



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

DESIGN THINKING PROJECT REPORT

SECP1513 TECHNOLOGY AND INFORMATION SYSTEMS

GROUP : 02

PRODUCT'S NAME : SupportHive

LECTURER'S NAME : ASSOC. PROF. DR. AZURAH BINTI ABU SAMAH

VIDEO LINK : <https://youtu.be/QToFWRD7ulA?si=R6vKJq0EeuklVbrv>





GROUP MEMBERS	
	NAME : ELSEYAH OMAR MOH A MATRIC NUMBER : A25CS0380
	NAME : LIM LEE XIANG MATRIC NUMBER : A25CS0083
	NAME : MUHAMMAD ALIFF SAFFUWAN BIN MOHD AZMI MATRIC NUMBER : A25CS0263
	NAME : NORALYAA WAFAA BINTI MOHD NAWAWI MATRIC NUMBER : A25CS0297

TABLE OF CONTENTS

CONTENTS	PAGE
Introduction	2
Details of design thinking process, step, description (video/ image/ team progress / brainstorm)	3
Detailed description (problem, solution, team working)	5
Design thinking assessment (end of project demonstration, transition between phases)	7
Design thinking evidence (sample work by students, each phase: empathy, define, ideate, prototype, test)	8
Reflection (individual)	27
Task distribution	29
Reference	30

1.0 INTRODUCTION

Design thinking is a process of thinking, analyzing and designing a solution for the problem that gives benefit for the users through iteration. Which iteration is constructed from 5 main parts: empathize, define, ideate, prototype and test.

For empathize, it is having the purpose to locate the exact users for the problem they are having and have a view from their experience. It is the process of the designer to know the view and having empathy for the users.

For define, it is about observing the data collected and analyzing the user's need by defining the core problem that they are having and identifying the user's problem. It must be done by doing human-centered design.

For Ideate, it is where we have a great understanding of the problem and have views from many angles, then we brainstorm for a solution to solve the core problems. This means every design revolves around the problem and gives clear ideas to solve it.

For prototype, the designer needs to make a mock-up model of the solution they defined by visualizing the idea and ensuring the prototype is clear and it is just a foundation for the real outcome.

For test, it is for the users to test and see whether the solution meets the requirements of the users. This is not the final test due to there being improvement in reality. The testing will keep going and new problems will be discovered time by time.

Our goal is to help the disadvantaged individuals who are individuals who suffer from autism. Autism Spectrum Disorder (ASD) is a neurodevelopmental condition that affects communication, social interaction, and behavior, presenting a wide range of symptoms and challenges.

We are designed to focus on the main part, which is to help autism in daily problems, which is a social media platform to let autism's parents share their experience so that other inexperienced parents could learn from those shared, searching nearest daycare and AI for replying to questions which are only related to autism.

2.0 DETAILS STEP

Our group has thought of designing a prototype for autism. We have a plan for a coupled meeting to brainstorming ideas and solutions that's related to autism. After several research and gathering data and references from the internet, we found that most of the parents of Autism Spectrum Disorder (ASD) children would have a hard time raising their kids due to inexperience and needing a different way to approach their child. In conclusion, we came up with an idea to solve the problem by implementing AI and social media platforms.

2.1 Empathize

Firstly, we conducted an online interview with our client who is a friend of one of our group members through an online platform which is Google Meet. Besides that, we carried out a survey to gather and understand about problems our users faced daily and their desired features through Google Form. All the responses that we collected during the interview and survey sessions will be used for the next stage.

2.2 Define

During this stage, we are defining and understanding the main problem of our clients which will be based on the data we collected in the empathize stage. After we discussed the problem, parents feel alone and feel lost when raising their children due to the needs of special care for ASD children. On top of that, parents need a place to search for a solution for raising ASD children and a suggested daycare that is reliable to take care of their children while they are working or busy with their tasks.

2.3 Ideate

After verifying the core problem, we had brainstorm ideas to help parents to solve existing problems and extra user desired features. The solution that is given is to create a social media website so that parents of ASD children could share their daily life when raising their child and life hacks to overcome ASD children's emotions. In this term, inexperienced parents could scroll through this social media for comfort and create themselves a suitable method of raising their children. For extra features, we will be providing the prices, locations and rating of the nearby daycare services that's close to their address.

