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Technology
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Authors:
Masa Yaseen & Hala Atout

Supervisor:
Dr. Suleiman Abu Kharmeh

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Very soon, we pray to God to bless the knowledge we have gained. We plead that He will guide us toward a life full of promises and opportunities, successful enough in serving our religion and our country in ways that please Him and bring honor to our efforts.

Disclaimer

This report was drafted by the students of the Computer Engineering Department at An-Najah National University.

This is based on the premise that while we made efforts to make the information presented accurate and credible, some grammatical or content errors might still exist.

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Abstract

Dr. Glow is an all-in-one mobile app providing skincare/beautification solutions.

Such various user groups include customers, doctors, companies, and administrators, each with their own distinct features.

The customers get to buy skincare and makeup products and fix an appointment with the doctor, and indulge in a fun community platform for content sharing, commenting, and discussion. Advanced resources of processing images for skin tone matching and skin problems detection give direction to the app user toward the appropriate product and solution tailored to every individual's needs.

Doctors will have access to tools that help them plan their schedules and take advantage of an ample medical library; the library would include books, articles, videos, and also allow them to upload their own writing material. They are also part of the community and are able to give private pieces of advice along with chatting with customers privately.

The companies will be able to use the app to showcase their skincare and makeup products, derive useful sales data from their end customers, and communicate with their clients. On this platform, products under sponsorship from Israeli occupation have been banned; this is actually the developers' way of contributing to the cause of the Palestinians. At last, the admin keeps the closest control of user generation and product mechanics that keep the platform running easily.

Dr. Glow integrates technology with advanced and easy-to-use features that deliver a frictionless experience across mobile and web.

1 Introduction

The platform called "Dr. Glowly" provides an inventive solution to the human needs that are ever mounting on this level, where clarity and user experience reign supreme. Development of both mobile applications and web-based platforms, "Dr. Glowly" put forth modern technologies like Flutter, Node. Js, MongoDB, and Python to venture a service that is completely tailored as befits every user.

The platform aims at creating an integrated portal for the corporation with a revelation to change how skin care and beauty services from customers, doctors, and companies would then be reported and branded with the relevant piece of information.

Customers can buy skincare products and makeup on the interactive platform, book appointments with nearby doctors, and hold community posts, comments, and ideas. By the use of advanced image processing technologies, users would match their skin tone and also identify skin traumas and suggestions tailored to each individual.

The doctors will be able to manage their own appointments, make use of a large number of libraries, and share knowledge on this platform that can foster collaboration and growth in the medical community. Companies could benefit increasingly from receiving excellent resources that let them showcase their products, maintain sales records, and give feedback to audiences opposing the products of occupational supporters.

This major feature of the platform incorporates the AI-based chatbot and compatibility mechanism for a quicker first interaction with the interested party to get immediate resolution on a skincare query and further product recommendations based on each need. The effective task management and user management system will enable the administrators to facilitate smooth system running and present an active environment favored by each participant.

Dr. Glowly is spoken of, among other things, as being generous with time deep saving aspects and other resources in terms of automation, while reaching out to the users to achieve better skin and beauty routines. It is a window through which the people of the world more widely consider supporting Palestinian causes; and thus, the foundation of the world's ethics of inclusion is built.

This elucidation shall present a background into the development structure, which is limited only to those details that feed into the development process-the first section would recount a literature review of past studies, followed by the methodology for encapsulating the tools and techniques used for development in the project. Eventually, results and discussion will be a section dedicated to interpreting results with respect to a predefined set of criteria. This paper will conclude with the conclusions and recommendation on improvements that would allow "Dr. Glowly" to acknowledge user needs.

2 Constraints & Earlier Coursework

2.1 Limitations & Constraints

2.1.1 Limited Time

Because of the gigantic and complicated nature of the workload, managing the time frame for developing Dr. Glowy was not easy. Each feature-from image processing to user management-was to be carried through painstakingly. The team ultimately, in addressing these limitations, executed core functionalities while engineering a balanced approach to ride through the pressure of time along with ensured efficiency. Quality will remain to be a particular focus concerning the deliverables in their core importance, such as user-friendliness, enhanced AI tool exposure, and ethical consideration, in the gradual face-off between formally differing diverse functionalities encapsulated in Dr. Glowy.

2.2 Earlier Coursework

The course work at university has given reputed background knowledge required for the construction of Dr. Glowy. Technical specialization in the domains of software engineering, database management, systems architecture, and image processing provided a good foundation for tackling the sometimes-conflicting demands that the project requires.

Development of mobile application websites provided the practical experience regarding diverse technologies related to Flutter for front end and Node.js for backend service. Security and system architecture strong design, UI design, and data management were also based on other topics that framed the relevance to MongoDB. Necessary hands-on experience with Python and some image processing skills was required too for developing those AI functionalities in the application.

3 Literature Review

The merging of personalized technologies with the beauty and skincare industry has experienced a shift in user experience by offering actually personalized products and services. More effective now are platforms such as Artificial Intelligence (AI), Image recognition, and community features to meet the needs of modern users. Dr. Glowy successfully implements all innovations on an extensive platform for skin, makeup, and dermatology solutions, stepping up to fill the great gaps left by existing platforms.

From a new perspective, Skin Vision is perhaps the best example of a company that shows AI technology offers sound recognition for dermatological problems. According to Monika Janda et al. (2020), the app utilizes machine learning algorithms and user-uploaded images of skin conditions to catch earlier warning signs for diseases like melanoma. Similarly, Dr. Glowy applies modern image-processing programs that are based on native python and can diagnose skin problems, highlight products, and analyze skin tones for makeup positively. This represents the ultimate approach for incredibly highly personalized recommendations in skin care per user, as a result giving enhanced user experiences.

Community engagement is one such principle that has grown to become key markers of building trust and engagement in today's applications. According to research by Martínez-López et al. (2021), community platforms such as the Subreddit Skincare Addiction are where users market information, review products, and share personal stories. Dr. Glowy enhances this by having a vibrant community inside the app in which users can post, comment, and engage, creating a robust and supportive environment for sharing skin care tips.

The rise of telemedicine has also revolutionized the beauty and health care industries. Platforms such as Dermatologist on Call offer virtual consultation to cut on cost and make it easier to obtain dermatologic advice. Eshita Sud et al. (2022) points out how telemedicine not puts up travel and economical barriers by granting people more access to specialists. Taking up this trend, Dr. Glowy presents a platform in which telehealth has been implemented, including booking appointments with dermatologists, having private conversations, and taking specialized advice on one interface.

Dr. Glowy is working to realize its ethical vision. The services do not promote or support any merchandise sold, absorbed by people, or any identified for purposes other than well-known plans of donations specifically aimed at Palestinians. Symbolically showcasing how technology could be utilized towards social accountancy: innovation is global conscientiousness.

Those machines: AI-enabled SaaS tools show a bright social engagement community, a huge leap into telemedicine, and a commitment to ethical principles, could set a precedent for innovation in the beauty and skincare industry.

4 Methodology

4.1 Development Tools and Technologies

4.1.1 Tools

- **Visual Studio Code:** Used as the development environment for both front-end (Flutter) and back-end (Node.js) code, offering a comprehensive platform for editing and managing project files.
- **Firebase:** Utilized for managing notifications, messages, and storing user data, including text, images, and product-related information.
- **Postman:** Employed to test and interact with APIs, ensuring smooth communication between the front-end and back-end services.
- **Android Studio:** Used as an emulator to test the mobile application on various virtual devices, ensuring functionality and compatibility across platforms.
- **GitHub:** Used for version control and collaboration, enabling efficient team coordination and seamless management of code changes.
- **Flask and Python ai & Image Processing:** Used to develop the AI-powered image processing component for skin issue detection and skin tone matching, providing personalized product recommendations.
- **MongoDB:** Used as the database for storing user profiles, product data, and transaction details, ensuring scalability and flexibility for app data storage.

4.1.2 Programming Languages and Frameworks

In implementing the technology choices for the development of Dr. Glowly, we have opted for Flutter due to its versatile nature and cross-platform capabilities, making it possible to develop applications for mobile platforms, the web, and the desktop from a single code base. This means consistency with greatly reduced development time, leading to a flawless experience for all users.

Node.js was selected to provide the back-end, renowned for its highly efficient production of asynchronous operations and fit for web applications requiring high-performance and scale. Alongside Node.js's non-blocking design, Dr. Glowly can respond to hundreds of requests simultaneously, giving users fluid and reactive responses when browsing products to book appointments or employing any of the app's AI capabilities.

4.1.3 Database Design and Management

Integrating MongoDB as a supporting NoSQL database for Dr. Glowy is a product of many weighted considerations. In such cases of their combining disparate and unstructured data, NoSQL databases such as MongoDB suit best. This perfectly answers the urgent requirement of the application to grow continuously and accessed fast so that one can benefit from better technological innovation and business transformation. The model in MongoDB supports dynamic content management in a way that user profiles, product details, and patient data are accessible without the need for any predefined schemas. The flexibility it allows makes it possible for the application to quickly run with any changes in business logic and user requirements. Being friendly with horizontal scalability, MongoDB also allows vertical growth in resources in the best possible manner without tolling up a lot of performing-ism as the user base goes up. This scalability, along with MongoDB's excellent structure, guarantees an incredibly fast data access-enabled updating in real-time with overall user experience. This worked quite well with Firebase for notification and communication on the wall since it essentially makes it so that no updates for any messages are sent to users. This mixture of MongoDB as a backend and Firebase fortifies notifications and also allows Dr. Glowy to offer performance, scalability, and an adaptive experience to end-users.

4.1.4 Database Design and Management

Database Tables

- **Admins Table** :The Admins Table is important for storing information about those persons with administration rights over the platform. Original tables store such information as identifier, name, email address of the admins, and an encrypted password.
- **Companies Table**: The Companies Table contains generalized information on companies that are registered with the platform. Company entries contain its unique identifier, name, email, contact number, physical address, status of its ethical concerns or boycott, and an encrypted password.
- **Customers Table**: The Customers Table stores profiles of all app users. Dialogue captures another piece of record, in addition to other data points: unique identifier, username, email, encrypted password, phone number, skin type, reported allergies, skin tone, and the overall skin health condition.
- **Doctors Table**: The Doctors Table is built to provide information about dermatologists and skin-care professionals that utilize the platform. It includes their unique identifier, username, email, encrypted password, contact information, years of experience in the profession, and certifications for professional verification.
- **Discussions Table**: The Discussions tables provide a central column for posting and Discussion-management of the community. Each would have a unique identifier, list of names, where the post is written, and title under which it is to be referenced, and the identification number of the user who happens to be the author of the post. Also, track for replies on each discussion.

- Replies Table: The Replies would be the table where the replies are stored. The table identifies the leave of each user-directed to each discussion with the characteristic markers of this reply, the ID of the discussion on behalf of which it was entered, and the author's identification and specific content.
- Notifications Table: The Notifications table is a table that deals with sending messages to every user so that it doesn't miss any significant event or activities. The basic standard notification is made up of a unique identifier of the notifications, the ID of the user, the message desc, and ultimately the type of the notification that describes the reason for sending it.
- Reviews Table: The Reviews table is one table that would allow a user to record his feelings about an item to service. It includes the unique identifier of the review, the author's ID, their grade, and the content of the review.
- Messages Table: The Messages table is a platform for users to communicate through private chats. It includes a unique identifier of the message, chat-ID, the ID of the sender of the message, the message content, and the timestamp of sending the message.
- Products Table: The Products table is the base for the administration of skincare and makeup products offered by different companies. It houses data for each product, such as its generic identifier, name, brand, description price, image, and other particulars-like suitable skin types, allergens, warnings, and its related company ID.
- Payments Table: The Payments table manages transaction records of purchases done on the platform, which include a specific identifier of the payment, customer id, product id, amount paid, mode of payment, status (i.e.: pending, successful or failed), transaction ID, order ID, and timestamps for creation and updating. It is also to track the company associated with the transaction.
- Doctor Library Table: The Doctor Library table serves as a storage of educational resources uploaded by doctors. Each of its records captures the ID of the doctor, a unique identifier of resources, content of the resource, timestamps for the creation, and its update.
- Chats Table: The Chat table records private and group conversations between users. Each record contains a unique chat identifier, participants in that chat, and messages to ensure smooth communication among users that may include customers, doctors, companies, or admins.

4.2 Mobile App System Features

Dr. Glowy is an app developed for a personalized experience in skin, beauty, and dermatological services and to create seamless interactions between client-doctors and companies. With this app, the client needs and services will be clear to each other.

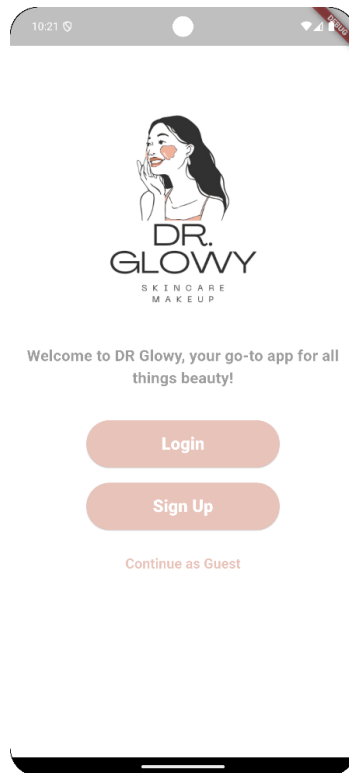
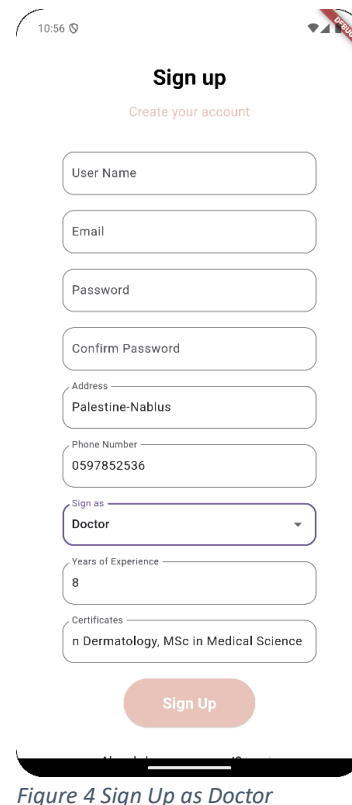
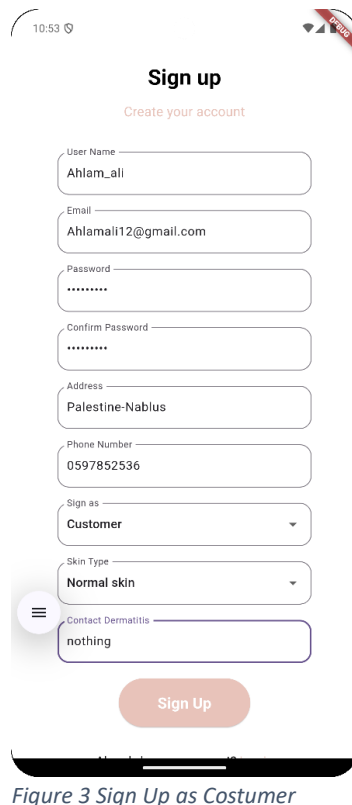
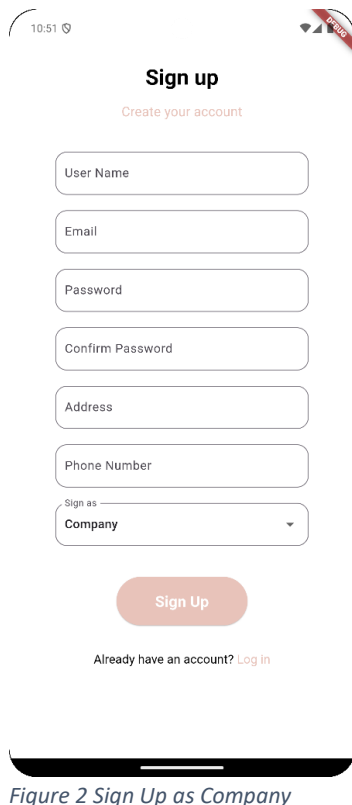


Figure 1 Welcome Page

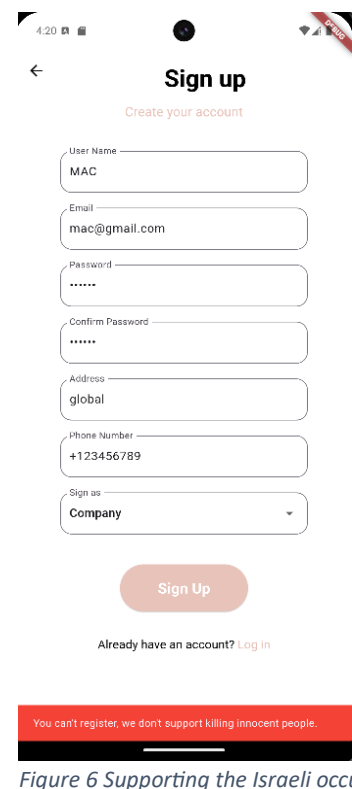
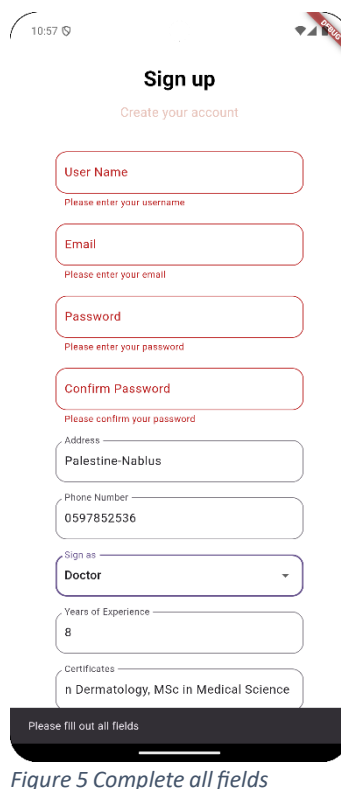
Mainly, the home screen of Dr. Glowy is a simple and welcoming navigator to the features of the app. Users will find it quick to sign up, log in, or use the app as guests and thus have immediate access to it. So a smooth and non-stressful experience can be ensured for everybody.

4.2.1 Sign-Up Process

The signup screen in the application allows the user to create an account with all necessary details like username, email, phone number, address, password, and confirm password. More forms will pop up based on the role selection (customer, doctor, or company). For example, customers can indicate their skin type, while doctors can indicate their years of experience and certificates.



Users are required to enter a valid email (which must include "@") and complete all fields before submitting the registration form, ensuring a seamless and guided user experience. Afte successful registration, users gain access to Dr. Glowy's features by logging in. However, companies that support unethical practices, particularly those complicit in the oppression of the Palestinian people or involved in supporting the Israeli occupation, are strictly prohibited from registering on the platform.



4.2.2 Login Process

The log-in procedure pertains to users who have already opened accounts. It uses a login and password under a controlled process to provide access to the account opened at registration. The log-in process actually caters for someone who has already created an account. It grants entrance into their accounts securely with the help of the chosen authentication provided during registration.

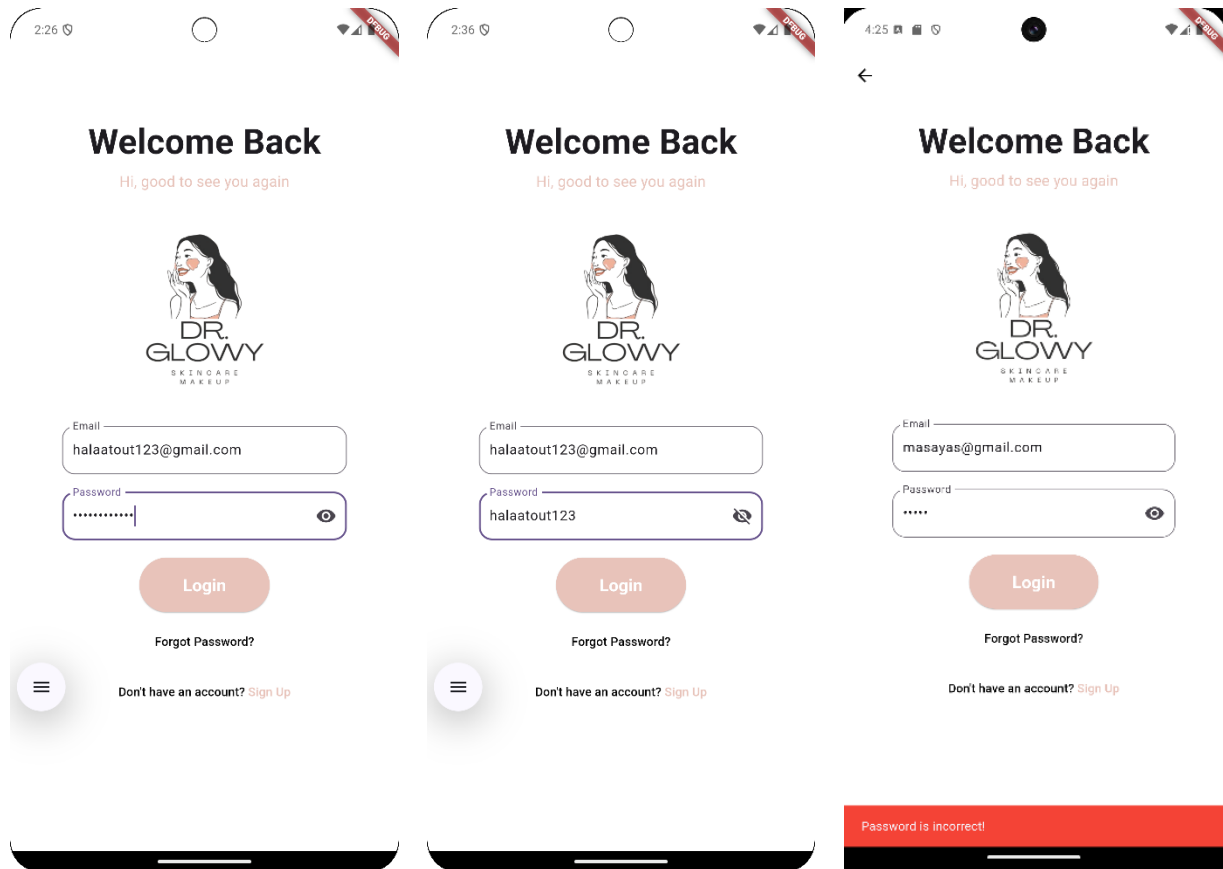


Figure 7 Log in Page

Figure 8 Log in Page2

Figure 9 Fail in login

If an incorrect password is entered, login will fail. Clicking on the eye icon can display the password for validation. It also supports four users: Admin, Company, Customer, and Doctor. The system automatically determines the type of account based on the entered email and password and directs users to the interface designed for their respective roles.

4.2.3 Forgot & Reset Password

The "Forgot Password" screen is the first step users take when they've forgotten their password. It's designed to be simple and user-friendly. The screen includes a field where users can enter the email address associated with their account. Once the email is provided, the system checks if it's valid and sends a password reset link to that email. A confirmation message is displayed, notifying the user that the reset link has been sent.

On the "Reset Password" screen, users are not required to set a new password manually. They simply retrieve the system-generated password from their email and use it to log in.

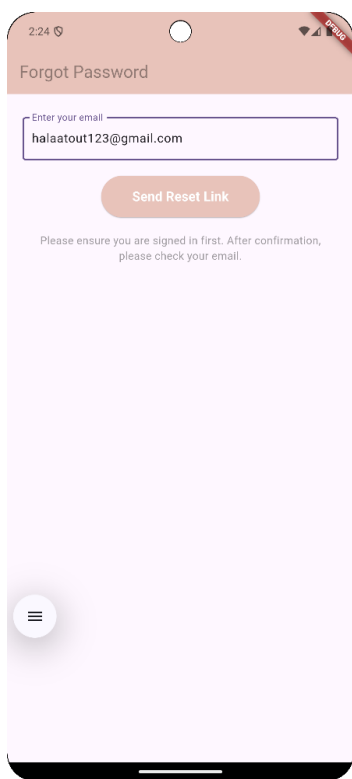


Figure 10 Forgot Password

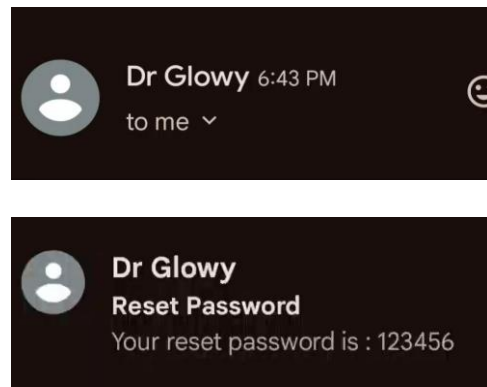


Figure 11 Reset link to that email

4.2.4 Customer Pages

4.2.4.1 Home Page

The Home Page serves as the bringing together of users to a singular point of accessing key features. It encompasses buttons facilitating easy passage to Skincare Corner, Makeup Corner, and Doctor Booking for consultations. Under, a bottom navigation bar provides easy access for pages like Community, Camera, Chat, and Profile. There is a section for Notifications that helps keep users informed about certain happenings, as well as a shopping cart to view products the users want to buy. A little side drawer provides options like About Dr. Glowly, Privacy Information, Payment Information, Rate & Feedback, and Logout. There are also icons for social interactions.

