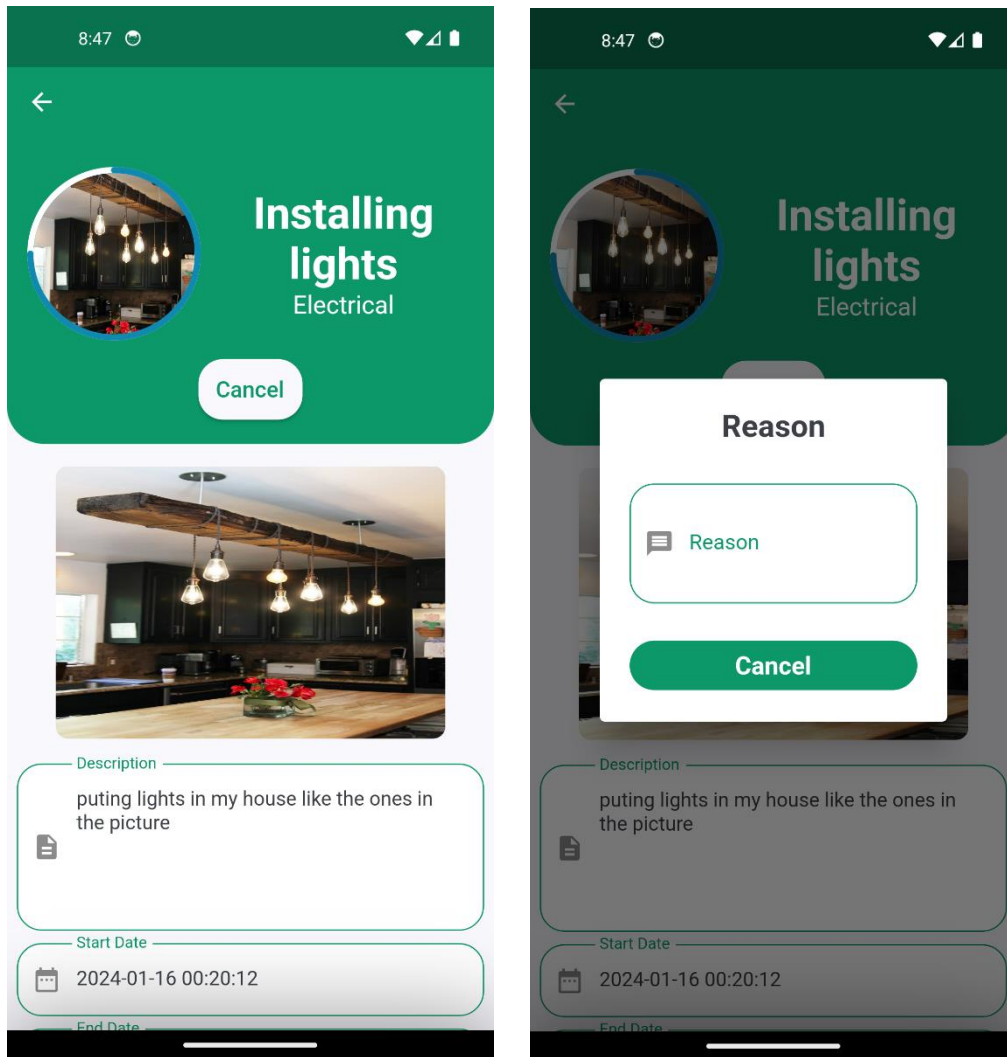


Figure 30 cancel a task

▪ Worker profile at the client account:

In this page, the client can see the details about the worker that he wants. he can see his picture and his name, his email and the category that he works at. Client can see his rate that people gave him. he can also put him in his favorites by pressing the favorite button and he can ask him to do him a task by pressing on the request a task button and this task will be added to requested tasks in the client task page. He can also chat with him by pressing on the chat button and the chat will be added to the chat page, client can also see his working location and some of his previous work.

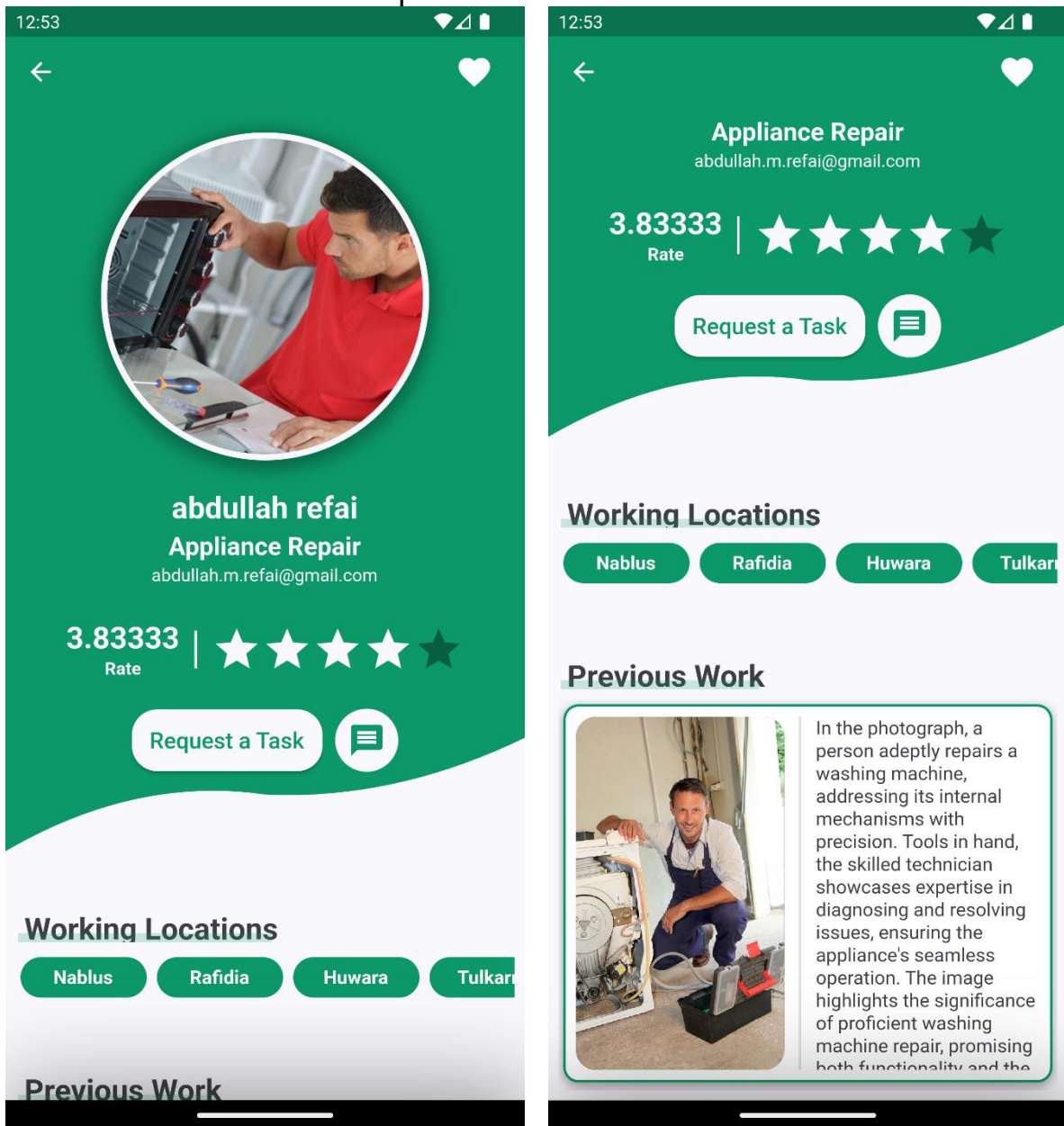


Figure 31: Worker Profile at client account

If the client presses on the request a task a bottom drawer will appear in which he puts the details of the task he wants.

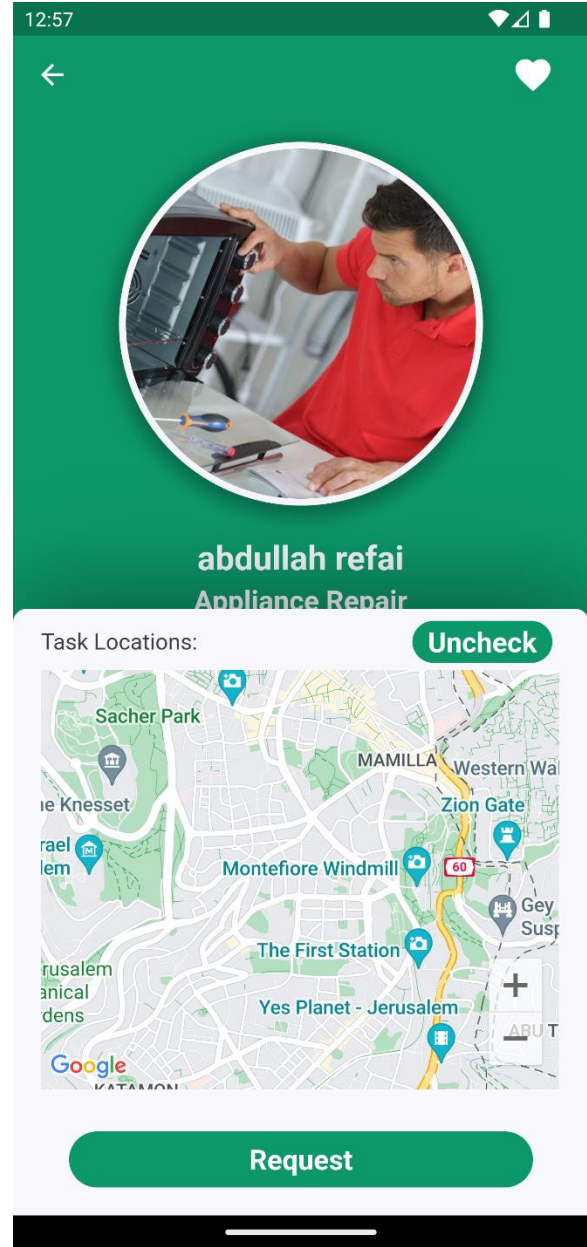
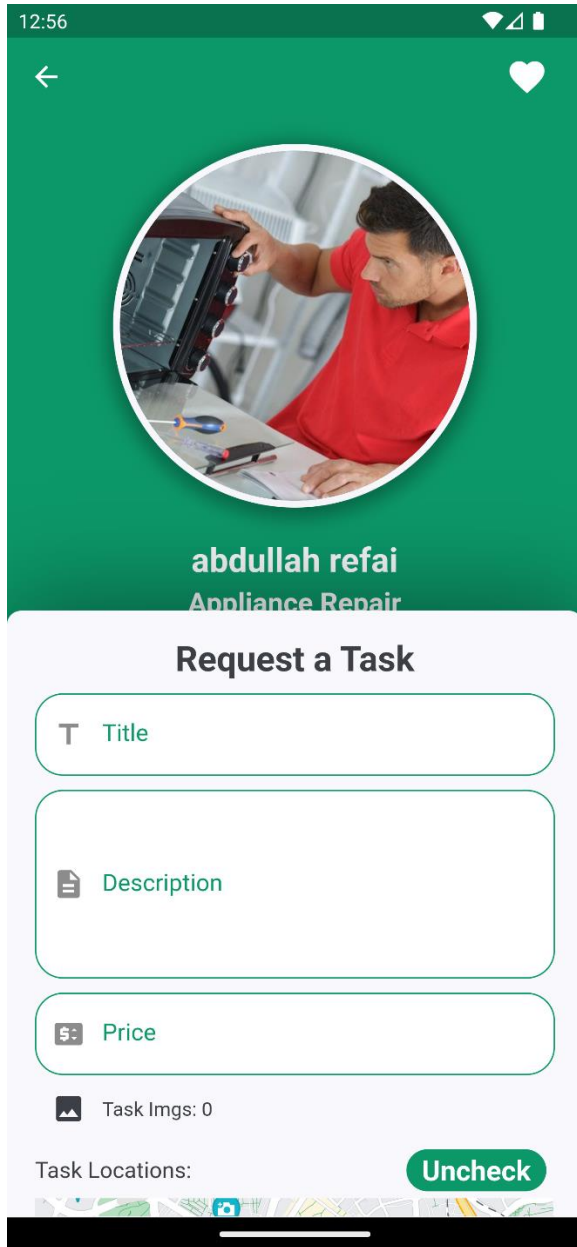


Figure 32: Request a Task

- **Drawer:**

Once the client presses on the drawer, profile picture and email address and name is going to appear, there is several options that he can choose like profile, change password, donation, contact us, and lookout, pressing on each one will give different screen.

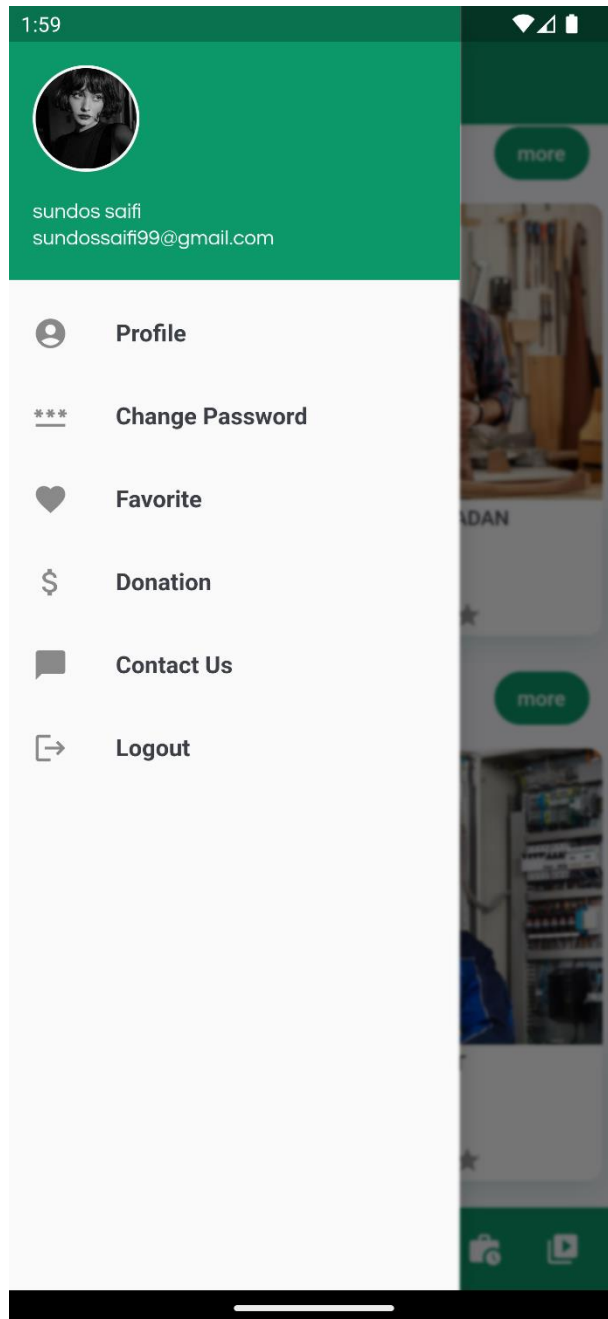


Figure 33:Drawer

- **Client Profile Page:**

In this page, the client can view his profile seeing his first name, last name, birthday, gender, city, email, and phone number, he can change his picture and modify anything he want and he can save changes or cancel them.

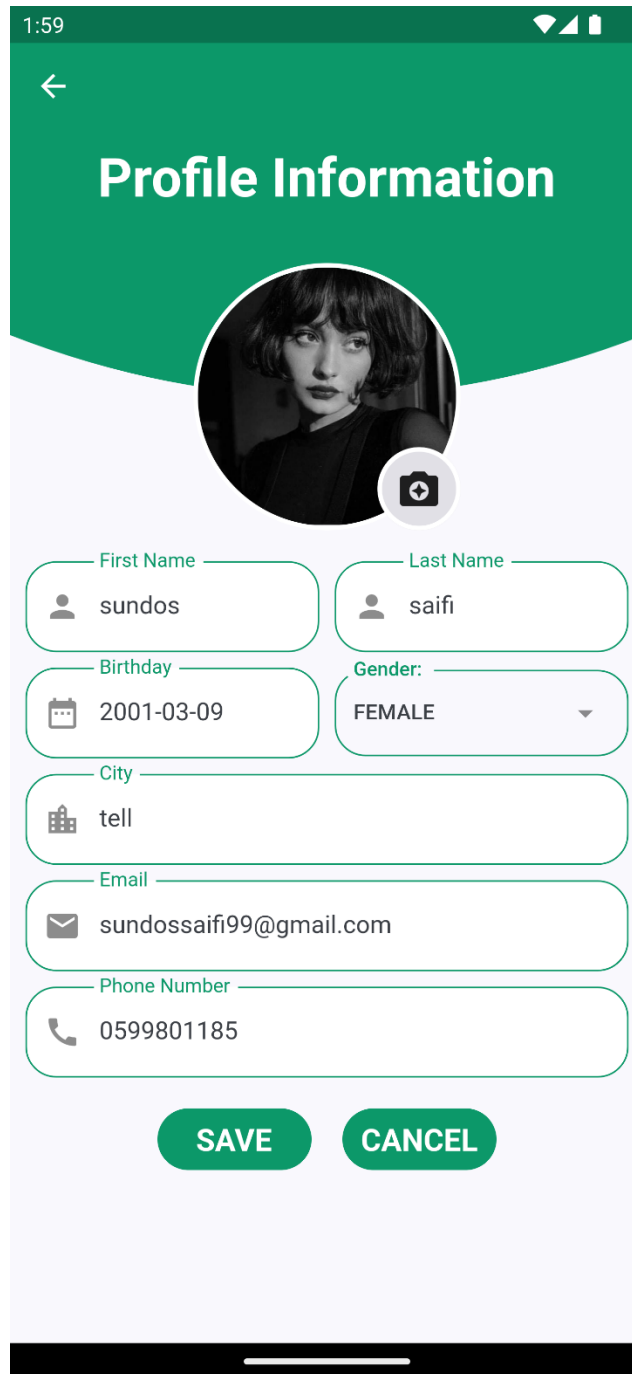


Figure 34: Client Profile

- **Change Password:**

once the client presses on change password, a change password dialogue will appear. This dialogue requires the client to put his old password and the new password and press the save button.

