



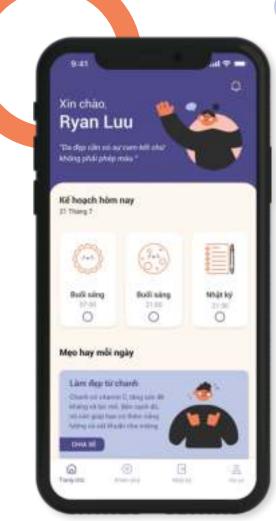
MINISTRY OF EDUCATION AND TRAINING **FPT UNIVERSITY**



Capstone Project

LYS

Skincare knowledge support application







Students

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Shruti

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Project Proposal

1.1 PROBLEM DEFINITION

1.1.1 Name of this Capstone Project

LYS - Skincare knowledge support application. The name LYS is abbreviated by the phrase "Love your skin". And this can also be seen as the message that we want to send to our users. Always love and cherish your skin by understanding and taking care of it properly.



1.1 PROBLEM DEFINITION

1.1.2 Problem Abstraction

- According to Mintel, a market research company based in London, the Vietnamese cosmetics market is worth 2.3 billion USD by the end of 2018
- According to a report from Insight Handbook 2019 by Kantar Worldpanel, the biggest segment of the cosmetic market in Vietnam is skincare



1.1 PROBLEM DEFINITION

1.1.2 Problem Abstraction

- The expanding market means more and more skincare products, so it's hard for users to know what they need or want.
- It can still be **confusing** and **take a lot of time** to find a suitable product for each individual.



1.2 PROBLEM OVERVIEW

1.2.1 Define the problem

- Wasting a lot of time searching for information that suits them and does not know the reliability of the information.
- Taking a long time to search and makes it difficult to choose a suitable product.
- Lacking the motivation to replenish water to support skin beauty
- → Because of that, we have built and created an application that can support users in understanding skin knowledge, finding suitable skincare products, and maintaining a healthy lifestyle for the skin

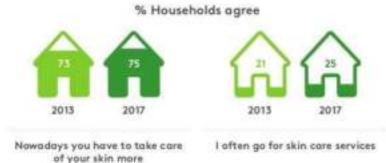
1.2 PROBLEM OVERVIEW

1.2.2 Research

Market Research

- In 2018, this market reached a scale of \$2.35
 billion. (Yano Research Institute/ Japan)
- It is expected that in the next 10 years, the growth rate of the Vietnamese cosmetics and makeup market will be around 15 - 20% / year. (Yano Research Institute/ Japan)
- The majority of consumers spend money on skin care products and tend to increase from 73% in 2013 to 75% in 2017. (Report by Kantar Worldpanel's Insight Handbook 2019)



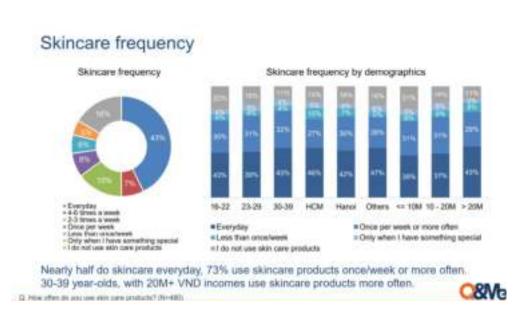


source: Insight Handbook 2019

User Research - Skincare Frequency

According to a survey conducted by Q&Me, with 458 women aged 16 and over, in January 2020, providing an overview of the situation of Vietnamese cosmetic consumption.

- Statistics show that 79% use skincare products once a week or more often, of which 53% do skincare daily. In addition,
- Women aged 23 and over who regularly take care of their skin every day accounted for 61% of the survey.



source: marketingai.admicro.vn and brandsvietnam.com

User Research - Skincare Frequency

Especially, the reasons surveyed people do not use skincare products most often because

- They do not know what to choose (32%)
- The reason for being too busy to take care of the skin (30%).



User Research - Men's Skincare Habits

According to a study from ACUPOLL Precision Research of 1000 men 18 years and older by completing an online survey in December 2019.

- 63% of men do not regularly use face wash to clean their face. 11% say they've never even tried it.
- 32% of men use bar soap to wash their face.
- 20% of men use body wash to wash their face.
- 59% of young men aged 18-24 agreed that "Men need to look after their skin"



Capstone Project 2020

PROJECT PROPOSAL

→ Changing attitudes and social trends have given men a newfound interest in taking better care of their skin.

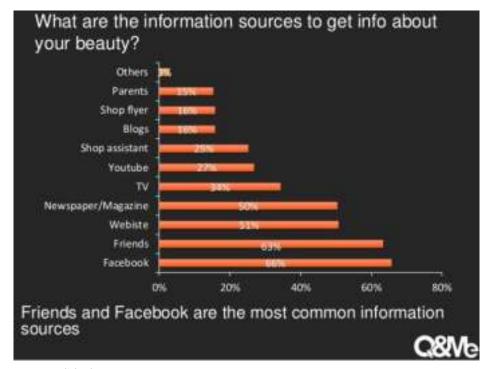


source: tiege.com

User Research - Skincare Knowledge

According to Survey on Vietnam usage of beauty services with the participation of 400 women over 20 years old, proposed in April 2015. Statistics show that the majority of the main information consumers refer

- From Facebook accounting for 66%
- From friends 63%
- From website **51%**

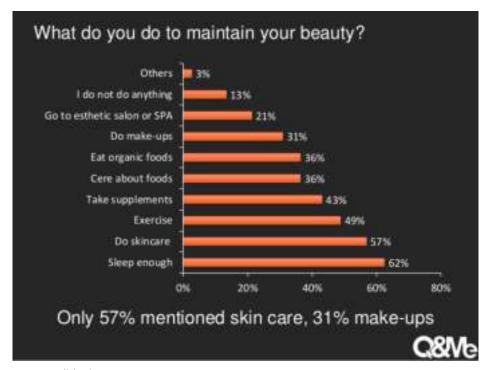


source: slideshare.net

User Research - Factors Affecting The Skin

According to the Survey on Vietnam usage of beauty services. Asked, "What did they do to maintain beauty?"

