ME110 Final Report: MySkincare

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Executive Summary

The skincare industry has witnessed significant growth in recent years, as seen by the increasing demand of consumers looking for tools to guide their skincare routines and product selection. MySkincare was conceptualized as an innovative solution, leveraging AI and a personalized skincare quiz to provide tailored user support. The process of devising the end-to-end UI mockup of our MySkincare app started with the process of patent, competitor, and user interview analysis which our team used to identify core product features users expect from a potential digital tool. Some skincare application competitors we analyzed, such as Mimiglow and Charm, range from specializing in tracking routines to being named the #1 skincare app. After brainstorming and creating a wide range of feature ideas, we utilized multiple frameworks, such as cluster mapping, to prioritize which features are “Must Haves”, “Should Haves”, or “Could Haves” based on criteria such as business opportunity, technical feasibility, and user importance. Through this, we were able to begin developing our wireframes. Before jumping into the bulk of prototyping, we first converged on the color theme of the UI. From there, we were able to go through multiple iterations, splitting the work based on core product features. Throughout the development journey, several key lessons were learned. The power of pivoting and adapting based on market feedback proved essential. A focus on seamless user experience and maintaining alignment within the team as we developed things asynchronously. Overall, our goal was for MySkincare to be a user-centered, innovative solution poised to revolutionize the skincare routine experience.

Background

Over the past few years, the skincare industry has exploded and although the skincare industry has seen continuous growth over the past few centuries, the spread of COVID-19 in 2020 caused a shift in consumer behavior globally. Due to the work from home culture, people generally began wearing less makeup and focused more on their skin health. In parallel, the rise of social media and the effect of influencer marketing compounded the popularity of skincare. As more and more people were exposed to the world of skincare, individuals began to collect a multitude of products, all with different ingredients, formulations, and purposes. Having routines with over five to seven products became normalized. However, with this came a new problem – navigating the avenues of an effective skincare became more complex, as the order of product usage became important. Some of these active ingredients (ex: retinol and benzoyl peroxide), did not mix together and caused harsh reactions such as irritation, skin peeling, or even more serious conditions such as chemical burn or allergies. It was clear that people needed a tool to ensure that their skincare routine was both effective and safe. Here is where the concept of MySkincare came into play. MySkincare is an app that leverages AI and a personal skincare quiz to output skincare routine recommendations personalized to your skin type and needs.

Team Charter & Project Mission

Our first assignment was to create a team charter and product mission. Together, these components served to guide and align our team's efforts in developing MySkincare. The team charter establishes a set of rules and norms that detail expectations of team members, outlines the team decision-making process, and addresses conflict management protocols. The team charter includes mandatory weekly meetings, mutual respect and openness, proactive participation, and a collaborative approach to conflict management. Our team charter specifically emphasizes the importance of equitable contribution to team assignments and being adaptable in times of deviation from the original plan.

On the other hand, the product mission ensures the team is aligned and paints a clear picture of MySkincare's purpose, features, and goals. In our product mission, MySkincare is defined as an app that provides users with an AI-optimized skincare routine by assessing users' specific skin type and needs through an interactive interface that caters to both skincare enthusiasts and newcomers. The main features of the MySkincare app highlighted in the team mission include a skincare quiz, product search, schedule generator, recommendations, and skincare diary. The product mission also details key business goals, addressable markets, and milestones. The product mission and team charter complemented each other and proved to be extremely beneficial by serving as a dynamic framework that guided our team's product development journey and the successful actualization of the MySkincare prototype.

Patent Search

Before beginning the journey of creating a skincare related app, the group did extensive research on the technology that was already available to address skincare concerns. While conducting the research, we noticed a few trends. Most of the patents could be categorized in four separate areas: physical skincare devices, skincare analysis through images, skincare machine learning systems, and other miscellaneous methods. Many of these parents were related to providing a diagnosis or treatment to specific skincare concerns, while our potential app wanted to use products accessible on the market to treat common skin concerns. We also wanted to avoid creating a physical product because those devices can be expensive, therefore inaccessible to most people. The only patent that fit the description of what MySkincare was trying to achieve was Patent #WO2022120202 which covers being both a machine learning system to display the order of products and its surrounding app UI. The way this machine learning system matches users to products is by using a skincare database, user attribute database, and a product efficacy component to match users to their perfect product. To differentiate MySkincare, we decided to create our own artificial intelligence system to develop the personalized skincare routine.