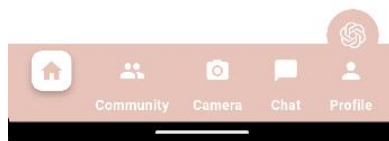
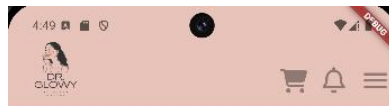


Figure 12 Customer home page

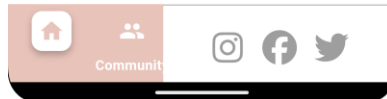
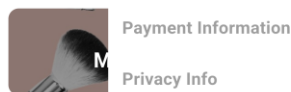
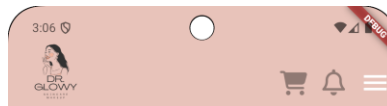


Figure 13 Customer menu

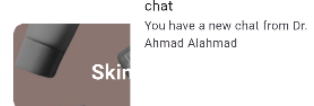
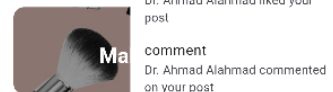


Figure 14 Customer Notifications

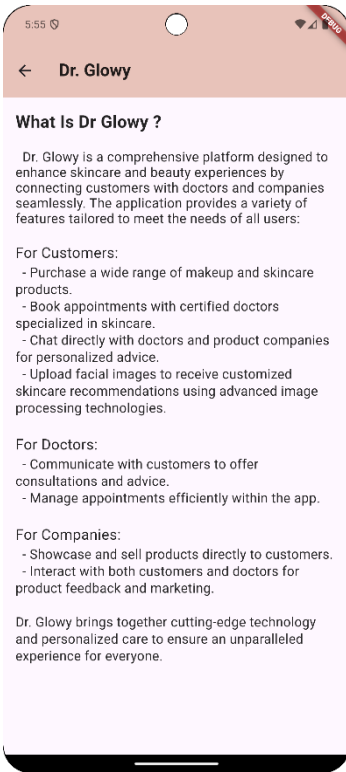


Figure 15 What is Dr Glowy

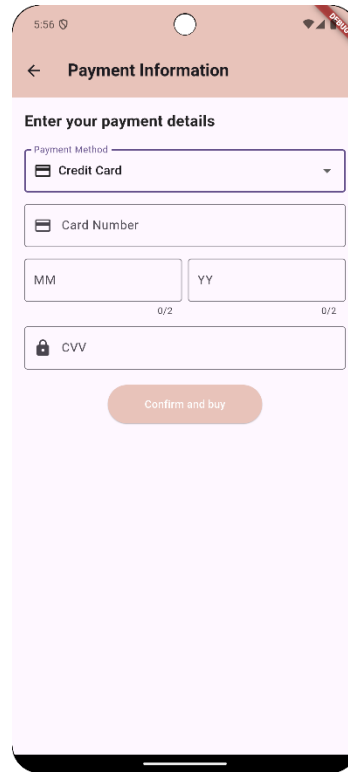


Figure 16 Payment info

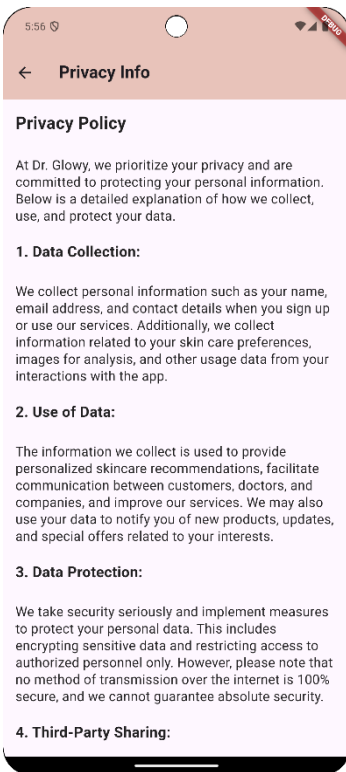


Figure 17 Privacy info

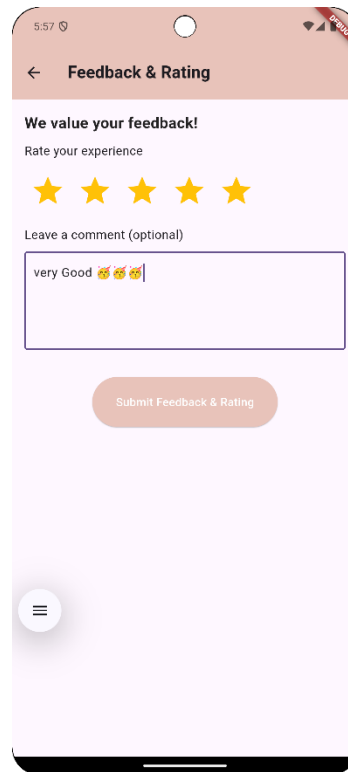


Figure 18 Feedback & Rating

4.2.4.2 Make Up & Skin Care Page

On the Makeup and Skincare pages, users will find great variety in the products displayed. One is free to browse through the catalog, and facilitate one's own filtering and viewing of which products to show or hide. Each product lists its name and price, with checkout by users made possible once they have added items to the shopping cart. Tapping on a product would present itself with further details. A warning will be displayed for any product containing any ingredient specified as an allergen in the user's Ally profile as a mechanism for alerting said user.

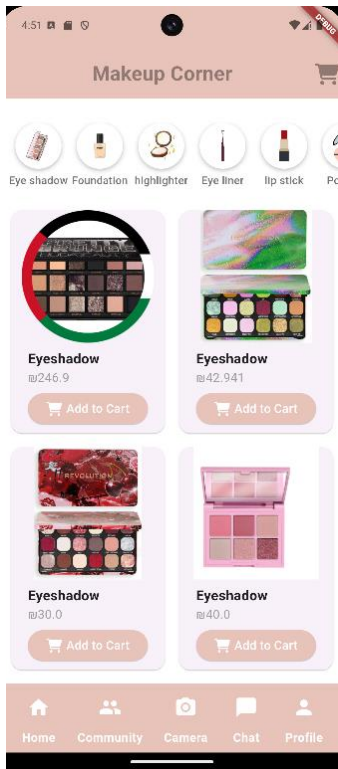


Figure 19 View products by category

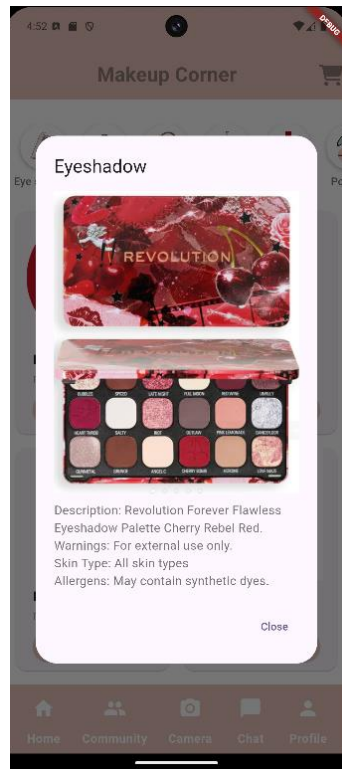


Figure 20 Product information

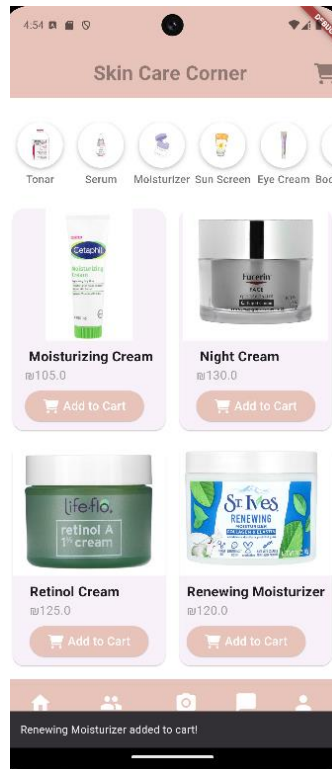


Figure 21 Add to cart

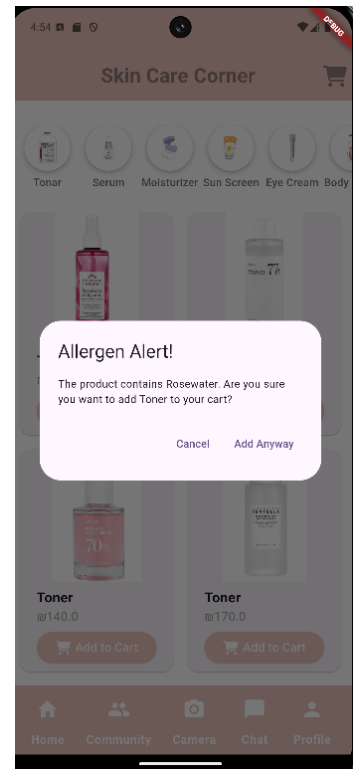


Figure 22 Allergy warning

4.2.4.3 Doctor Page

The Doctor page is designed to display a selection of doctors based on the region specified in the customer's profile. Users can also search for other doctors outside their selected area. Each doctor's card shows their name, address, contact information, and additional details. Customers can book an appointment by selecting a day, where available and unavailable time slots are clearly shown, allowing them to reserve an open slot. Additionally, users can initiate a chat with their chosen doctor for further communication and assistance.

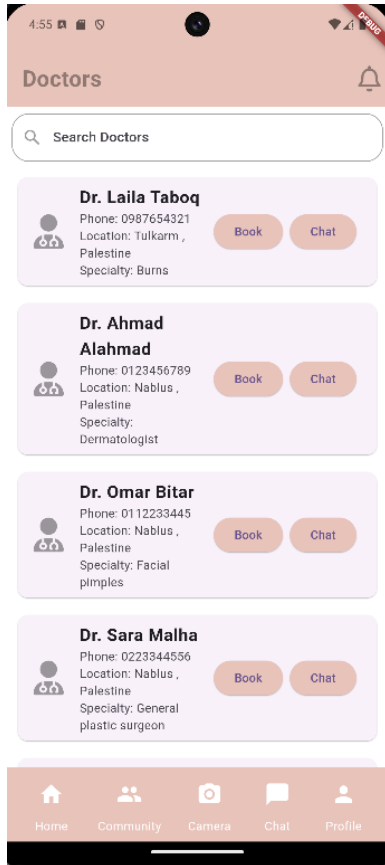


Figure 23 Doctors Page

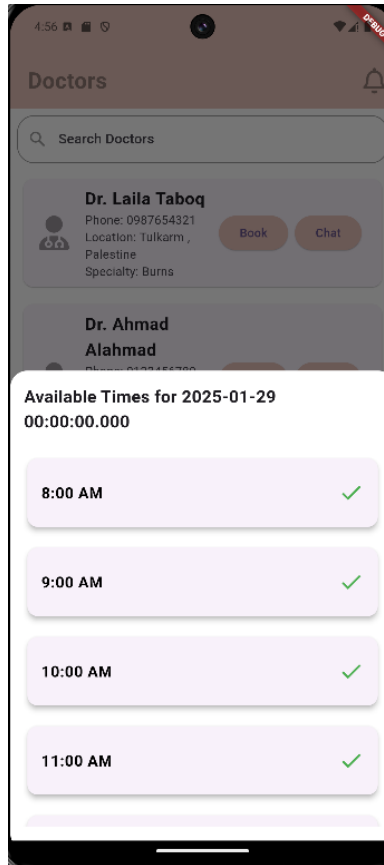


Figure 24 Doctor Appointments

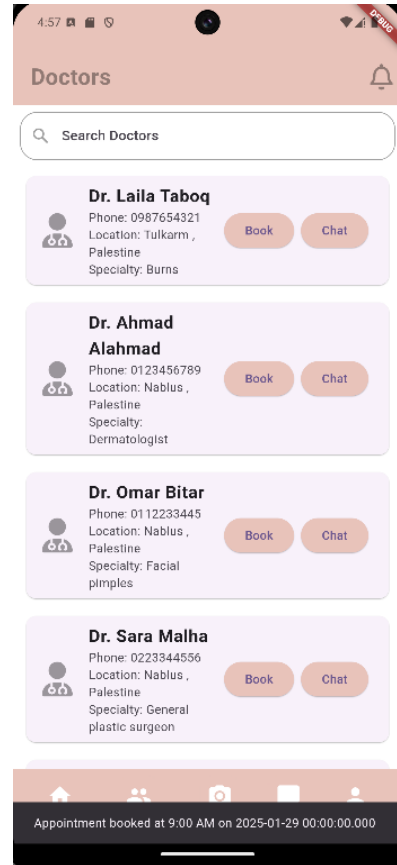


Figure 25 Book an Appointment

4.2.4.4 Card Page

is where users can view and manage the skincare and makeup products they've added for purchase. Each product is displayed with its image, name, price, and quantity. Users can adjust the quantity of each item, or remove the product entirely from the cart. At the bottom of the page, the total number of items and the final price are calculated and displayed. Once satisfied, users can proceed to confirm their purchase with a checkout process.

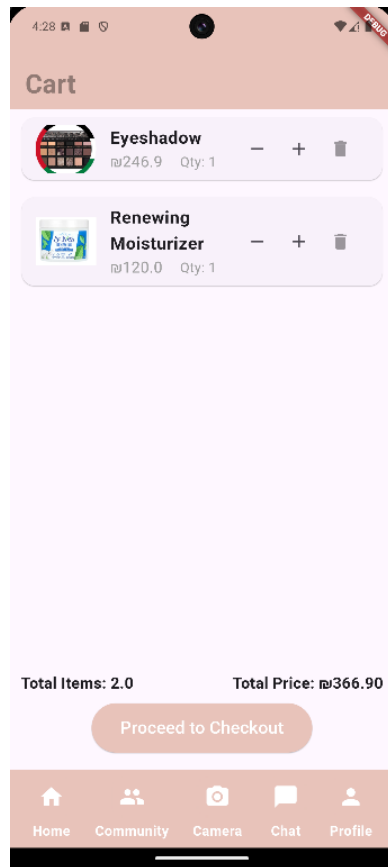


Figure 26 Card page

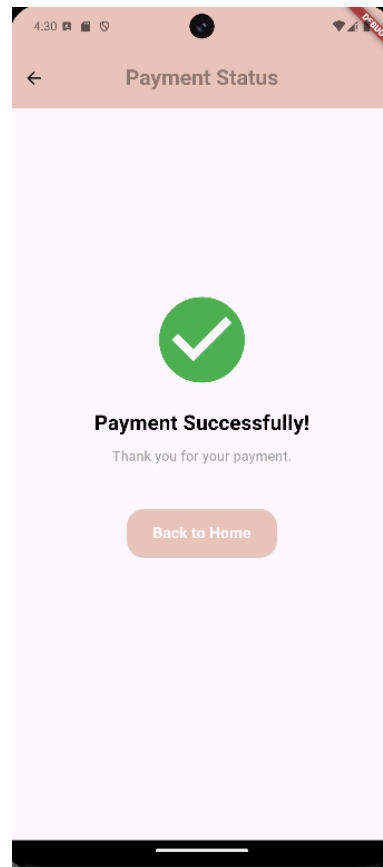


Figure 27 Payment successfully

4.2.4.5 Camera Page

The camera page allows one to scrutinize one's skin with skin tone detection or by analysis of skin problems. The user is free to choose an image from their gallery or can take a photo using the live camera feature.

Skin tone detection algorithms involve image processing methods from OpenCV, together with machine learning algorithms like KMeans clustering to extract and classify the dominant colors from the image. Once skin tone is detected, the app suggests a few skincare and makeup products for the user that match his or her unique skin complexion.

Detection of skin issues involves deep learning models that have been trained fitfully as fine-tuned preset models for wrinkle detection and skin type classification. In turn, the default open-source pre-trained face detection model is applied using OpenCV's DNN module to accurately determine the facial area for recognition and analysis. Finally, skin behavior is analyzed through the TensorFlow-based models in terms of whether she is exhibit-dry, oily, or show signs of aging. Based on issues detected, the application recommends three top skincare products relevant to the user's concern for very good targeting-One.

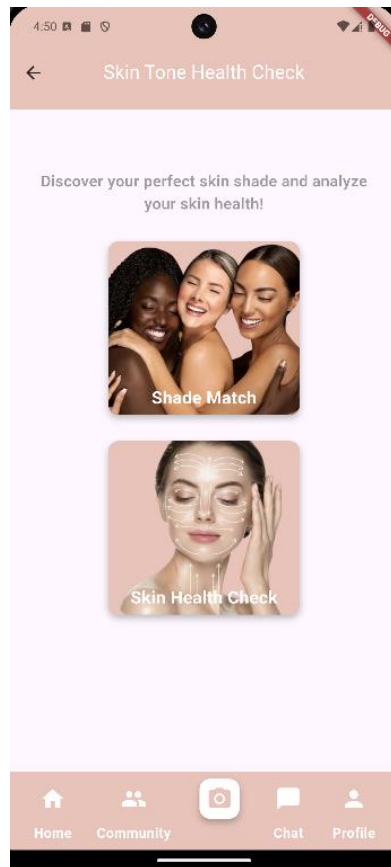


Figure 28 Camera Page

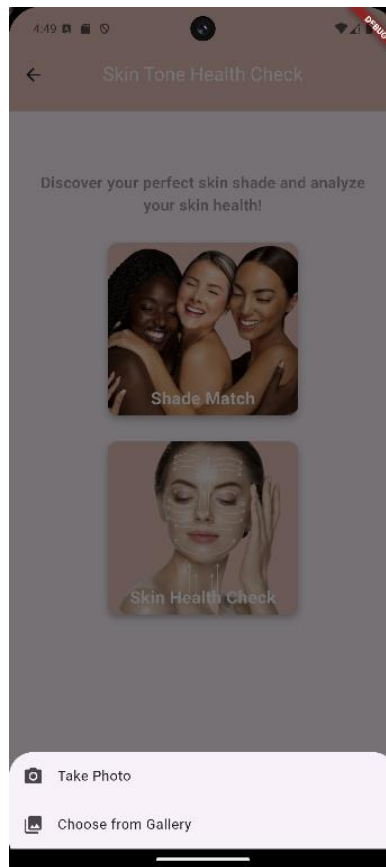
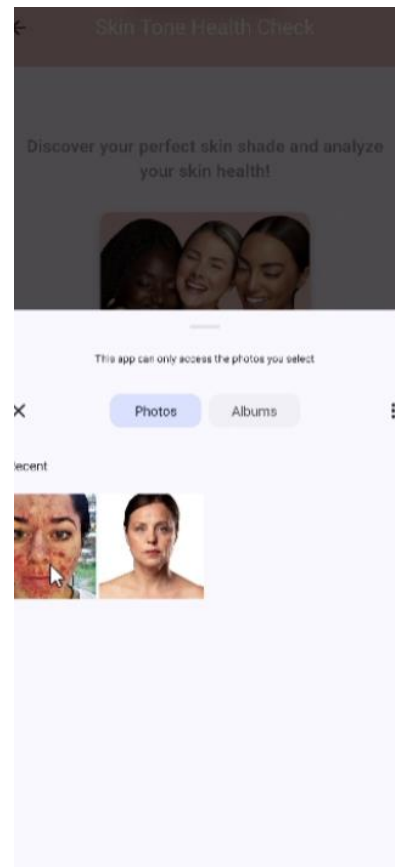
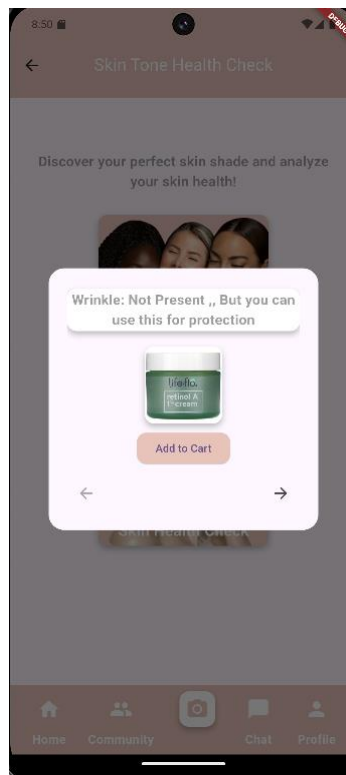
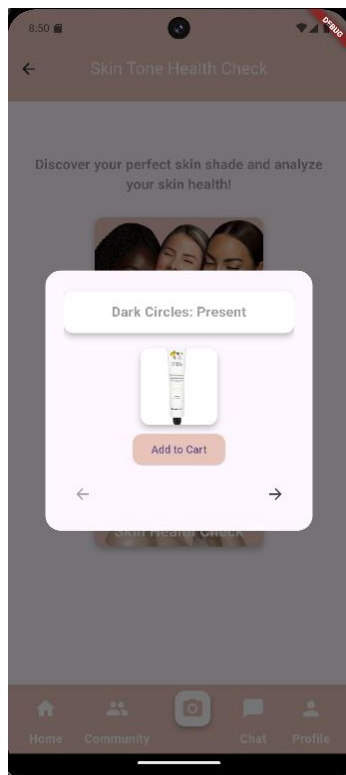
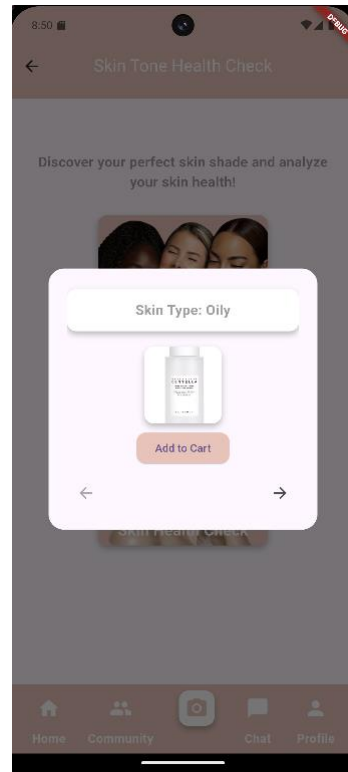
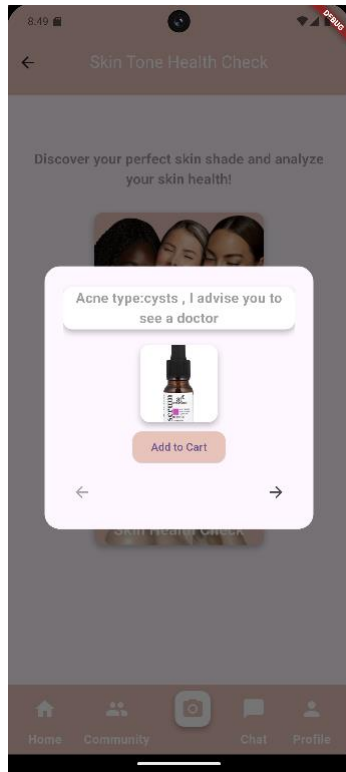
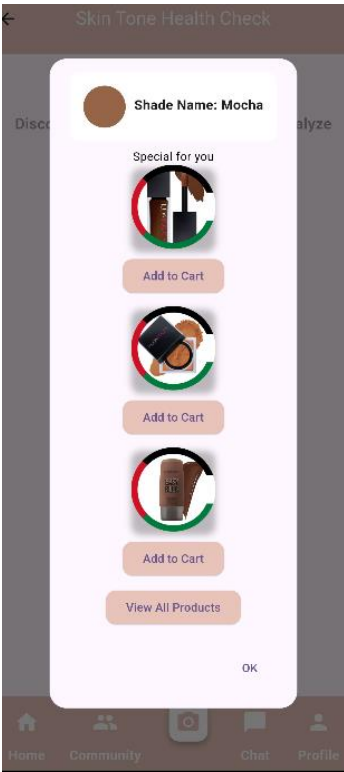


Figure 29 Select image





4.2.4.6 Chat Page

chat provide a structured overview of all conversations presently in progress with other users. From this vantage point, users obtain a summarized version of each chat, whose attributes include the name of participants and a few words of the most recent message. Upon selection of a chat, opening the entire view of the chat won't be an issue, and users will be able to read previous messages as well as share new ones.

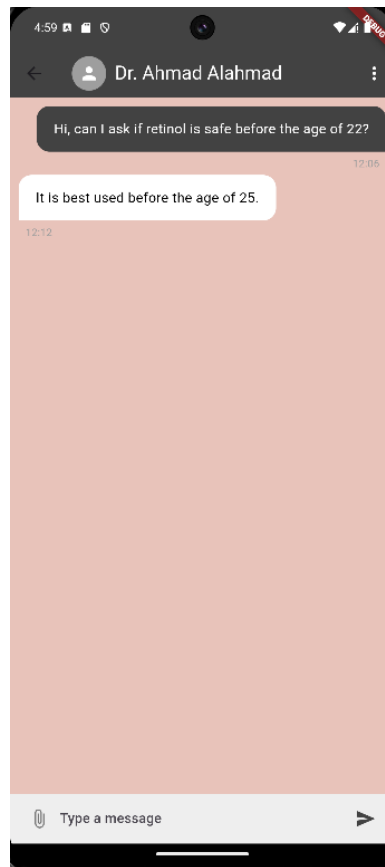


Figure 30 Private Chat

4.2.4.7 Profile Page

The profile will return substantive information about the person concerned: name, emails, telephone numbers, and so on, as per the expected data. Users modify their details on their personal page; they can change this value, their skin type, lockout, or allergies and other preferences. Equally, the application itself will use this information to ensure that all updates and credentials are current and hence provide users with a customized experience.