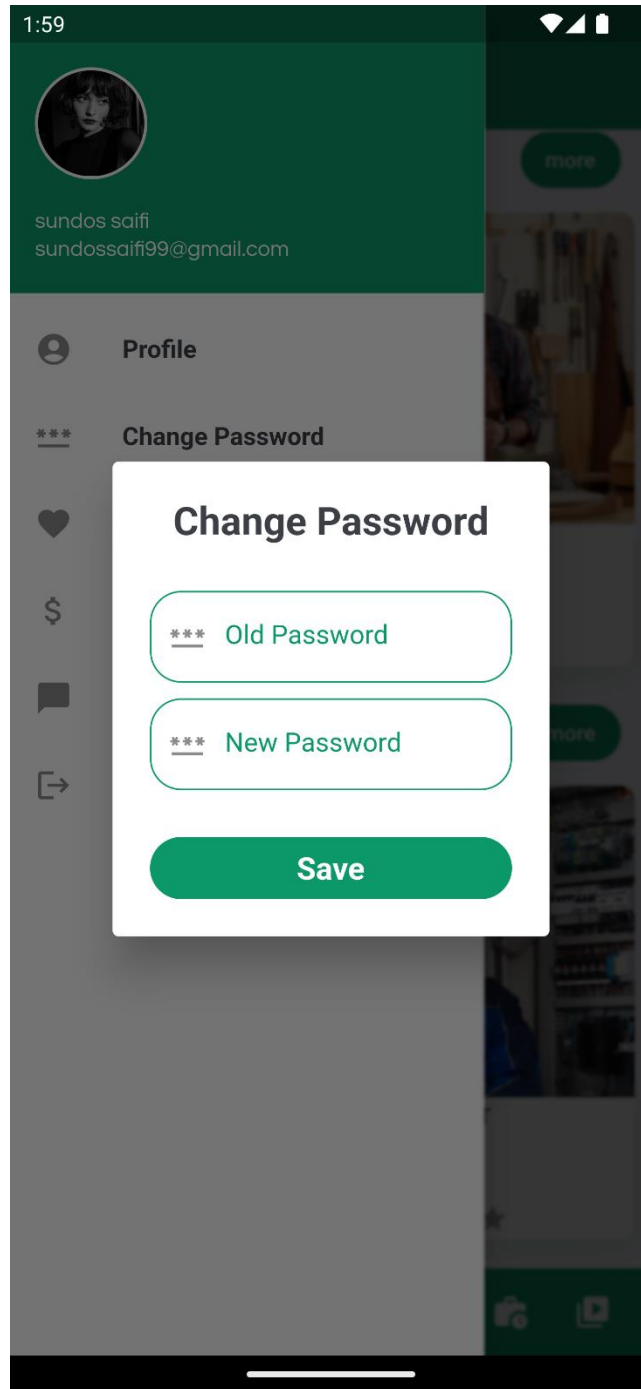


Figure 35:Change password

- Favorite Page:

In this page, all the workers that the client has already chose to put them in his favorites well appear.

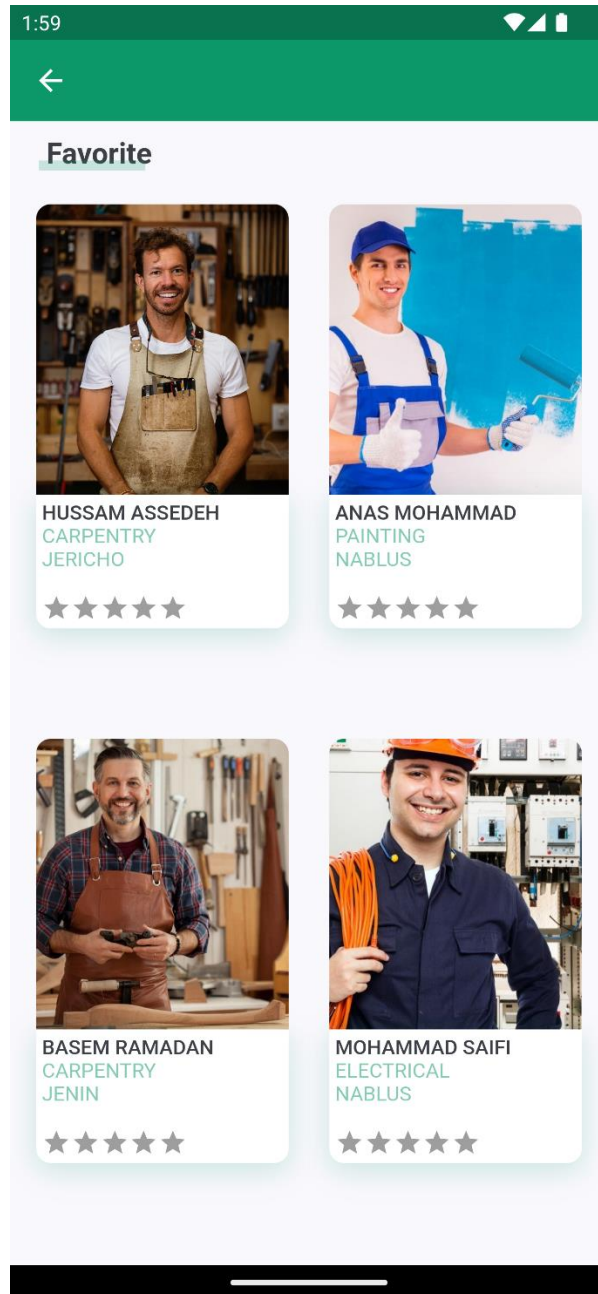


Figure 36: Favorite Page

- Donation Page:

In this page, the client can donate some money to Mr.Fix it application from one dollar to \$100 using PayPal.

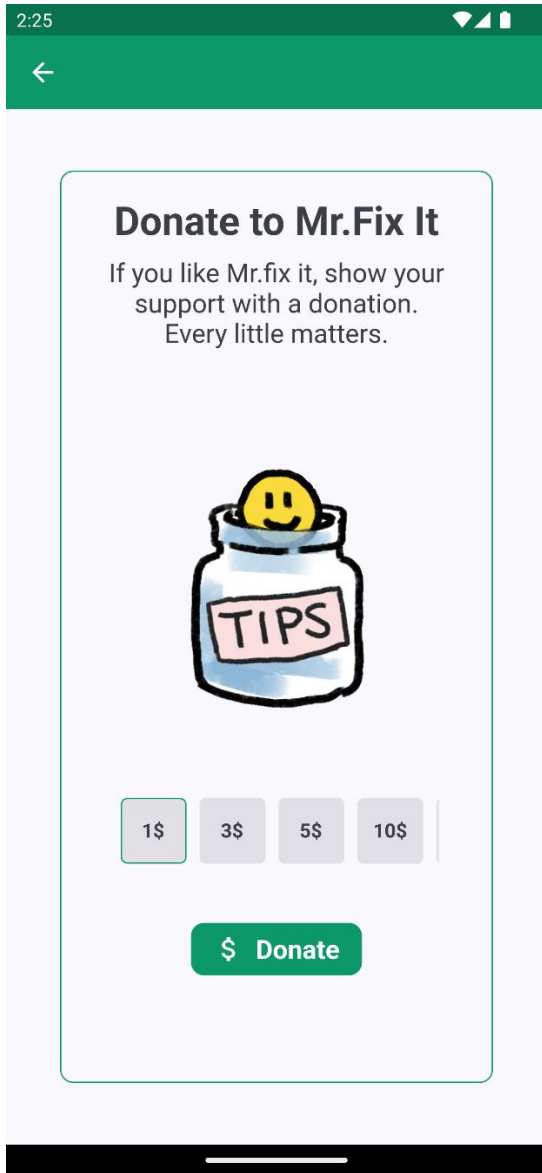


Figure 37:Donation Page

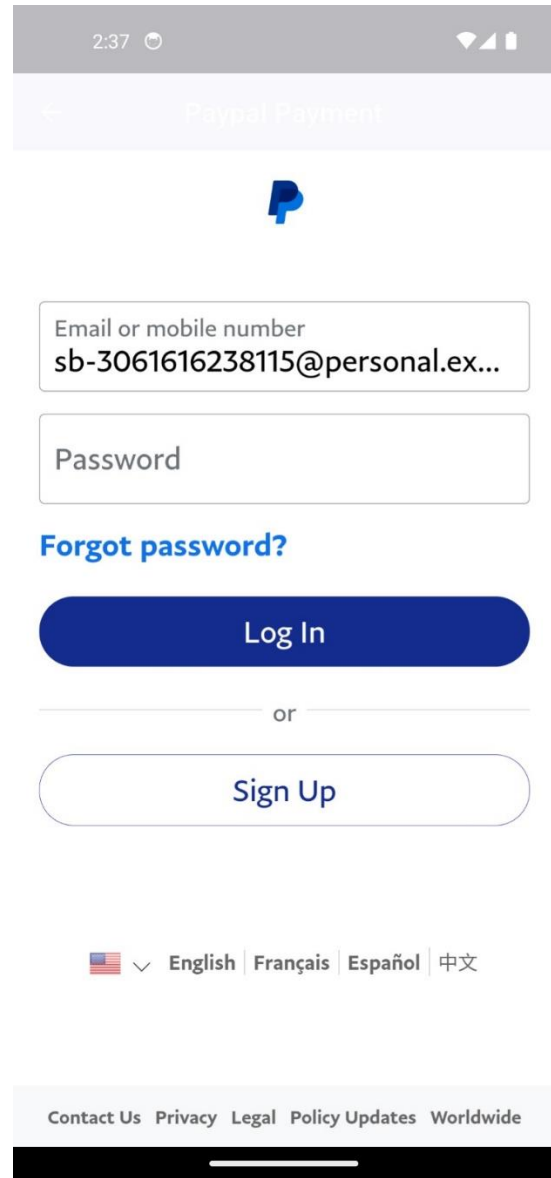


Figure 38:PayPal login page

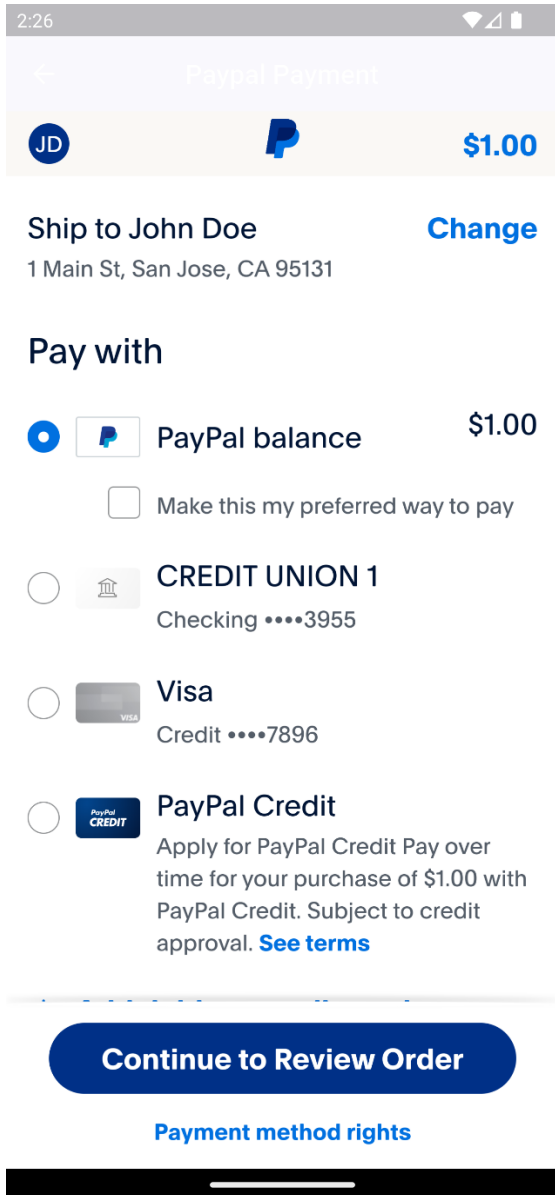


Figure 39:PayPal payment page

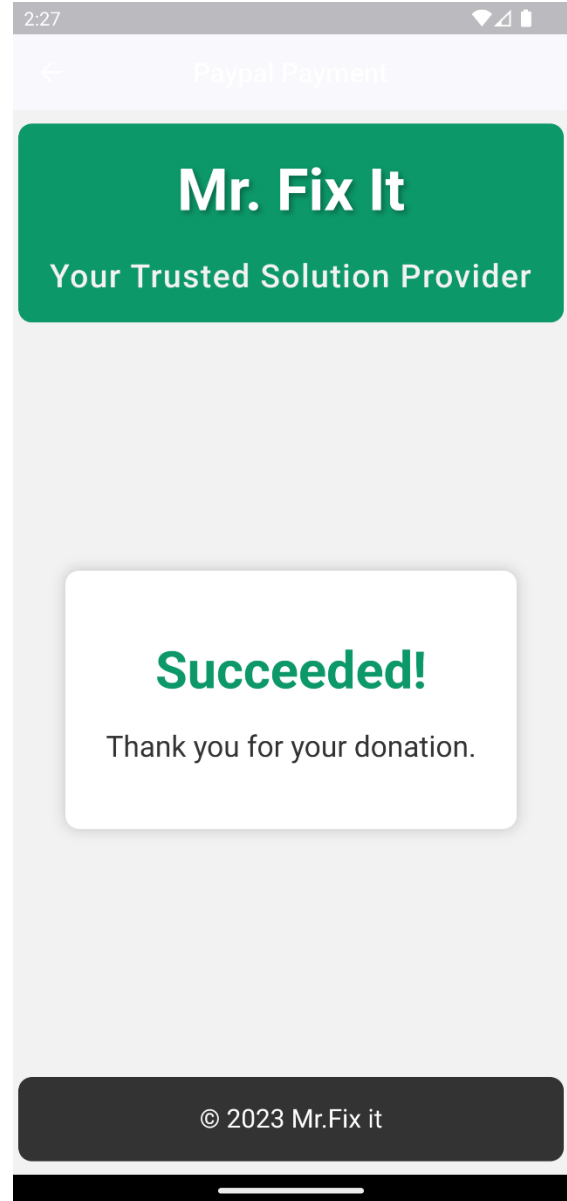


Figure 40:Payment Succeeded

- Contact us Page:

Once the client press this button, he will be transferred to our WhatsApp and contact with Mr.Fix it admins.

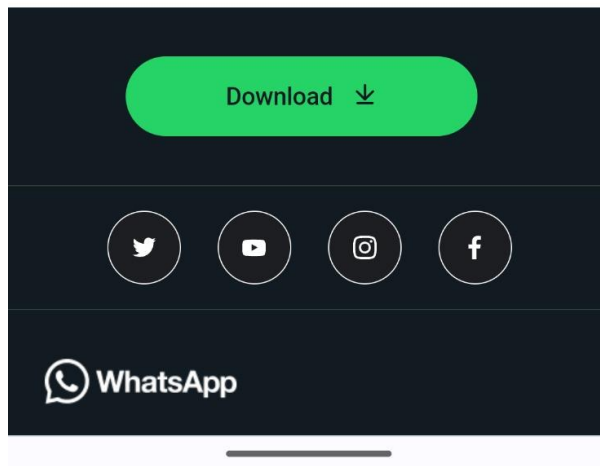
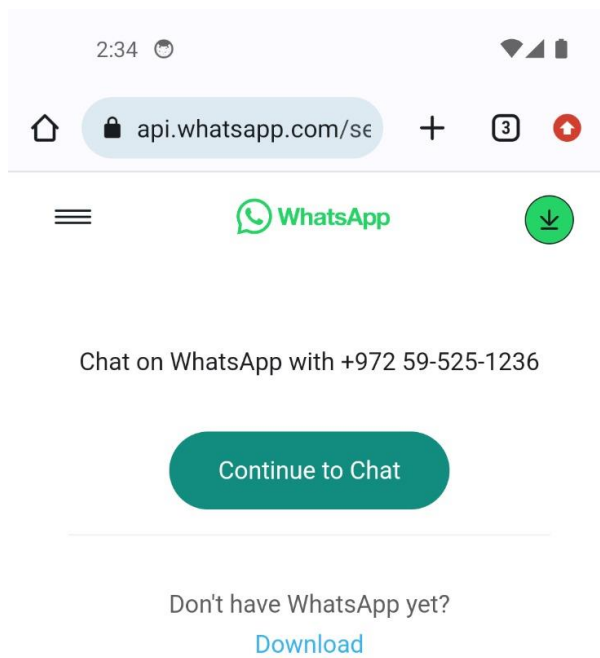


Figure 41:Contact Mr.Fix it through whatsapp

- Reels Page:

In this page the user can see reels posted by workers and comment on:

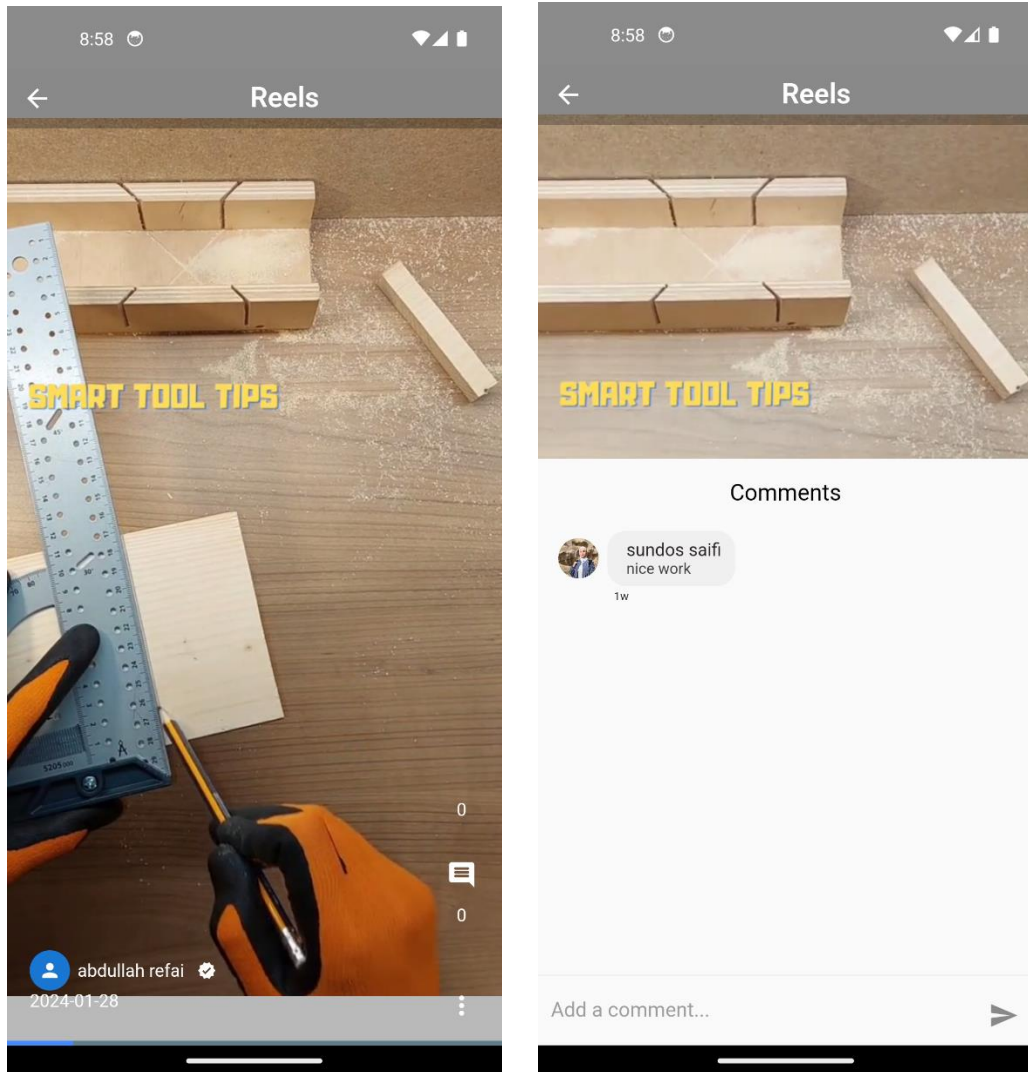


Figure 42 Reels Page

➤ Worker Account:

▪ Tasks Page:

when the worker login to his account, the tasks page will appear, in this page he will see the search field at first, using this field he can search any task he wants and he can press the sort button to order these tasks according to their dates. under the search field he can see status part, in this part, he can see the all tasks status, and the total number of each task in each status, he can press on any status he wants, and it will appear in my tasks part below the status part. In my tasks part of this page, he can see all the tasks that he has or the tasks that he has at specific location and he can choose its status from the status part.