- 62% of participants say they maintain by getting enough sleep
- 57% say they take care of their skin
- **49%** say they exercise, the rest takes a supplement, eat healthily or go to the spa, ...



source: slideshare.net

User Research - Factors Affecting The Skin

According to Eucerin's dermatologists, there are many external and internal causes affecting the health and appearance of the skin.

- Internal factors that affect the skin include genetics, hormones, and physical conditions such as diabetes.
- There are many **external factors** that affect the health of the skin such as surroundings, health (nutrition, drinking water, ..) and lifestyle (stress, exercise, sleep, ..)













User Research - Factors Affecting The Skin

Princess Cruises has partnered with Wakefield Research to publish the "Survey of the resting habits" of the Vietnamese.

- People are under severe stress 73% often have problems with sleep.
- People when **37%** of the survey participants show that they are lacking sleep.



source: enternews.vn

User Research - Factors Affecting The Skin

Besides, according to a survey on Balanced Nutrition in Asia Pacific conducted by Herbalife Global Nutrition Group

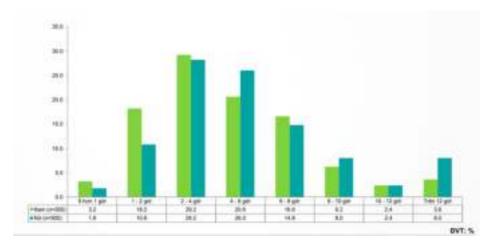
- **64%** of Vietnamese consumers are eating less than half of their fruit and vegetable
- 60% of people do not drink enough water,
- 7% do not spend enough time exercising.



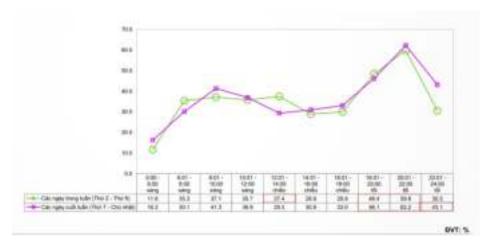
source: eva.vn

User Research - Smartphone usage habits

- In general, both men and women often use the phone from [2 - 4 hours/day], accounting for 29.2% and 28.2% respectively.
- [18:01 22:00] is the period when most people use their smartphones.



source: vinaresearch.jp



source: vinaresearch.jp

Information Model Research - Skin grading test model By Dr.Bauman

- Dr. Bauman who founded and managed the Cosmetology Center at the University of Miami
- She spent 13 years researching and clinical testing of skin therapies on herself and thousands of other patients
- We combine with research from Happy Skin to build up a questionnaire that is suitable for Vietnamese people. So, the questionnaires will help the provision of suitable skin knowledge for users.



Dr. Leslie Bauman

Information Model Research - Skin grading test model By Dr.Bauman

Here are **16 skin groups** that are categorized based on the evaluation of the following **4 main factor groups**:

- Oil Dry
- Sensitive Resistant
- Pigmentation Non pigmented
- Wrinkled prone Tight



16 types of skin according to the Bauman classification

Information Model Research - Product categories model of Happy Skin Research

Make-up remover	Cleanser	Toner
Exfoliants (BHA, AHA)	Special Treatment	Essence
Fire Overage	Majatuwiya w/Oo waliti a wa w	Company on
Eye Cream	Moisturizer/Conditioner	Suncreen
	Mask	

Information Model Research - Skin concern model of PAULA'S CHOICE

Acne Breakouts	Dark Spots	Oil Control
Anti - Aging	Dull Skin	Sun Protection
Blackheads	Anti-Pollution Skin Care	Uneven Skin Tone
Bumby Skin	Eniarged Pores	Wrinklest
Redness	Firming	Dehydrated Skin

Information Model Research - The information model of the product

Data from Q&me report shows that the important information factors affecting the user's decision to use and buy cosmetic comes from:

- **49%** origin
- 44% ingredients
- 42% good for the skin
- 36% effective
- **35%** price
- **32%** review

Along with that, we will use product information on the brand's official websites to simulate content.



source: innisfree.com

Information Model Research - The ingredients information model in skincare products from EWG

- EWG's Skin Deep® database gives you practical solutions to protect yourself and your family from everyday exposures to chemicals.
- We apply EWG in analyzing the ingredients of each skincare product, to help them classify which ingredients are good for their skin.



source: ewg.org

1.2.2 Research

Information Model Research - Information model articles of ELLE and PAULA'S CHOICE

We use these 2 models to build content about beauty knowledge, because these 2 sources of information are reliable and quite famous in the topic of beauty.