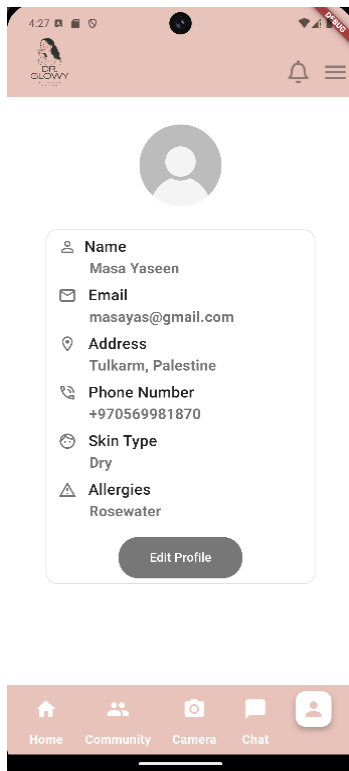


Figure 31 Customer profile

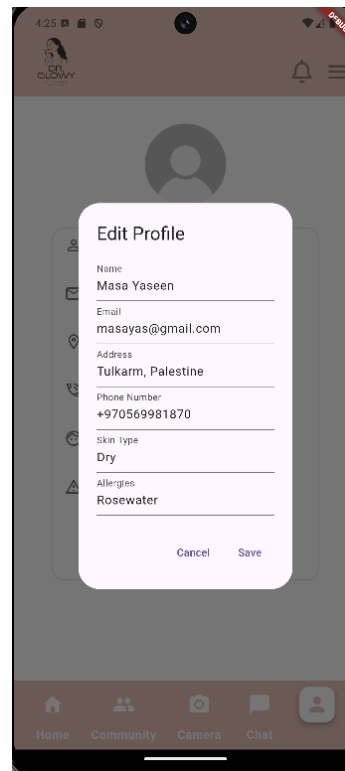


Figure 32 Customer edit profile

4.2.4.8 Chatbot Page

Dr. Glow is a chat-facing AI interface that answers questions in barely real-time about skincare through the Rasa API. While provided as a quick fix for distressed users, the Bot finds a solution for the problematic skin condition and simultaneously advises on treatments generally and dermatological questions. Users can simply type in their questions in the box, and the bot shall respond to them instantly.

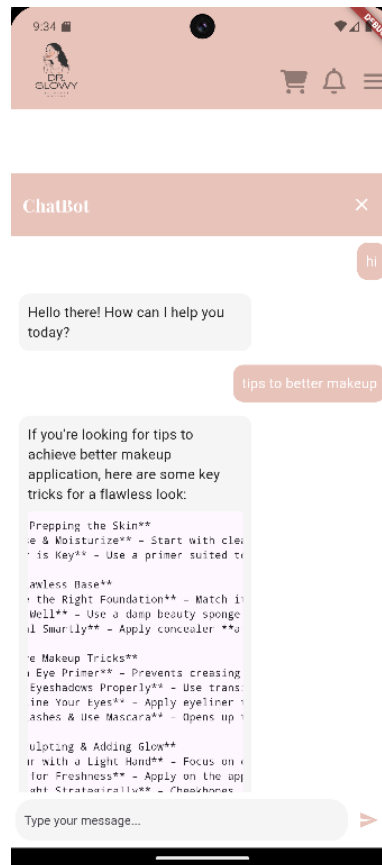


Figure 33 Chatbot

4.2.5 Doctor Pages

4.2.5.1 Home Pages

The home page is utilized by physicians to reach the critical applications easily. Through navigation buttons, the Medical Library provides articles, videos, and other resources for exploration by physicians; in the Scheduling area, doctors manage their appointments. The bottom navigation is the quick access to Community, Chat, and Profile. Inviting notifications keep doctors up to date with significant news.



Figure 34 Doctor home page

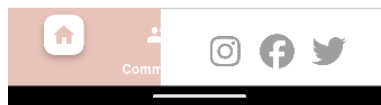


Figure 35 Doctor menu



Figure 36 Doctor Notifications

4.2.5.2 Scheduling Pages

Doctors should keep an eye on booking appointments on this page therefore it should be neat and clean. It provides a neat view of the calendar, showing what time is available for booking and which of the consultations are already booked. The doctor will check on a daily, weekly, or monthly basis what will keep him in shape with regard to his consultations. Each appointment card lists the patient's name time of appointment and reason for visit.

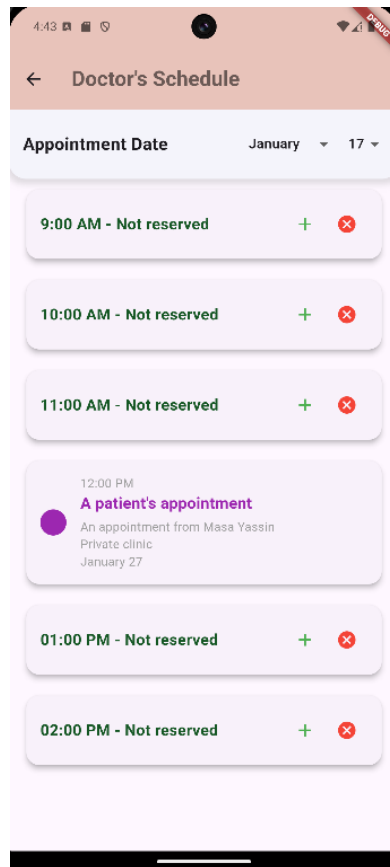


Figure 37 Scheduling

4.2.5.3 Medical Library Pages

The Inventory page is very crucial for doctors. It is a simple but flexible way of organizing the stock of a clinic. There is a checklist of all the supplies required so that doctors can know what stock is present and what needs to be ordered. This is good for doctors because they only need to know which stock is available and which needs to be ordered to ensure smooth running in the day-to-day operations.

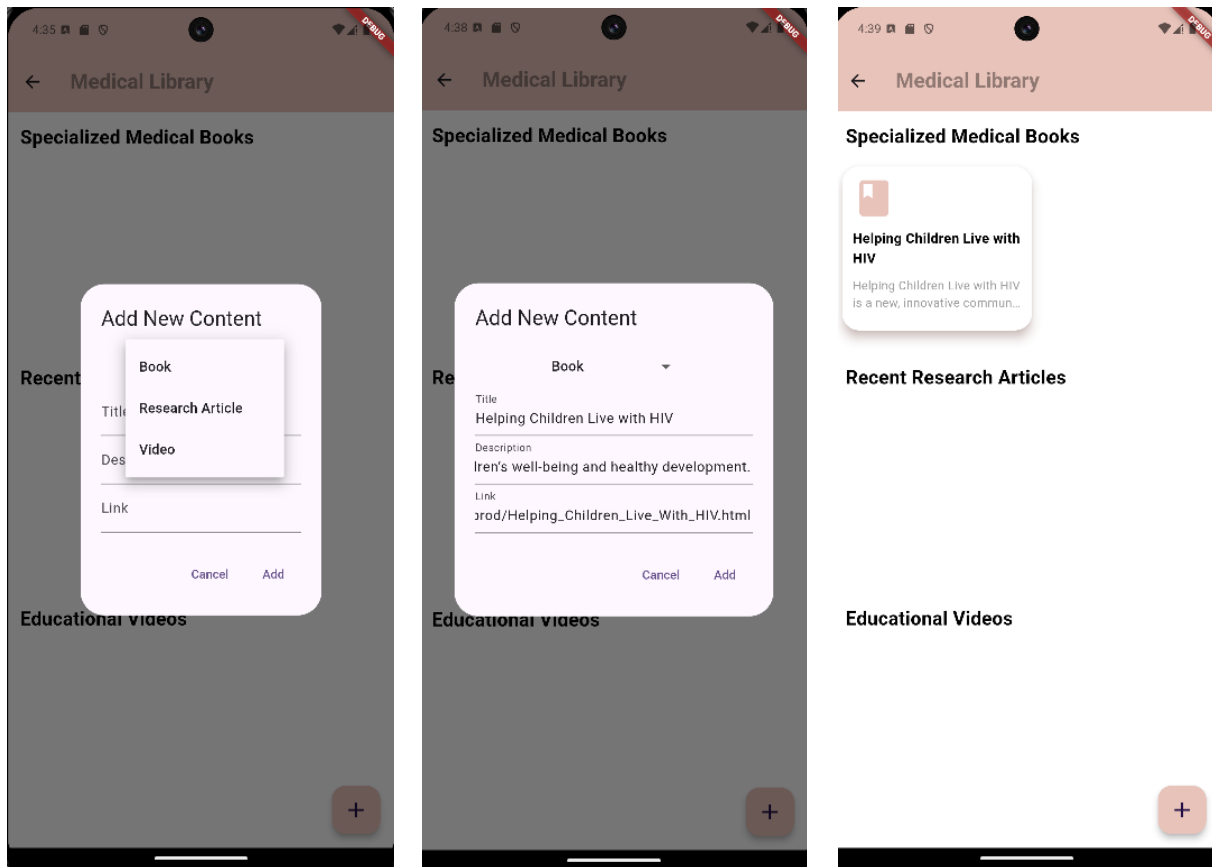


Figure 38 Add book

4.2.5.4 Community Pages

Issues, experiences, tips, and questions concerning skincare, beauty products, or anything else of interest can be discussed in this community space. The page is, however, user-interactive; users may like each other's posts and comment, thus making it an absolutely viable space for conversations about sharing counsel and experiences, in the meantime promoting a feeling of belonging.

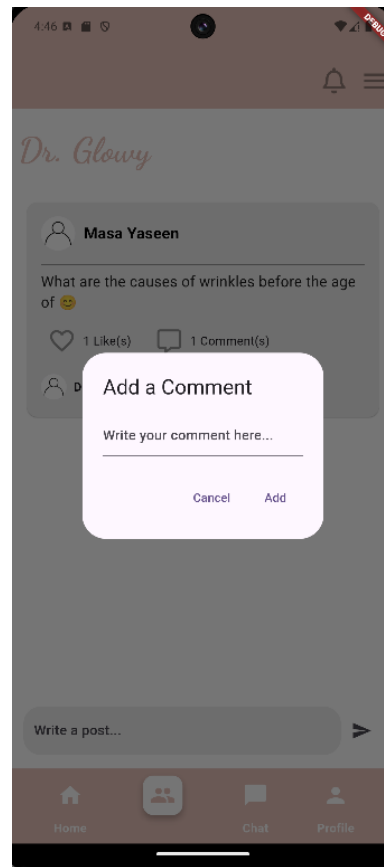
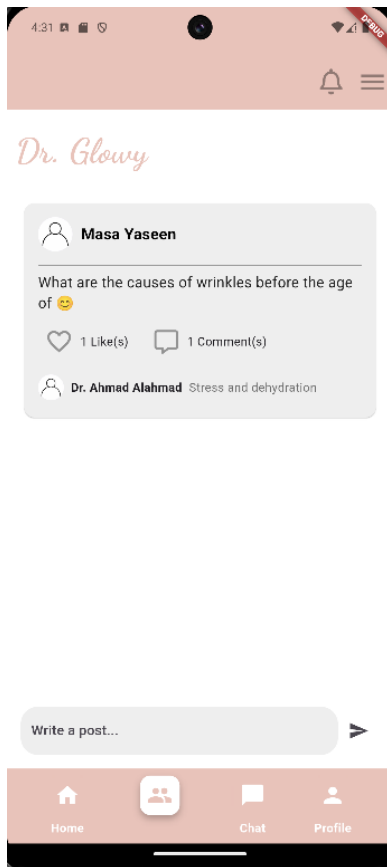


Figure 39 Doctor Community

4.2.5.5 Chat Pages

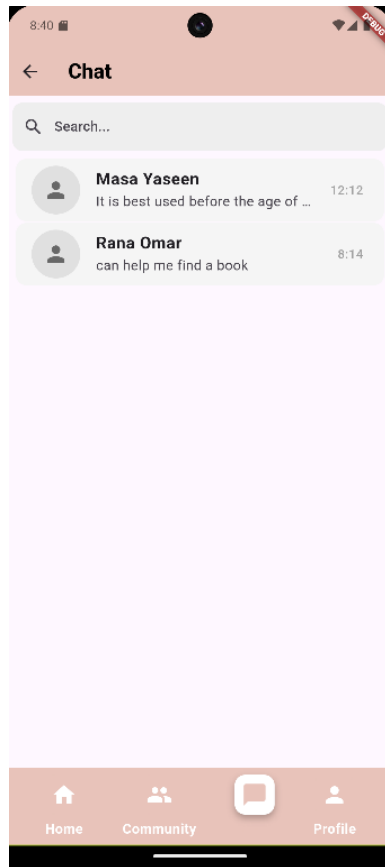


Figure 40 Doctor chat

4.2.5.6 Profile Pages

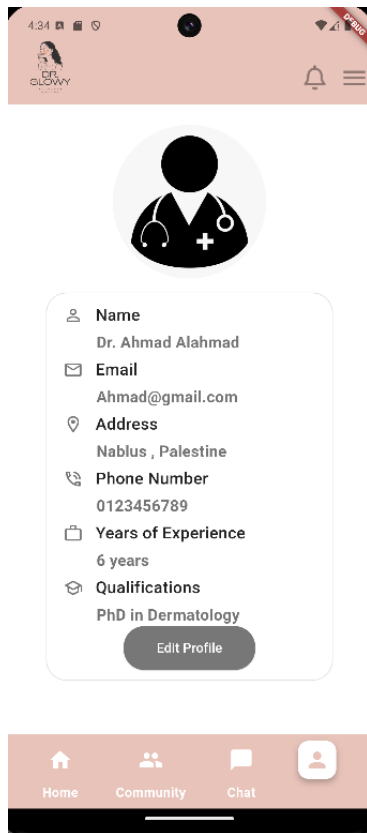
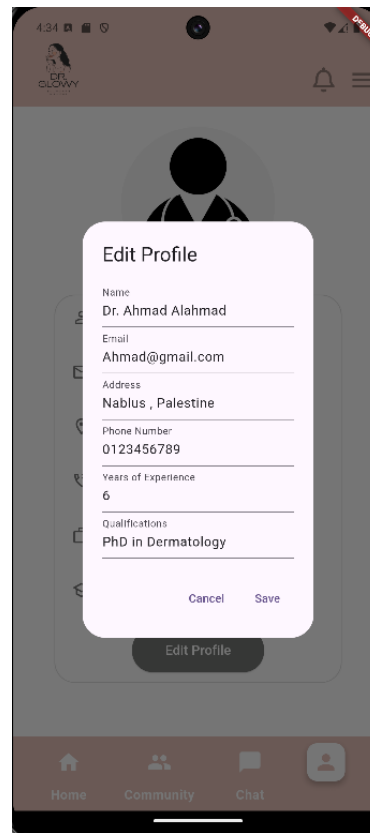


Figure 41 Doctor profile



4.2.6 Company Pages

4.2.6.1 Home Pages

The homepage of businesses focuses on its main functions, to add new products in either Skincare or Makeup. Order management helps to keeping track of customer orders and ensures that they're being supplied smoothly and swiftly. A bottom navigation gives access to other areas such as Community, Chat, or Profile.

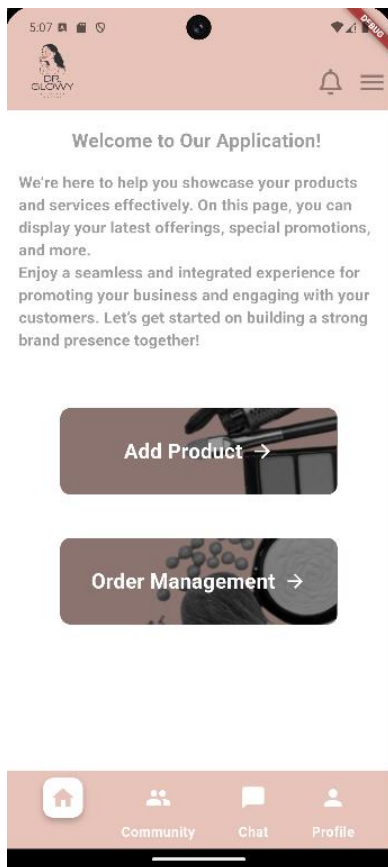


Figure 42 Company home page

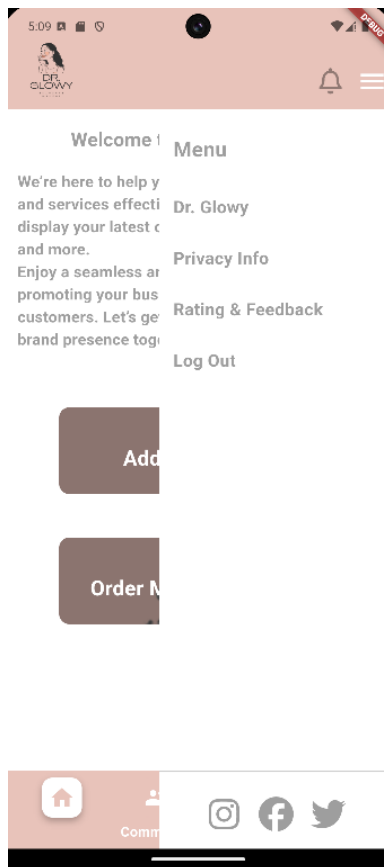


Figure 43 Company menu

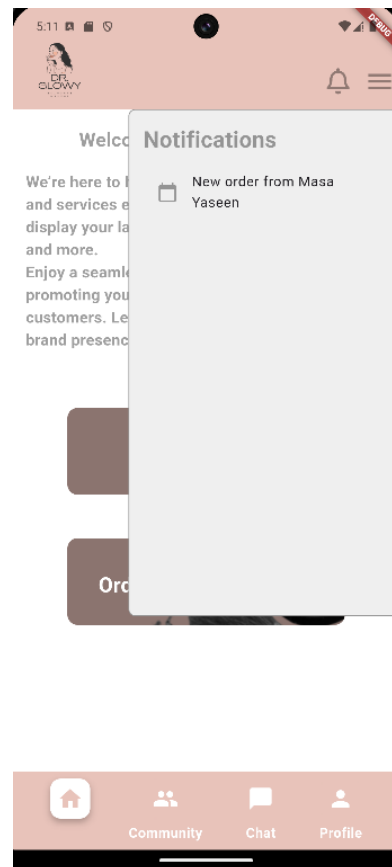


Figure 44 Company Notifications

4.2.6.2 Add Product Pages

With the Add Product function, a company can now capture fundamental details of a product, for example, its name, description, price, photos, etc. They can specify a type of the product which could be Skincare, and or Makeup and may also specify other relevant details like allergens and warnings.

7:54

← Add Product

Highlight

Product Image

Upload Image

Selected Image:

Price

₦190.00

Description

Mini Glow Obsessions Highlighter Face Palette

Allergens

Skin Type

Combination

Figure 45 Add product

8:04

← Add Product

₦170

Description

FauxFilter Luminous Matte Concealer

Allergens

Skin Type

Category

Makeup

Sub-Category

Foundation

Quantity

120

Save Product

Product Added

The product has been added successfully.

OK

4.2.6.3 Order Management Pages

A company has the capability to track and manage the orders made by clients, thanks to the Order Management feature. The firm can also see the order information which includes user details, ordered products, amount and payment and shipment details. The company is also able to change the order status to either Pending/Complete and manage the orders accordingly.

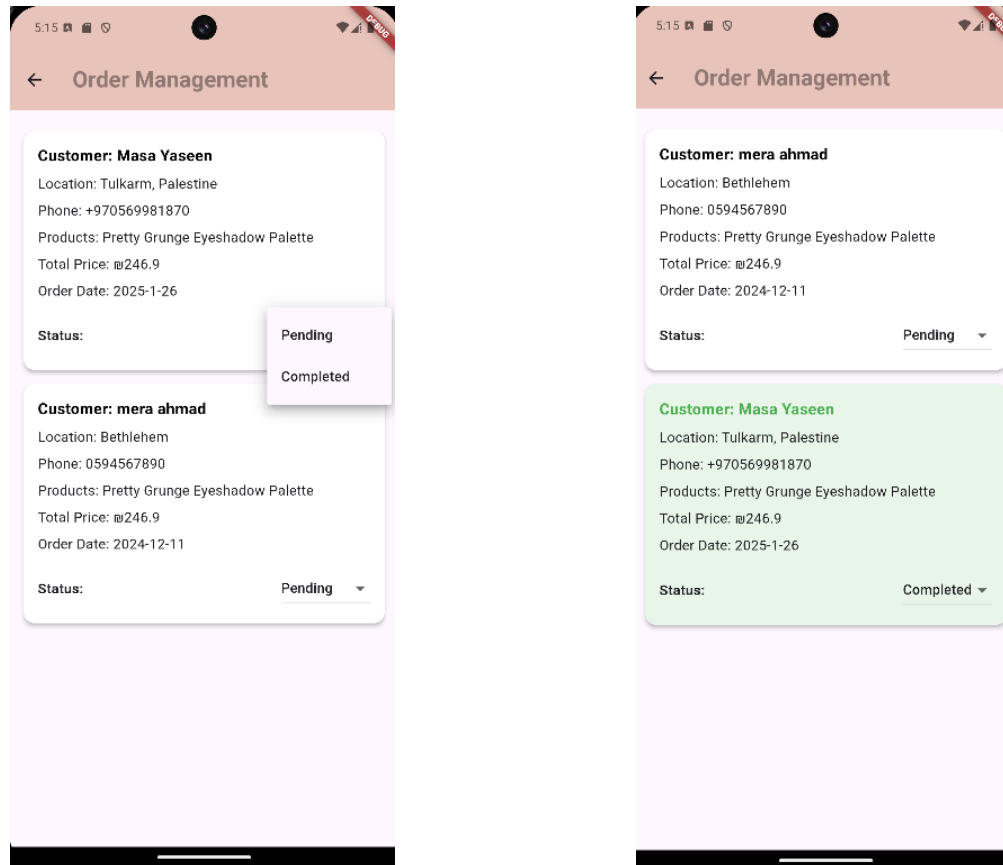


Figure 46 Order Management

4.2.6.1 Community Pages

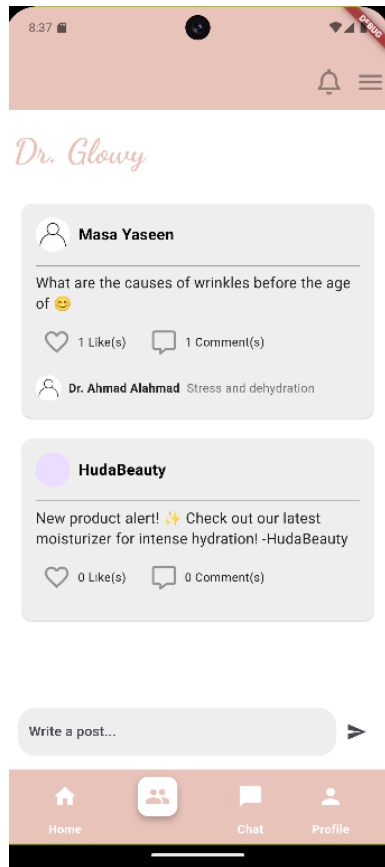


Figure 47 Company Community

4.2.6.1 Chat Pages

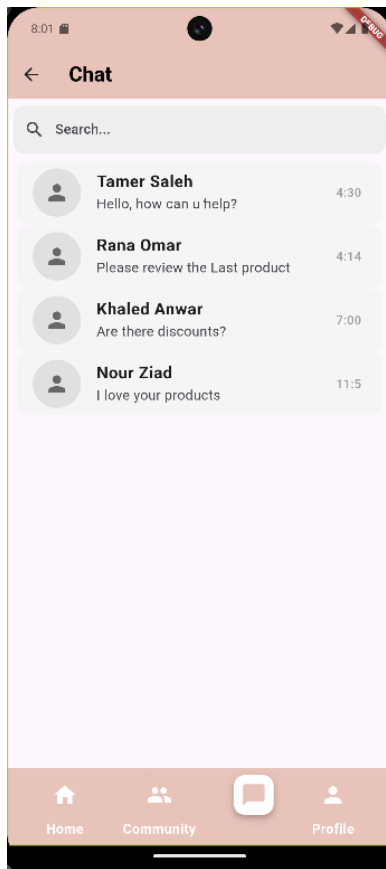


Figure 48 Company chat

4.2.6.1 Profile Pages

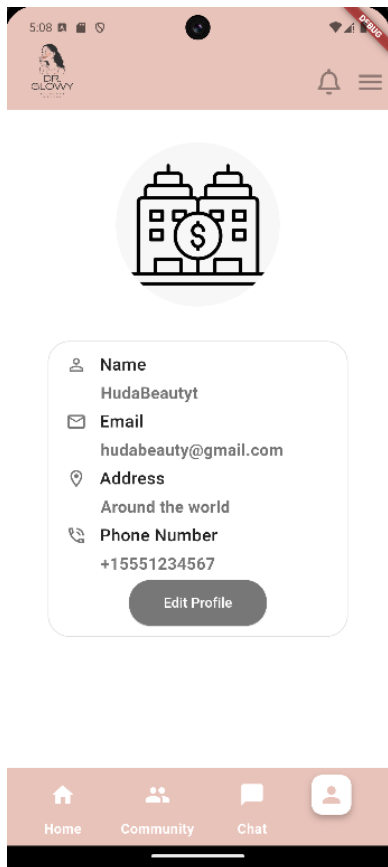


Figure 49 Company profile

4.2.7 Admin Pages

The admin homepage will provide a central point for administering the users and products of the platform. Admins will have universal access to a user account to view, edit, and administer customer, doctor, and company profiles. Admins will be able to oversee the usage of the system, view and administer all orders, and act where applicable. The admin section also provides some important settings and data concerning the platform, ensuring its free operation and compliance with ethical issues.