2.4 Prototype

This phase will be producing representations of our solution before testing its feasibility. We created a low-fidelity prototype by sketching the interface's designs and mockups using papers and CANVA to illustrate how the flow of the website should be done. Before testing, we will ensure that our product meets the requirements of the user's needs and it is applicable.

2.5 Testing

In this phase, we are required to test the prototype by our team at first to ensure that the outcome will be the same as what we thought. Next, we have user to test out the prototype so they could give some suggestions for us to make improvements.

3.0 DETAILS DESCRIPTION

3.1 PROBLEM

By the time a child with Autism Spectrum Disorder is born, parents face daunting tasks of rearing mostly due to experience-less, less support, and special needs. Most parents feel at a loss for finding guidance, emotional support, and practical strategies to manage daily situations effectively.

3.2 SOLUTIONS

To address this issue, our design thinking project is to propose the development of a dedicated social media platform designed specifically for parents and caregivers of individuals with ASD. The platform aims to provide a safe and supportive environment where users can share their experiences and daily life challenges while raising individuals with ASD. Through interaction with more experienced parents and caregivers, newcomers can gain guidance, reassurance, and practical advice.

Key features of our platform

- Experience sharing and discussion forums
- parenting tips and coping strategies
- Information on ASD care and development

The primary target users of this platform are parents and caregivers of individuals with Autism Spectrum Disorder. The platform also aims to raise awareness and promote understanding of ASD-related challenges among caregivers.

- Expected Benefits
- Increased parental confidence
- Improved caregiving knowledge
- Reduced stress and isolation
- Better support for children with ASD

3.3 TEAM WORKING

Our team was made up of a diverse group of individuals with different areas of expertise, which played a vital role in overcoming the challenges of the project. We kicked off the project with a series of meetings aimed at brainstorming and defining the issues at hand, allowing each team member to share their insights based on their experiences as with ASD individuals. Collaboration and open communication between team members were essential for understanding the pain points and developing innovative solutions.

Our team has distributed roles for the different parts of the project, which includes research wan, lim, wafaa and omar and data collection (Google Forms) done by wafa with the help of lim and also the designing of the prototype for the software to set a clear image on how the general look is going to be was done by wan and wafaa. We also maintained communication by doing regular meetings for updates and decision-making, which also includes online discussions through our Telegram group.

4.0 DESIGN THINKING ASSESSMENT

Our assessment started with a group meeting and after brainstorming we found a problem that parents are having trouble observing their child's condition, but this is too broad and focuses on both ASD and ADHD. Then, we moved to only focus on ASD and we found another issue that's finding close barbers is hard for ASD parents that specialize in cutting hair of ASD, but we also ran into problems like hard finding a barbershop that experienced with autistic individual in the portfolio and rare to find barber that provide this kind of service.

Afterwards, we focused on creating a website for a social platform where parents that are not experienced to deal with autism spectrum disorder (ASD) to read or create forums where parents or caregivers that are more experienced can share their experiences handling certain situations, therefore the primary goal is to make a safe space in where parents or caregivers can learn or share to better improve their quality of life.

At empathize phase, our team created a google form in which it has 2 sections A,B. In section A it asks for the respondent's information, awareness about (ASD) and if they know anyone with ASD, this section provides the respondents awareness about ASD with their age. In section B it asks about troubles finding a facility that provides help for parents or caregivers and some questions about a website that has information all in one place. Our team also made a google meet in which we interviewed a parent of an ASD individual.

Second, in the define phase we discussed the google form findings, in where we found out that people most people are aware about Autism Spectrum Disorder and some of them have close relation to an autistic individual then we understand they are interested having information about daycares for ASD individual all in one place is very helpful make us pivot the idea to something different moreover, we discovered that an AI tool that explains medical information in a simple language is helpful.

Third, we moved to the ideate phase. During the ideate, our team members came up with ideas and solutions for the problems discussed in the Define phase. As a result, the assessment point begins to perform its function, which consists of creating a platform in which new parents of individuals with (ASD) can learn from experienced parents/caregivers. By the end of this stage, we had decided on the best course of action in order to resonate with targeted users.