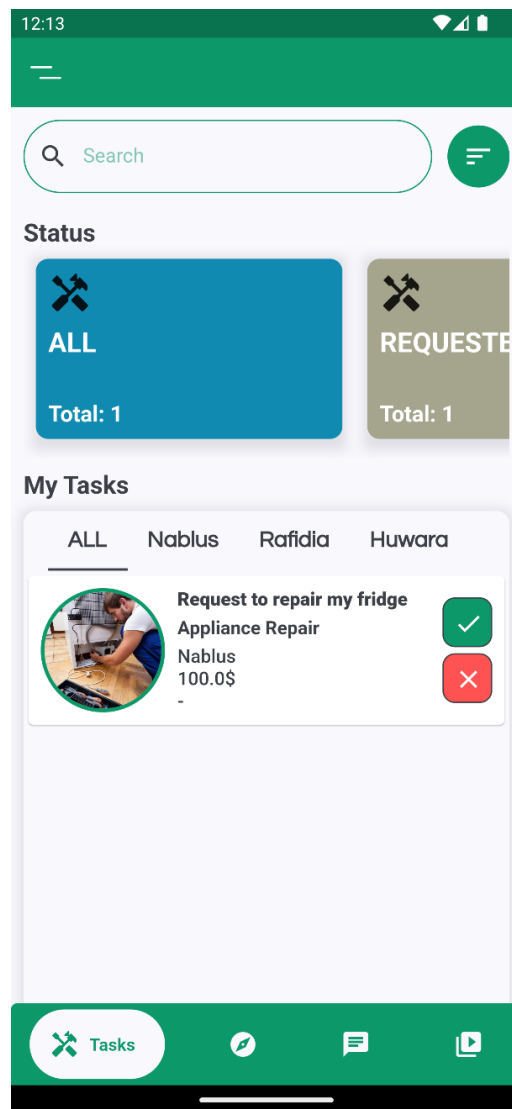


Figure 43: Worker Tasks Page

The worker can accept the task or decline it.

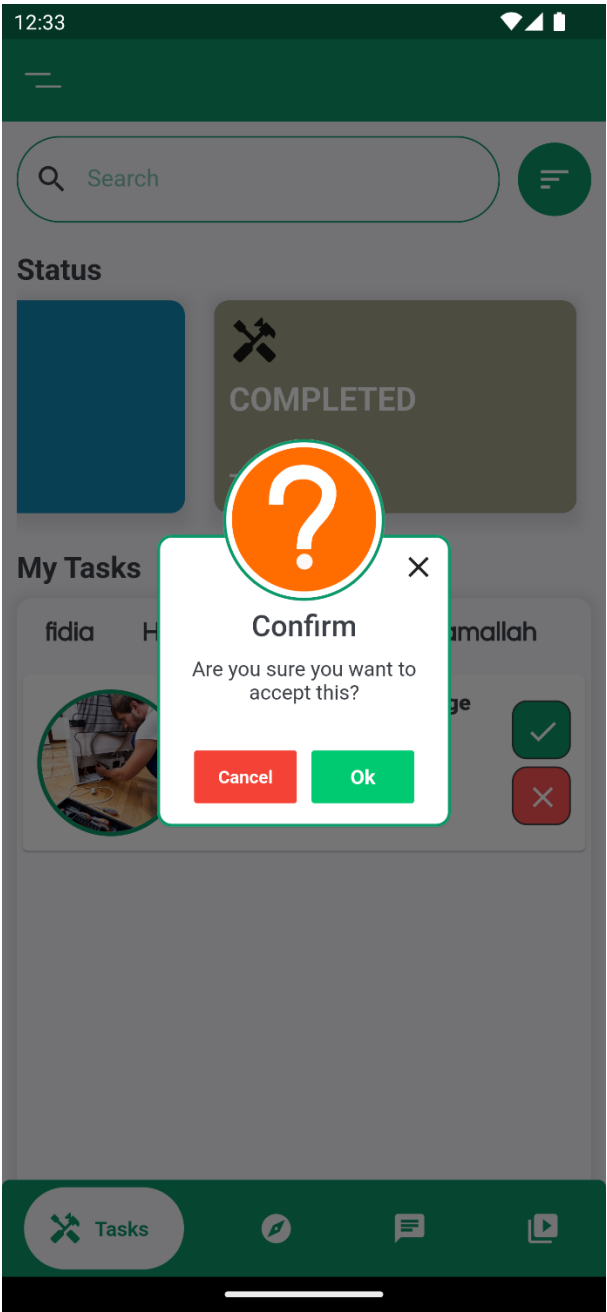


Figure 44:Accept task alert for worker

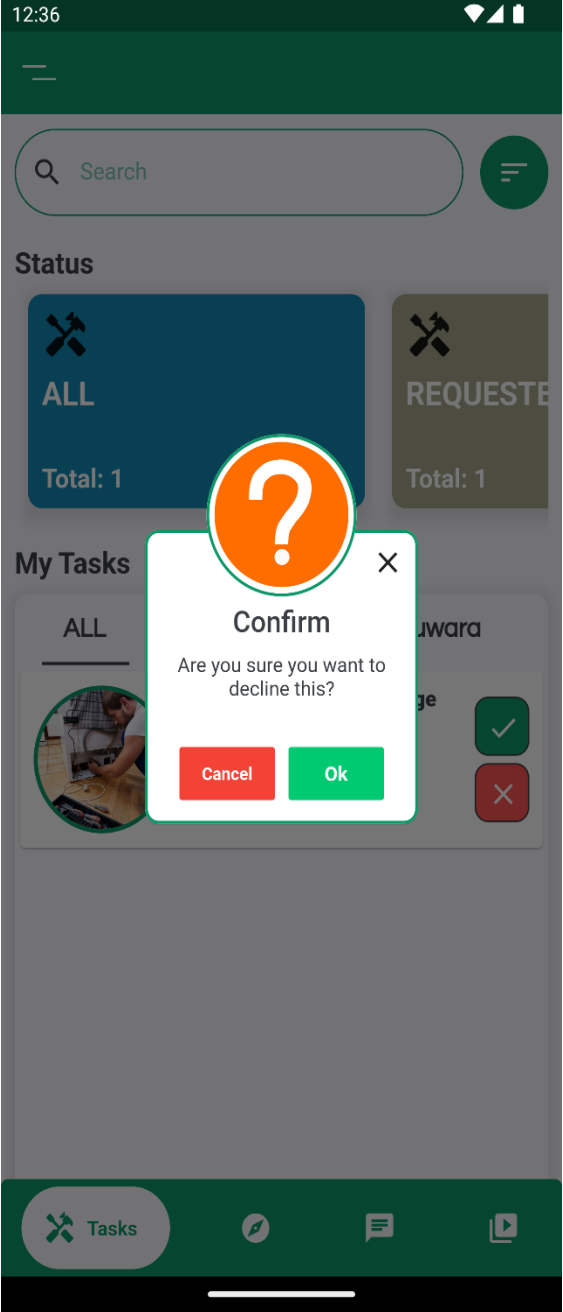


Figure 45:Decline task alert for worker

The worker can also see the details of any task he wants by pressing on that task, he will be transferred to the task page and he can see its details like description and the location of the task.

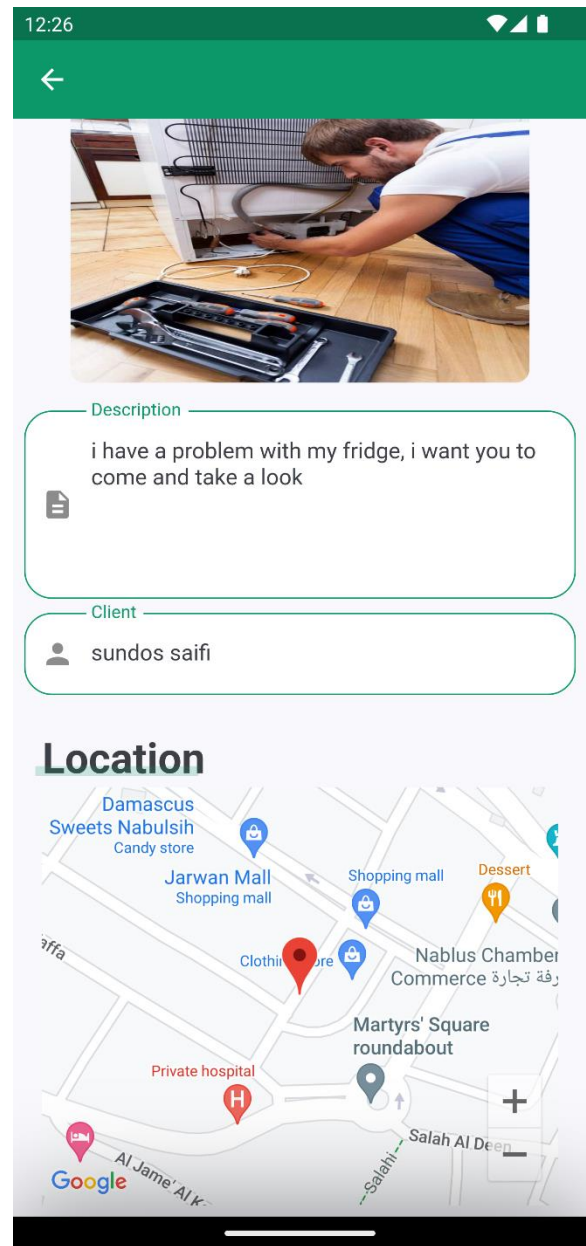
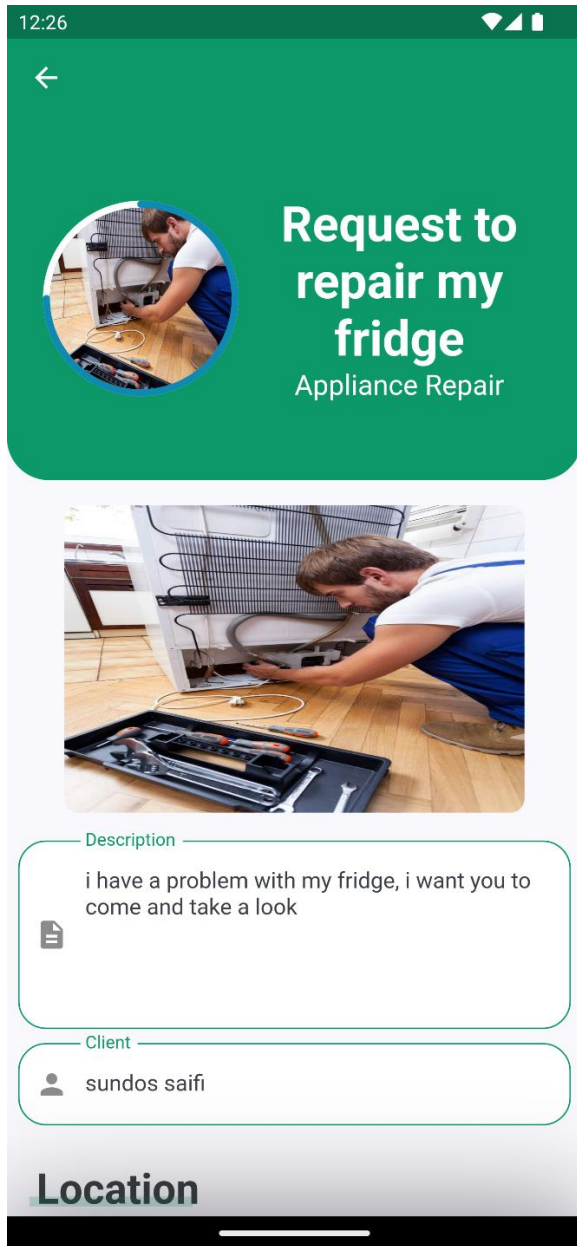


Figure 46: Worker task description

Also, can see his client contact information by pressing on client name

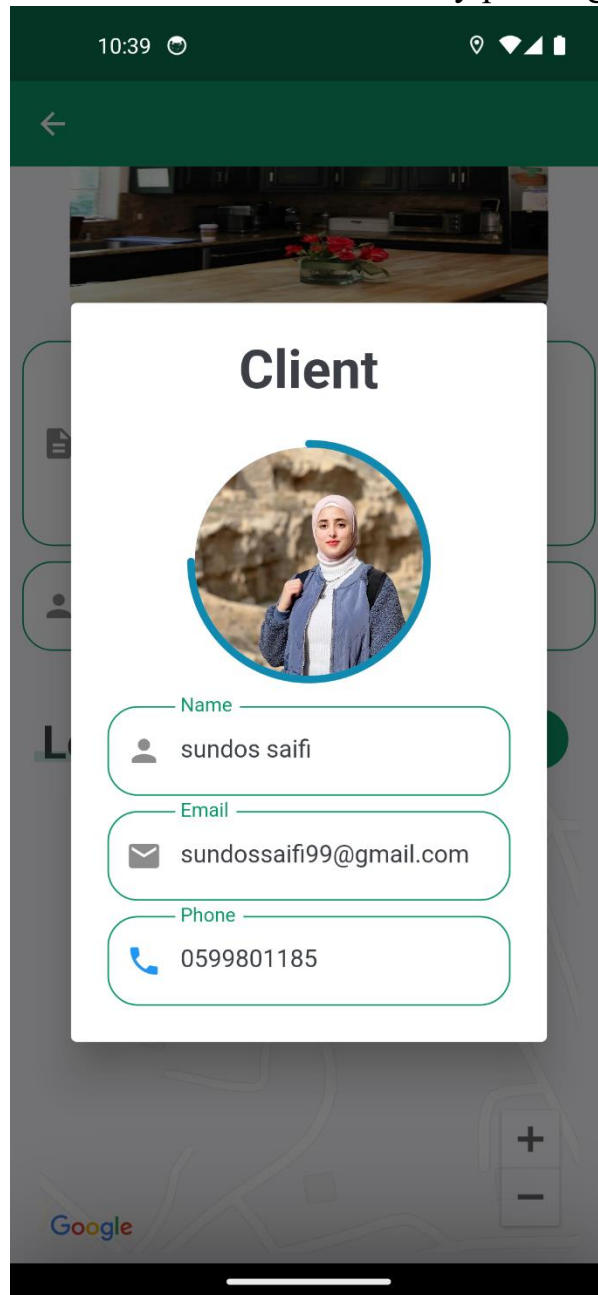


Figure 47Client Contact Information

Also, for his assigned tasks he can use maps to navigate to task location from his current position (real time navigation)

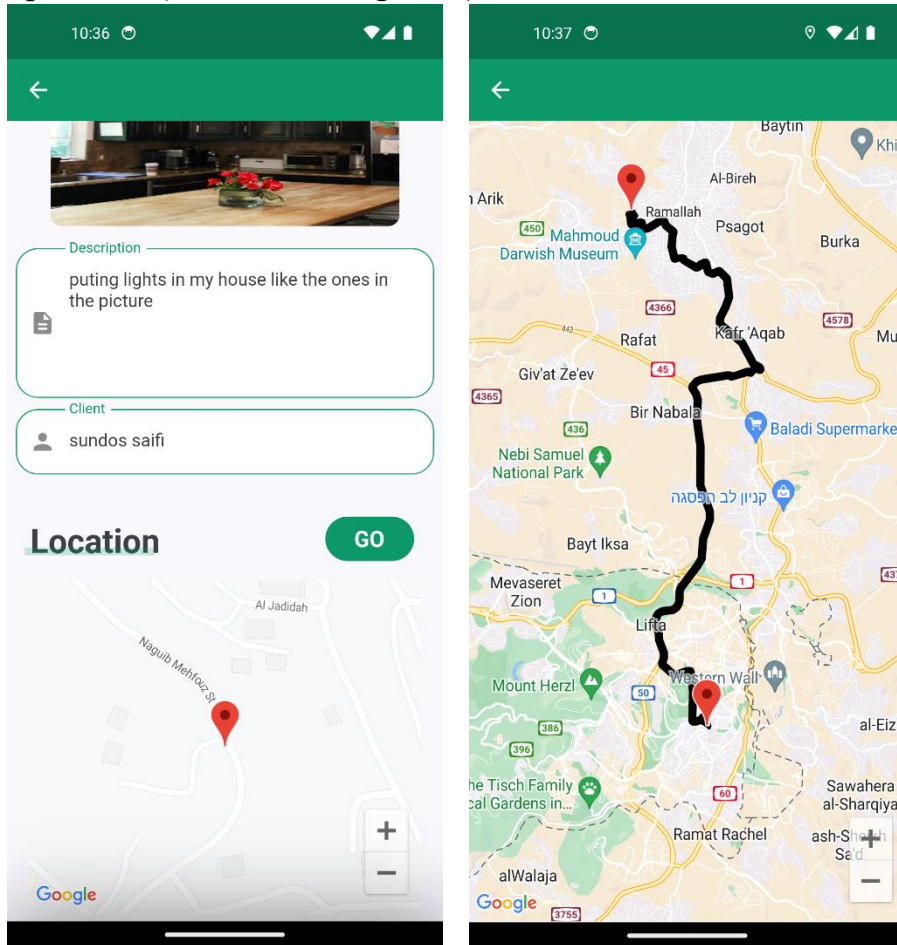


Figure 48 Task Location Navigation

- Discover Page:

In this page, at first there is the search field that the worker can use to search for some tasks in it. Then there is a type field, in this field he can see the types of the posted tasks like tender and post, and he can see the total number of each posted task type, any client can post a task to obtain a worker for doing it, each client in this page will get posted tasks that matches his working location and his category, then there is the tasks part, in this part, he can see all the tasks or the tasks in a specific working location that he works at.