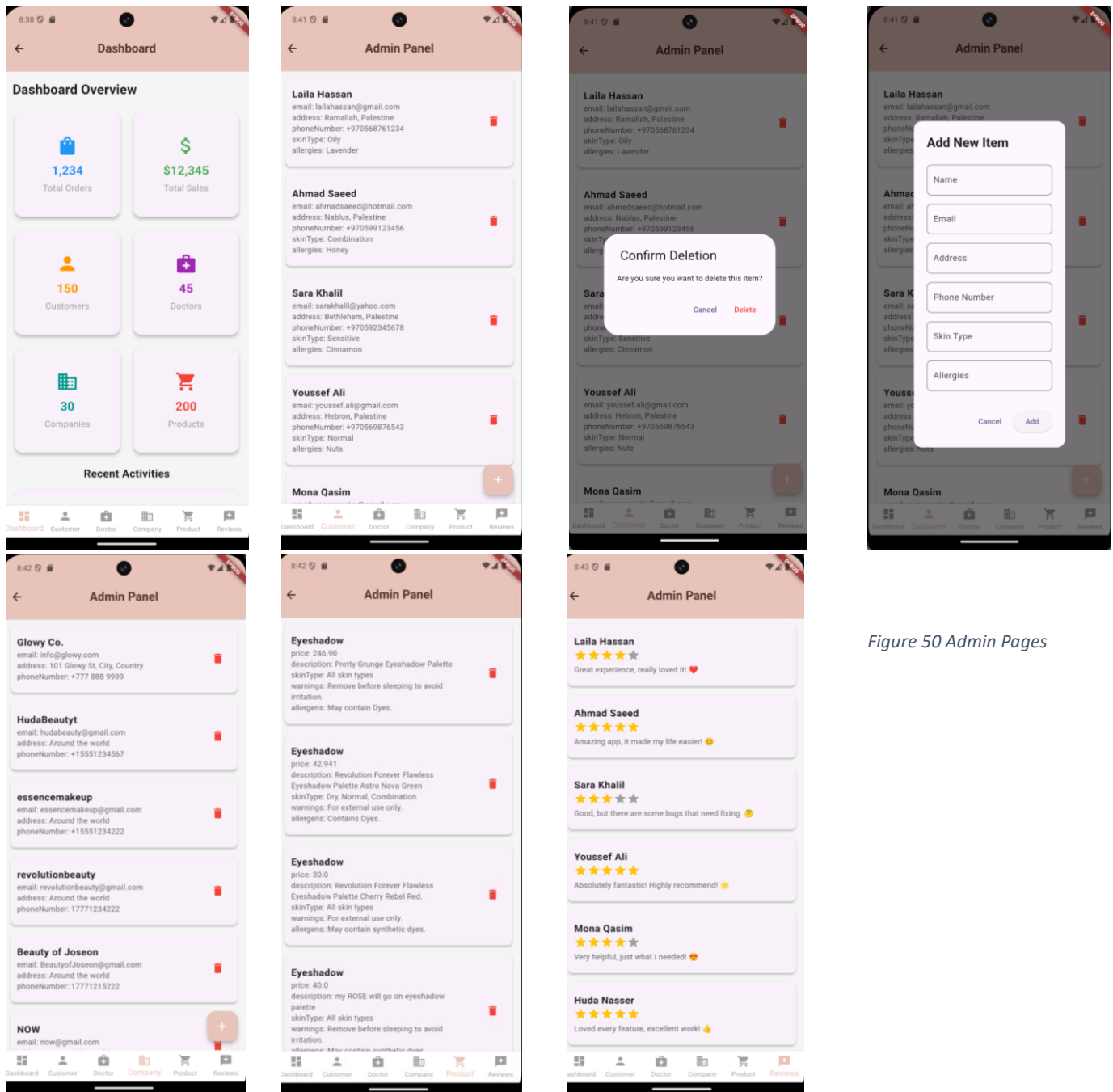


Figure 50 Admin Pages

5 Results and Analysis

6.1 Results Overview

With the Glowly attribute set and modern and integrated experiences, it caters to all researchers, doctors, and companies in the beauty, dermatology, build, and skincare lines. It has a product catalog, booking of doctors, recommending systems, and chatbots for skincare and beauty.

Glowly uses various resources and notable platforms for consulting, shopping, community development, collaboration with doctors. Doctors respond to patient queries and conduct consultations through the indirect communication and medical updates available through the platform. The companies keep their entity compliant with ethical marketing, which is given a storage space on the platform, while the administrator will be made aware of these developments through their managerial powers.

6.2 Analysis

Dr. Glowly defines that consumer-centered functional and engaging space, along with an intuitive interface to ensure better user experiences. An organic flow between areas, like the makeup corner and skincare corner, along with personalized recommendations based on skin types or allergies, enriches the shopping experience. Customers are encouraged to make informed decisions by refining product discoveries describing product details while raising non-negotiable allergy warnings. A feature that incorporates a private doctor consultation beautifies trust and characterizes personalized care.

The community platform models well because people share their experiences and seek advice, creating a connection and rings of community.

The Medical Library and Scheduling tools sketch out doctors with your very seamless workflows by providing easy access to extensions through appointment scheduling. Private chat developed the doctor-patient relationship.

Dr. Glowly resolves how organizations will run products by virtue of the ethical limits against unethical texts in advertising. The admin dashboard helps operations greatly and professional input on what improves outcomes.

Thus, the app is good in terms of basic quality: it is easy to use and lightning fast. AI-based features further build upon these functions, chatbot-based customer support, and notifications to work throughout.

6 Conclusion and Future Work

6.1 Conclusion

The unique thing that Dr. Glowy offers is the one-of-a-kind approach it uses for dermatology skincare and precise makeup services that are individualized for the user, while at the same time promoting business ethics in all its dealings. Imagine the transformation of the app as it now has the best of both worlds, skincare and makeup, as well as doctor's consultations which are supporting the creation of a friendly community that in turn monitors the improvement of customer value.

This app helps medical professionals manage administrative work more efficiently with useful tools such as a medical library and booking systems, which enables them to prioritize caring for a patient.

Dr. Glo is a company that operates on the business side and also meddles in technology. The business model is focused on the adherence to ethical practices and therefore all the products that are connected to unethical practices directly or indirectly are not sold under the Dr. Glowy name. To streamline everything, the admin has a manageable and useful dashboard that makes a toolkit for inter-party communication. At the end of the day, being client-oriented, Dr. Glowy can adapt its services to the client's tastes and trust, thereby becoming personalized and user-friendly.

6.2 Future Work

Despite the fact that Dr. Glowy possesses a very powerful platform, there is still the possibility for growth.

The future developments probably refer to an extension of the AI recommendations to a deeper state of personalization, amalgamation of advanced skincare diagnostics, or integrating features like virtual consultations and augmented reality (AR) for makeup testing into the mobile app.

Doctor-Prescribed Material Creation: This medium gives a chance to doctors to create and distribute materials such as skin care routines, video tutorials, and live video webinars that can be accessed directly from the app. This will not only motivate the users to get involved but will also let them receive professional advice directly from industry experts.

All the Doctor Consultation Possibilities: Video calls with the doctors for the real-time consultations, or, alternatively, a symptom checker that can facilitate the doctors' visits, by allowing the users to check the level of severity before making an appointment with a doctor.

Loyalty Program: New loyalty or reward programs where customers can collect points for every purchase, review, or recommendation, and then redeem these points for discounts or free products.