PAULA'S CHOICE # 8 m t. m an top. Sandard dande embre medical mende, elette odare el mante en la terra Daint giá I vite rán một cho do độu nhữn giáp kiệm đầu tới part on long all a striken an import of all make twee Orange is gif Tilc dung one Drange 3 4 9 trong birn day before this was treed as for home with their makes that an increase had

source: www.elle.vn

source: paulaschoice.vn

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Competitor Research



TROVE SKIN

Active for: +4 years

Purpose: Masure and recommendation



CHARMActive for: +4 years
Purpose: Find routine and products



HAPPY SKIN
Active for: +2 years
Purpose: Build and suggestion

		Skin	charm
Pros	Easy to follow In the diary section of the skin, divided into clear categories: skin diary, skin analysis and selfie photos The dominant color is gentle, suitable for women The icons are good, with the app illustration	Easy to use and follow the application Easily search for products or articles by keyword. There is information and how to use each product. The items are clearly divided, easily identifiable and accessible	. Easy to use and follow the application . News section and product section are clearly classified: acne, melasma, freckles, quickly and easily The dominant color is gentle, suitable for women The icons are consistent with the concept of the app
Cons	. There is no keyword search in the news section . Using a mixture of English and Vietnamese too much . Not provide basic knowledge about skin care for new users . The organization of the news is a bit lacking in focus to attract viewers	. The search on the homepage is not required . Too complicated: Leather shop, Spa reservation . Does not show the main colors of the concept app . The colors unreasonable combination makes it a little confusing	. Don't have Vietnamese version . The skincare cycle does not suggest many products, must be added manual

Table 1. A table comparing the pros and cons of competitor apps

Technology Research



WEATHER API

Access current weather data for any location on Earth including over 200,000 cities!



GPS

This is a very popular technology to locate users around the world



ΔΙ

Al's face recognition technology to determine the position of a user's face.

Information About The Survey Process

Investigation time:

From 11h17, 6/06/2020 to 23h, 10/06/2020

• Survey form:

Online survey form (Google survey)

Purpose of the survey

To learn about the user's skincare habits and understanding

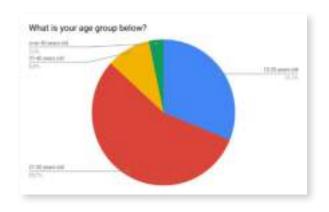
- There are 4 groups of questions we have used in the survey:
- 1. Questions about anthropology
- 2. Questions about the concern with skincare
- 3. Questions about users' understanding of skincare
- 4. Questions about users' skincare habit

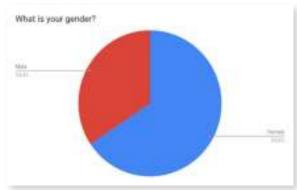
02INTERVIEW OBJECTS

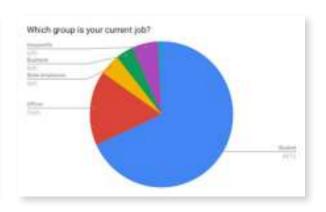
18
QUESTIONS

151
ANSWERS

Questions about anthropology







55.7% 21-30 years old

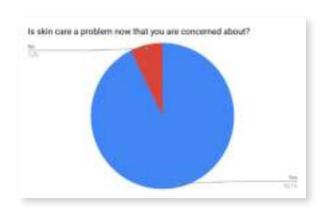
65.6%User is female

68.2%User is student

31.1% 15-20 years old

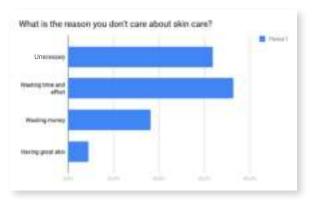
34.4% User is male 16.6%
Users are office workers

Questions about the concern with skincare







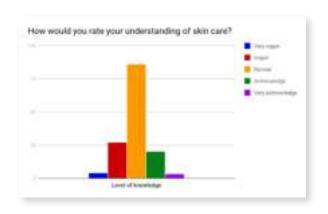


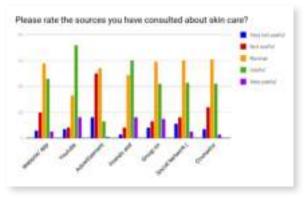


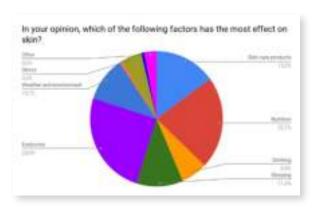


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Questions about users' understanding of skincare







86.6%Normal level of understanding

72%Youtube

60% Friend

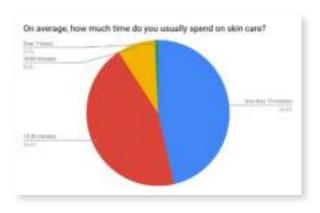
25% Endocrine

22.1% Diet

15% Skincare products

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Questions about users' skincare habit



What are the difficulties in finding and choosing your right skincare products?

Many seasons of share and office and off

46.4% Less than 15 minutes **44.3%** 15-30 minutes

80%Don't know the suitable product

74.3%Many different information sources

1.2.3 Survey

Summary

From the survey results, we really understand more about special things that may affect the functionality of the application we are trying to create.

USER		
Age	From 21 to 30	
Work	Student, officer	
Skincare habit	. Usually, spend 15-30 minutes on skindare The normal level of skindare knowledge.	
Difficult in finding skincare information	. It takes time and effort to learn . There is too much different information . Do not know which products are suitable for the skin	
Searches for skincare information	. Usually, 15-30 minutes are spent on skin care . Normal level of skin care knowledge . Regularly search for information about skincare on social networks (Facebook, Instagram,) Google, Youtube, friends, On skin care websites	
Lifestyle	Do not regularly practice a healthy lifestyle (eating, sleeping, stress, exercise, etc.)	

Table 2. Survey result about the user's skincare habits and understanding

1.2.4 Interview

Result

After conducting a survey, interviewing is our next step to define our target users. We interviewed 9 people who were in the survey to learn about their habits, needs, and difficulties in daily skincare. And results, we made empathy mapping suitable for LYS.