If the worker press on the task, he will be able to see its details, like in the tasks page.

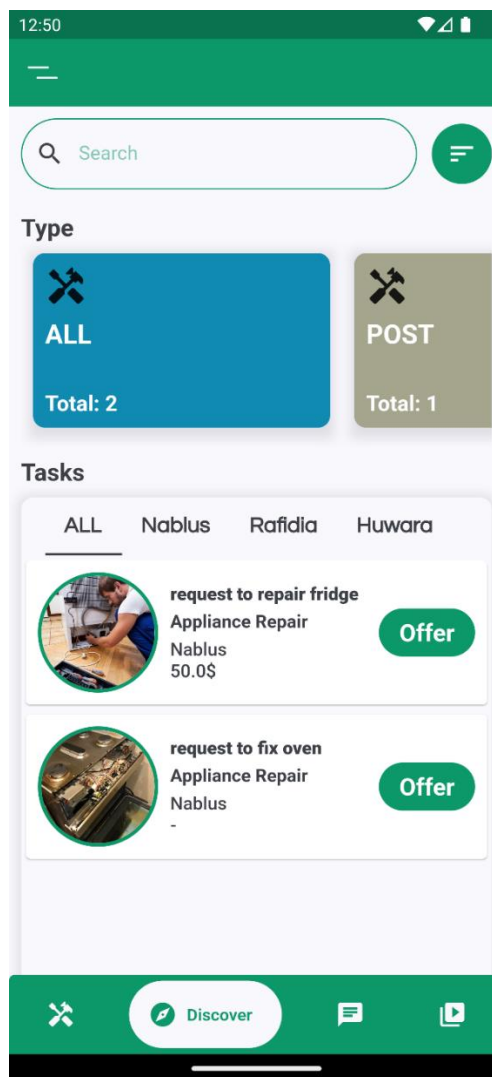


Figure 49: Discover Page For Worker

There are two types of tasks that he can put offer at, the first one is post, in this type there is a specific price that the client has already put in the description of the task so when he offered to take this task A confirmation alert will appear for him to confirm that he wants to take the task, and if the type was tender, a task price offer dialog to put a price will appear for him and for both offers types the user can see all offers and see the workers profiles and decide the best offer that he satisfy with.

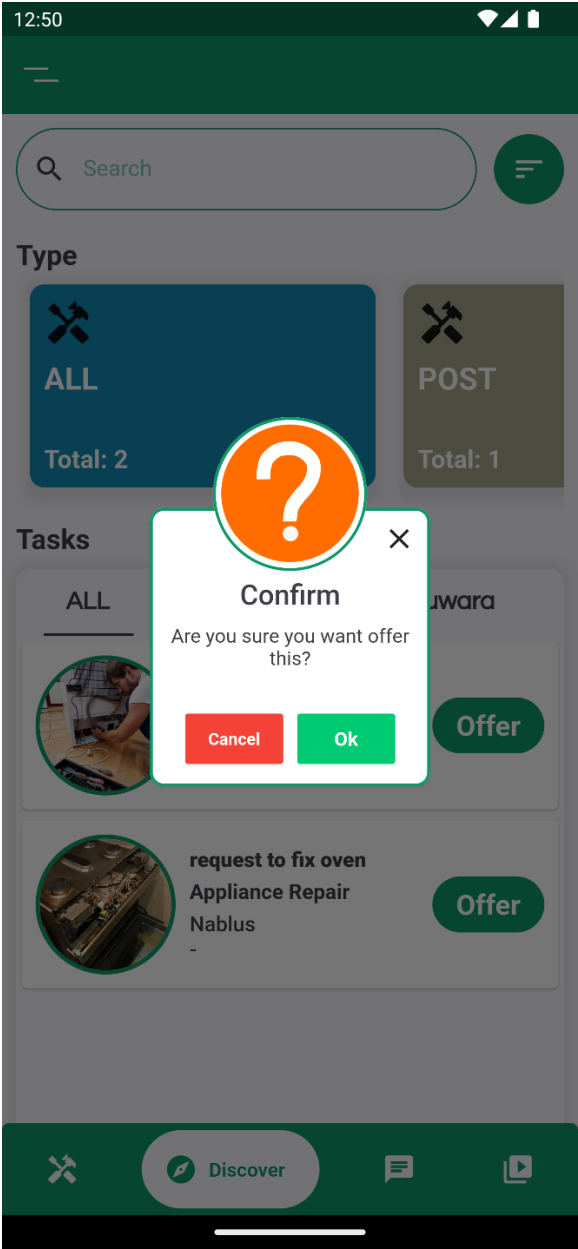


Figure 50:Alert message to confirm the offer

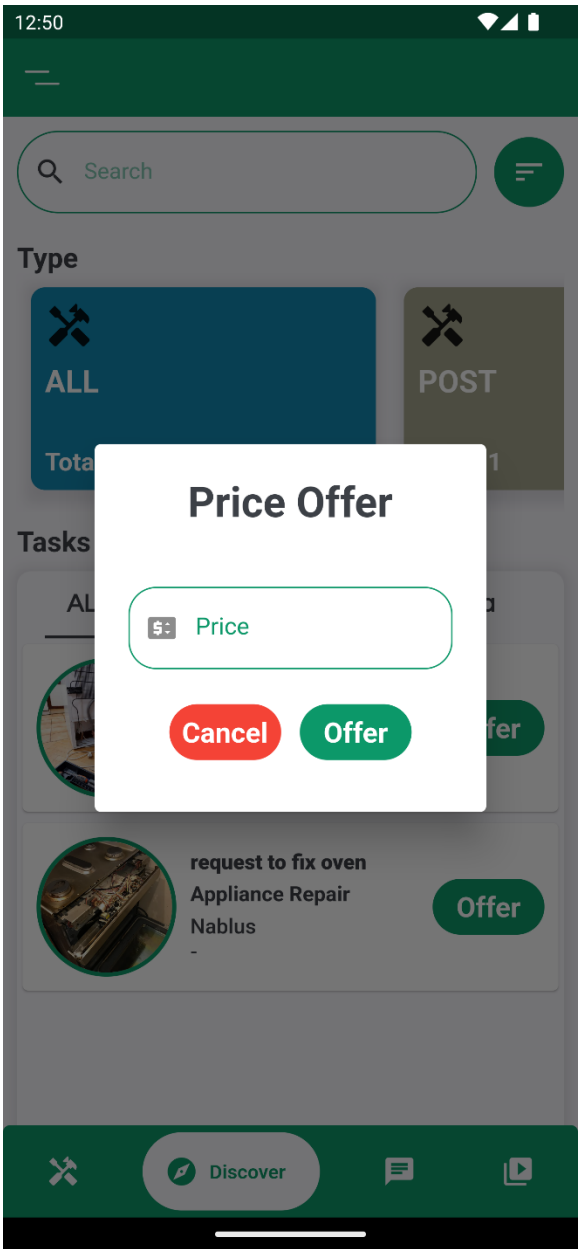


Figure 51:Task price offer dialog

- Chat Page:

In this page, the worker will have all the chats that he had with clients and there is a search field that he can use to search for a specific client's chat. Once the worker press on any conversation the chat will appear and he can send messages, pictures and he can make audio and video meetings.

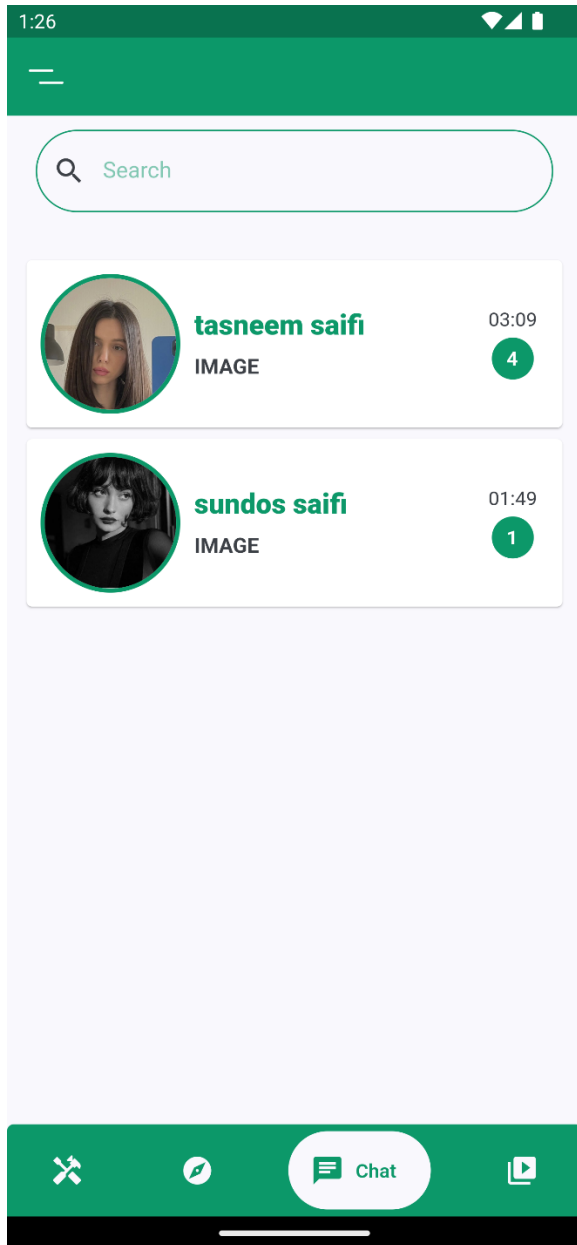


Figure 52:Chat Page for worker

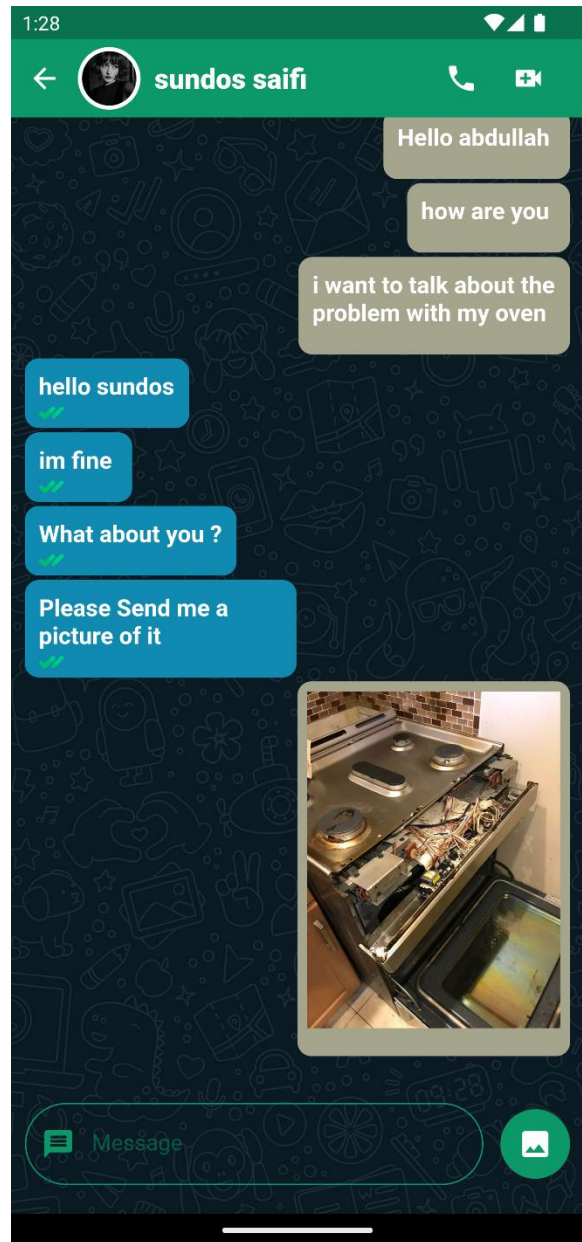


Figure 53:Conversation at worker profile

- **Drawer:**

The worker can press on the drawer in order to see and edit his profile, working locations, previous works, post reels, change his password, make some donations, make a premium subscription in order to appear in the featured section in the client app, or press on the contact us to contact with the admin of the application.

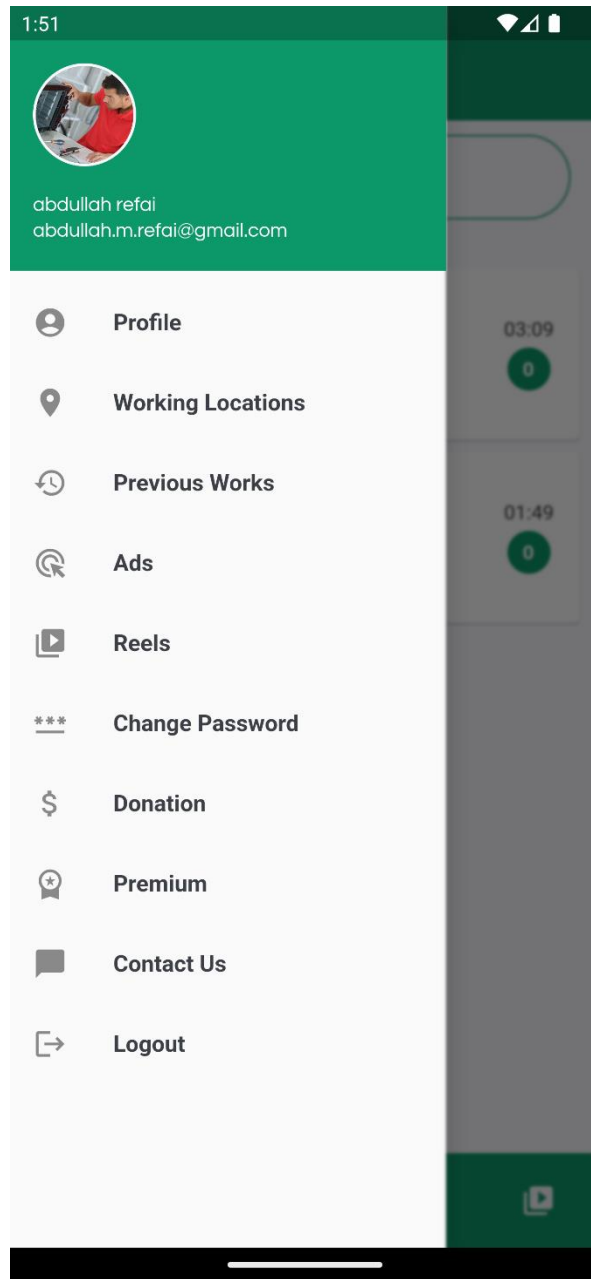


Figure 54:Drawer at worker's app

- Worker Profile Page:

In this page, the worker can view his profile seeing his first name, last name, birthday, gender, city, email, and phone number, he can change his picture and modify anything he want and he can save changes or cancel them.

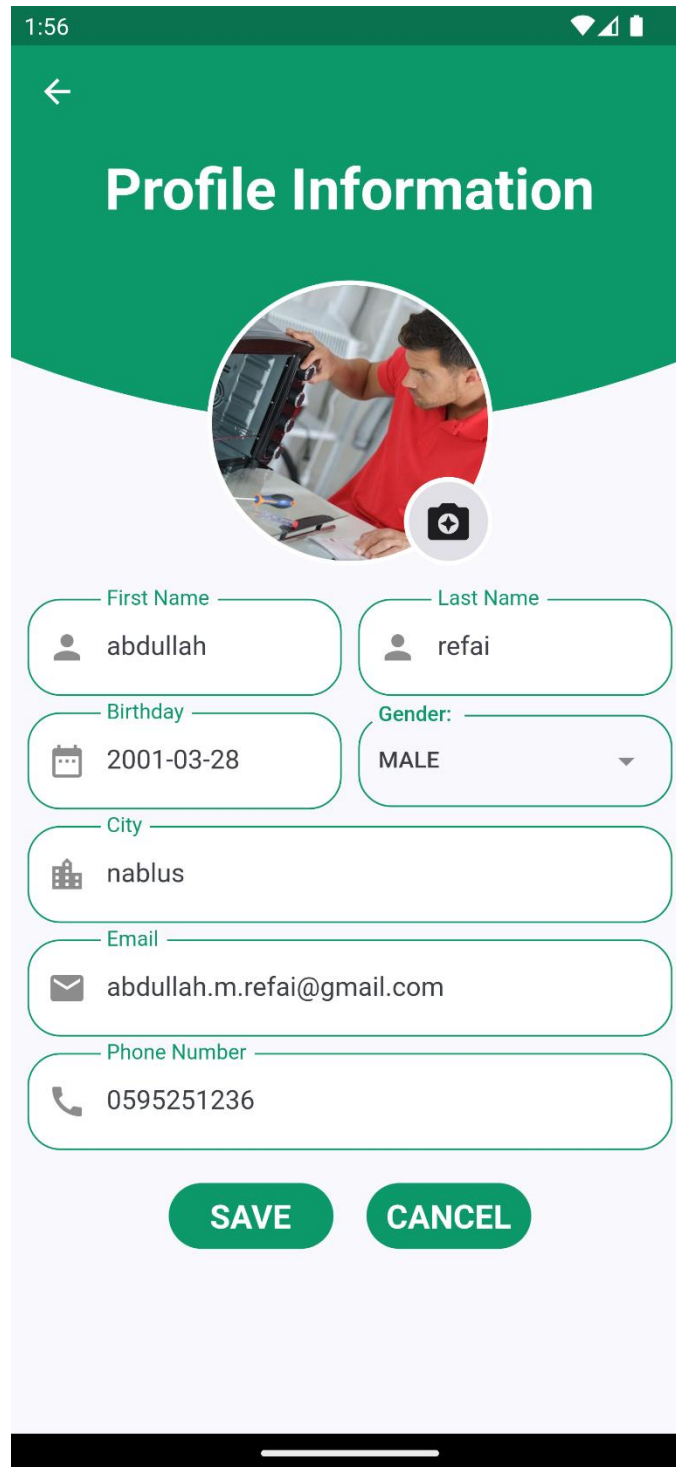


Figure 55: Worker Profile Page

- Working Locations:

In this page the worker can manage his working locations, he can delete existing ones or add new working locations.