Interview Takeaways & Customer Needs

Understanding the market within the skincare industry is pivotal to create a product that is useful and impactful for our consumers. Therefore, interviewing potential users for our app was an important step to understand our customers' wants and needs.

To identify our potential customers' needs, we first brainstormed by reviewing our team members' interview responses: identifying, categorizing, and finally ranking them. Once we identified and generalized interview responses, we were able to categorize them into six main categories: Skincare Education, Professional Help, Personalization, User Experience, Skin Care Documentation, Types of Products/ Preferences. Under each of these categories are specific considerations and/or concerns pertaining to the category expressed by interview responses. Then, we ranked each consideration and concern by how many times it was mentioned in interview responses. This ranking allowed us to determine what potential users would like to see in a skincare app. From this point, we needed to prioritize what we believe is most important for our app.

Using the MoScOw method, we were able to group user's needs within four main categories, "Must Have", "Should Have", "Could Have", and "Will Not Have". This allowed prioritization to ideas that better fit our vision of a skincare app. Please find the results in Table 1 listed in Appendix I.

Competitor Analysis

Within the skincare industry, there are many existing mobile applications that have helped people maintain and improve their skincare. While many applications have similar goals, they are individually unique with different features. Mimoglow is one skincare application that specializes in tracking routines and maintenance of a virtual "shelf". Users are able to get routine and product recommendations, as well as having a "shelf" to keep track of all of their products by date (expiration, purchases, opened, finished). Personalization is an aspect that many users prioritize, which is why there is another app in the market called BasicBeauty, focusing more on that. BasicBeauty is a tool that allows

users to create, practice and stick to beauty routines without any sign-ups and being ad-free. Users also have the ability to track their products and include any insights via journaling and logging. Members have the option to upgrade their accessibility within the app by purchasing BasicBeauty Premium. Additional benefits include having an unlimited number of routines/products and having access to new features upon release. Lastly, Charm: Skincare Routine 360° is currently the #1 skincare beauty app with over 2 million users. This app combines functionality, personalization and accessibility into one package where users are able to choose and customize skincare routines, track progress, get access to a skincare blog as well as get guidance from beauty professionals. Similarly to BasicBeauty, users can choose to upgrade to Charm Premium to unlock all DIY treatments, routines, blogs and obtain special discounts. Despite every app listed above addressing different needs, MySkincare differentiates by focusing solely on skincare routine and products. It uses data pulled from the internet, allowing the artificial intelligence model to be trained on the latest skincare research, ultimately providing highly personalized recommendations based on the user's specific needs. There is also a premium plan but all users will be guaranteed personalized generated routines based on the preliminary skincare quiz. Within each routine, users can modify to add or delete products, as well as increase their skincare knowledge by learning about the ingredients used. In addition to progress tracking, the premium plan includes access to skincare appointments with educated dermatologists. Our app simplifies and combines the key features of all competing skincare apps in the market in order to provide people with the most reasonable and functional skincare app.

Product Specifications

MySkincare features a collection of powerful design specifications thoughtfully crafted based on business opportunity and current technical feasibility in order to create a comprehensive and revolutionary skincare experience. The following specifications were chosen as the distinguishing features of this product.

At the forefront of MySkincare is the Skincare Quiz, a powerful tool designed to assess the user's unique skin type, allergies, concerns, and preferences. This comprehensive quiz delves deep into skincare needs, ensuring that every recommendation is tailored specifically to the user. By analyzing the responses, the algorithm crafts a skincare routine that addresses the user's requirements and also incorporates ingredients that complement each other seamlessly.

The Highlighted Ingredients section helps to educate users about the interactions between different skincare products/ingredients—what works together effectively and what counteracts each other. This understanding will empower the individual to make informed decisions about their skincare regimen, ensuring that each product used contributes positively to their skincare goals. With this knowledge, the true potential of the user's skincare routine will be unlocked and ensure every step counts.

A Personalized Routine and Recommendations component allows for a user-centric experience. Powered by artificial intelligence, this feature analyzes the results of the Skincare Quiz and also takes into account the products the individual already uses. It harnesses the power of technology to generate an effective and tailored routine that addresses the user's unique needs. By considering their requests, existing products, and ingredient compatibility, the app ensures that every step in their skincare journey is purposeful and beneficial.