7 Website Screenshots

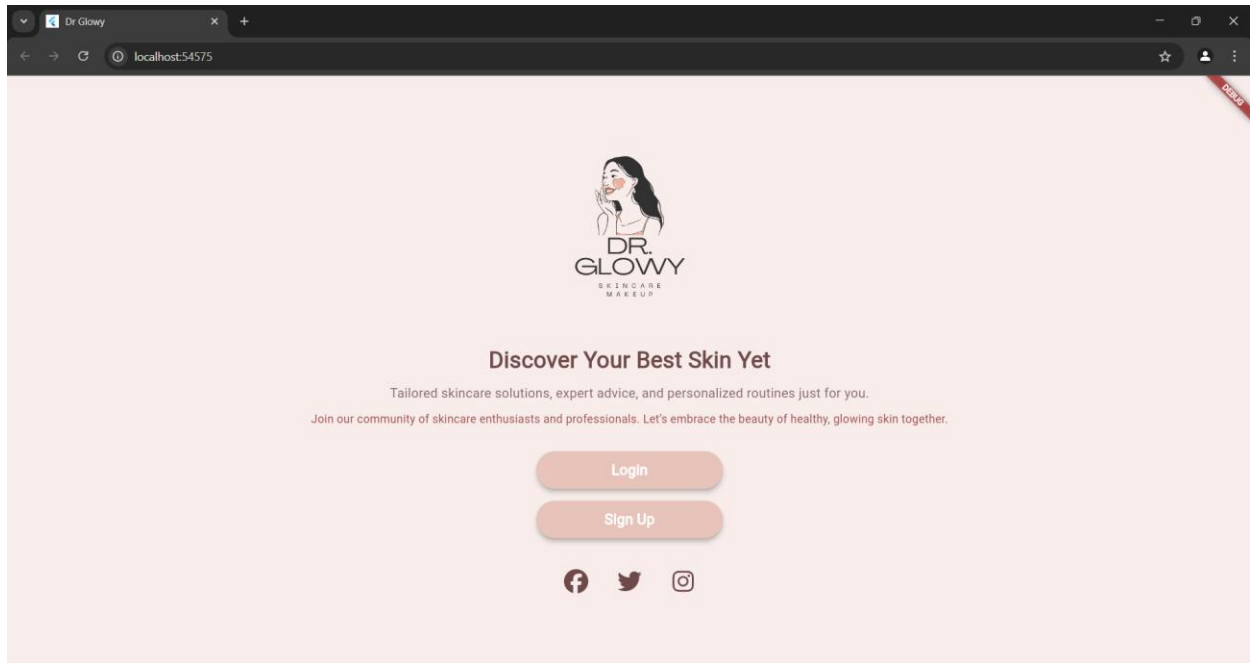


Figure 51 Welcome page

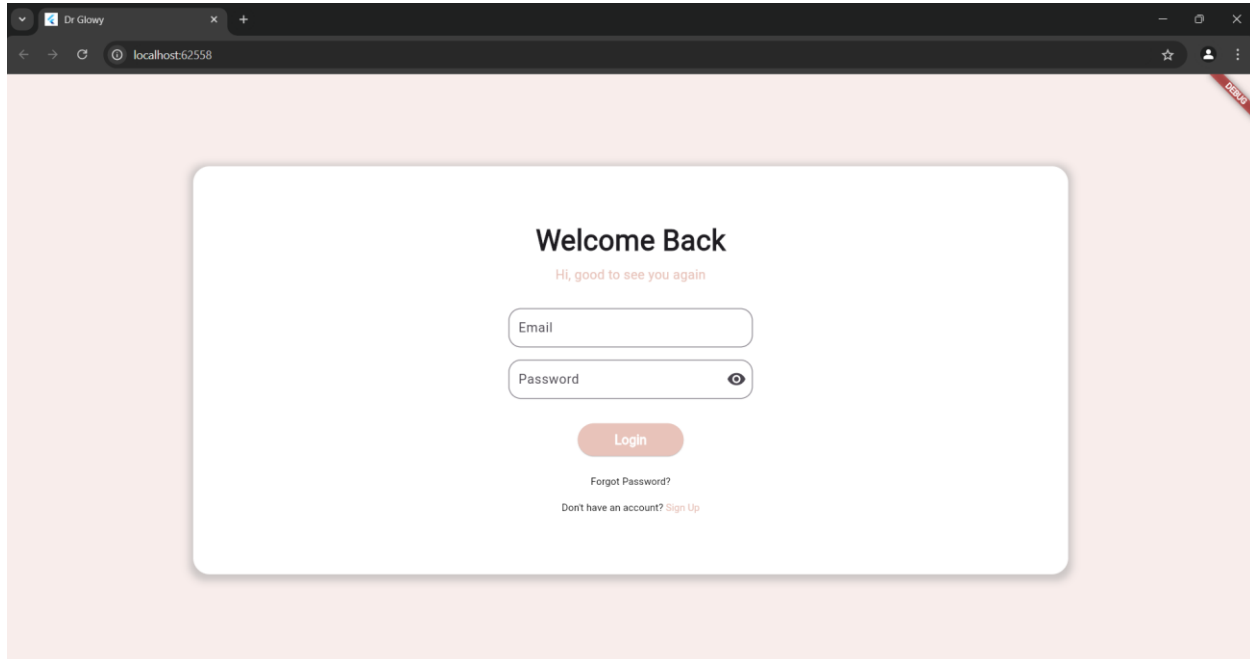


Figure 52 Login page

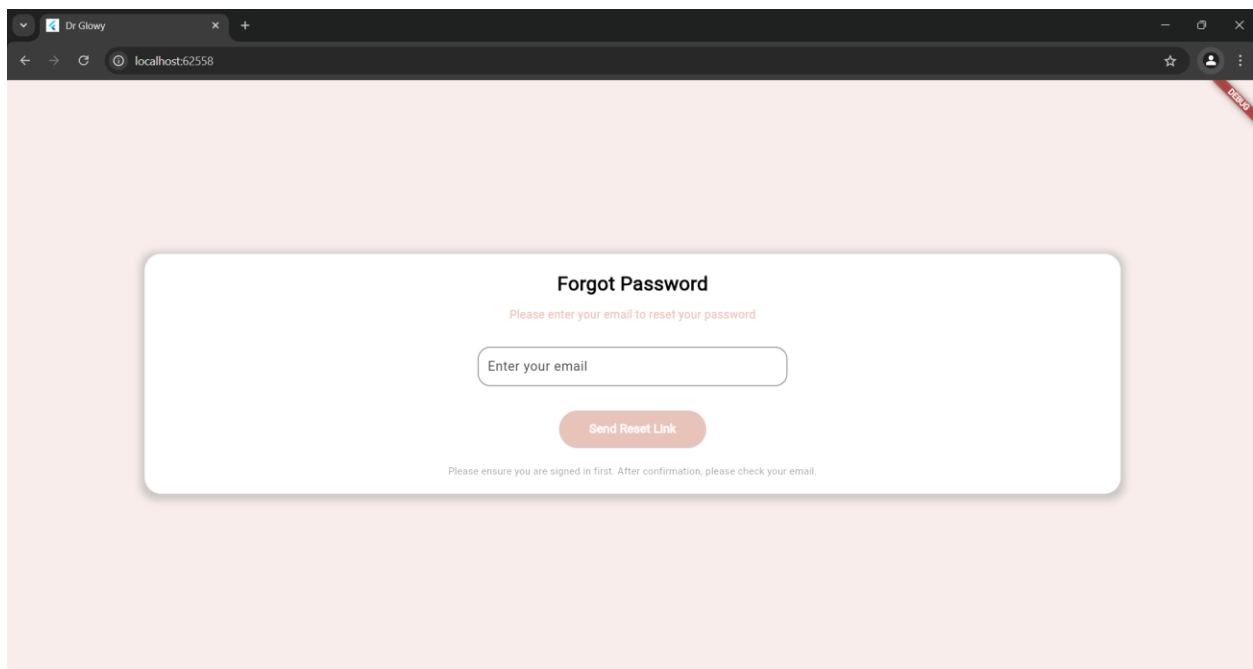


Figure 53 Forgot Pass

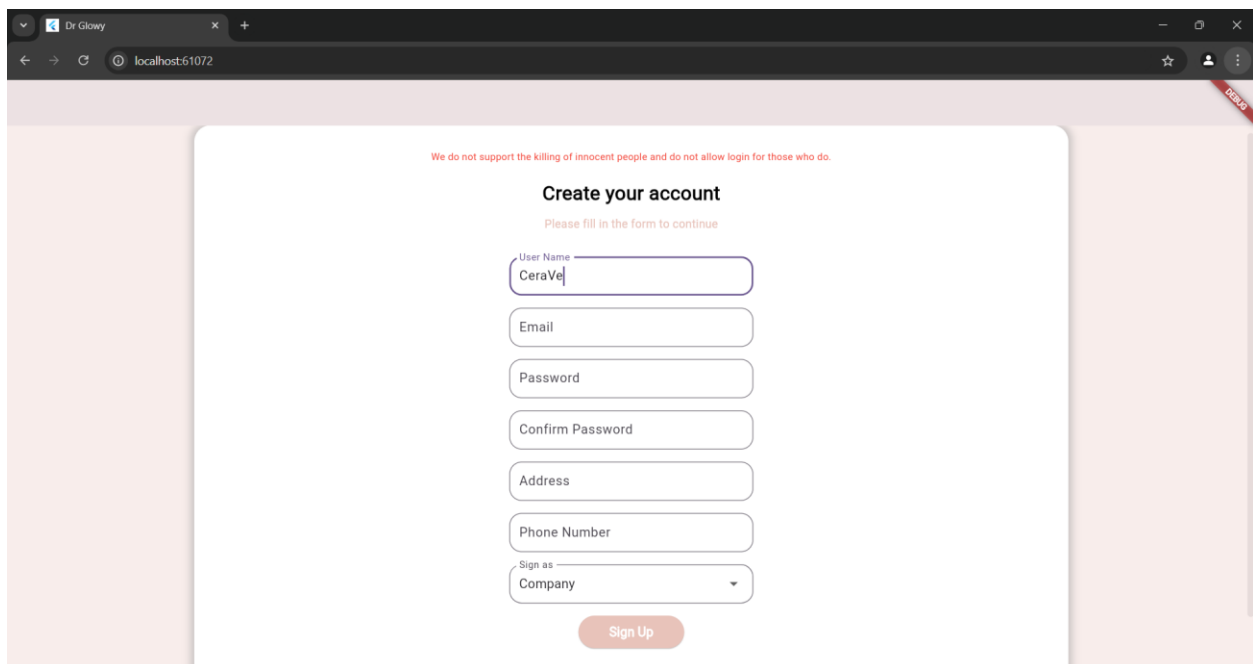


Figure 54 Signup page

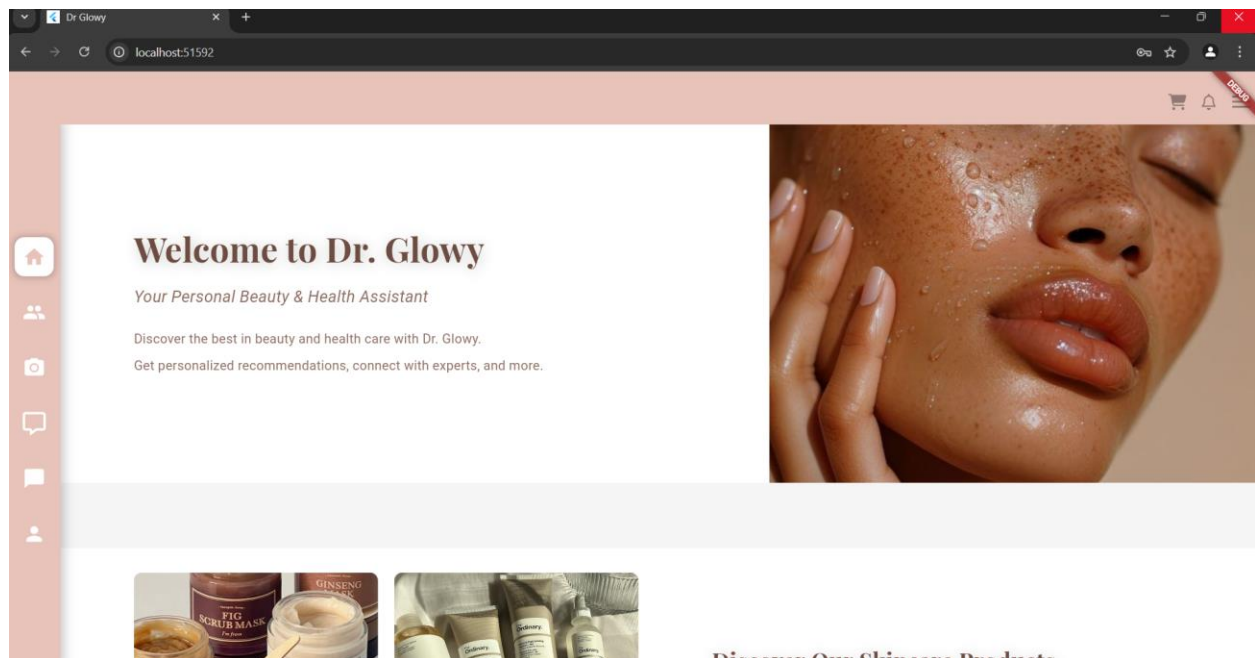


Figure 55 customer home page 1

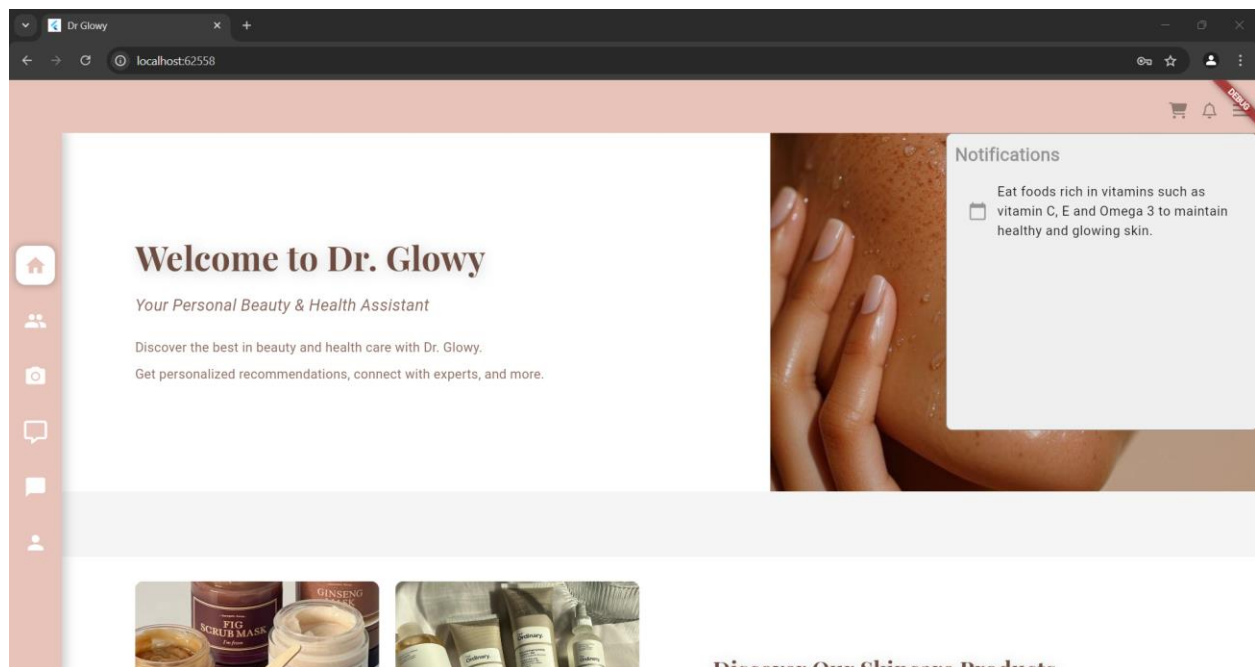


Figure 56 customer home page 2

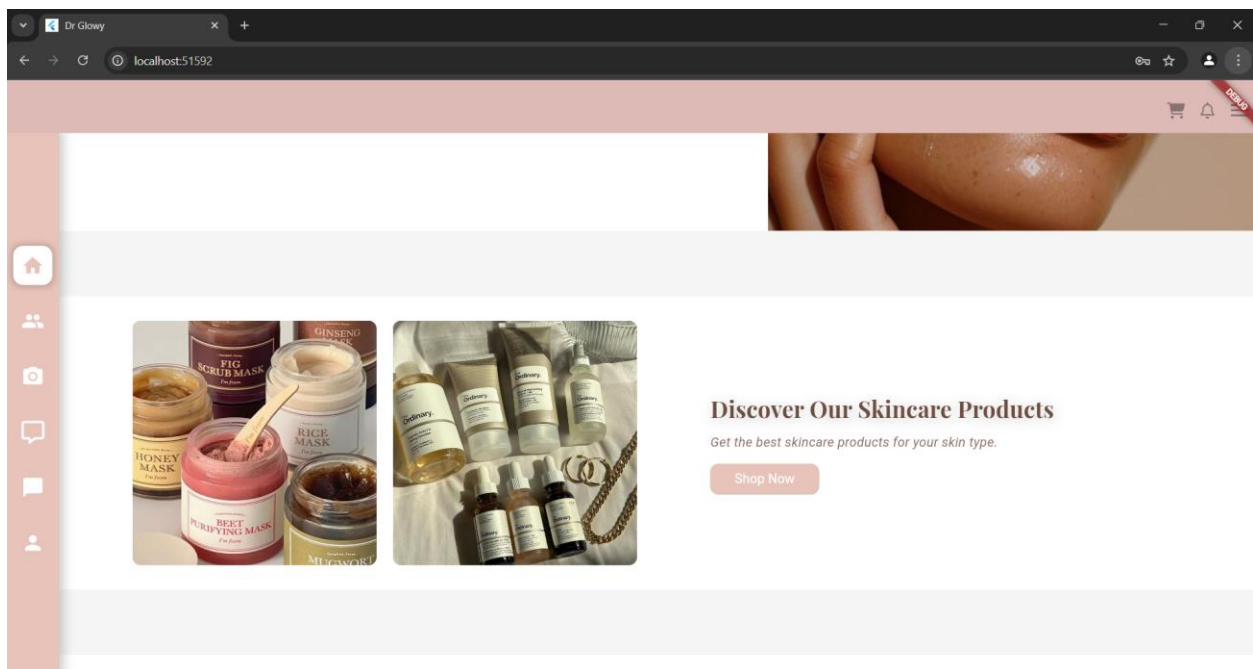


Figure 57 customer home page 3

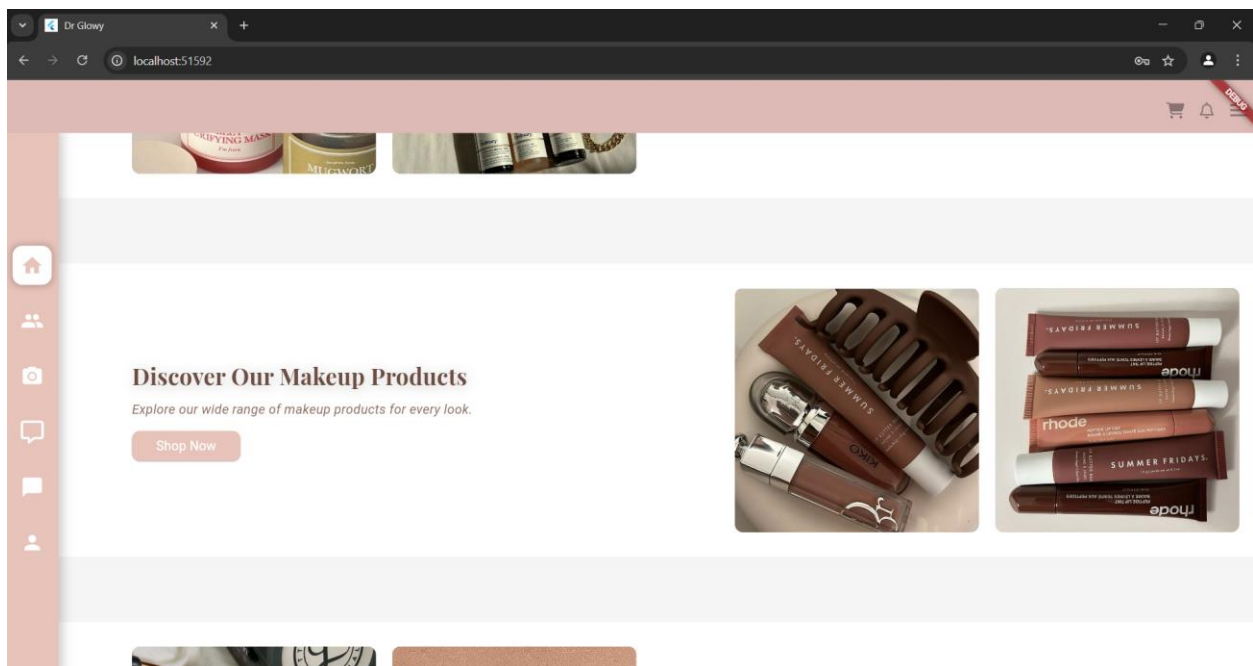


Figure 58 customer home page 4

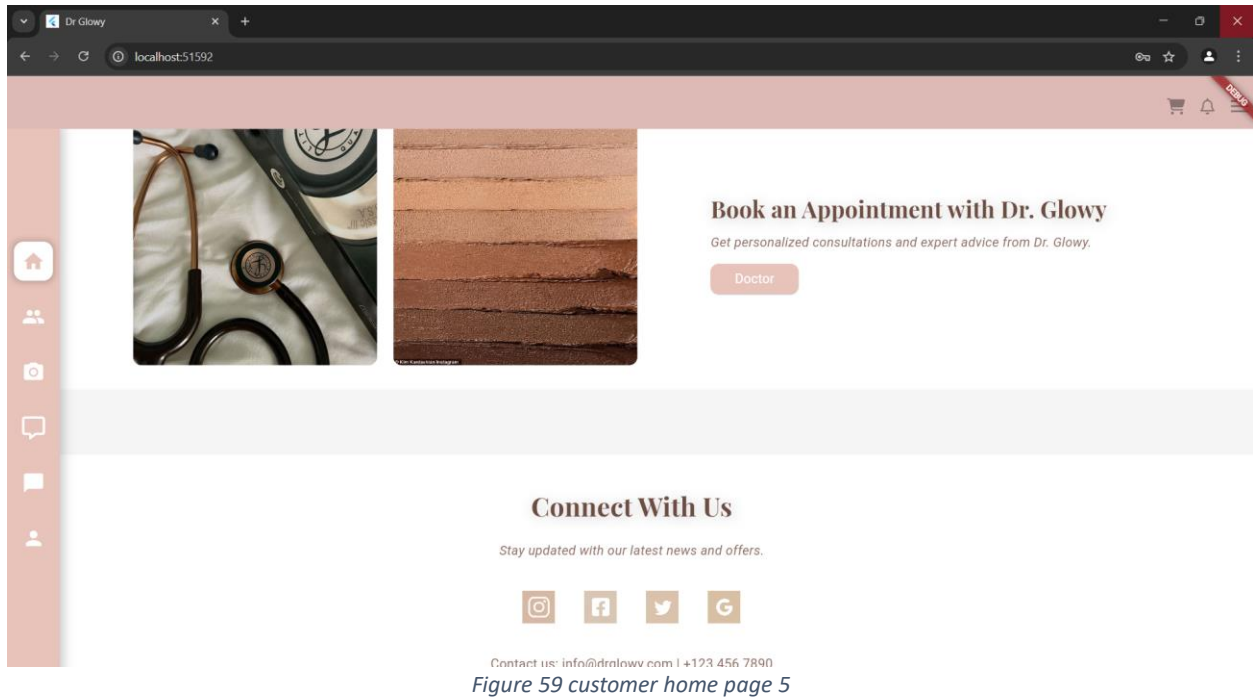


Figure 59 customer home page 5

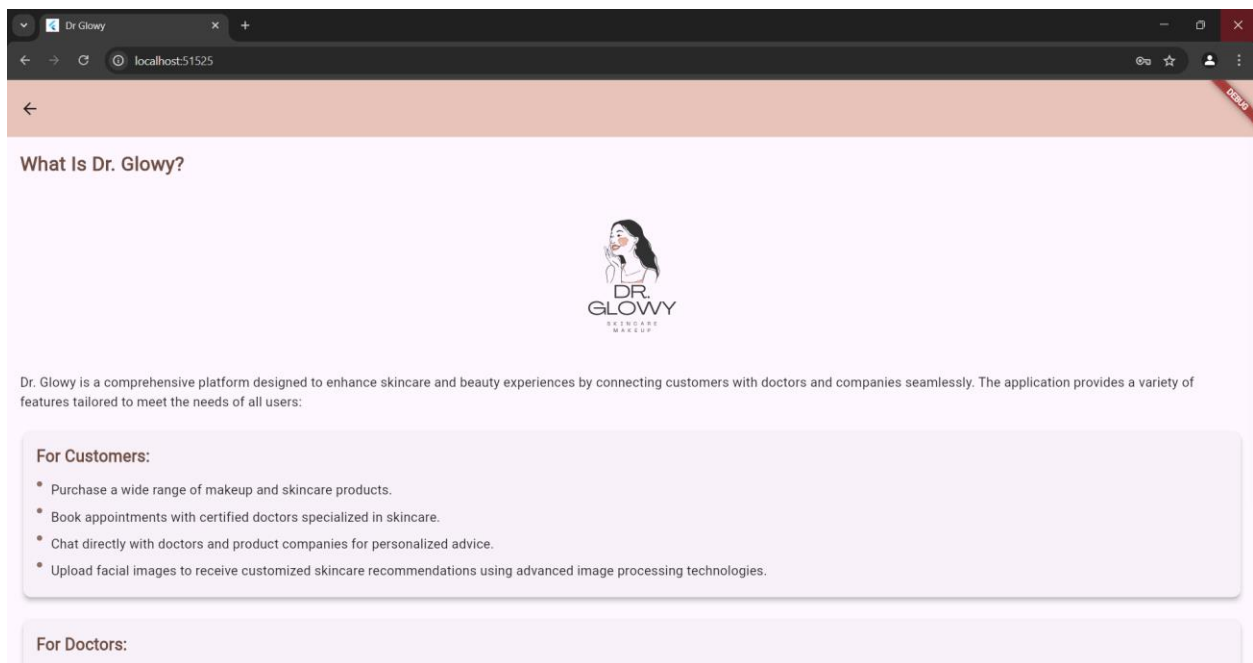


Figure 60 What is dr.glowy

Dr Glowy x +

localhost:51525

←

Enter your payment details

Payment Method

Credit Card

Card Number

MM YY

0/2 0/2

CVV

Confirm and buy

Figure 61 Payment info 1

Dr Glowy x +

localhost:51525

←

Enter your payment details

Credit Card

PayPal

Google Pay

Apple Pay

CVV

Confirm and buy

Figure 62 Payment info 2

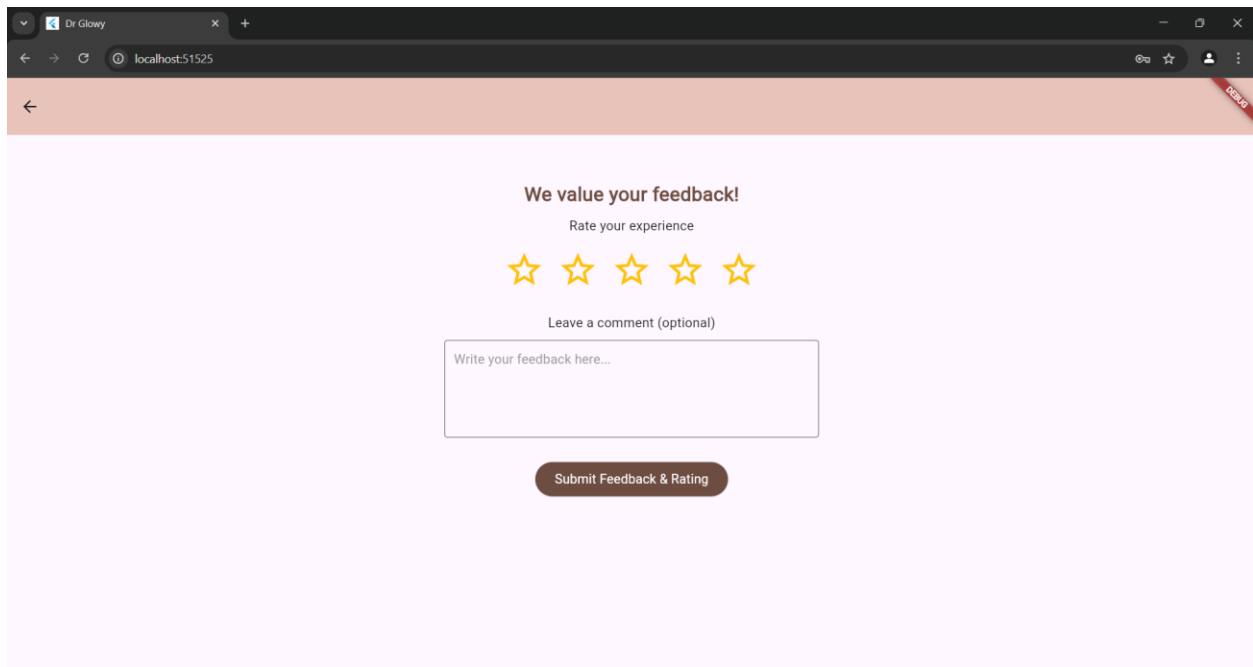


Figure 63 Feedback & rate

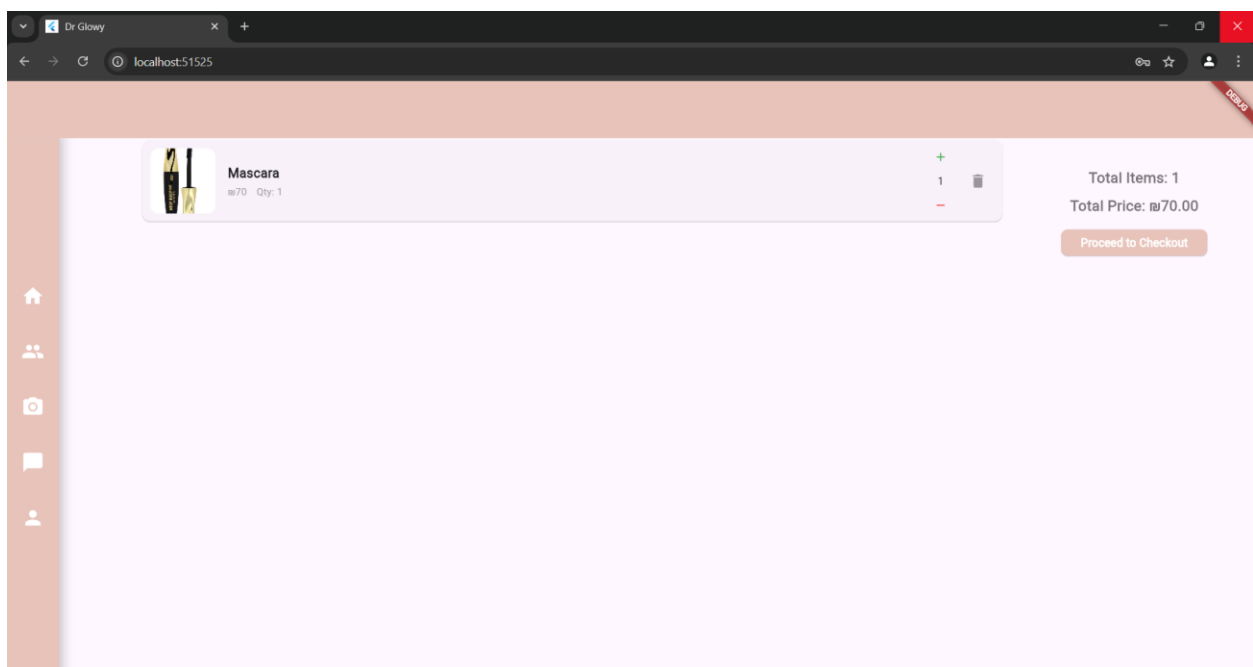