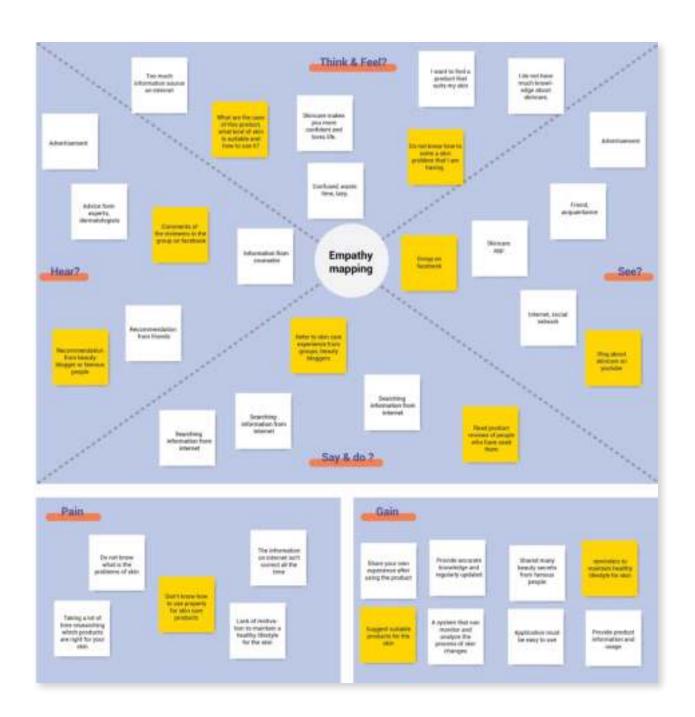




1.2.4 Interview

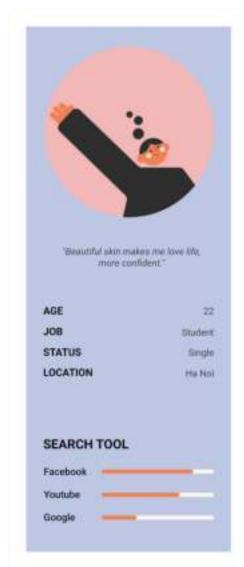
Empathy Mapping

Traditional empathy maps are split into 4 quadrants (Says, Thinks, Does, and Feels) with the user. Empathy maps provide a glance into who a user is as a whole and are not chronological or sequential.



1.2.4 Interview

User Personas



User persona

Nguyen Ha Nhi

ABOUT

She is really concern about her skin. However, Nhi has many problems with skin care as she does not really understand her skin, leading to difficulty in choosing the right skin care product, and it causes imitation for her skin. Sometimes, she is not active in caring her skin and don't keeping healthy living habits has a negative effect on the skin.

PAIN POINT

- . Review is not right as at use.
- Incomplete product information such as product description, usage, suitability for skin type, composition, reviews.
- Knowledge of skin care is not accurate.
- It takes a long time to find the right product.
- · Issues related to advertising.
- · The skin changes cannot be monitored
- Lack of motivation to maintain a skin-healthy lifestyle

NEEDS

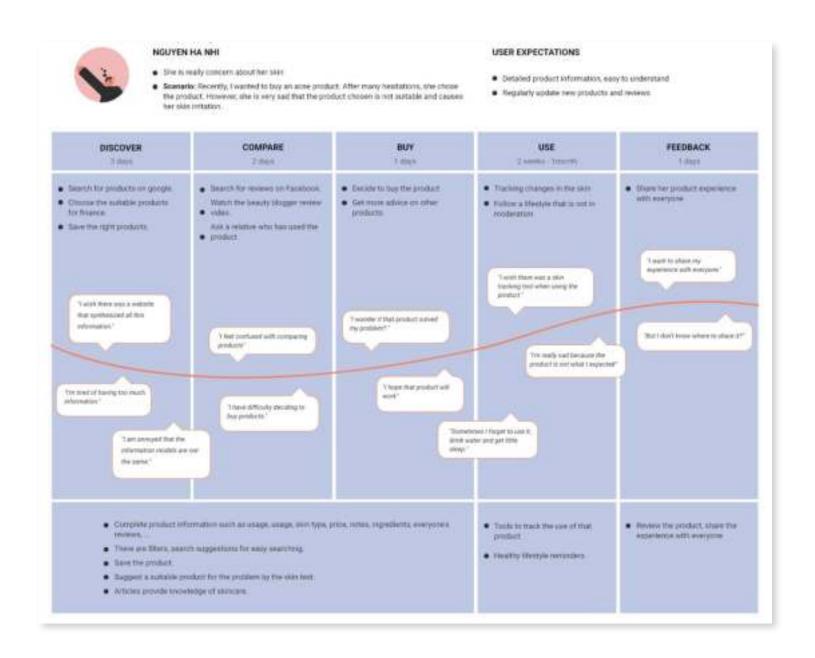
- · Double check product information.
- Know the experiences of people who have used the product.
- · A reliable communication channel.
- · Proper skin care.
- · Celebrities share their skin care treatments.
- · Track skin and related problems:

GOALS

- . No problem finding the product: incorrect information, wrong product selection.
- . Know the uses, usage, notes, description, ingredients, reviews of the product.
- . There is a way to help figure out what skin problem you have and find the right care.
- · Knowledge of skincare is authenticated.
- . Tracking and reminder tool for skincare, daily routine.

1.2.4 Interview

Journey Mapping



1.2.5 Specify Requirement

Primary needs

- Fast, diverse and reputable knowledge (offers tests to help users better understand the skin, provides articles and knowledge from the dermatologist)
- Save time finding the right products for each user's needs
- Provides daily skin diary to give a specific analysis of skin changes, thereby helping users motivate to improve better.