Skincare Searcher and Database helps users select their current products. When users find their product, it can be selected to be added to the routine and if the user doesn't have a skincare routine already, this step can be skipped. Products that do not show up in the product database can be manually inputted along with its ingredients and its categorization (ex. moisturizer, toner, retinal, etc.)

Dermatology Tab, a premium feature, allows users to seek professional advice and prescription skin care based on their specific needs. MySkincare will forward the skincare quiz results to the dermatologist, and the user will submit pictures of their face as well for a more accurate diagnosis.

Skincare Diary Tab, also a paid-for feature, allows users to have the option to track their progress in their skincare journey. They can submit weekly pictures and add notes to each entry. The app will also automatically track which products they were using at the time.

All these features help to distinguish MySkincare from its competitors, resulting in more business opportunities. By blending technological innovation with user-centric design, MySkincare offers users an unmatched experience tailored to their individual needs and aspirations.

Concept Selection Method / Business Model

Concept selection was the next step needed to further establish our collective ideas and features for MySkincare. The first step in our concept selection method was combining the many ideas from our group and using a cluster map to group features with similar functions. We used a Google Sheet spreadsheet to group similar features by columns accordingly. After clustering our ideas, we identified 11 common features (in no particular order): Personalized Routine + Recommendations, Account Login Screen, Skincare Quiz, Skincare Searcher/Database, Dermatology Tab, Ingredient Highlights, Skincare Knowledge Tab, Community and Reviews, Routine Reminder, App Aesthetic, and Skincare Diary.

The next step was to determine which features are a priority to our app, done by using a decision matrix. In constructing our decision matrix we first had to agree on determining criteria and each criteria's significance. The determining criteria our group discussed and agreed to use consist of the following (in no particular order): ease of implementation, skill set availability, business opportunity, critical to app functionality, technical feasibility, UI responsiveness under heavy app usage, and memory usage and device. Then, we concluded each determining criteria's significance by having each member rank it on a scale of 1-5 (one being not very significant, five being the most). The results of the ranking gave each criterion the following significance: ease of implementation [2], skill set availability [3], business opportunity [5], critical to app functionality [5], technical feasibility [4], UI responsiveness under heavy app usage [3], and memory usage on device [1].

Using the identified criterion and their ranked significance, we ranked the eleven concepts using a decision chart as shown in Figure 1 in Appendix II. The top five concepts determine by the decision matrix are as followed: (1) Skincare Quiz, (2) Account Login Screen, (3) Ingredient Highlights, (4) Skincare Searcher/Database, and (5) Personalized Routine + Recommendations.

Lastly, the next step in our concept development was proof of concept. The purpose of this step is to ensure that our top concepts perform as intended toward our project goals. For our proof of concept, we chose to do a simulation of the Figma prototype in order to test and demonstrate the capabilities of our UI/UX design. This allowed us to test the user flow of the prototype and ensure that it was intuitive and easy to navigate. Each member of our team went through the user flow and looked for/adjusted for any bugs and buttons that did not work to improve functionality.

Our business model canvas is shown in Figure 2 in Appendix II is a one page overview that lays out our application's initiatives and strategy and how we plan to accomplish them.