Figure 64 Card page

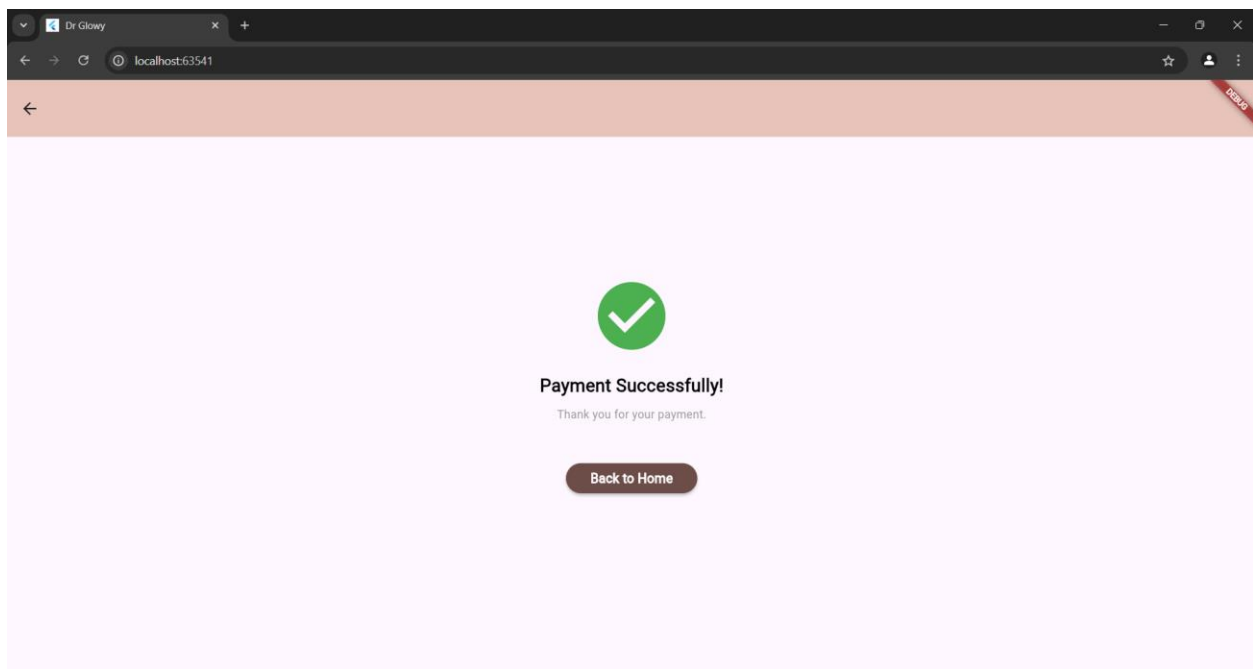


Figure 65 Payment successfully

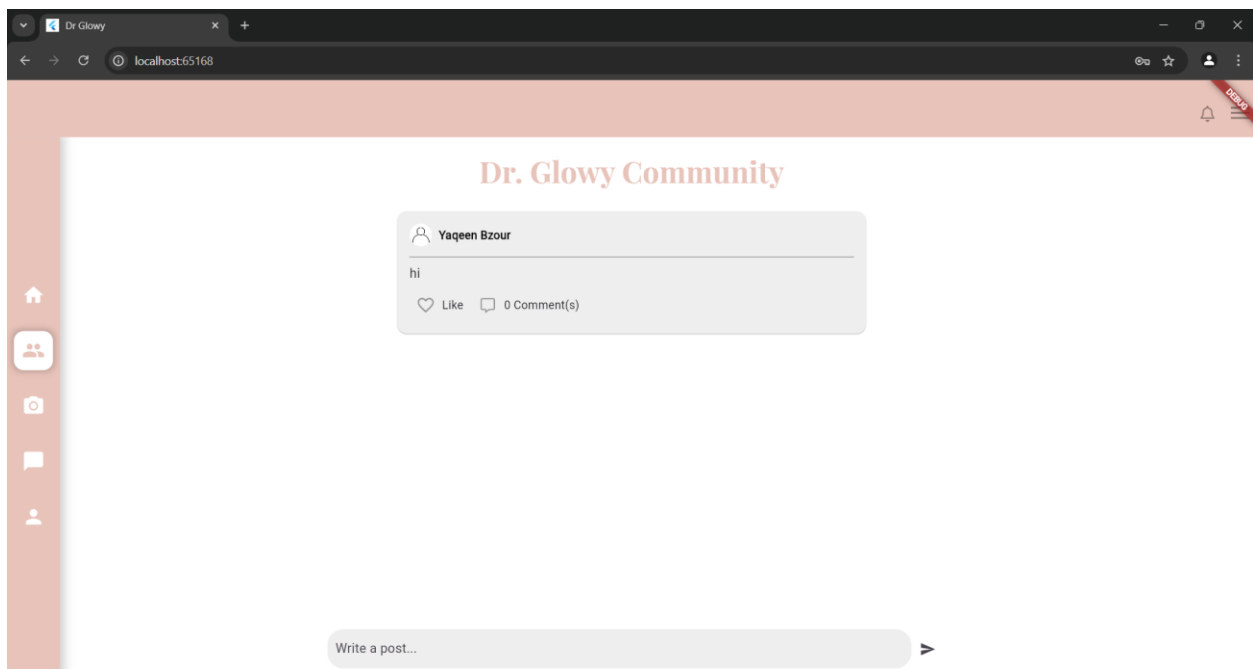


Figure 66 Customer community

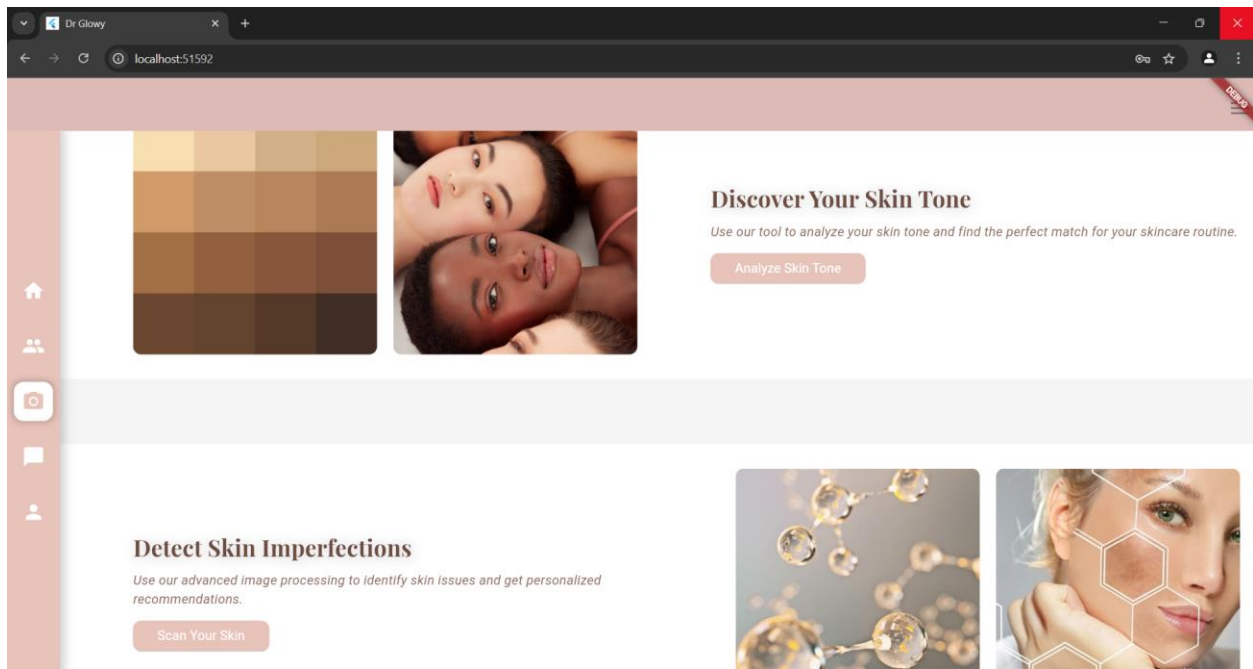


Figure 67 Camera page 1

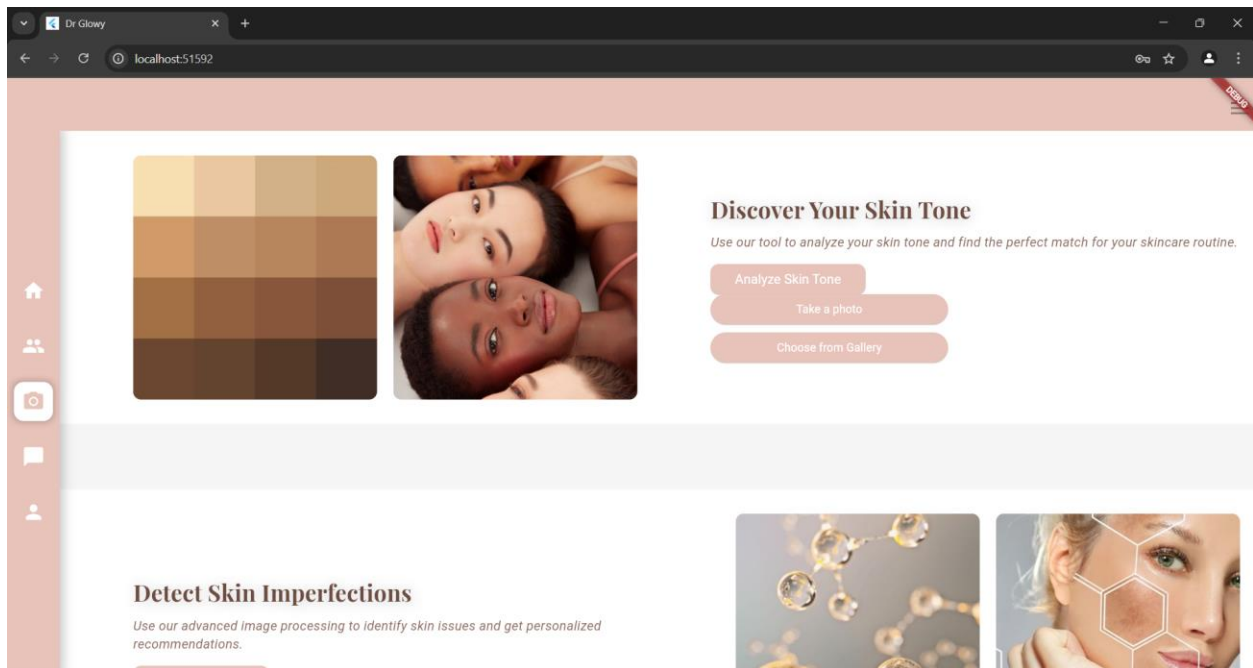


Figure 68 Camera page 2

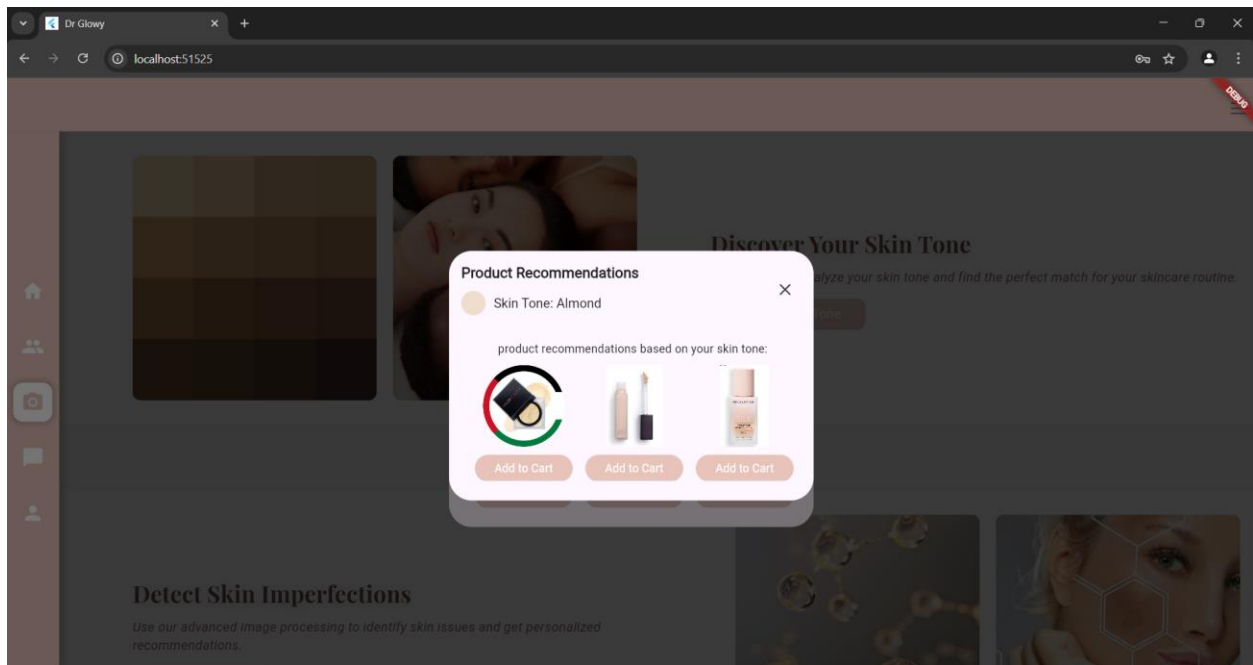


Figure 69 Camera page 3

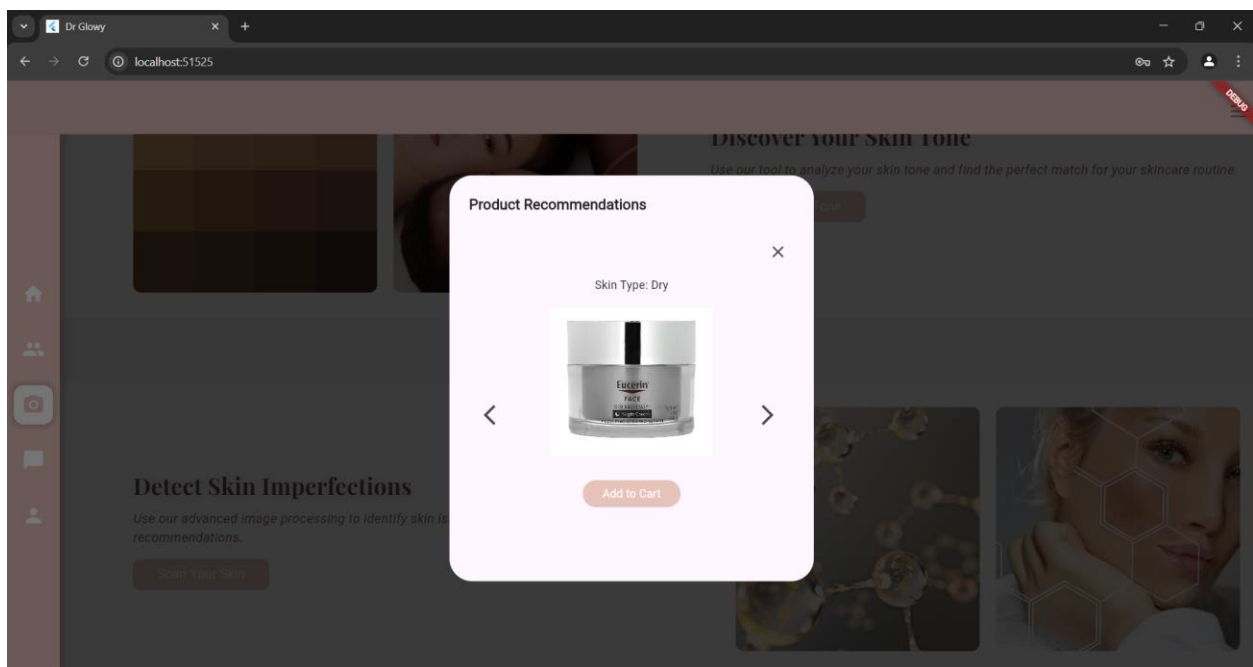


Figure 70 Camera page 4

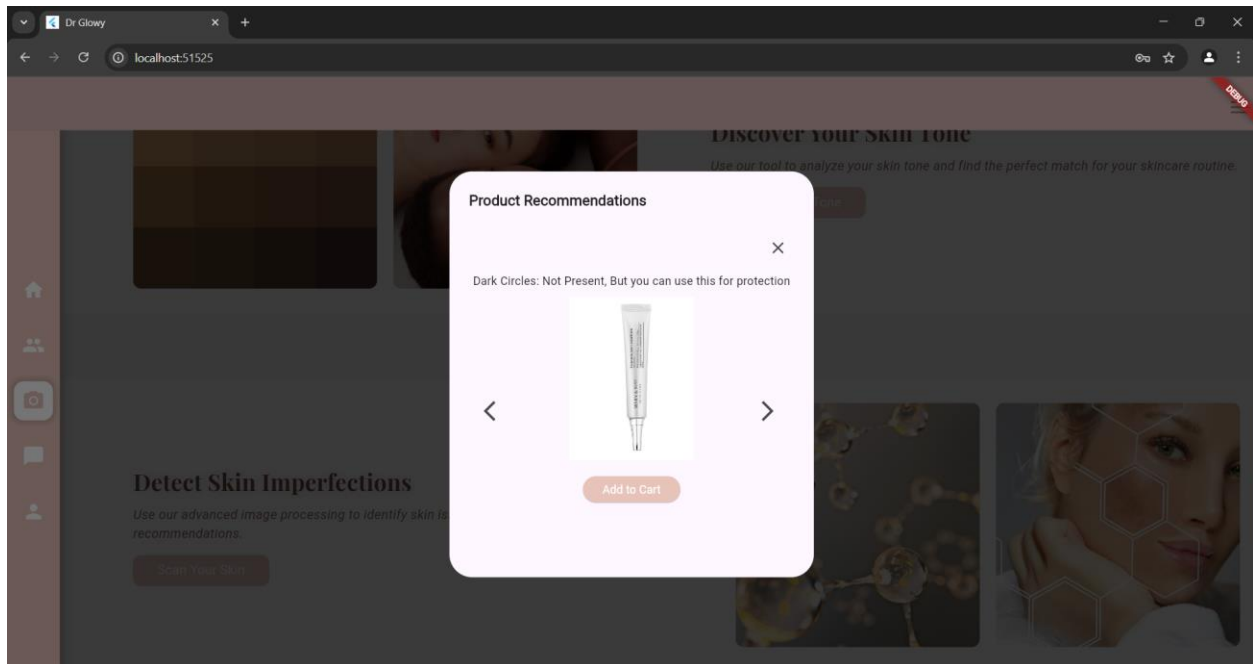


Figure 71 Camera page 5

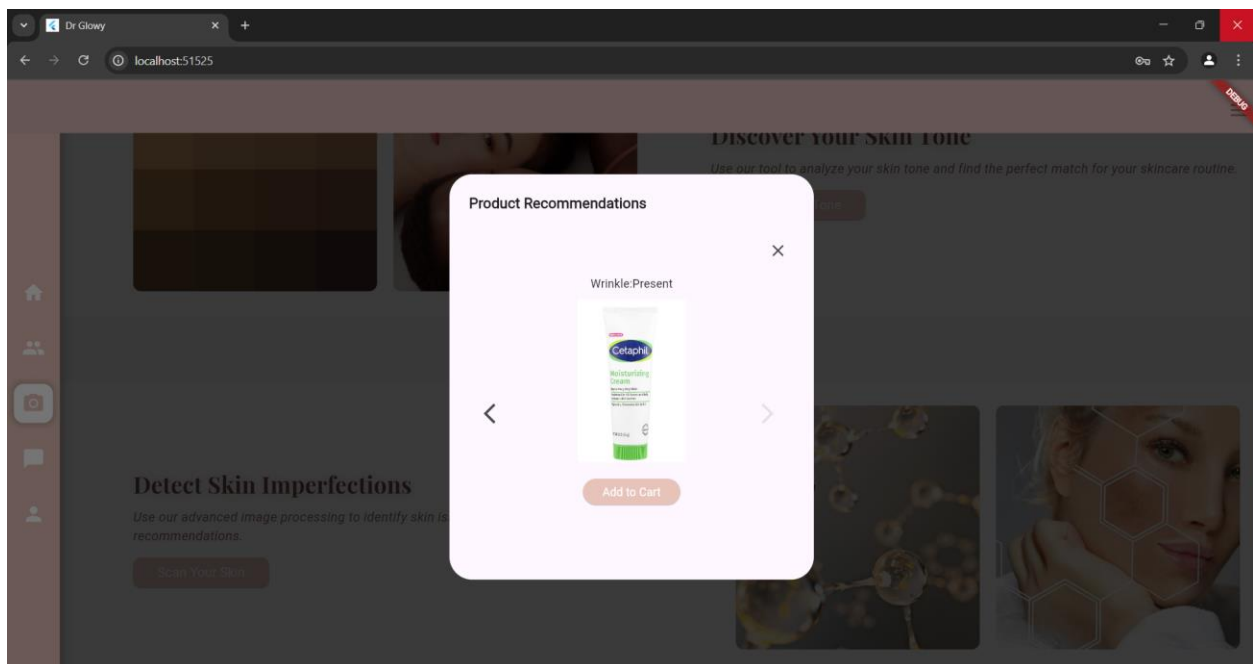


Figure 72 Camera page 6

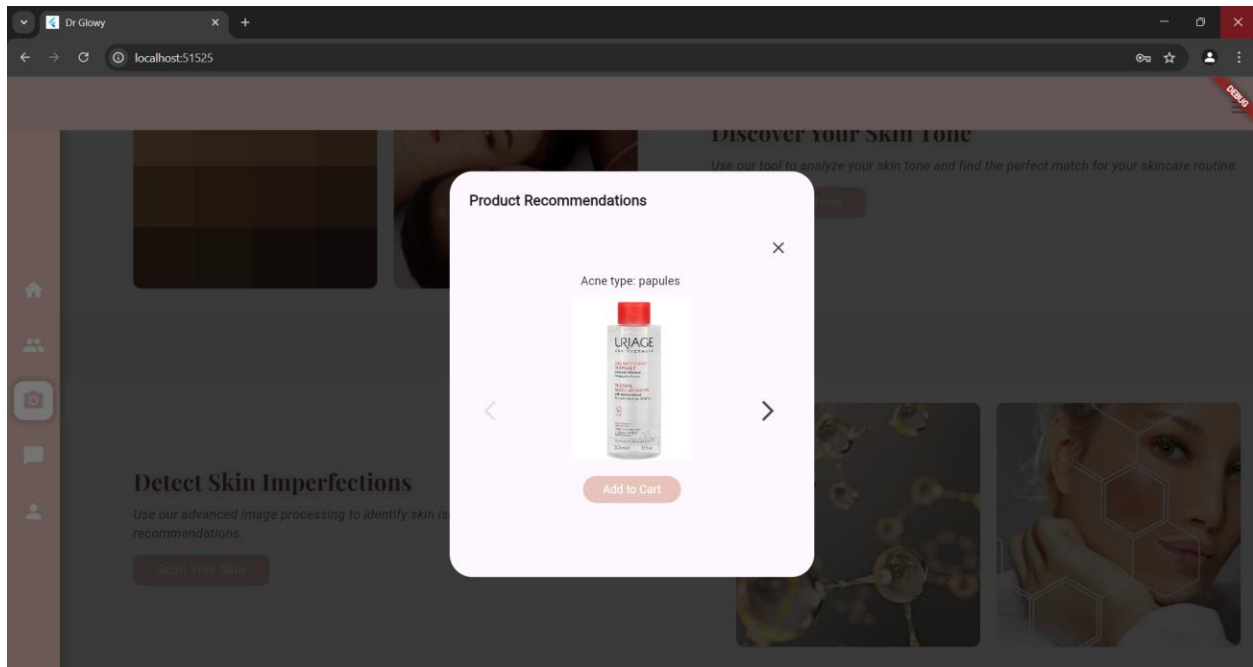


Figure 73 Camera page 7

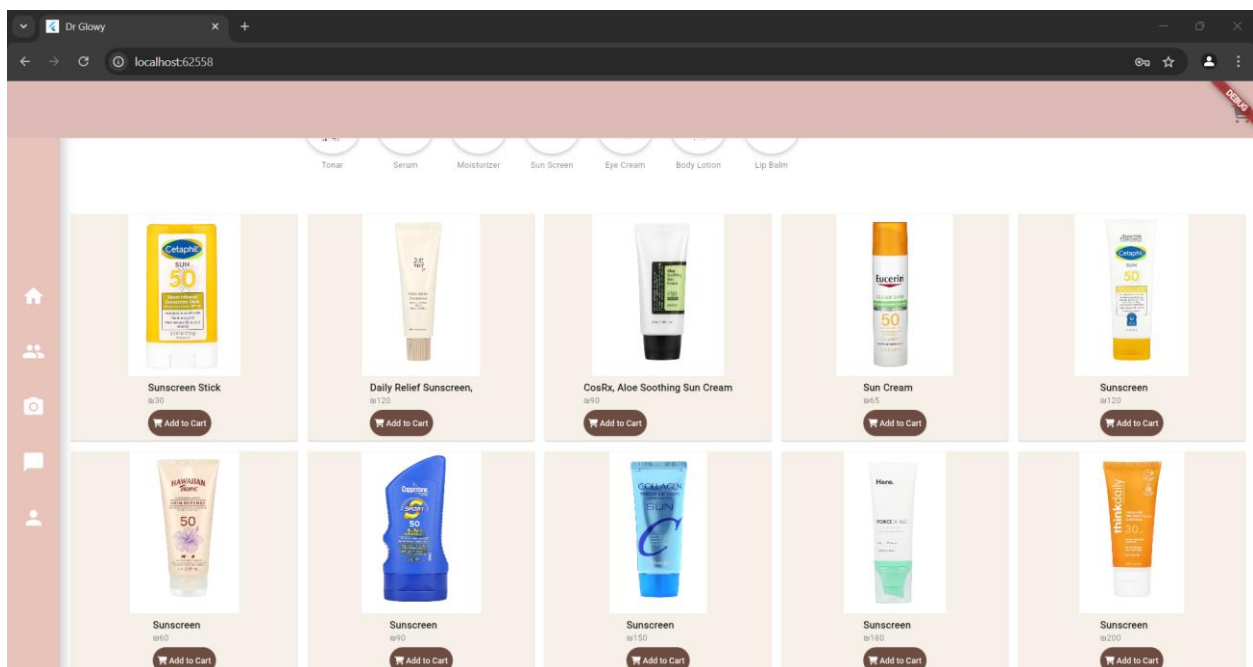


Figure 74 Skin care page 1

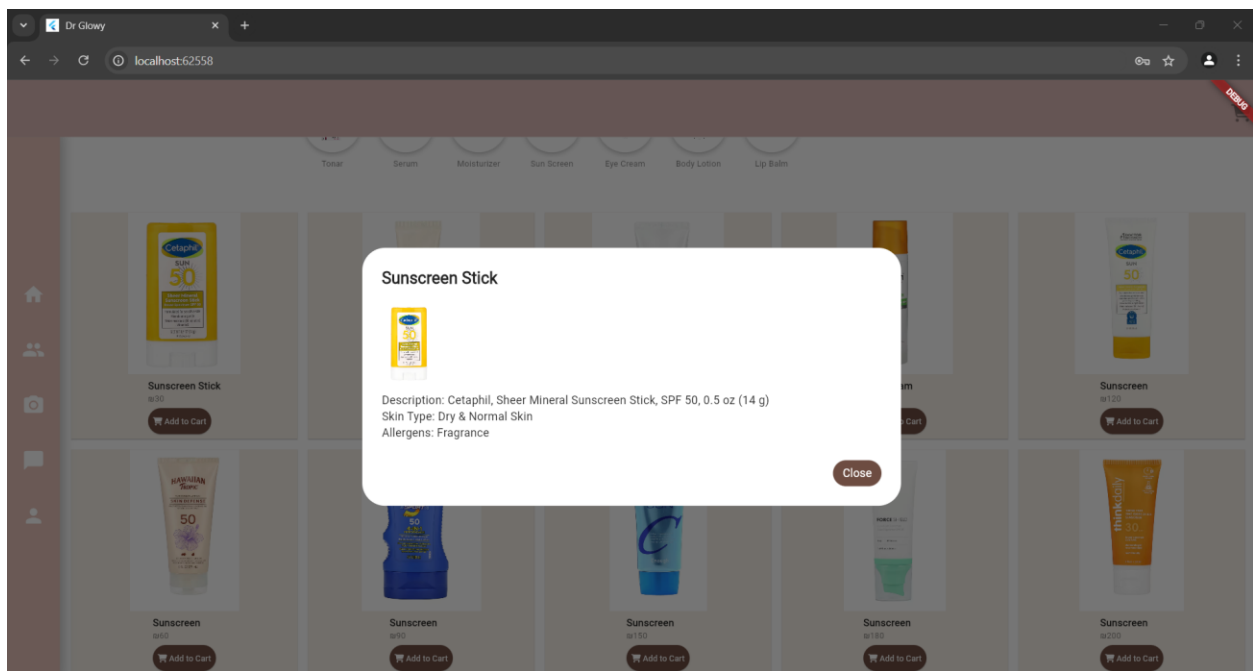


Figure 75 Skin care page 2

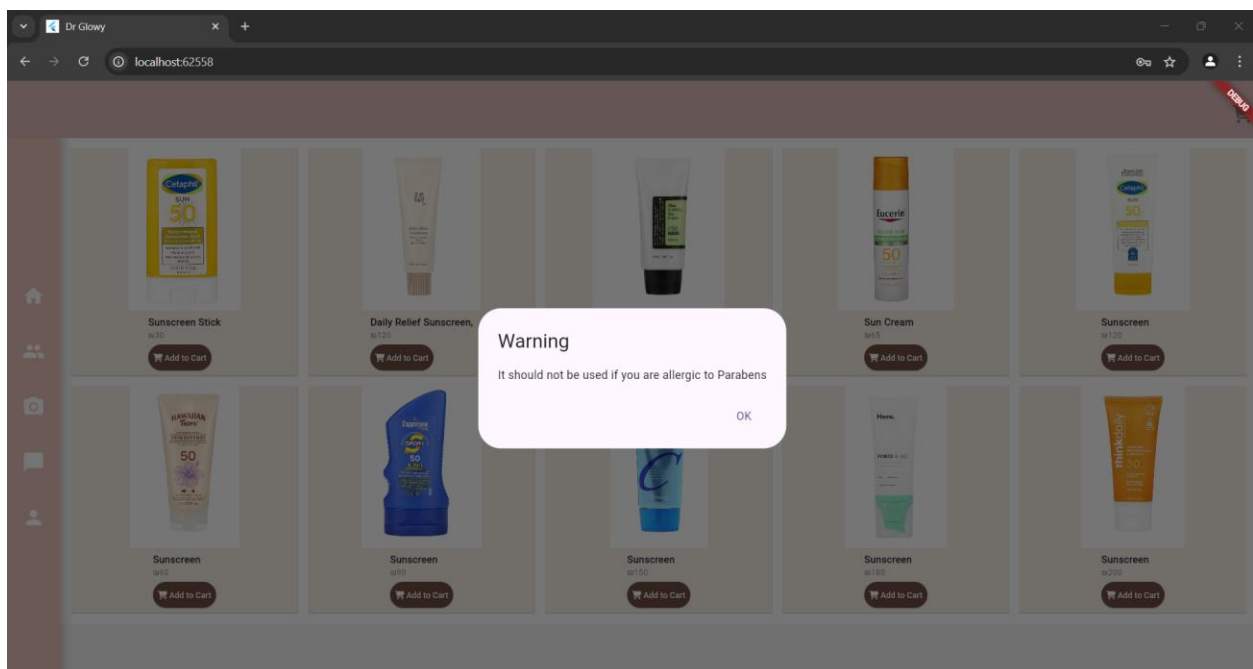


Figure 76 Skin care page 3

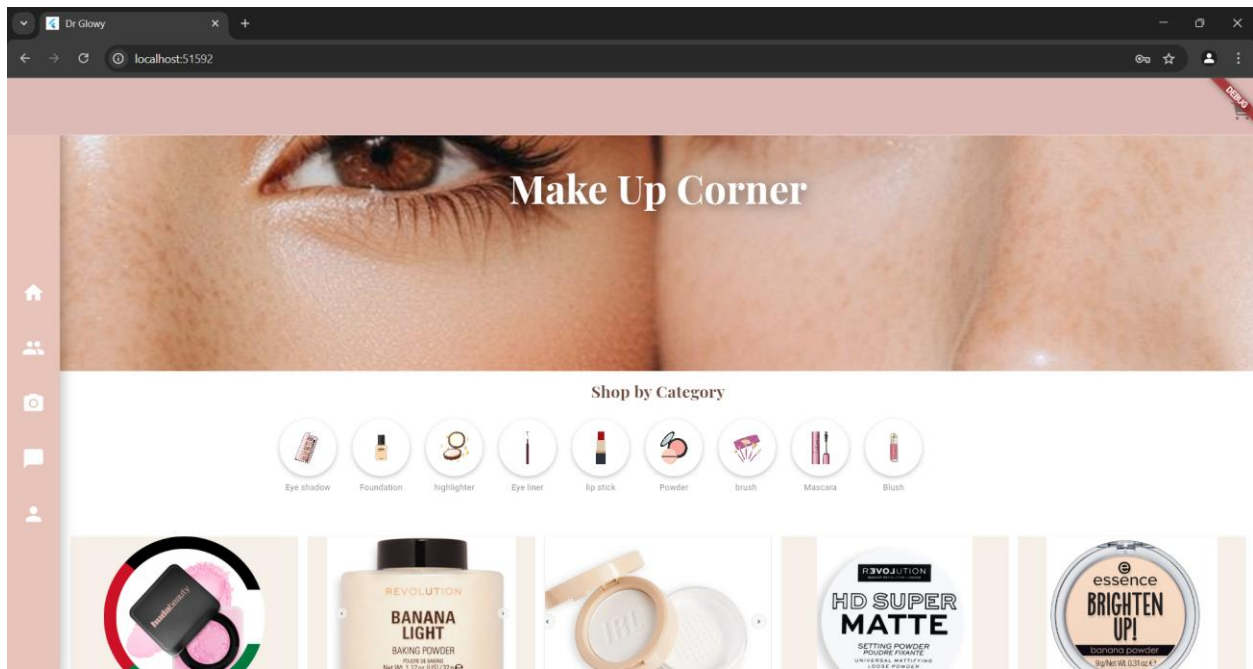


Figure 77 Make up page

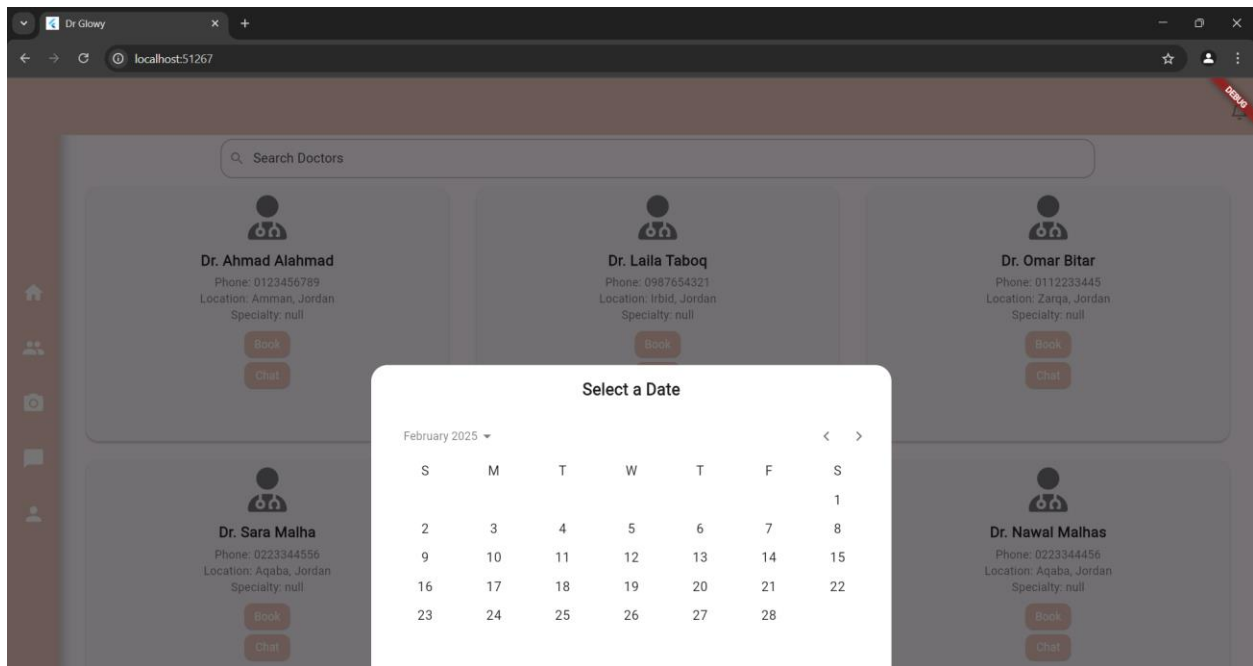


Figure 78 Book

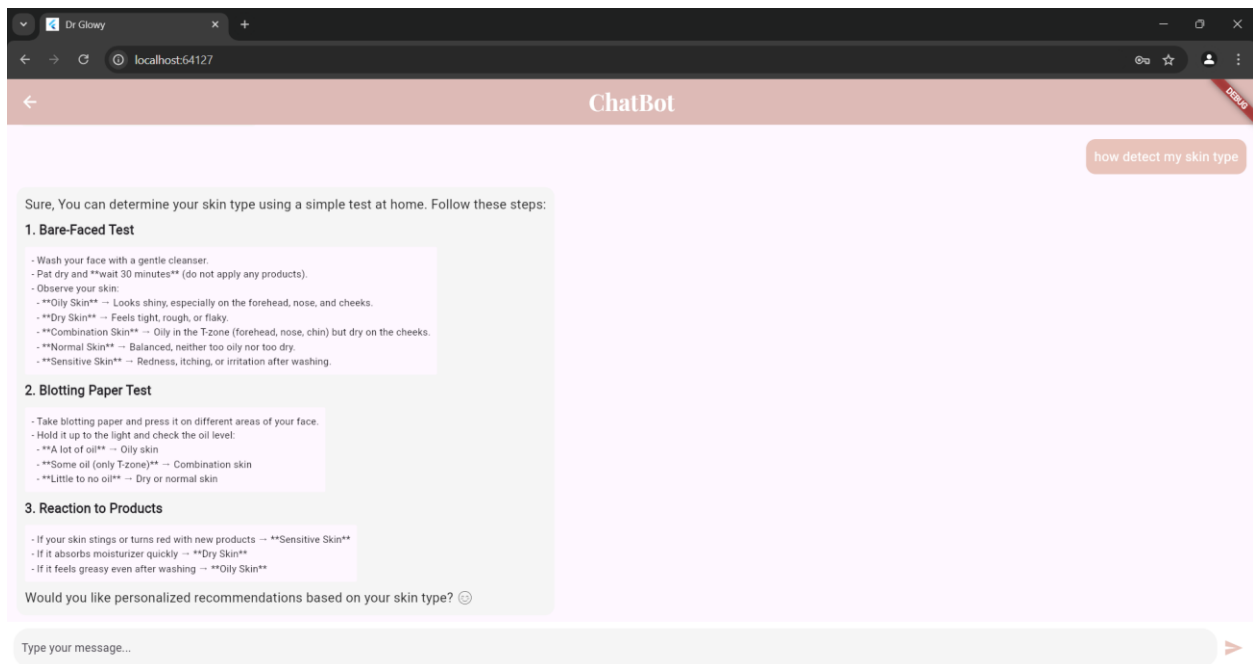


Figure 79 Chatbot

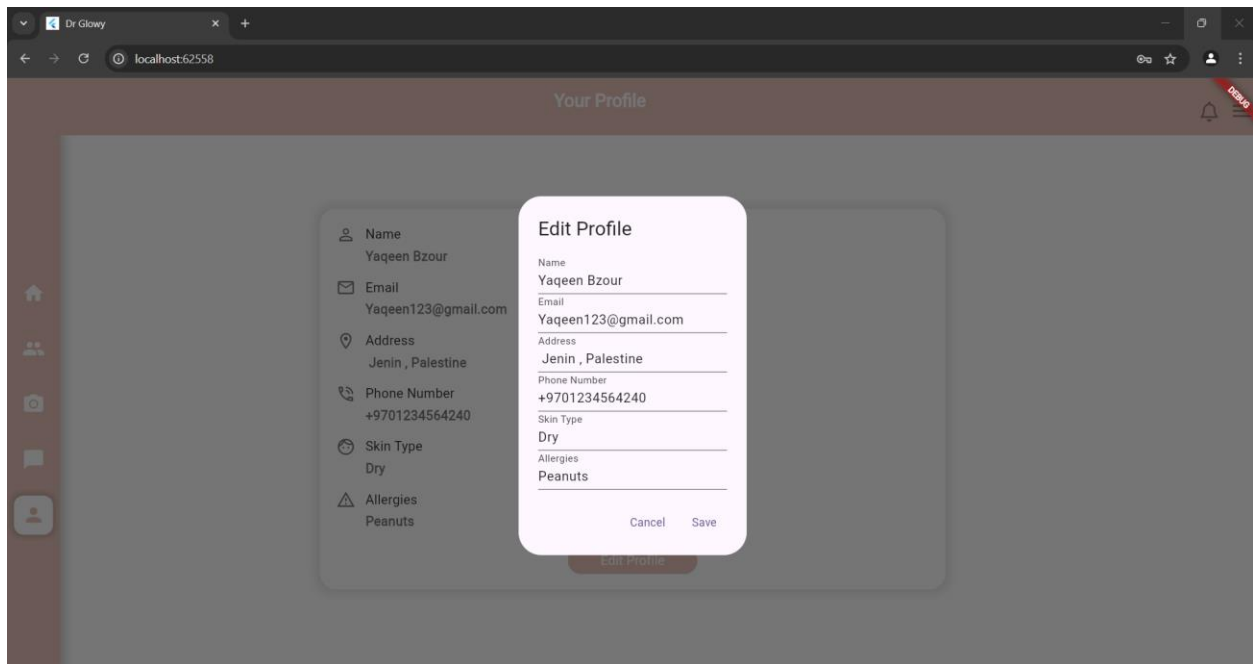


Figure 80 Customer profile

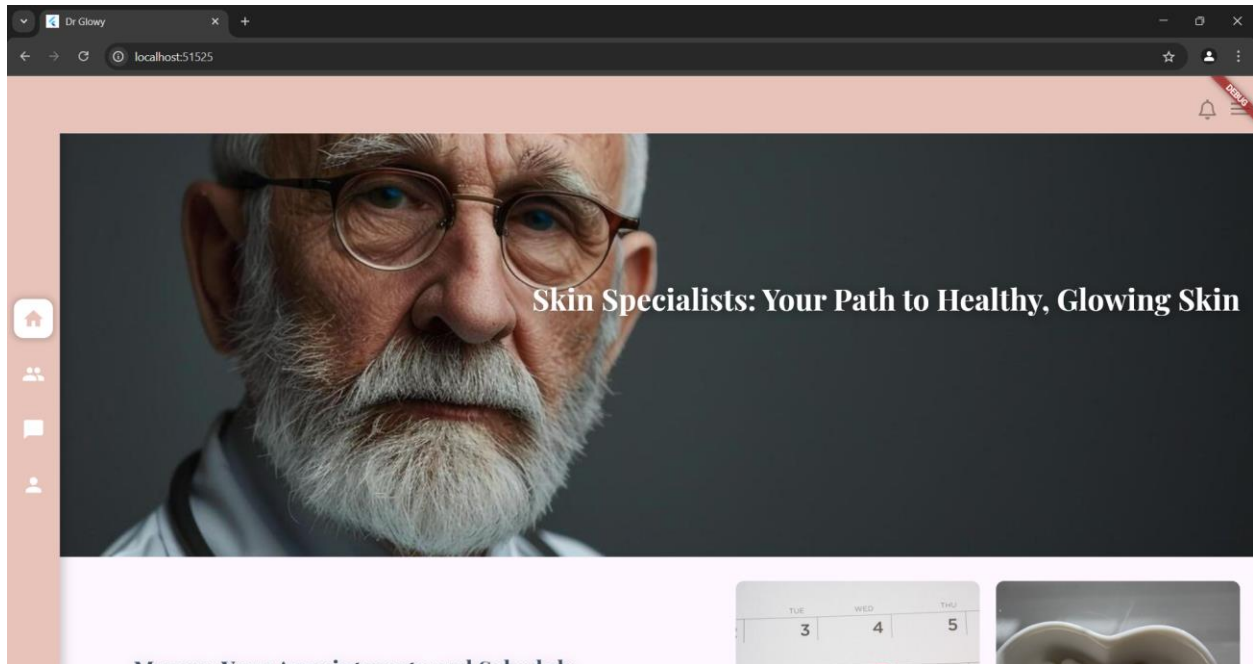