Secondary needs

- Create motivation to maintain a healthy lifestyle for your skin with daily reminders
- Modern user interface design, simple and easy to use

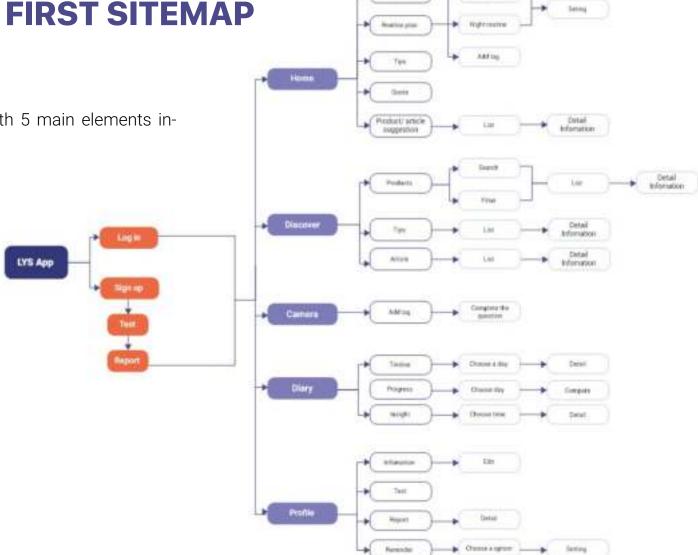
Design Proposal

2.1 BUILDING FIRST SITEMAP

2.1.1 Sitemap1

In this sitemap we build with 5 main elements including:

- Home
- Discover
- Camera
- Diary
- Proflie



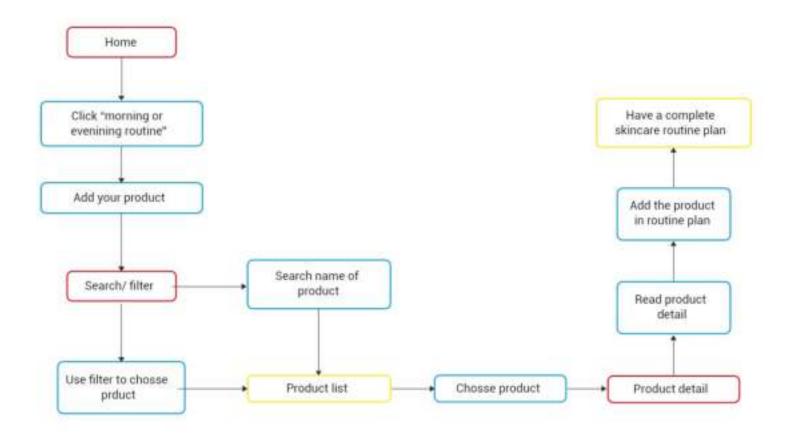
2.1 BUILDING FIRST SITEMAP

2.1.2 First Task Flow

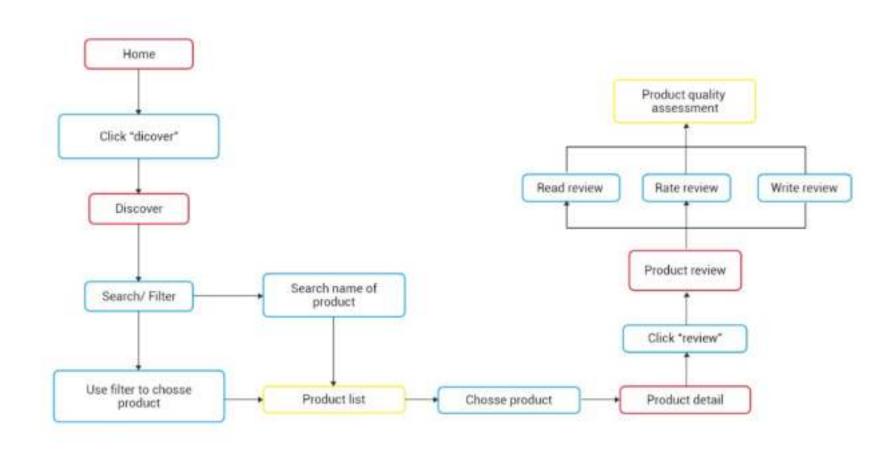
We have completed the task flow based on the main features of the application. And we divided into 3 main flows.

Definitions Outcome Screen' Name User action

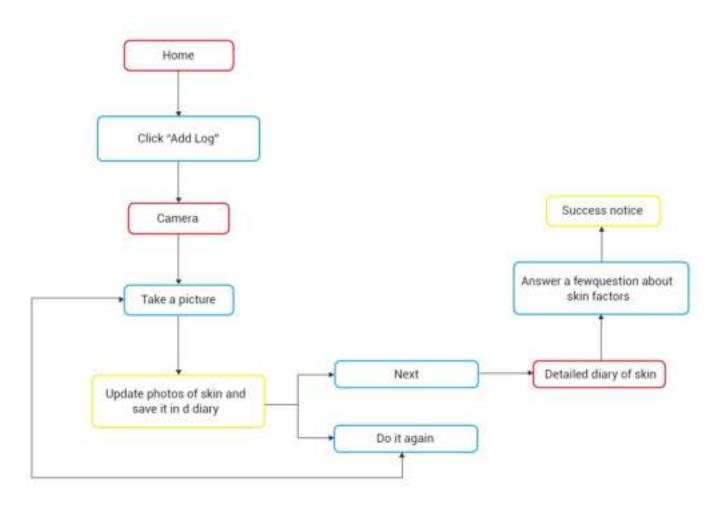
Flow1 - Add products for skincare routine plan (Moring, Evening, Weekly)