Creating the Prototype

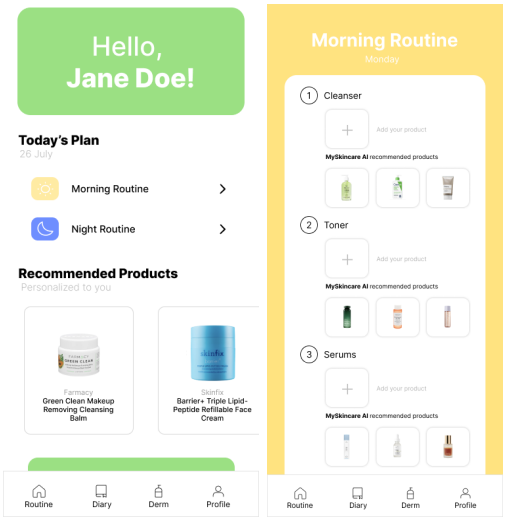
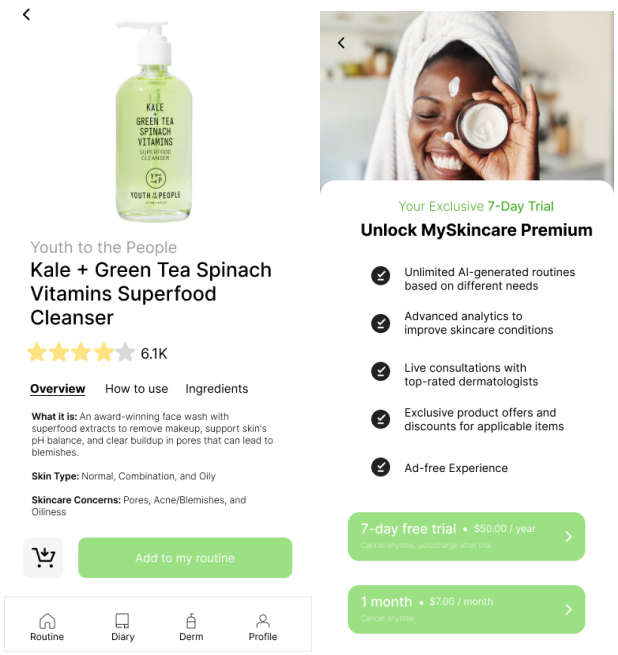
Figma, a web-based design and prototyping tool, played a pivotal role in the development of the MySkincare user interface. Through Figma's collaborative features, the design team collectively utilized an iPhone 14 screen template to establish a responsive design framework for the app. Seamless and interactive transitions were thoughtfully integrated, ensuring a fluid user experience through the smooth progressions such as from frame to frame in the skincare quiz.

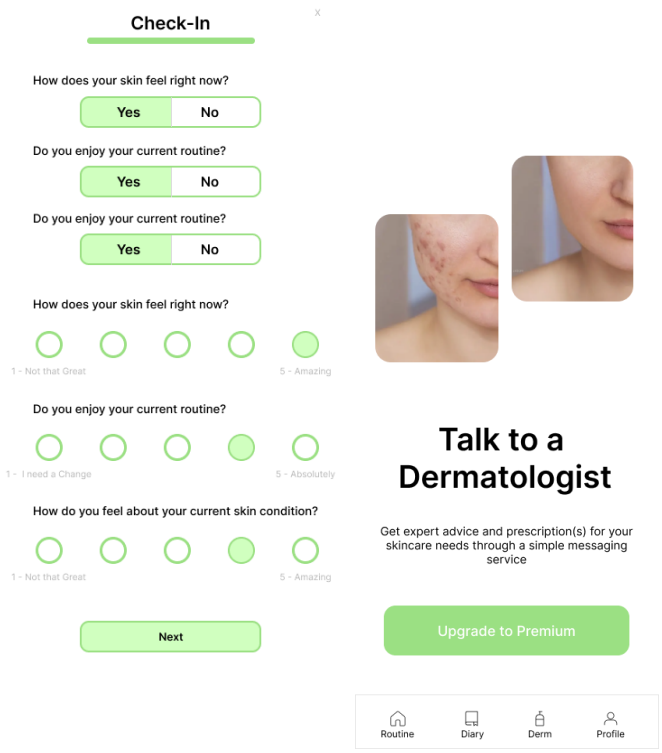
The design process encompassed a comprehensive array of visual elements such as screens, layouts, icons, buttons, typography, color themes, and other essential UI components tailored for MySkincare. These design choices were thoughtfully discussed and consolidated, resulting in a cohesive template that was meticulously stored in our workspace. This template served as a definitive reference point throughout the project, allowing for consistency in design implementation and enabling iterative refinements as needed.

Prototype Showcase

Find the link to our Figma prototype here.

Note: We will showcase a few core use cases of the MySkincare prototype. Please see the link above to view the full prototype.

UI Screenshots	Descriptions
	**1 – *Home Page*** Based on the described design process above, we created a home page that provides all the core components of our features in one frame rather than multiple. The home page allows you to navigate through the Morning/Night routine, products and general info. **2 – *Morning Routine*** Similarly, the morning routine page is dynamic providing the step by step products and MySkinCare AI recommendations
	**3 – *Skin Care Product Details*** When shopping through products, you are able to see customer reviews, a description of the product, how to use it, and the ingredients and whether or not they are compatible to your skin **4 – *Premium*** We also provide users with the opportunity to get access to more advanced features through a freemium subscription model



5 – *Check-In*
The Check in feature allows the user to track the progress of their routine so that they can see real improvement and properly reflect if they need to adjust it

6 – *Talk to a Dermatologist*
Through talking to a dermatologist users are able to have access to professionals that are connected to our app in order to further improve it.