Figure 81 Doctor home page 1

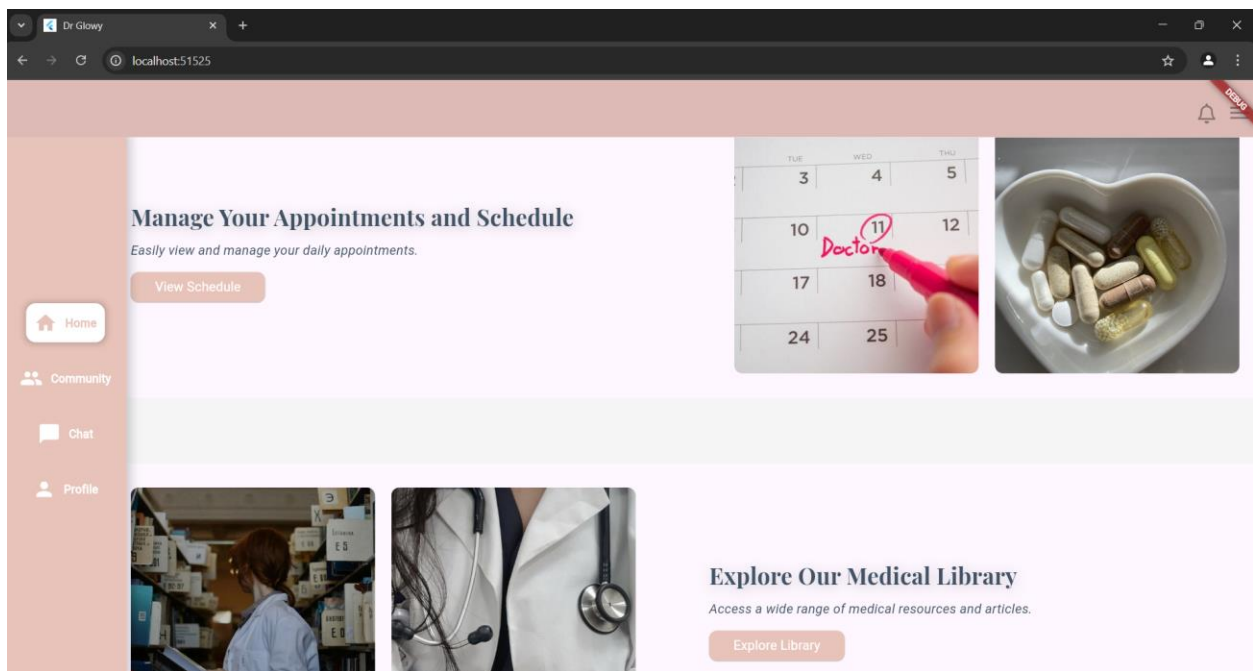


Figure 82 Doctor home page 2

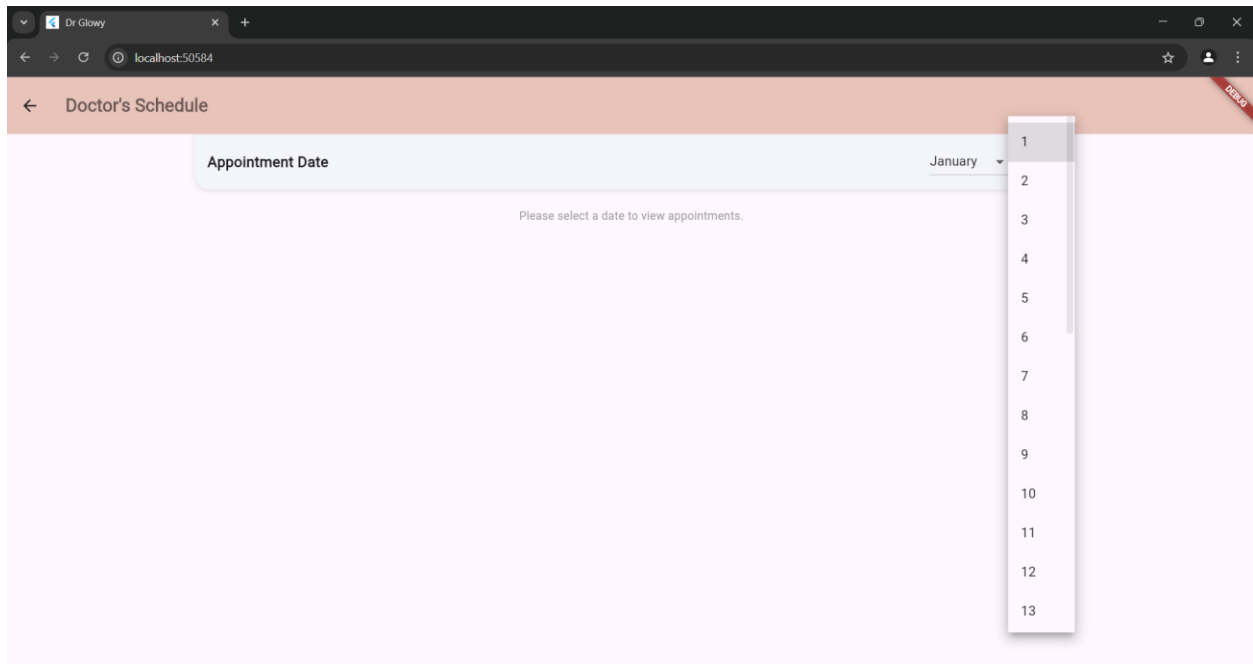


Figure 83 Schedule page

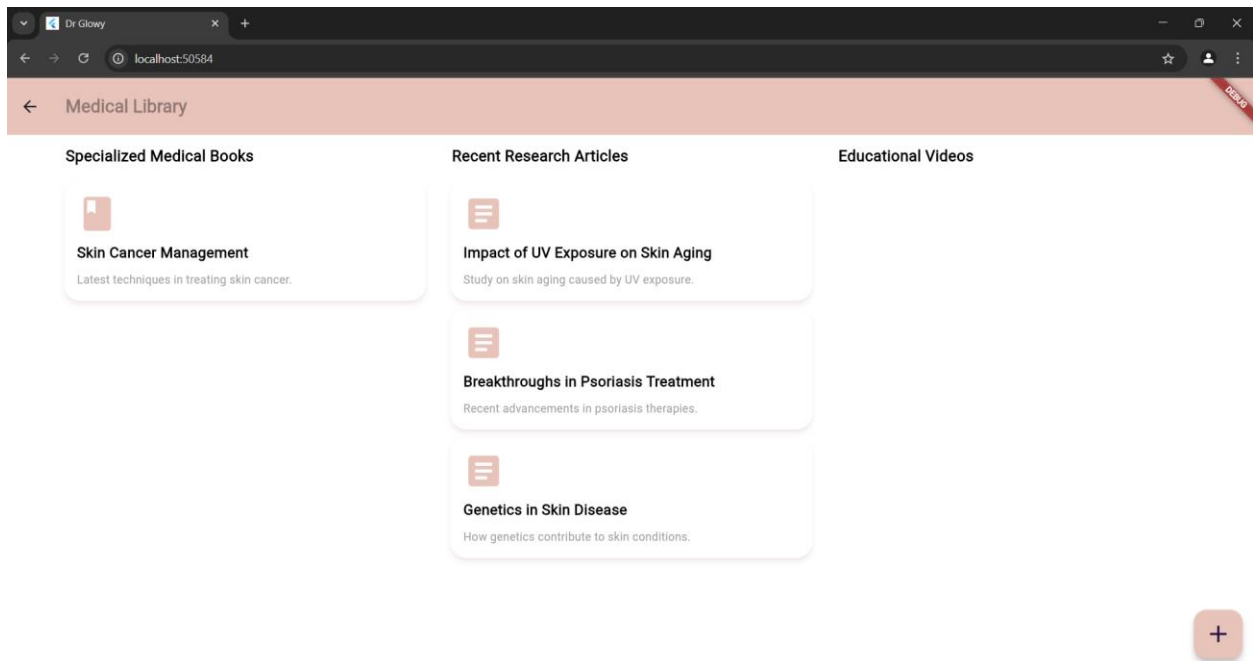


Figure 84 Medical library 1

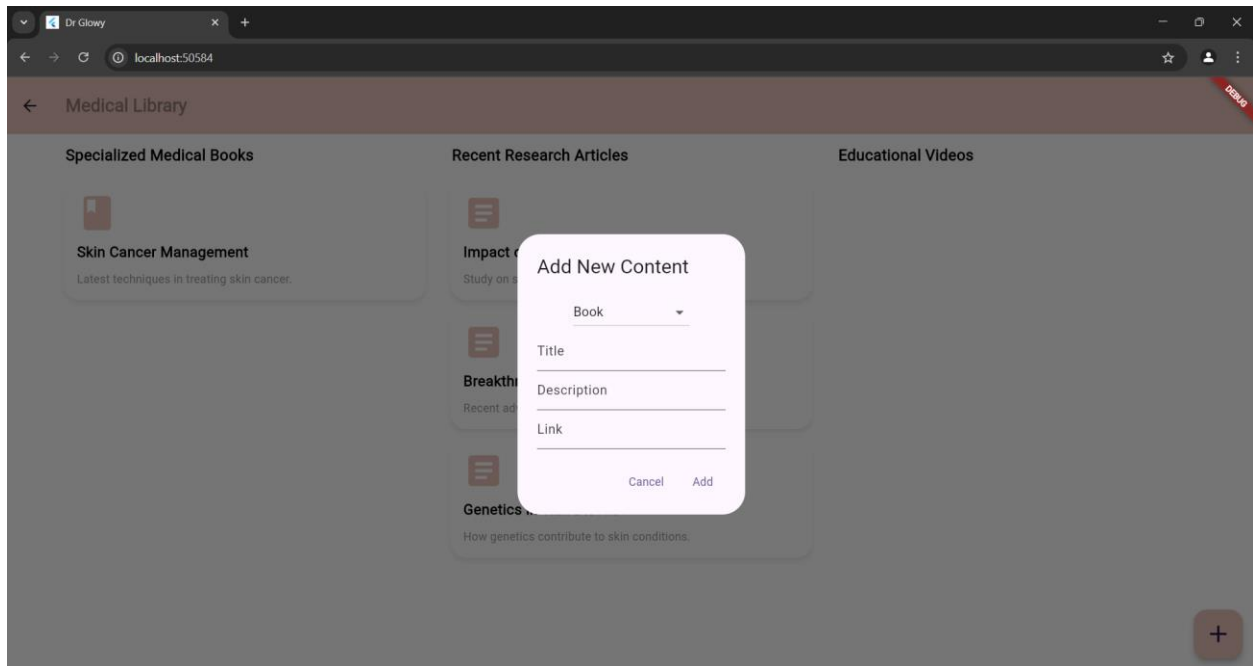


Figure 85 Doctor home page 2

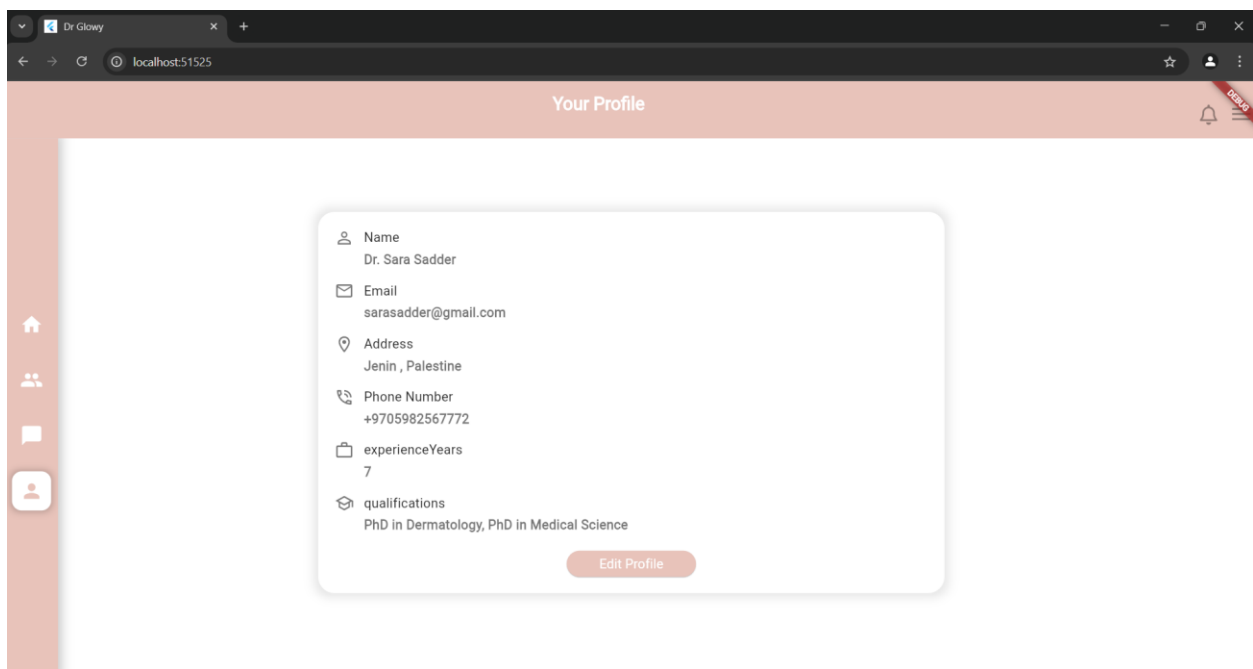


Figure 86 Doctor profile 1

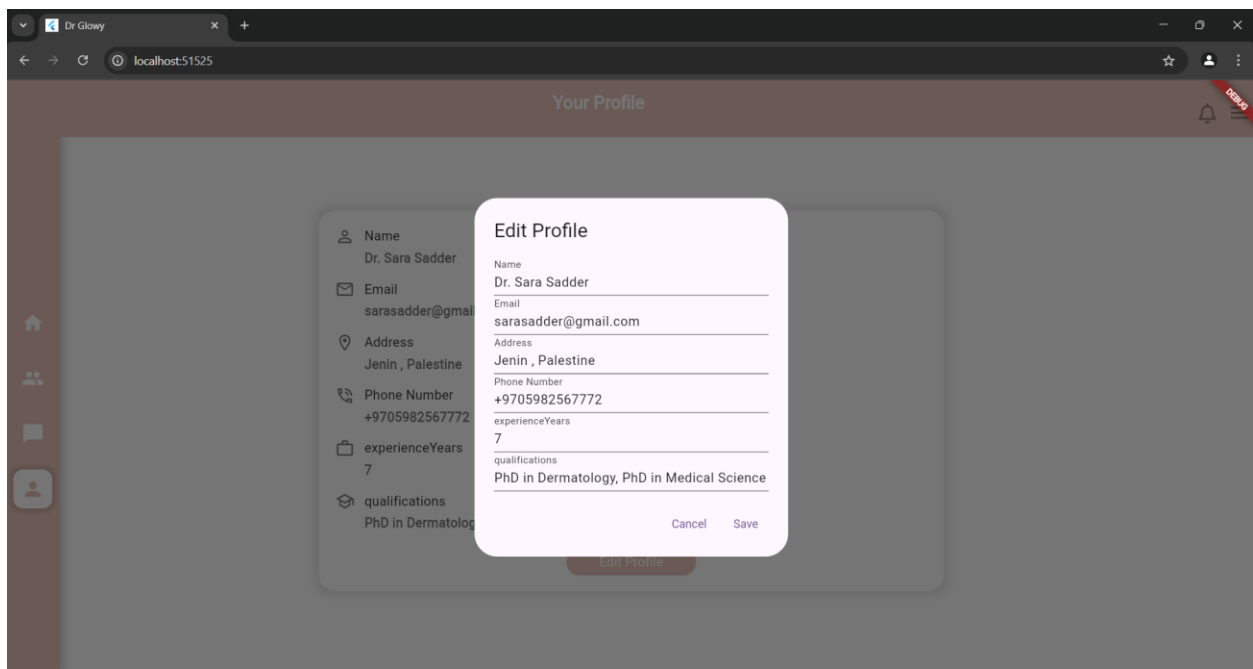


Figure 87 Doctor profile 2

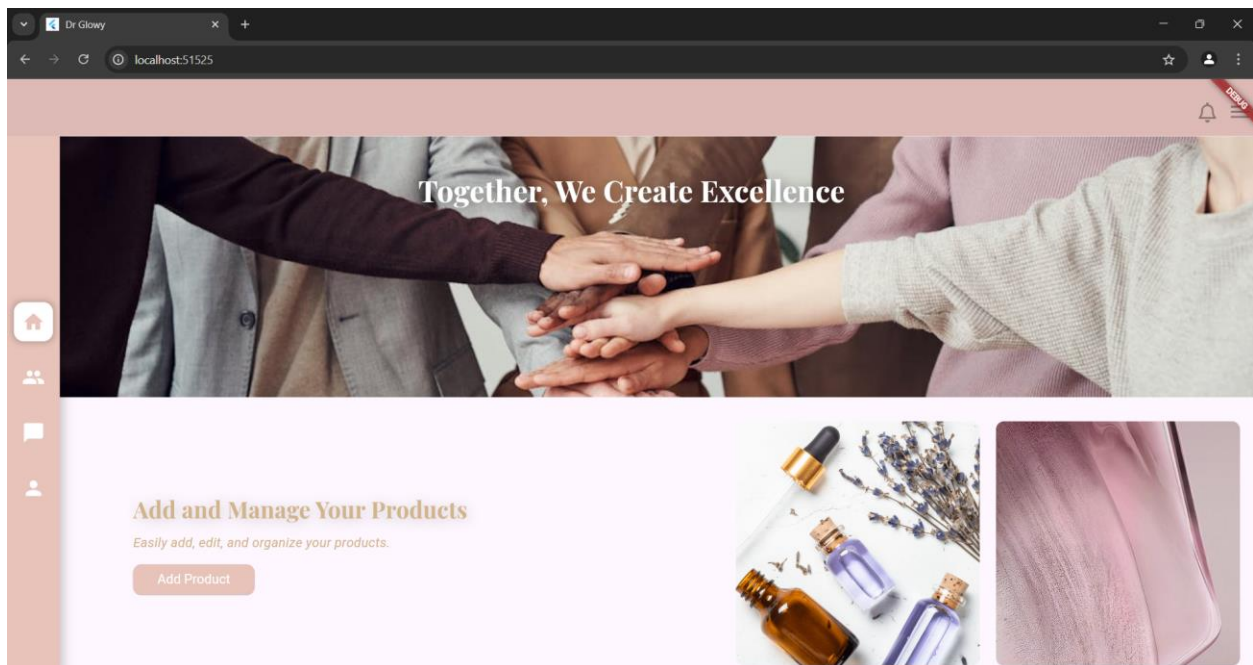


Figure 88 Company home page 1

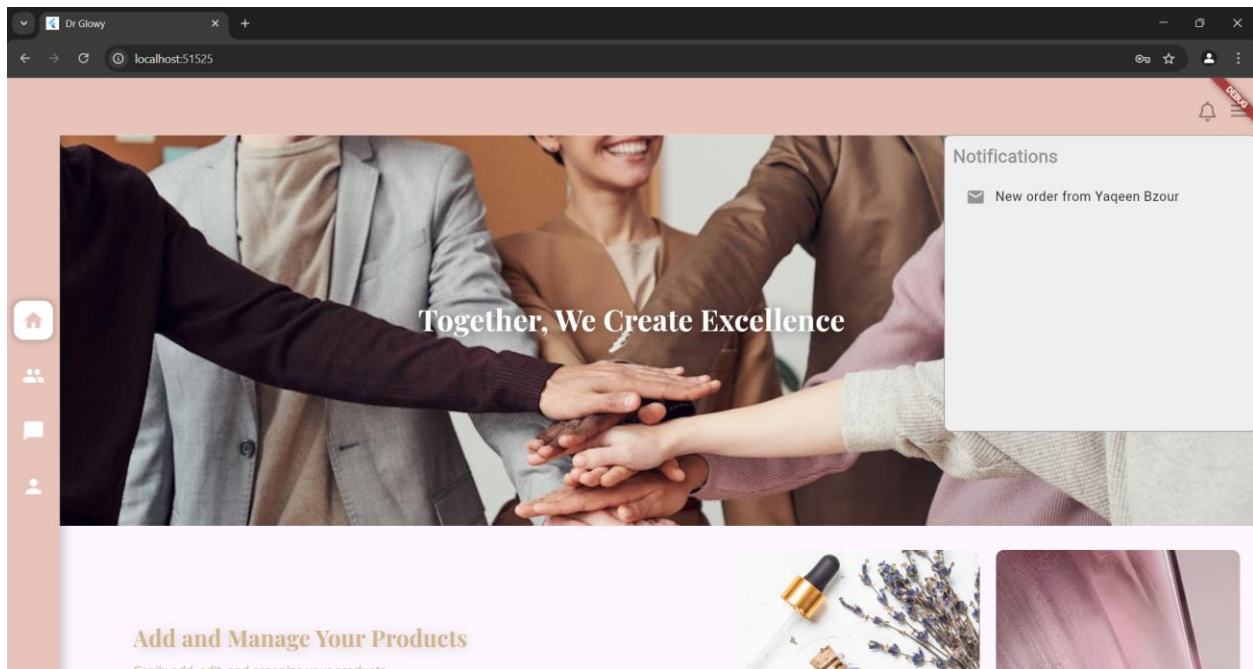


Figure 89 Company home page 2

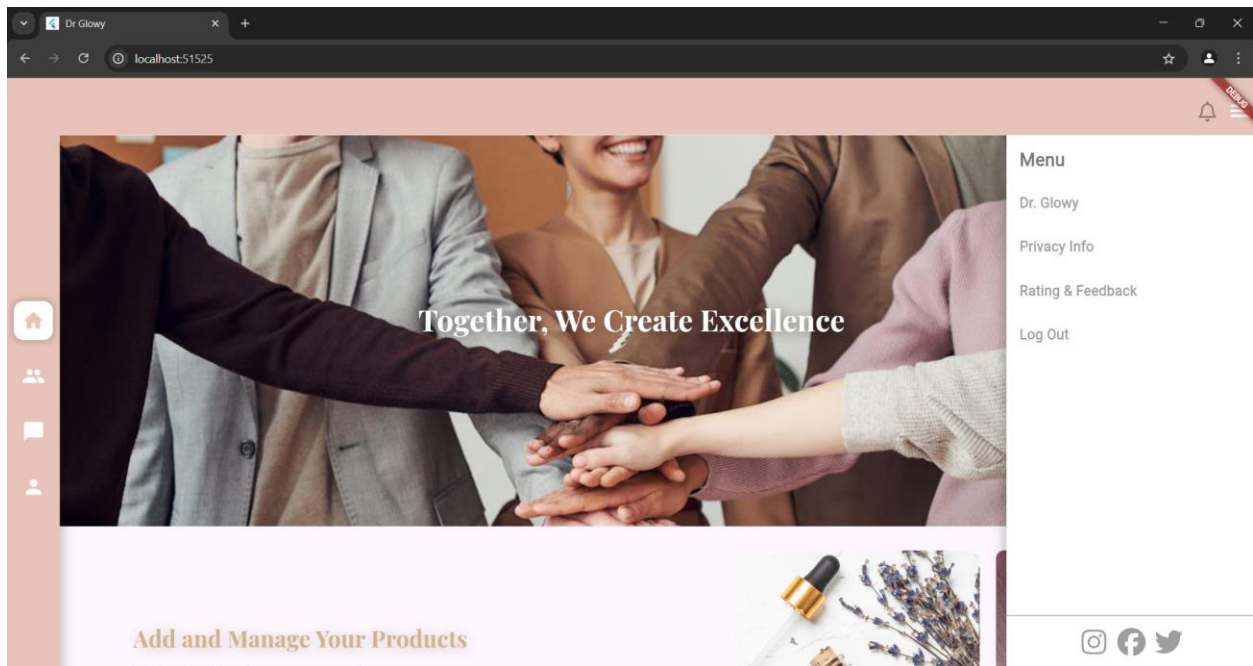


Figure 90 Company home page 3

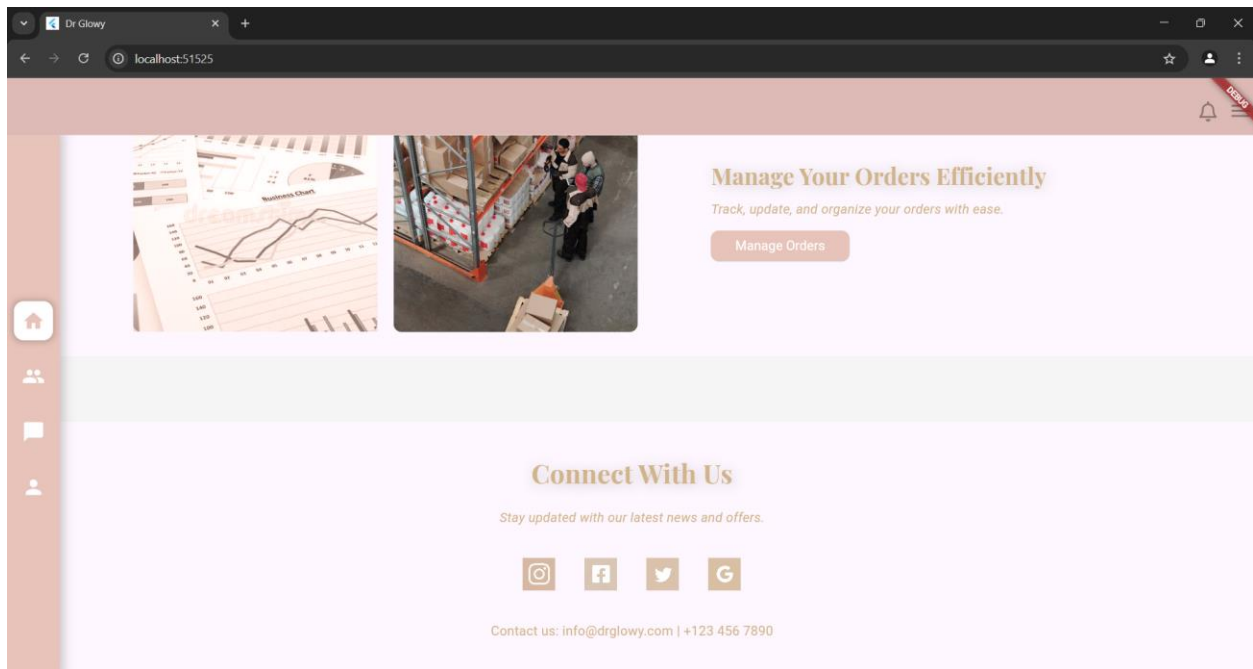


Figure 91 Company home page 4

The screenshot shows the 'Add Product' form in a web browser window. The form has a light pink header with a back arrow and the text 'Add Product'. The form fields are:

- Product Name**: A text input field with placeholder text 'Enter product name'.
- Product Image**: A section with an 'Upload Image' button.
- Price**: A text input field with placeholder text 'Enter product price'.
- Description**: A text input field with placeholder text 'Enter product description'.