Flow2 - Search information and review products

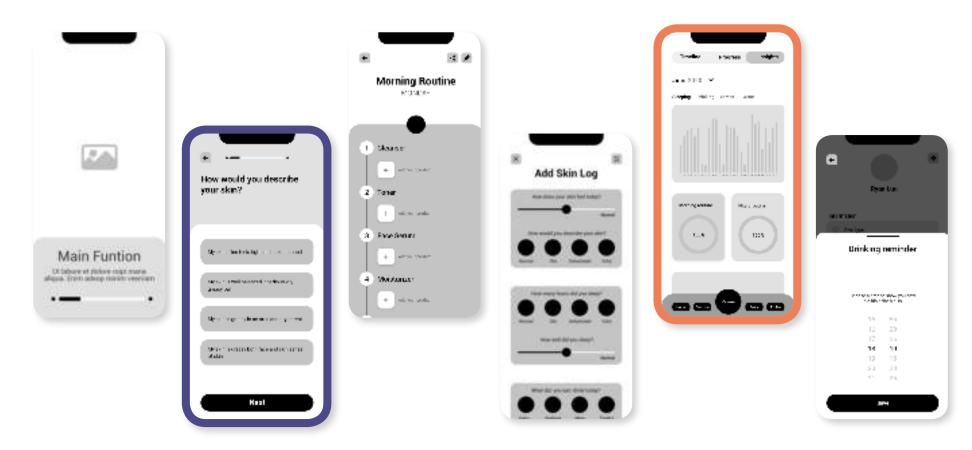


Flow3 - Updated daily skin status in diary



2.1. BUILDING FIRST SITEMAP

2.1.3 Wireframe1



2.1 BUILDING FIRST SITEMAP

2.1.4 User Testing

In the first prototype, we tested the user with 5 criteria including being **findable**, **accessible**, **usable**, **credible**, **useful**.

• Testers: 4

• Average usage time: 15 minutes







USER TESTING 1				
CRITERIA	PROBLEMS	SOLUTIONS		
Findable	. Feeling that just searching by keywords has not helped them find the right product or article that is suitable for them.	Search for products with additional filters, keyword suggestions, sort product categories. Search for articles with keyword suggestions, sort article categories.		
Accessible	. The primary and the second buttons are not decentralized clearly and consistently, making them confused during use	.The types of button buttons are re-hierarchical and used synchronously.		
Usable	. When in use, the workflow is not coherent, making them confusing. Ex: Select "search product" in the item adding products but switch to searching products discovering category	. Additional detailed screens to complete.		
Credible	Not really reliable because: . Skin type tests have no research source. . The article in the tips and articles is like an article, not highly authentic	. The test is drawn from Baumann's research . The article is sourced from a website specializing in dermatology, with information about the supplier.		
Useful	. They feel good, solving them the problems they are having.			

Table 3. Results of user experience testing with wireframe 1

03 Pre Design

3.1.1 Sitemap2

After researching as well as collecting user suggestions. We have decided to revise it to make the sitemap 2 more suitable including:

- Home
- Discover
- Diary
- Proflie

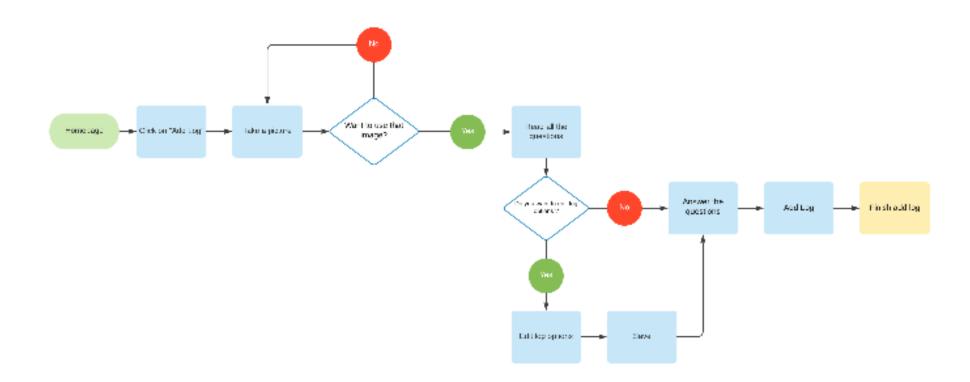


◆ Management

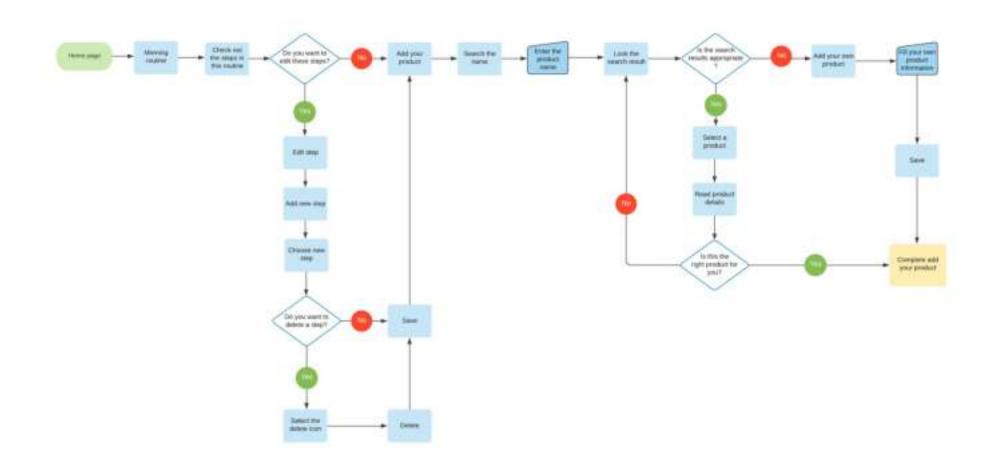
3.1.2 Second Task Flow

Now, we have decided to revise it to make the second task flow more suitable. And we have 5 main task flows