Discussion / Results

By going through each step of the design process, we have successfully created a working prototype of MySkincare. We can demo our prototype and give the audience a general idea of the user experience. Although some important aspects, such as the AI capability, aren't functional, this Figma prototype is great to show investors the capabilities of MySkincare. If we were to continue the venture of MySkincare outside of class, the next steps would be to hire specialists to create the AI algorithm behind the personalized skincare recommendations. After that, the Figma prototype can also be exported into code and published on the App Store. Reaching out to dermatologists and creating partnerships with them before launch is also necessary.

If we were to go back and redo this project, there would be a few items that would be done differently. Firstly, it was sometimes difficult to complete assignments because they were more catered to groups doing physical projects. When confused about assignments or the next steps in the product

development journey, it would be more beneficial to reach out to the course staff before the assignments were due to clarify the details with regards to making an app. Another thing we could have improved upon is meeting consistency. Setting a certain meeting time during the week would allow team members to plan around it, instead of planning around seven different schedules which proved to be difficult. Additionally, due to time constraints, the prototype could have been more detailed but the team did the best they could given the duration of the class.

Holistically, even though our project was successful, there are definitely areas of improvement. If time and resources allow, this project could be continued to fruition and be a successful app in the marketplace, helping people with their skincare routines.

Lessons Learned

Throughout the process of developing our product, our team learned a number of valuable lessons that shaped our approach. The first takeaway was the power of pivoting – as we worked on our product, we took the time to explore the skincare market, engage with potential consumers, and get feedback from peers which played a crucial role in guiding our decisions. The changes we made in our approach from the knowledge we gained allowed us to better align with customer needs. This process taught us a fundamental lesson: the ability to pivot and adapt our approach is essential.

The second key takeaway was the importance of a seamless user experience (UX). Our focus on functionality was crucial but we realized the significant impact of a seamless UX. Regardless of how valuable our product may be, its success depends on users finding it intuitive and user-friendly. Therefore, prioritizing UX design is key to enhancing the overall product experience and user satisfaction.

Finally, our last takeaway from our product development process was related to alignment. At the start of our journey, we faced challenges with varying visions within our team. With time, we recognized the importance of alignment which involved ensuring everyone shares the same understanding of team goals, product design, and mission. Establishing a team charter and a

well-defined product mission proved vital in creating an aligned team that worked effectively. In summary, our journey has highlighted the significance of staying adaptable, valuing user experience, and maintaining cohesion within our team.

APPENDIX I

Table 1 - MoScOw Method

Must Have	Should Have
● Users want suggestions on best products for certain skin types and issues ● Users expect the app to offer a comprehensive analysis of skin, considering factors like skin type, concerns, and preferences. ● Users want the option to manually personalize their skincare routine ● Users want a clear and concise routine, as simplified as possible ● Users want a quiz that is detailed enough to understand full skin needs (environmental factors, previous skin conditions/sensitivities) ● User wants to be able to track and document progress of generated skincare routine	● Users want suggestions on affordable options, and not just the popular, more expensive options. ● Users like when the skincare database includes all products, such as drugstore and Korean brands ● User wants to know the purpose of each ingredient in products and how that ingredient works with other products/ingredients ● Users want access to professional help, if their skin issues escalate ● Users don't want to feel like they're constantly being "sold" products ● Users want access to reviews for products
Could Have	**Will Not Have**
● Users want skincare related education ● Users want reminders for the skincare routine so they can build skincare habits ● Users want face scan to complement questionnaire to optimize results ● Users want to include skincare items outside of products, such as treatments (masks, peels) or tools (microneedling)	● Users want to be connected to dermatologist based on face scan ● Users want the personalization of the app appearance