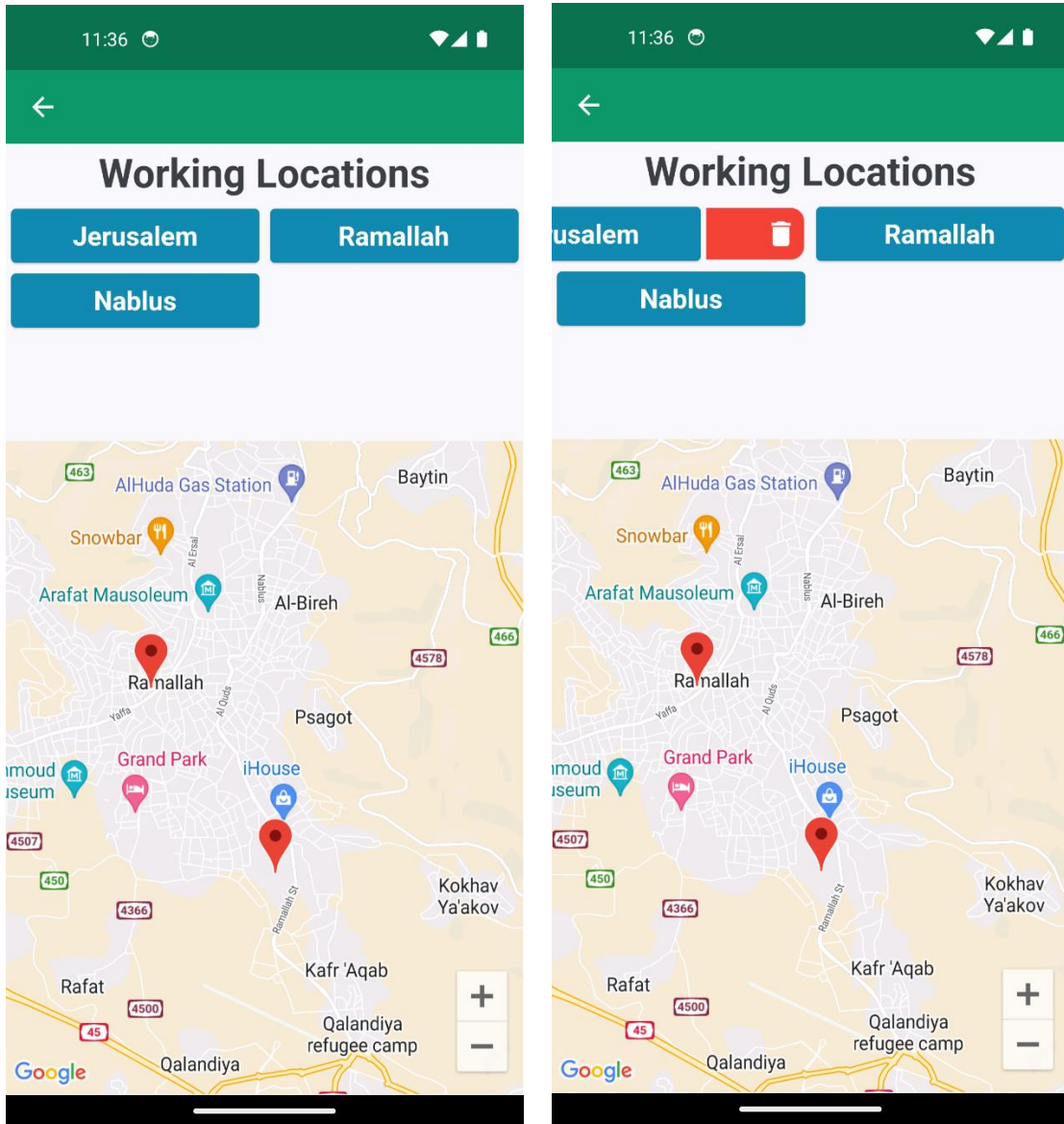


Figure 56 Worker Working Locations

▪ Previous Work Page:

In this page, the worker can add pictures and description of his previous work in order to appear in his profile for the client. He can also delete any previous work that he added by pressing on the three points on the top right corner and press on delete.

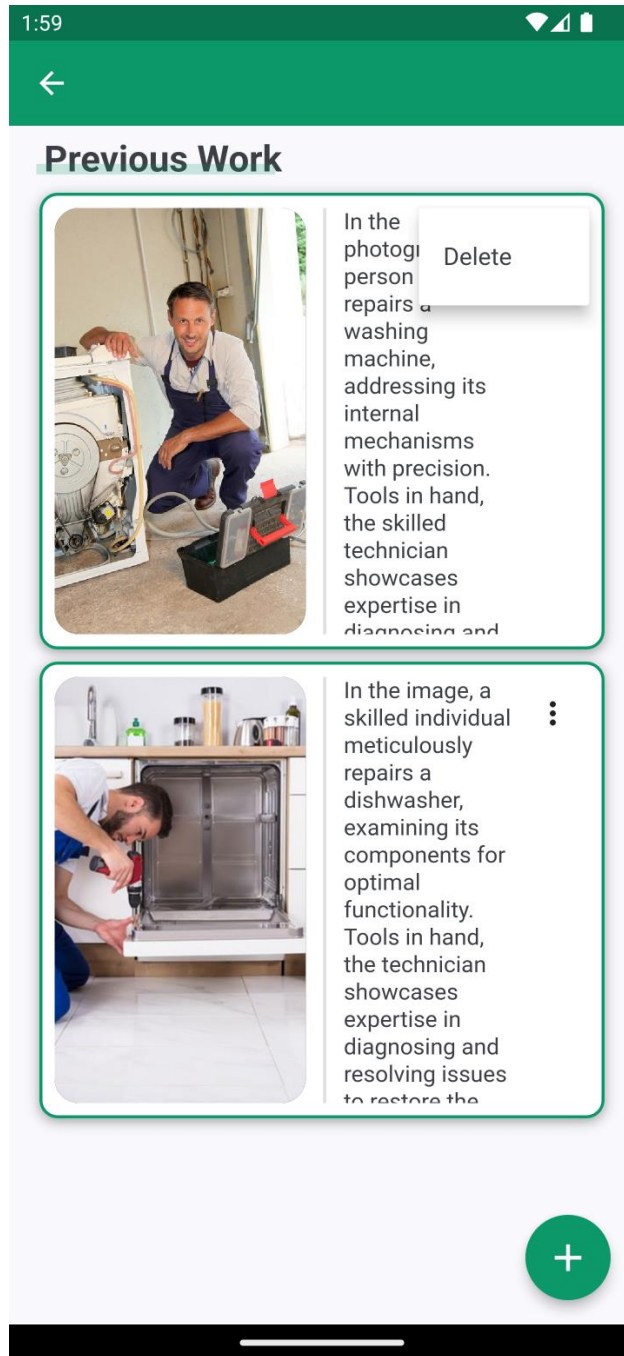


Figure 57: Previous Work Page

If the worker wants to add a new previous work, he needs to press on the plus button on the right bottom corner, when he does this, a dialog will appear for him so he can write the description of the previous work and add picture. He can also see the picture up closely by pressing on it.

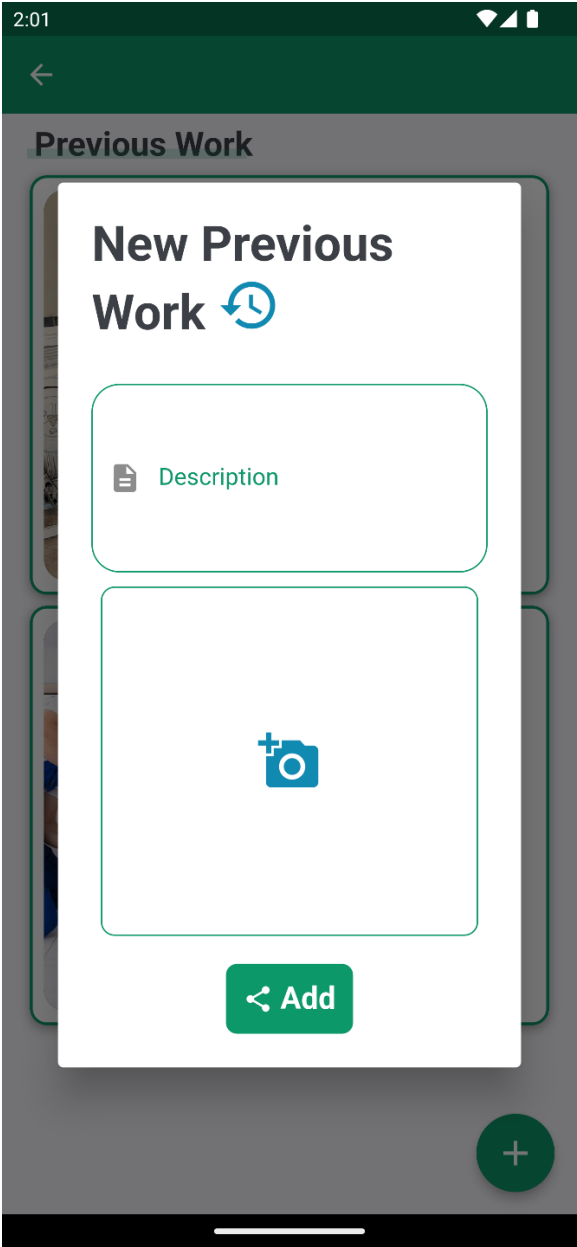


Figure 58:Add Previous Work Dialog

- **ADS Page:**

In this page, the worker can post or delete some ads in order to appear in the ads section in the client application. He can delete the ad by pressing on the three points in the top right corner.

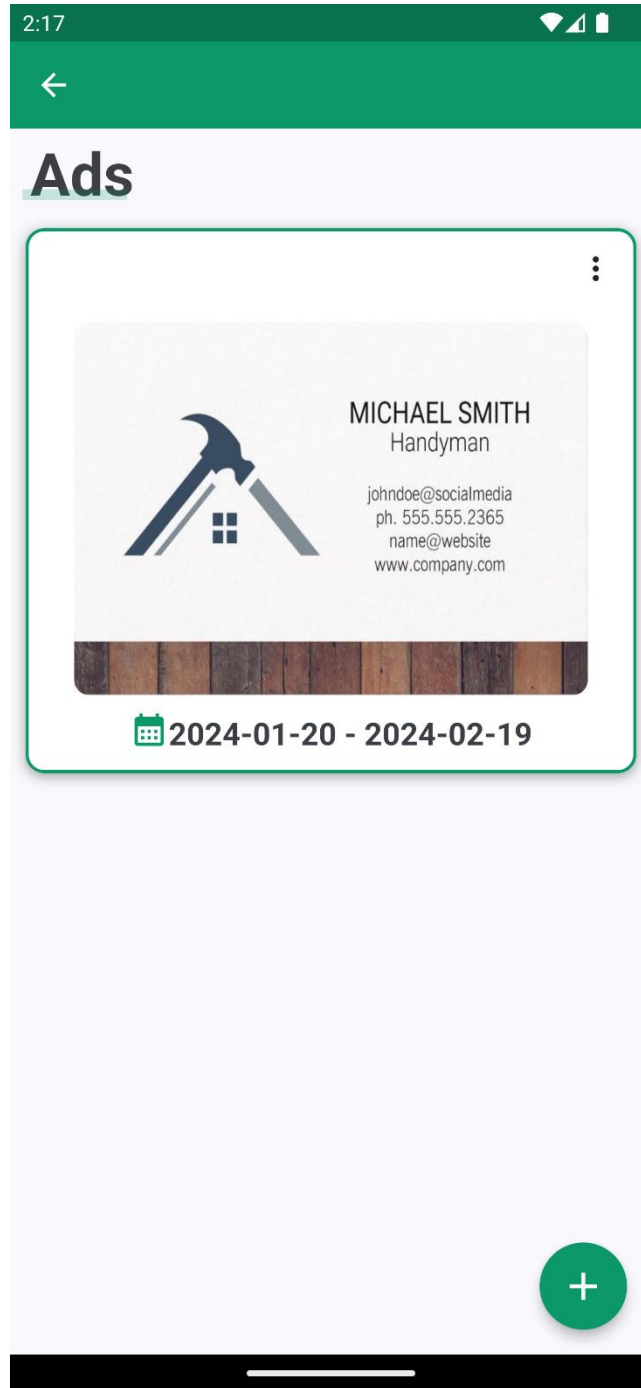


Figure 59: Ads page in workers application

If the worker wants to post a new ad he has to press on the plus button in the bottom right corner and a dialogue will appear for him to add the picture of the ad and he has to pay \$5 using PayPal to complete the process.

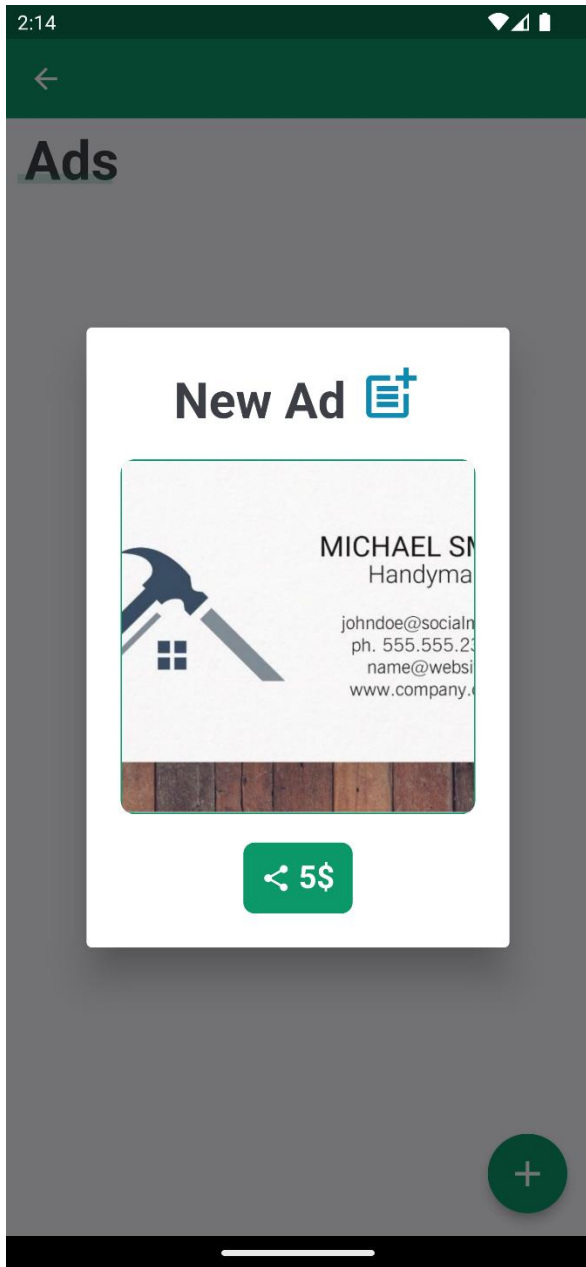


Figure 60:Post New Ad dialog

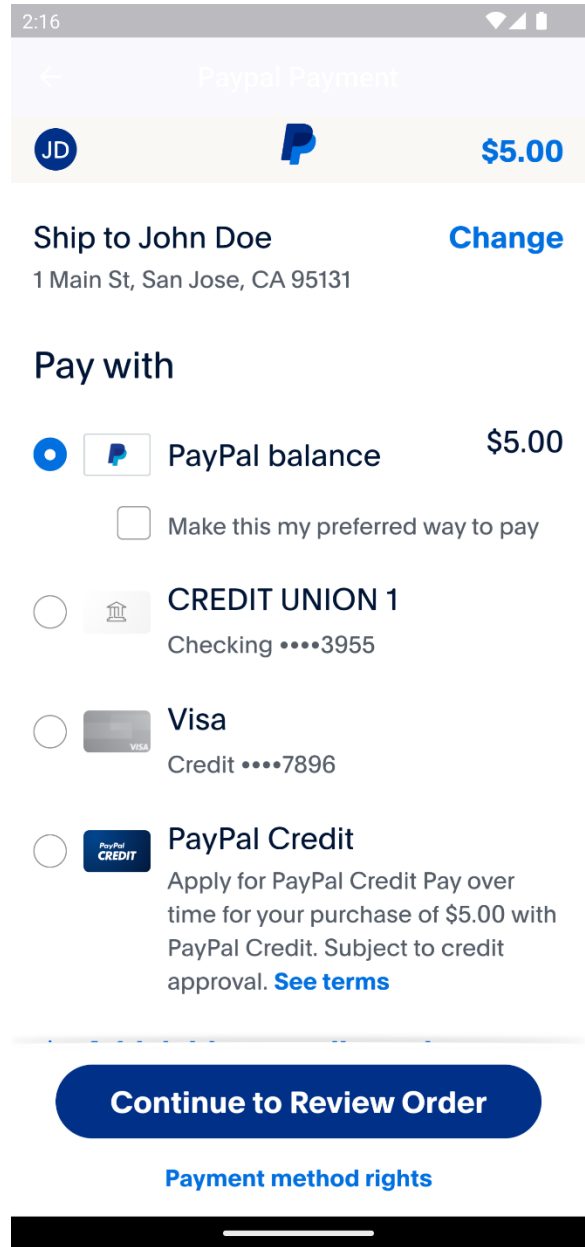


Figure 61:Payment for the Ad using PayPal

When the process of posting new ad is complete, this alert will appear.

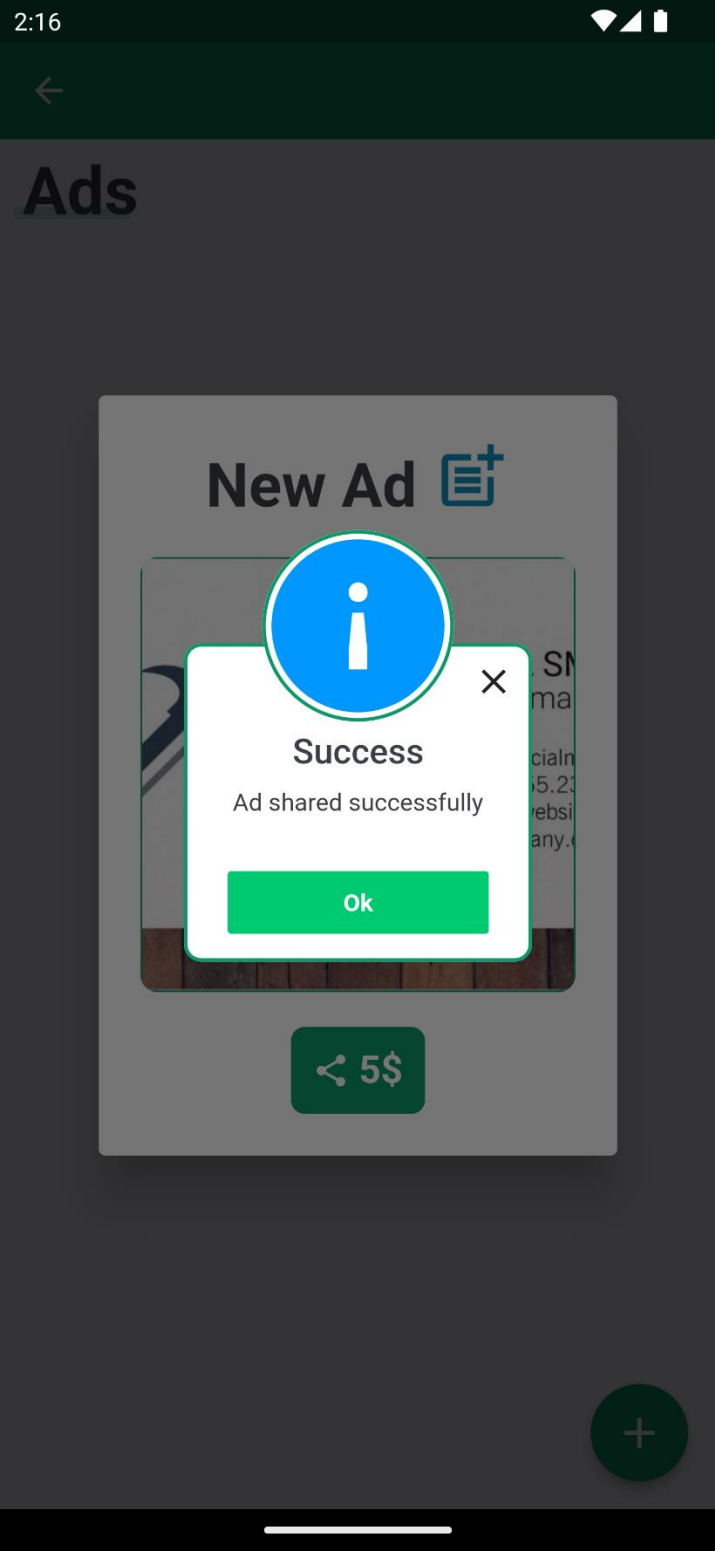


Figure 62:Ad shared successfully alert

- Reels page

In this page the worker can manages his reels by creating new ones or delete old one and read comments.