- Sensitive Warnings**: A text input field with placeholder text 'Enter warnings if applicable'.
- Category**: A dropdown menu with the text 'Select a category'.
- Quantity**: A text input field.

Figure 92 Add product



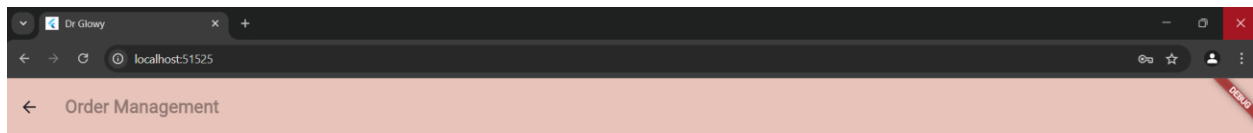
Customer: Yaqeen Bzour
Location: Jenin , Palestine
Phone: 9705982567772
Products: Sunscreen Stick, Sunscreen Stick, Sunscreen Stick
Total Price: ₪90.0
Order Date: 2025-01-29

Status:

Pending

Completed

Figure 93 Order management 1



Customer: Yaqeen Bzour
Location: Jenin , Palestine
Phone: 9705982567772
Products: Sunscreen Stick, Sunscreen Stick, Sunscreen Stick
Total Price: ₪90.0
Order Date: 2025-01-29

Status:

Completed ▼

Figure 94 Order management 2

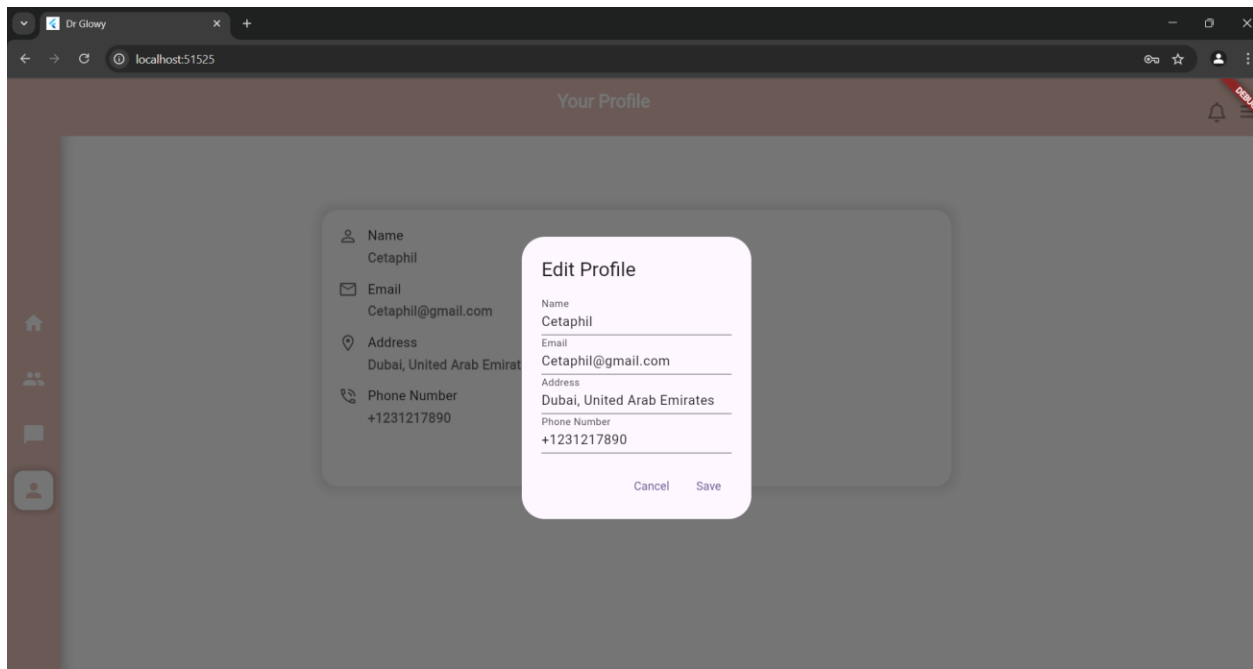


Figure 95 Company profile

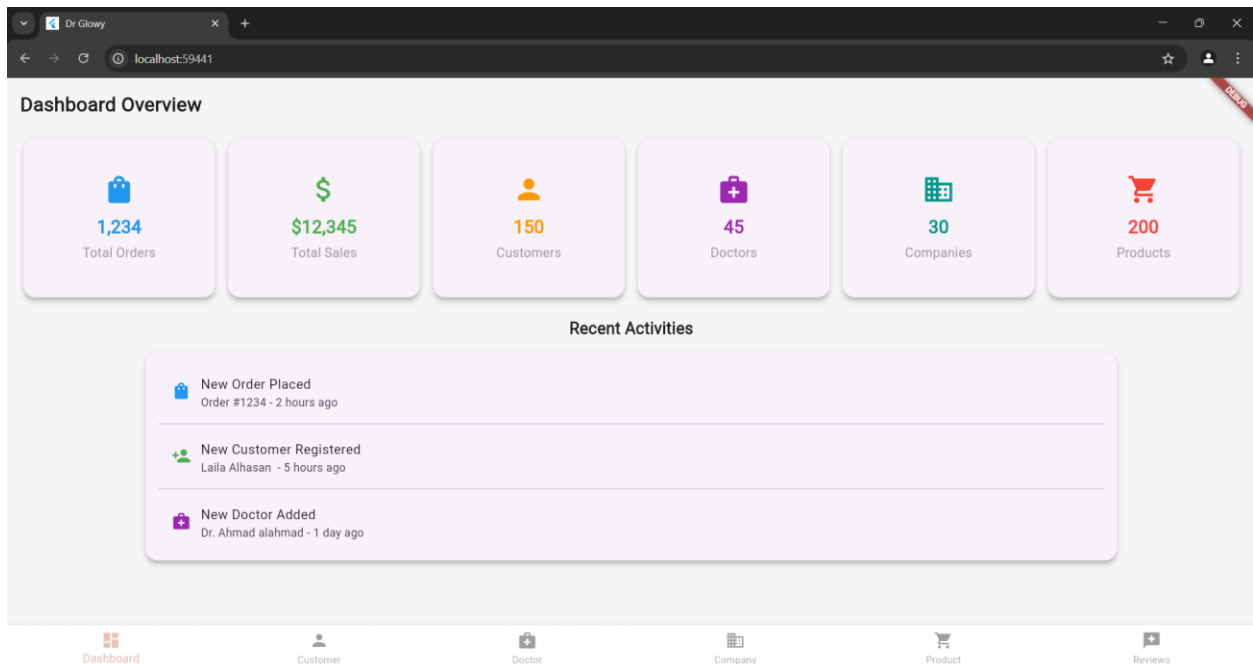


Figure 96 Admin page 1

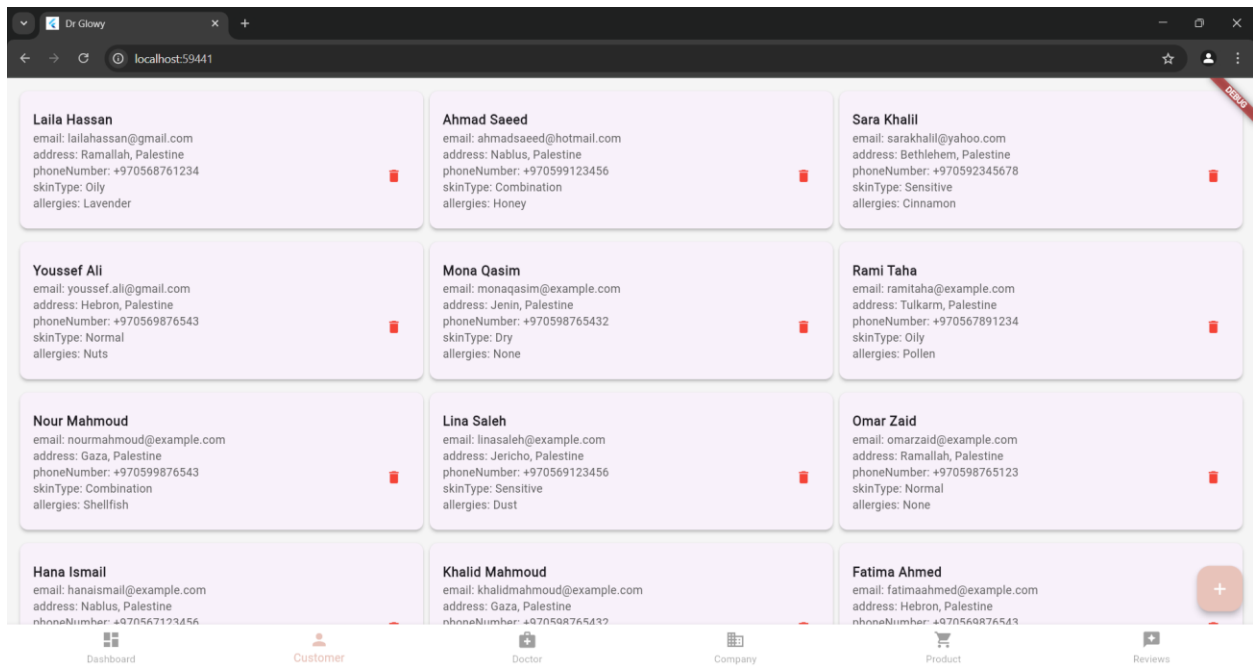


Figure 97 Admin page 2

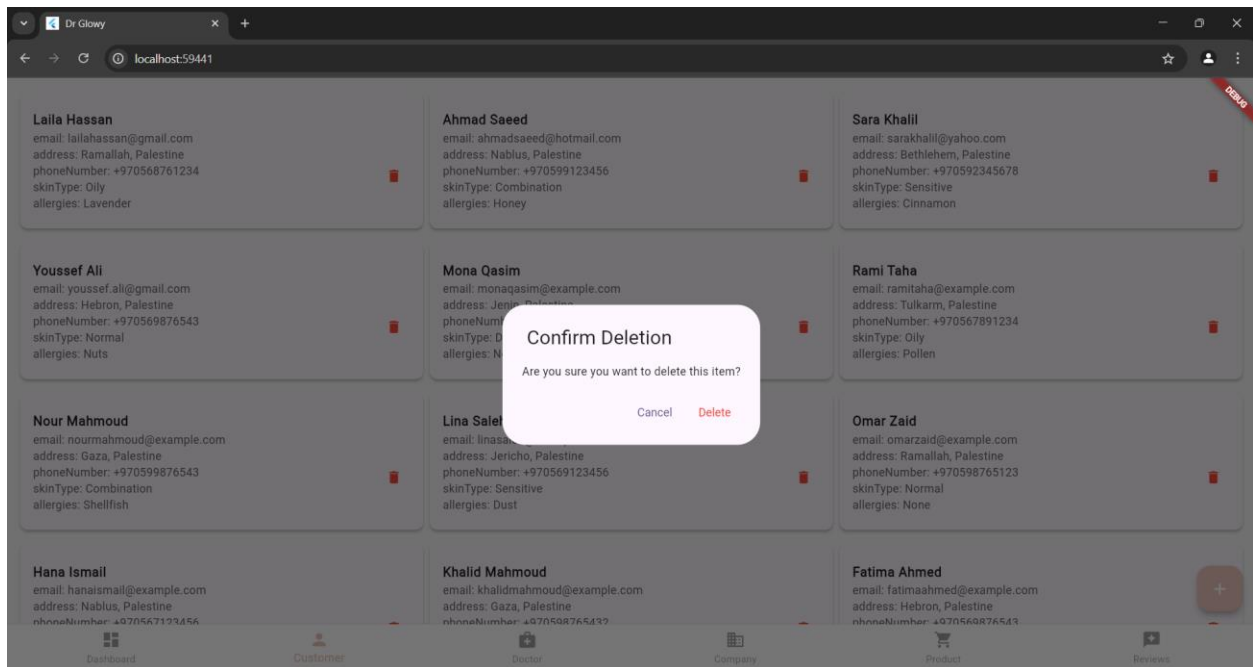


Figure 98 Admin page 3

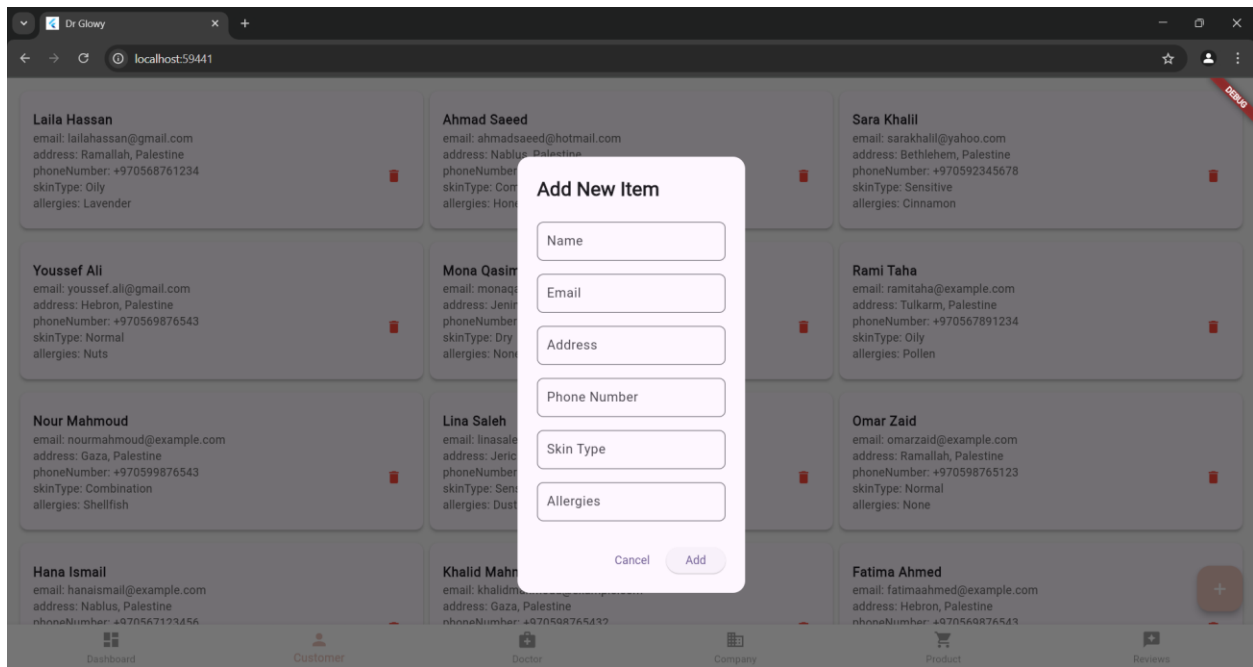


Figure 99 Admin page 4

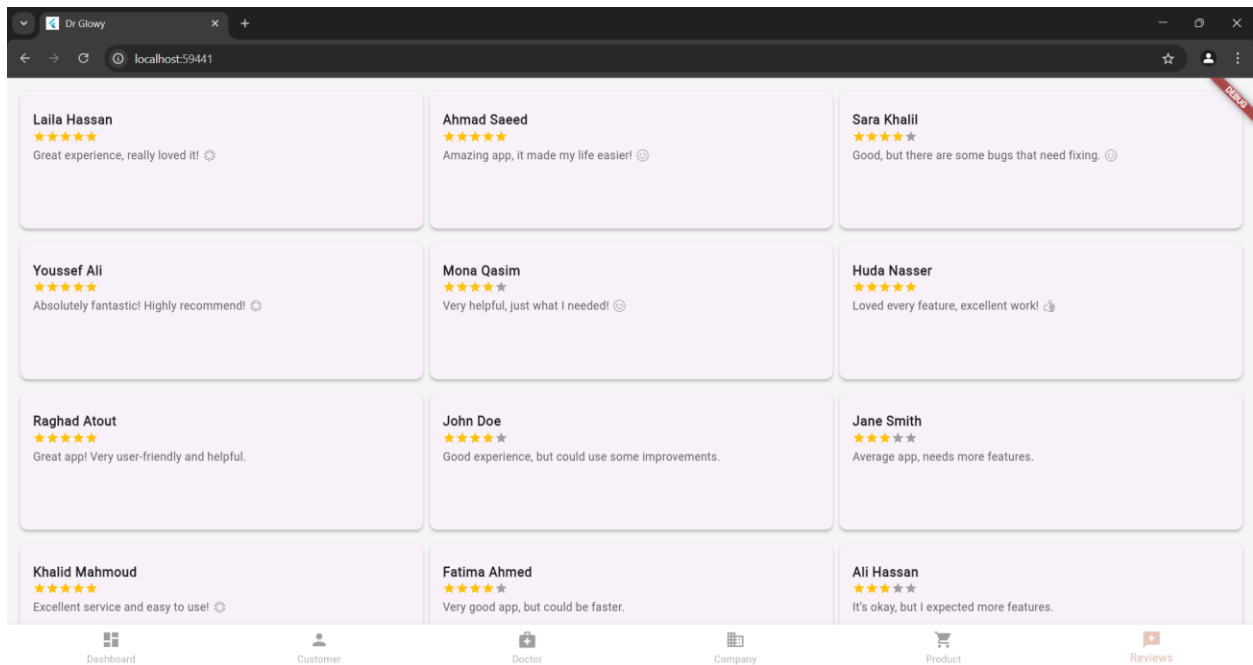


Figure 100 Admin page 5