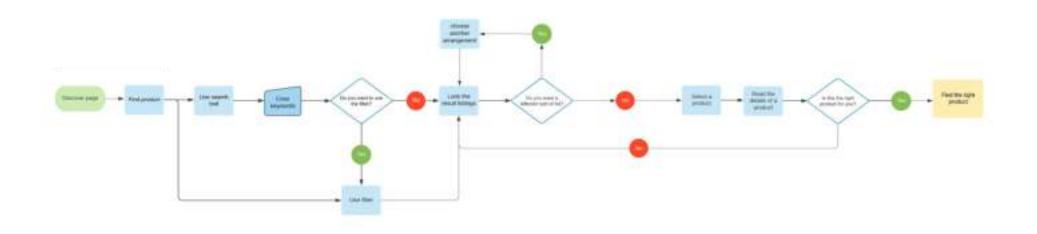
Flow1 - Updated daily skin status in diary



Flow2 - Add product into your routine

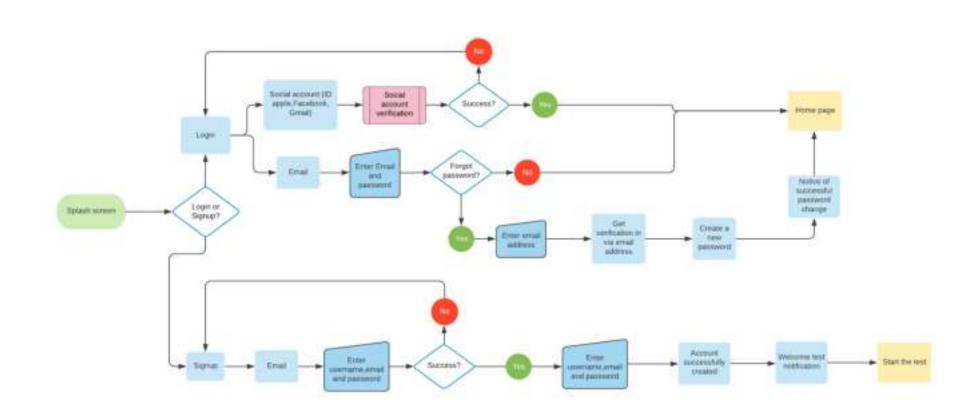


Flow3 - Find product

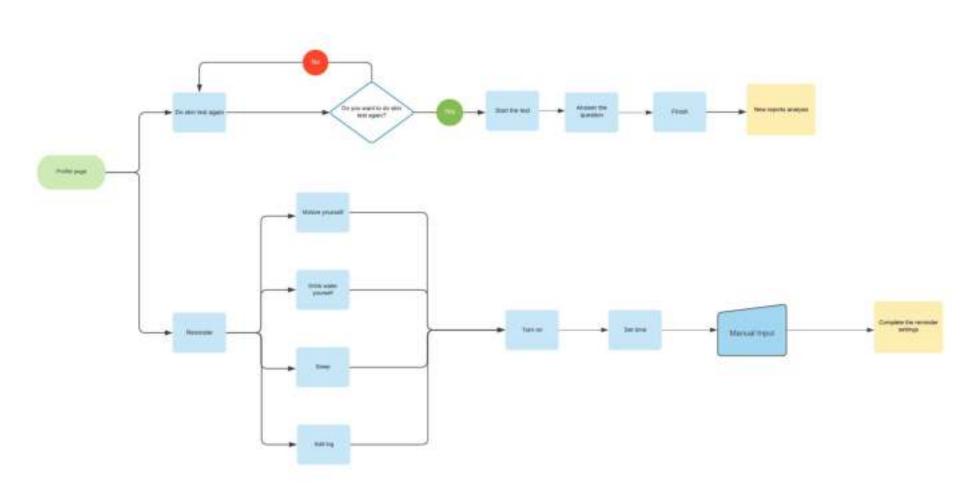


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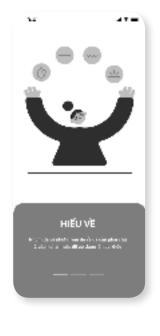
Flow4 - Login/ Signup



Flow5 - Set reminder in profile



3.1.3 Wireframe2













3.1.4 User Testing

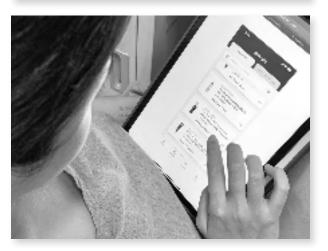
In this test still based on the old method, the results are quite positive that almost the problems in prototype 1 have been solved.

• Testers: 3

Average usage time: 7 minutes







3.1.5 Pugh Matrix

After 2 tests we used the PUGH matrix to evaluate the progress and improvement of the application. As a result, we will make a decision on choosing the right wireframe to arrive at the final design. To compare the above criteria between wireframe 1 and wireframe 2, we can give a few statements as follows:

- Findable: In wireframe 1 users are not really satisfied with finding products.
- Accessibility: In wireframe 1, there is a strong contrast, so it may be annoying to the user
- Usable: Wireframe 2 has been improved for better user manipulation
- Credible: Because it is based on medical research from PhD in dermatology, users can be trusted
- **Useful**:Wireframe 2 has been improved

PUGH MATRIX				
CRITERIA	IDEA 1	DATUM	IDEA 2	
Findable	-1	0	2	
Accessible	0	0	1	
Usable	0	0	2	
Credible	1	0	2	
Useful	2	0	2	
TOTAL	2	0	9	

- Idea 1: is the app interface design and the idea used in Report 2
- Idea 2: is the app interface design and the idea used in Report 3
- Datum: is called a reference, and here you can consider yur "existing solutions" as your datum

04 Design Finalization

4.1.1 Mood Board

- The color "Purple Blue" is a harmonious combination of dark blue that expresses intelligence, strength, stability and professionalism, bringing a sense of peace of mind. Along with that purple color, it means conscientiousness, peace and wisdom.
- The color "Orange" gives off a youthful, dynamic feel, but with a lighter orange color it reveals softness and tenderness.