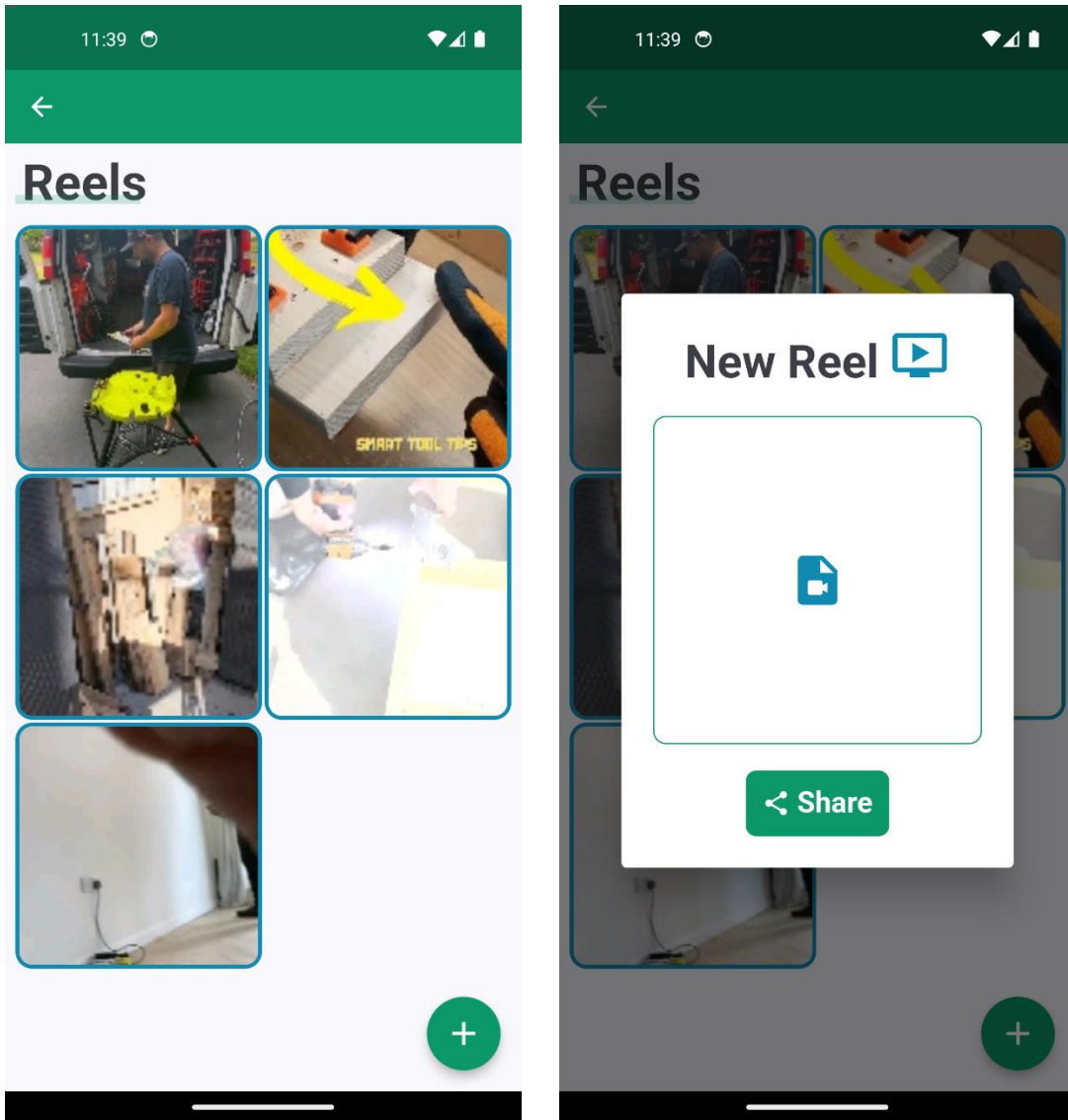


Figure 63 Worker Reels Page 1

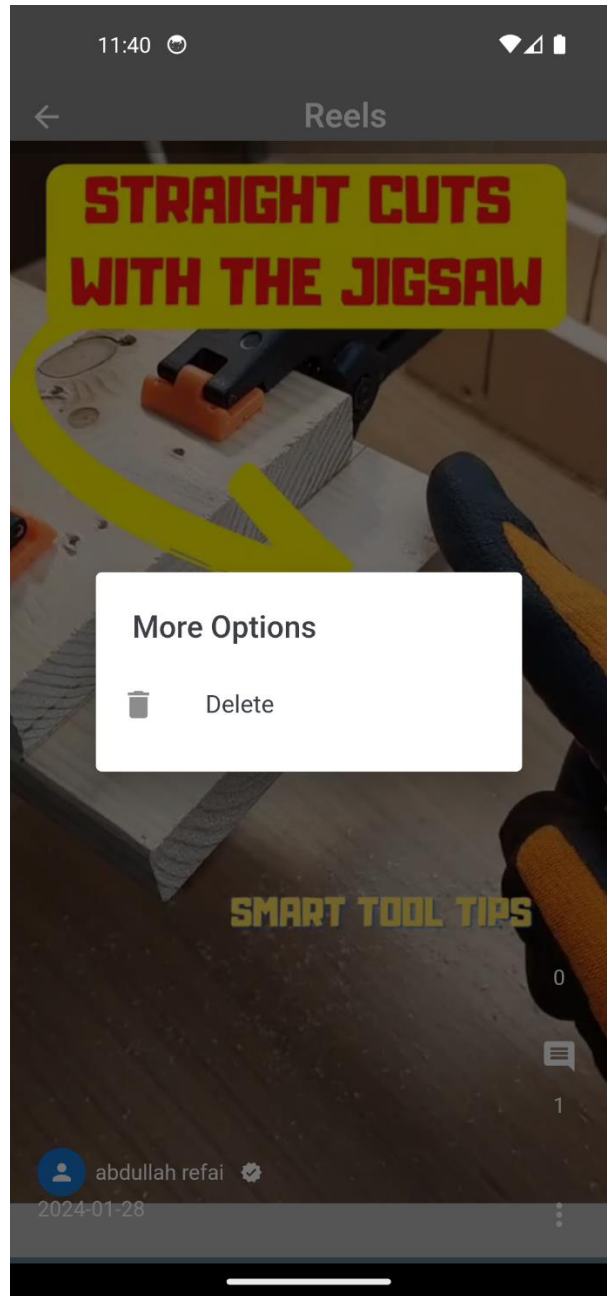
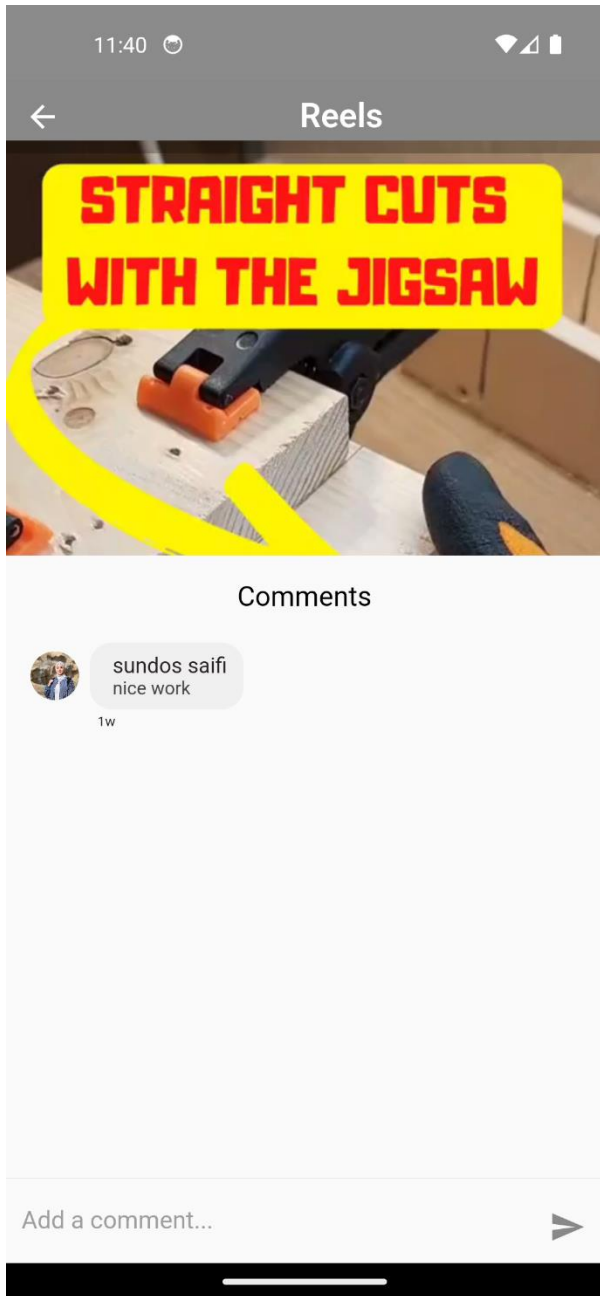


Figure 64 Worker Reels Page 2

- Change password:
Same as in the client app.

- Donation Page:
Same as in the client app.

- Contact Page:
Same as in the client app.

- Premium Page:
Once the user press on the premium button, premium subscription dialogue will appear for him to subscribe for one month to appear in the featured section in the client application, and he pays for the subscription using paypal.

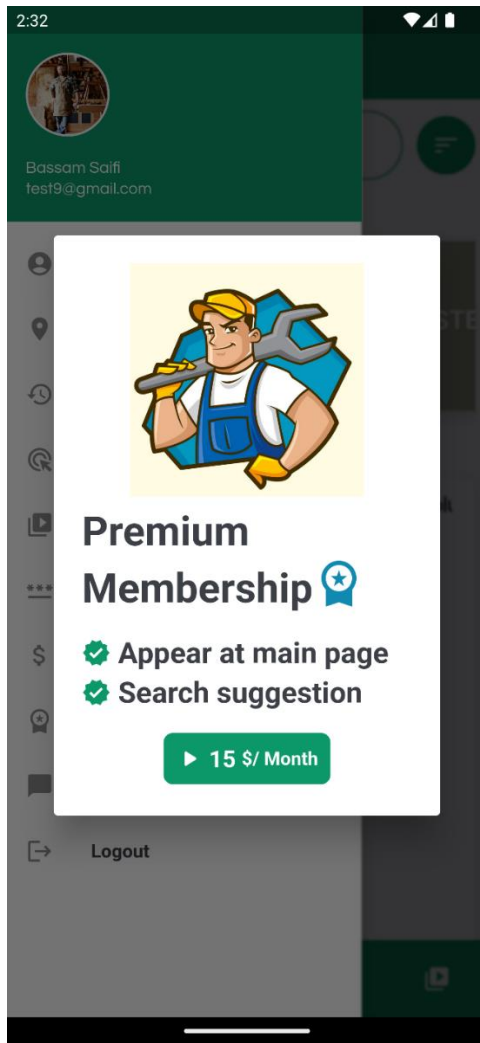


Figure 65: Premium Membership dialogue

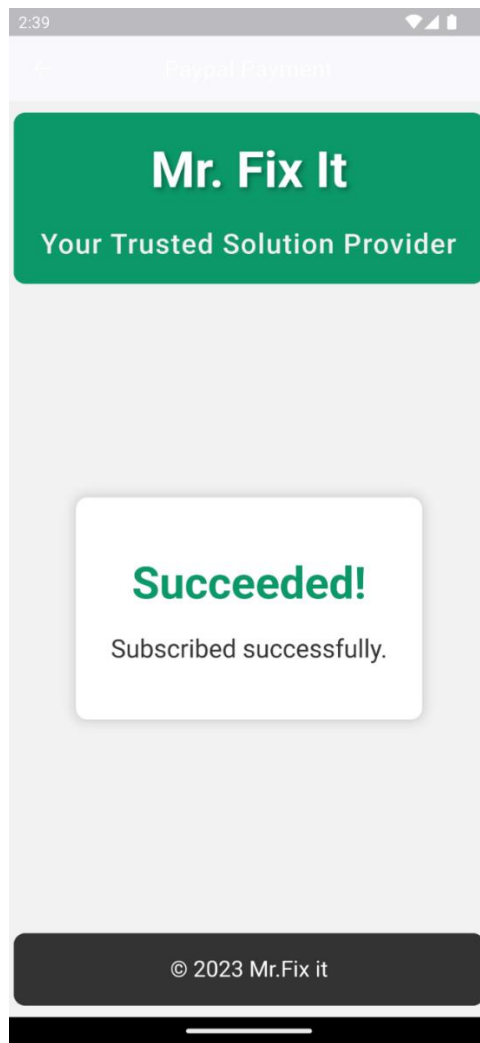


Figure 66: Subscribed successfully page

After the worker subscribe successfully the date of the membership will appear in the dialogue.

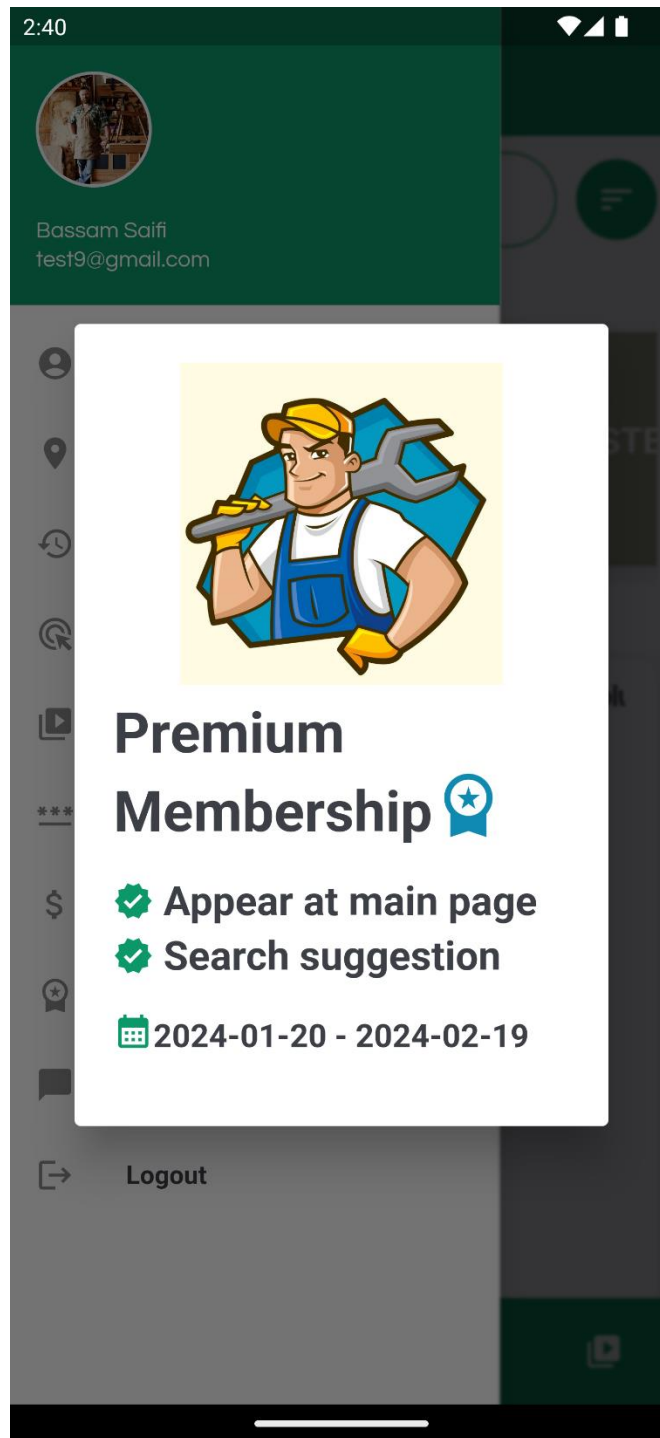


Figure 67: Premium Membership dialogue

➤ Admin Panel:

- Login:

The account role should be recorded as “ADMIN” in database.