APPENDIX II

Figure 1 - Criteria chart

Criteria / Importance Weighting	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Ease of Implementation [2]	2	5	5	2	1	5	5	2	5	4	1
Skill Set Availability [3]	3	5	3	3	3	4	3	3	3	3	2
Business Opportunity [5]	5	1	3	4	3	4	1	2	2	3	2
Critical to App Functionality [5]	5	2	5	4	2	3	1	3	2	1	3
Technical Feasibility [4]	2	5	4	3	2	4	2	2	5	5	1
UI Responsiveness Under Heavy App Usage [3]	1	5	4	3	2	1	1	2	2	2	1
Memory Usage on Device [1]	2	5	4	2	1	3	4	3	5	4	1
Totals:	76	80	91	78	51	79	44	55	70	67	41

Figure 2 - Business Model Canvas

Business Model Canvas - MySkincare App

Key Partners

- **Key Partners:** Skincare brands and dermatologists.
- **Key Resources:** Ingredients used in each skincare product.
- Full stack developers would also be key partners as they would create the front-end/user interface of the app, in addition to the artificial intelligence algorithm needed to perform the main functions of the app as mentioned in the key activities.

Key Activities

- Software development to create the algorithm that will assess products and generate a skincare routine for users
- Create a platform/network for users via the mobile app

Key Resources

- Physical: Tangentially related to our Value Propositions includes the usage of skincare products. The dermatologist paid feature also incorporates communication with the specialized dermatologist via chat or video call, also resulting in the use of a physical mobile device.
- Intellectual: Brand patents and patents on AI and code/algorithm to generate skincare routine.
- Human: Working closely with Dermatologists to provide assistance
- Financial: Hire software developers to develop application, advertise it online through social media and collaborations

Value Propositions

- The main problem we are trying to solve is people's confusion around creating a skincare routine and skincare products that work for them.
- The value we deliver to customers is easy access to skincare knowledge and help with developing an effective skincare routine that is optimized with the products they already own.
- We would be able to help customers in need of safety and allergen awareness in their skincare products.
- Customers will be able to get access to personalized help asynchronously from knowledgeable dermatologists at a reduced rate (compared to scheduling an appointment in-person).
- Accessible knowledge to personalized skincare without having to buy access to premium features

Customer Relationships

- **Automated services:** Product recommendations and routines based on the skincare quiz **Communities:** Through product reviews, this fosters discussions about effective skincare solutions
- **Co-creation:** Combining user feedback and quiz results, blends user preferences with AI suggestions
- **Dedicated Personal Assistance:** The AI algorithm generates tailored skincare routines, acting as dedicated personal assistance. Costly but ensures precision
- Our business model is centers around a premium app version, allowing access to extended features, enhancing customer relationships and engagement

Channels

- **Awareness:** Promote through social media ads, influencers, and dermatologists. Cost-efficient is social media ads, but influencer collabs are effective.
- **Evaluation:** Build trust via app trial, social proof on social media, and trusted influencers.
- **Purchase:** Highlight in-app purchases in description, offer premium version online, and connect with external brands.
- **Delivery:** Provide improved skin, product knowledge, and personalized dermatologist assistance.
- **Aftersales:** Support via app tab and email, gather feedback through surveys.

Customer Segments

- We are creating value for people interested in getting into skincare, skincare enthusiasts who would like to optimize their routines, and people with pre-existing skin conditions.
- Our most important customers are those who bring profit from using features such as the skincare diary and skin knowledge tab.

Cost Structure

- The most important costs inherent in our business model are software development which is a fixed cost and software maintenance which would be a variable cost. Another important cost would be the partnerships established with dermatologists.
- The most expensive Key Resource and Key Activity would be the hiring of software developers to develop the algorithm.
- Value Driven: MySkincare brand will put a greater emphasis on its mission, to create a tool which allows all users the opportunity of safe and effective skincare. Instead of focusing solely on profits, MySkincare will also prioritize ethical practices, social and environmental responsibilities.

Revenue Streams

- Customers are willing to pay to improve their skin health and possible skin conditions.
- Customers currently go to dermatologists in person, and have to pay out of pocket (depending on what insurance covers). Otherwise, people are left to do their own research on what products will work for them
- Subscription Fees (for Skincare Diary): Customers will be willing to pay to have access to this feature
- Through affiliate marketing, the app will receive commission or incentives for sales of in-app purchases,, which lead to either promotion of the business/brand or actual new customers.
- Dermatologist advice is customer segment dependent, because users have varying levels of health coverage, if at all. The price of a dermatology consultation will depend on each individual's coverage.