4.1.2 Logo

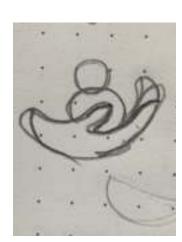
Idea

Inspired by the meaning of the name, we have built the logo based on the hand symbol and the hand cherishes a glowing pearl. We want our users to understand that they love and take care of their skin just like they are cherishing a beautiful pearl.









4.1.2 Logo

Brand identity

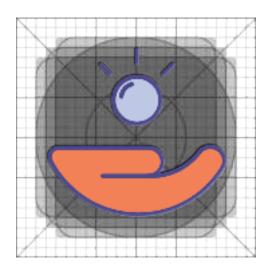
Logo's personality: "Friendly, Trust, Youthful", partly reflects its characteristics

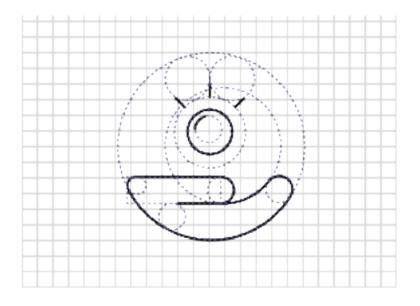
- "Friendly" is the first thing we want to aim for so that users feel that skincare isn't something too serious.
- "Trust" is what users can safely refer to all information that we provide in the Application
- "Youthful" is essential as it will create a sense of attraction to our audience



4.1.2 Logo

Logo in grid system







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4.1.2 Logo

Logo with different color combinations



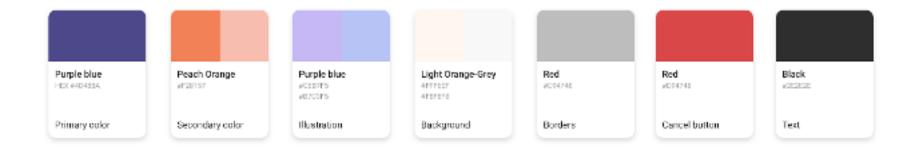




4.1.3 Style Guide

Color template

This is the color palette I use throughout the app, and it's also pulled from the mood board



4.1.3 Style Guide

Typography

Roboto is the main font I use in this app. This font is quite popular with its wide range of family fonts, and also serves my application friendliness

aA Roboto

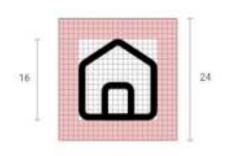
ABCDEFHGIKLMNOPQRSTUVXYW abcdefhgiklmnopqrstuvxyw 0123456789

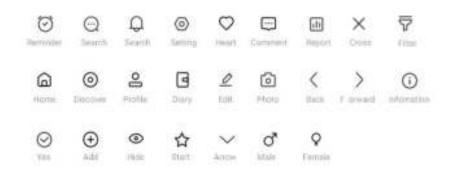
Title	Bold	23рх
Subheader	Bold	18-20px
Page title	Bold	18px
Large body	Medium	15px
Body/ Text input	Regular	15px
Caption	Regular/Light	13рк
Button	Medium	16рх

4.1.3 Style Guide

Icon set

The icon is built based on the personality of the application name: friendly, trust, youthful. We use design grids to keep icons in sync





4.1.3 Style Guide

Component

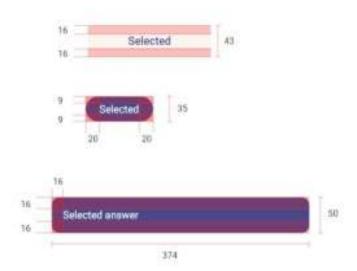


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4.1.3 Style Guide

Component





4.1.3 Style Guide

Component



4.1.3 Style Guide

Component



Style sheet





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4.1.3 Style Guide

Set of illustrations











4.1.3 Style Guide

Set of icon illustrations

Skin status











Time for sleeping









Habit of drinking water













Time for doing exercise









Emotional status









Menstrual cycle









Enviroment status









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4.2 DESIGN FINALIZATION

4.2.1 Final UI





















4.2 DESIGN FINALIZATION

4.2.2 User Testing

During this last user test with 3 tester, users enjoy the complete color and functionality of the application. Along with that are some of the contributions to the future development of LYS such as:

- Suggestive address to buy reputable products
- Build a community to share, ask and answer questions about skincare, product liquidation, ... or events for users







05 Simulation Function

5.1 ANIMATION

5.1.1 Animation of logo















5.1.2 Simulation of function

To make LYS application become more reality and user experience our creative work, we used XD app. Let see how it's worked.

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THANK YOU FOR READING

So it's been 4 months since LYS was born, it really meaningfull to us. 4 months is not a long but not short time, me and my companion have had to go through many difficulties and challenges and feel depressed many times. But until today, we have tried our best to be able to complete this project perfectly. In fact, this project would not have been possible without the support of our supervisor, Ms. Shruthi who always supported and helped us to solve any problems. Along with that, the teachers in the council have contributed a lot of suggestions so that we can improve.

So our 4 years of university are almost over, I believe this will be a difficult time with sleepless nights but also the most memorable time of FPT University student's life.