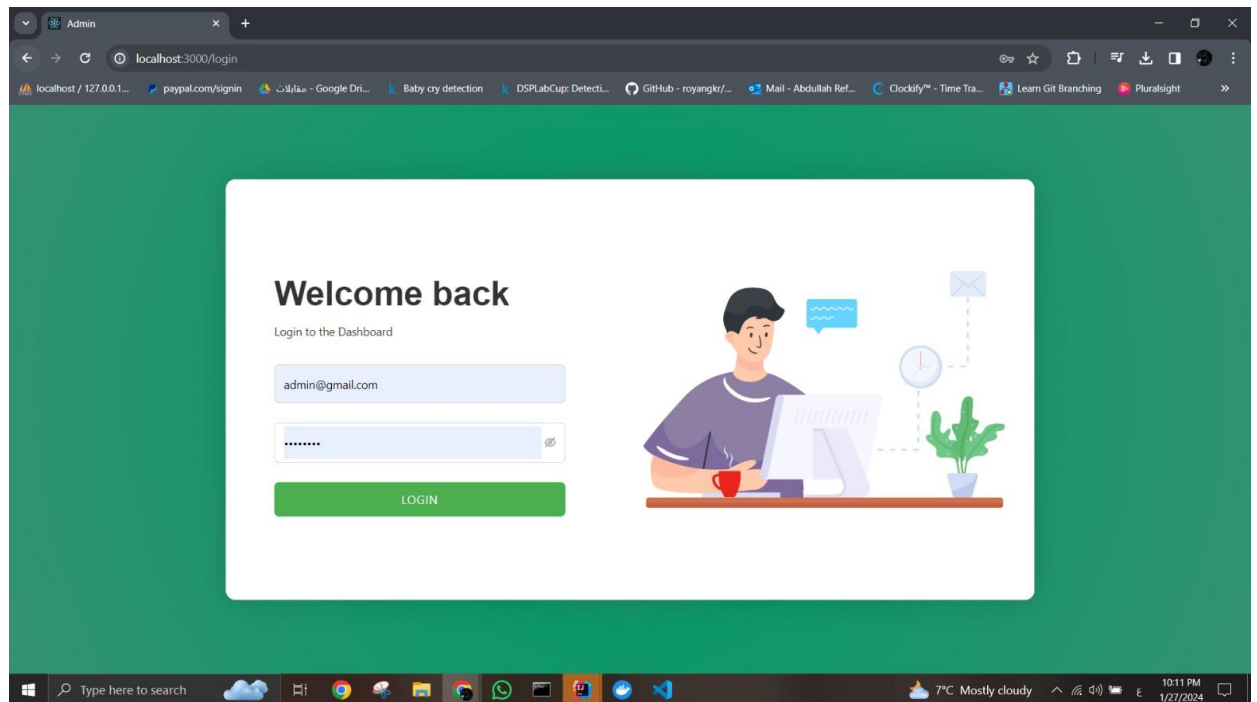


Figure 68 Admin Login

- Main Dashboard:**
 In this page the admin can monitor some statistics about the system like new comers users, total number of clients, workers and revenues based on ads, featured subscription and donations.

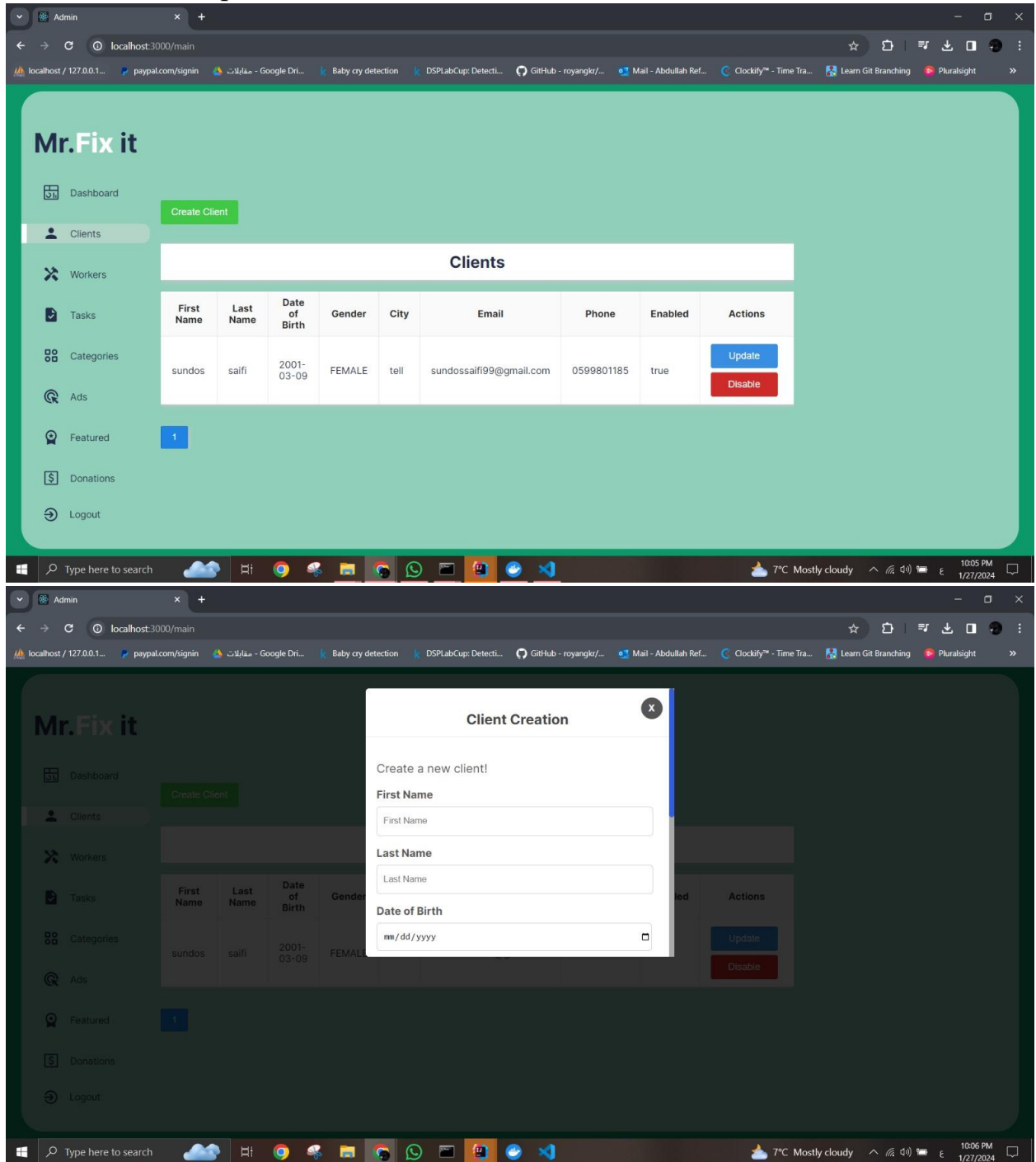
For each statistic the admin can expand it and see more details in the form of chart, so he can monitor the data along time period.



Figure 69 Admin Main Dashboard

- Clients:

In this page the admin can see clients registered in the system, he can create new one, update current users info or disable user.



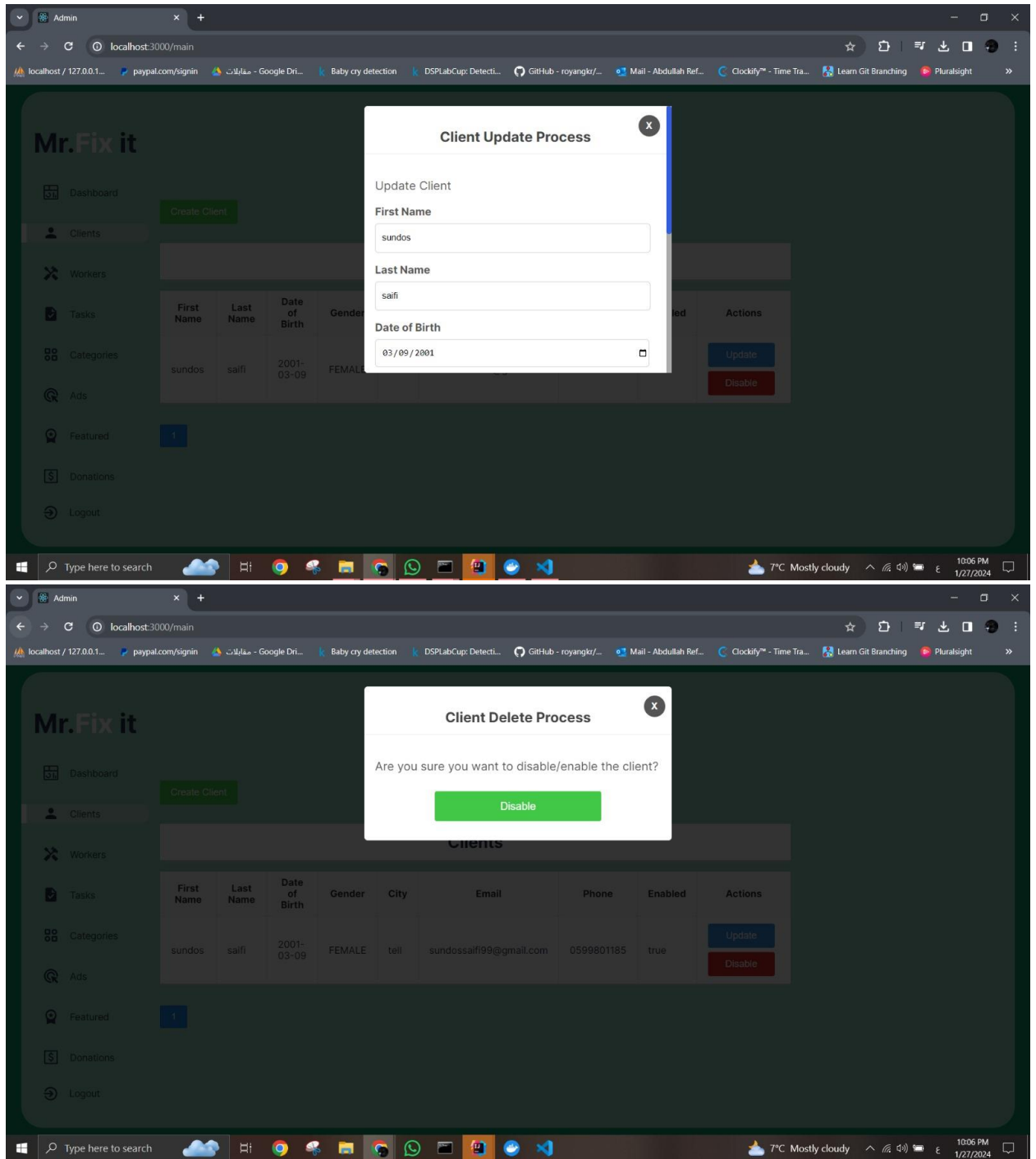
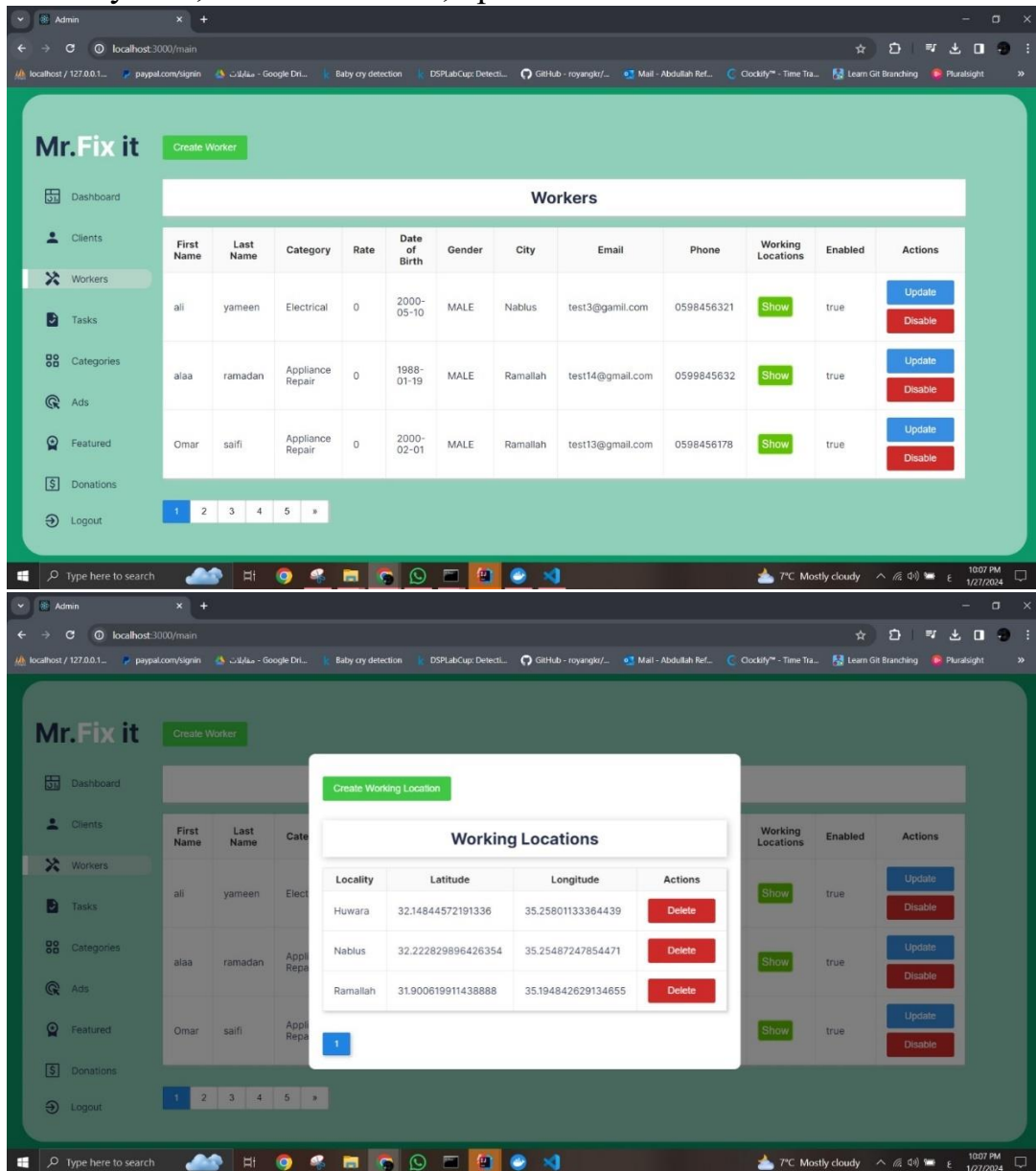


Figure 70 Admin Clients Page

- Workers:
In this page the admin can monitor workers with their working locations in the system, create new ones, update and disable them.



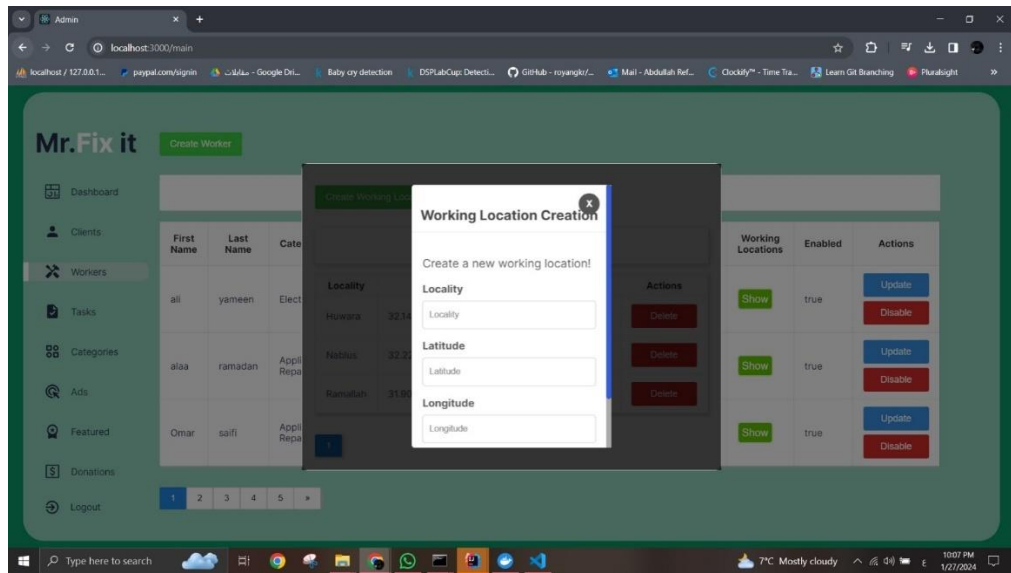


Figure 71 Admin Workers Page

- **Tasks:**
In this page the admin can monitor tasks and their data update status or delete them.

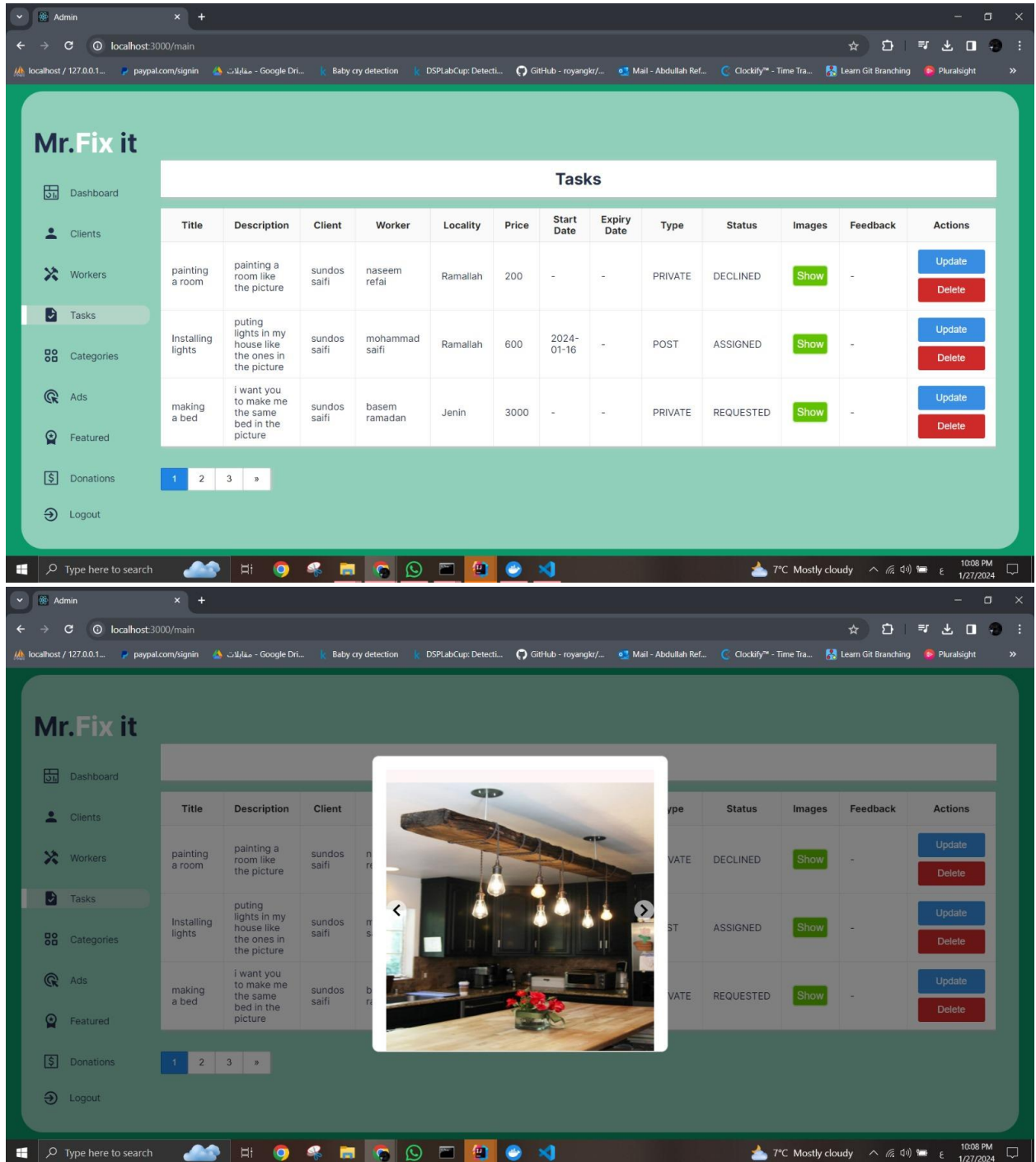


Figure 72 Admin Tasks Page

- **Categories:**
In this page admin can manages categories, he can create new category or delete one and see how many workers are registered for each category type.

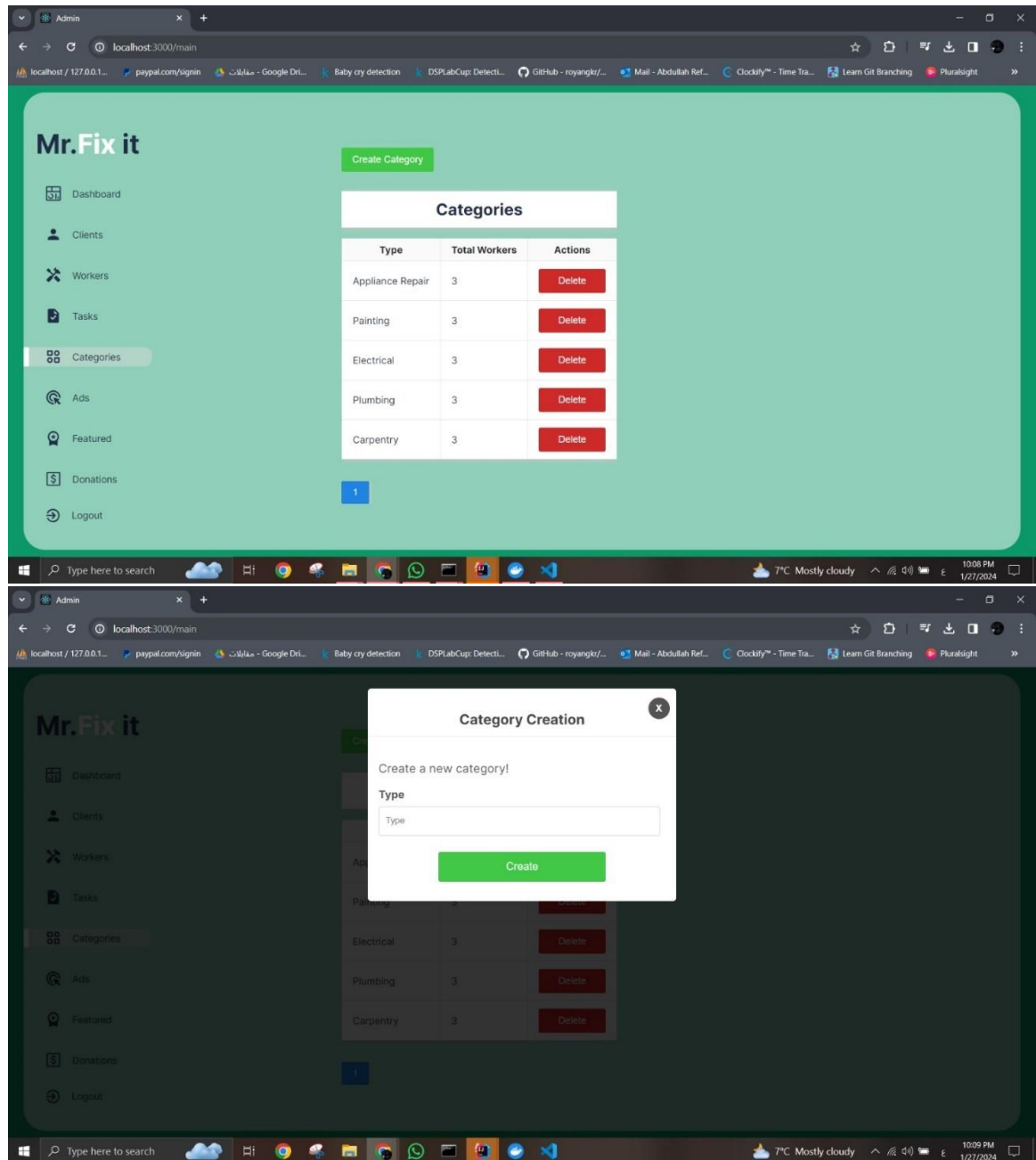
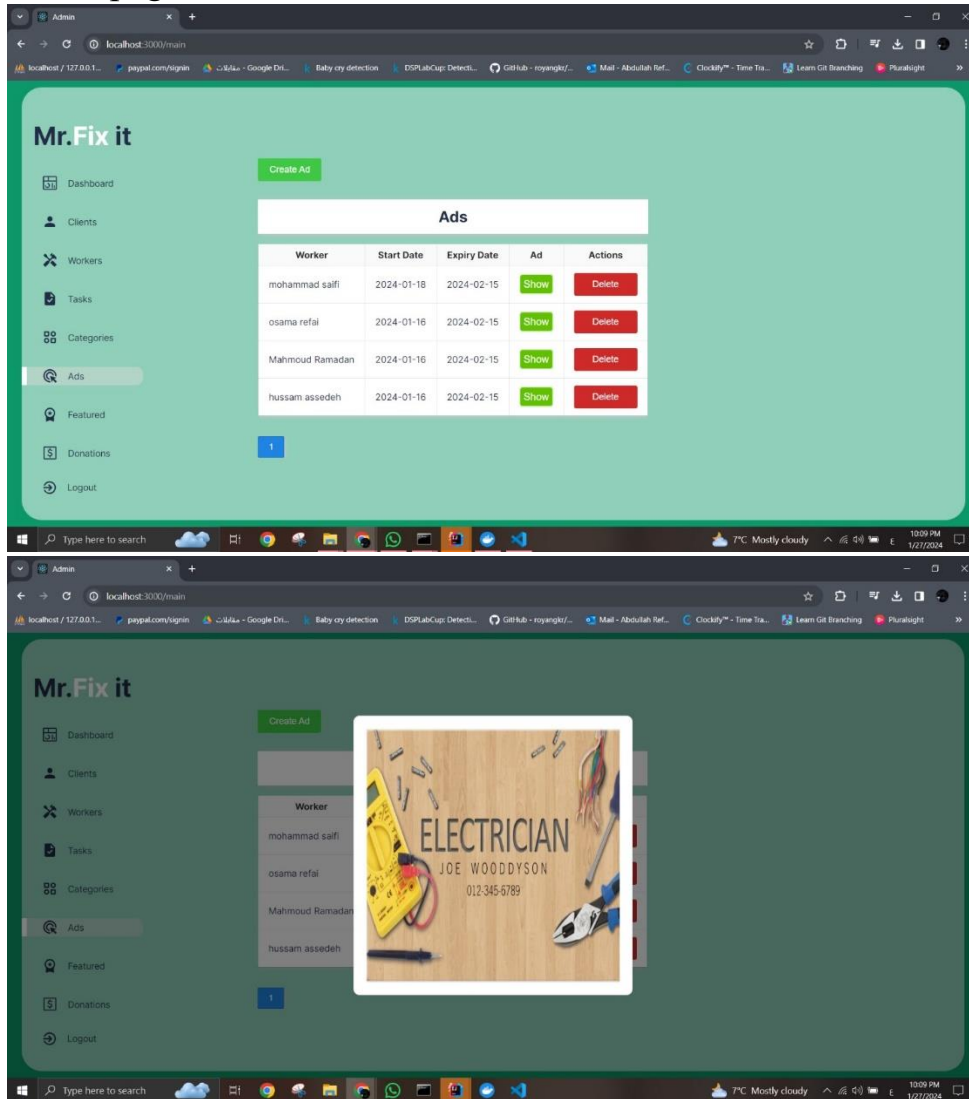


Figure 73 Admin Categories Page

- Ads:
In this page the admin can see workers ads, create ones and delete.



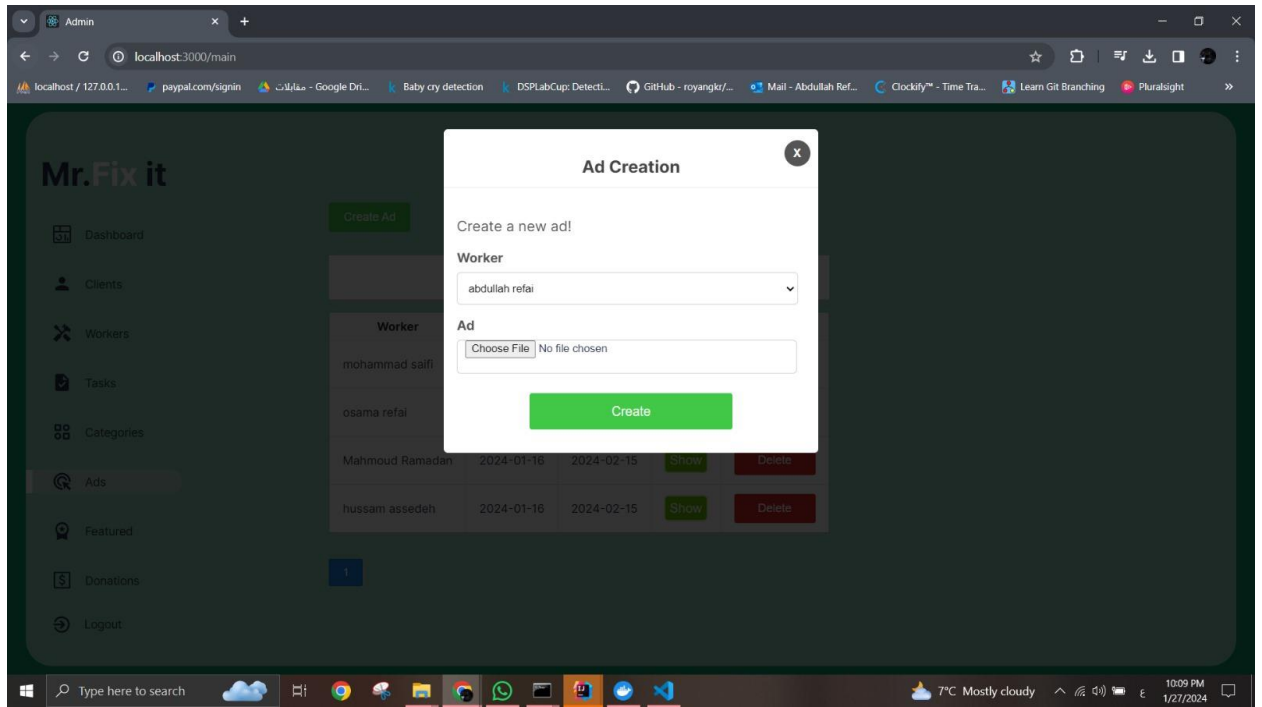


Figure 74 Admin Ads Page

- **Featured:**
In this page admin can see featured workers, create new ones or delete one.

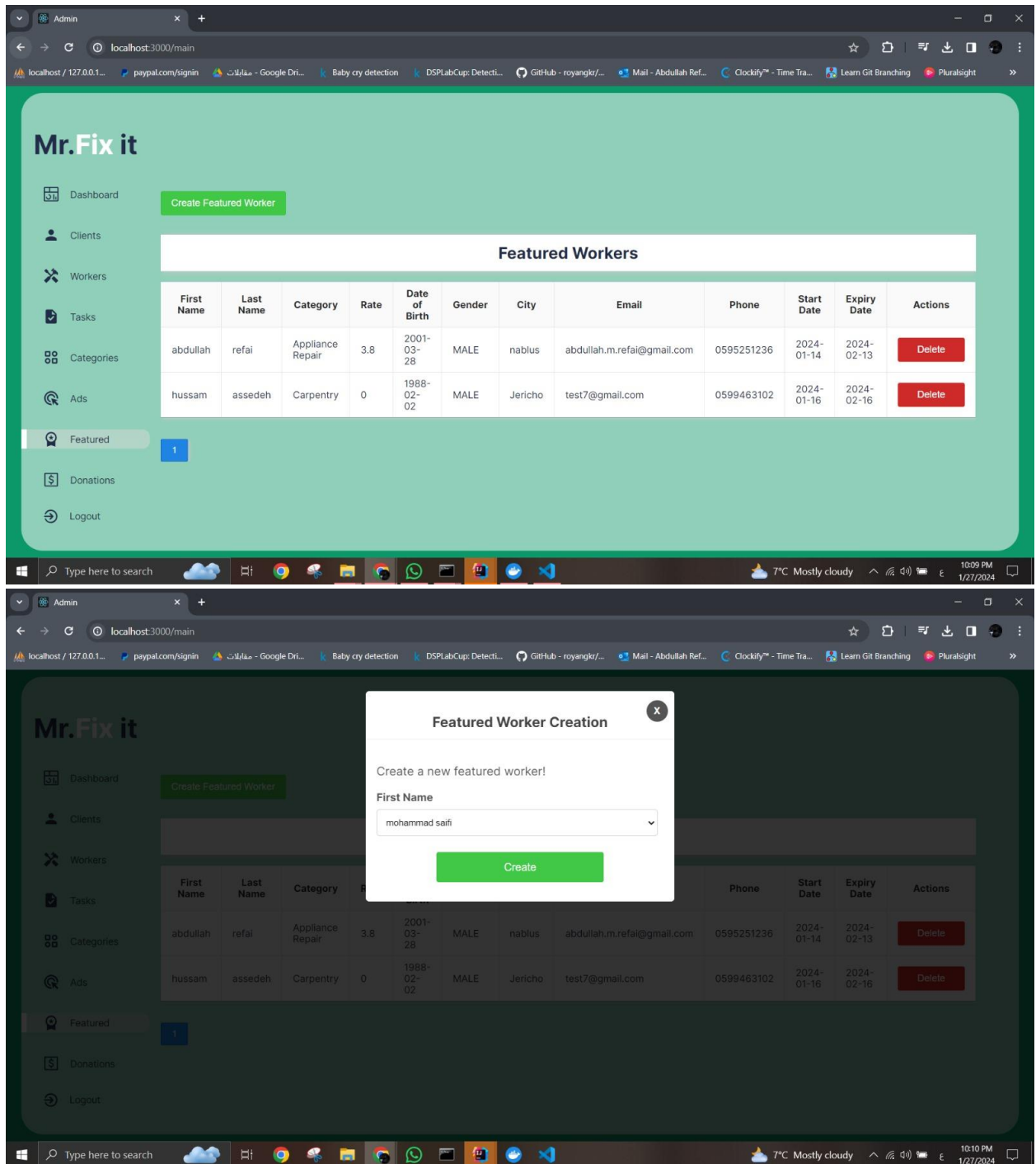


Figure 75 Admin Featured Workers Page

- Donations:
In this page the admin can see all the donations in the system.

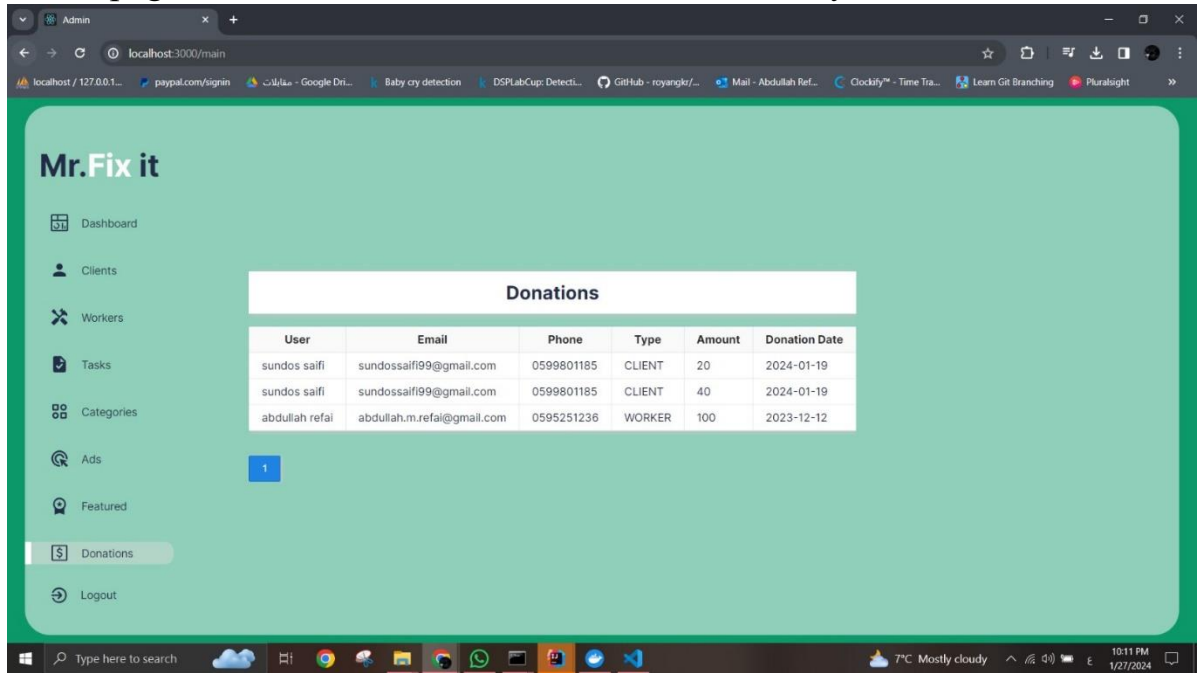


Figure 76 Admin Donations Page

❖ **Future Work**

- Support several languages
- Adding a new feature that allows several workers to work at the same time on specific task like finishing a house.
- Adding recommendation system using AI.

❖ **Conclusions**

The project set out to bridge the gap that existed between clients in need of handymen's services and experienced handymen themselves. The primary goal of the project was to develop a solid, user-friendly platform that makes it simple and effective for these two groups to connect. This objective has been accomplished, as shown by the main characteristics of the application and its favorable reception.

❖ References

- <https://docs.flutter.dev/>
- <https://docs.spring.io/spring-boot/docs/current/reference/htmlsingle/>
- <https://legacy.reactjs.org/docs/getting-started.html>
- <https://dev.mysql.com/doc/>
- https://firebase.google.com/docs?gad_source=1&gclid=CjwKCAiAtt2tBhBDEiwALZuhAA5VaWUzcqFK9aWAlHNjy2kpM3771Z-_7n1-Seesc6sLIpv7etx0ZRoCH68QAvD_BwE&gclsrc=aw.ds
- <https://docs.aws.amazon.com/>
- <https://docs.docker.com/>
- <https://developers.google.com/docs/api/reference/rest>