Furthermore, we proceeded with the prototype that is mocked up to represent our ideas to form a basis of solution. Our prototype will have a forums section. A daycare section in this section will provide the target users with a form to fill out in order to find the nearest and most affordable daycares that specialize with ASD, and finally an AI chatbot section in which the target users are able to interact with the AI for questions related to Autism Spectrum Disorder based on real world research papers and it learns from the forums that are posted by more experience parents or caregivers to provide more practical solutions that are up to date and easier to execute by target users so the Ai chat will get better by time.

5.0 DESIGN THINKING EVIDENCE

Empathy

On 20 December 2025, our team member, MUHAMMAD ALIFF SAFFUWAN BIN MOHD AZMI, had an interview with his friend, who had a sister who was diagnosed with ASD by using Google Meet. From this interview, we had prepared some questions on her opinion about the life she experienced having an ASD sister and what the problem she/her parents have when raising her sister. We also prepared a survey by using Google Form as the medium to collect and comprehend the problems that our users faced as well about the raising and taking care for ASD patients.



Figure 1: Interview with who sister is diagnosed ASD

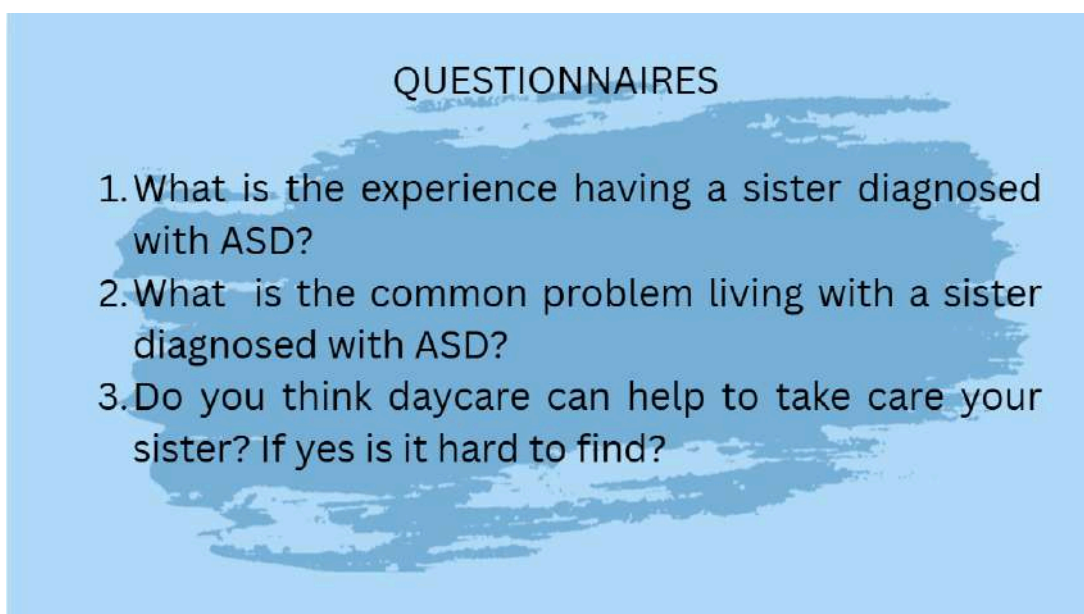


Figure 2: Questions asked during the interview

Section A : Respondent's Information

how old are you? *

☐ 18-24

☐ 25-30

☐ 30+

What is your gender? *

☐ Male

☐ Female

Do you know what is Autism Spectrum Disorder (ASD) ? *

☐ Yes

☐ No

Where did you learn about ASD? *

☐ From family and friends

☐ From doctors

☐ School

☐ Social media

☐ Other: _____

Figure 3.1

Are you aware of anyone close to you who is affected by this? (If yes, please specify.) *

☐ No

☐ Other: _____

Figure 3.2

Section B

Are you aware for a child with special needs or autism? *

☐ Yes
☐ No

Have you ever had trouble finding or booking a daycare that specializes in children with special needs ? *

☐ Yes
☐ No

Would it be helpful to have a platform to search and compare daycare centers by ratings, price range, and services offered? *

☐ Yes
☐ No

Are you struggling understanding autisms child's needs? *

☐ Yes
☐ No

Figure 3.3

Do you feel comfortable sharing your own experiences to help others? *

☐ Yes

☐ No

Would you be interested in a platform where parents and caregivers share experiences and tips? *

☐ Yes

☐ No

Have you ever found it hard to find medical information or research about autism ? *

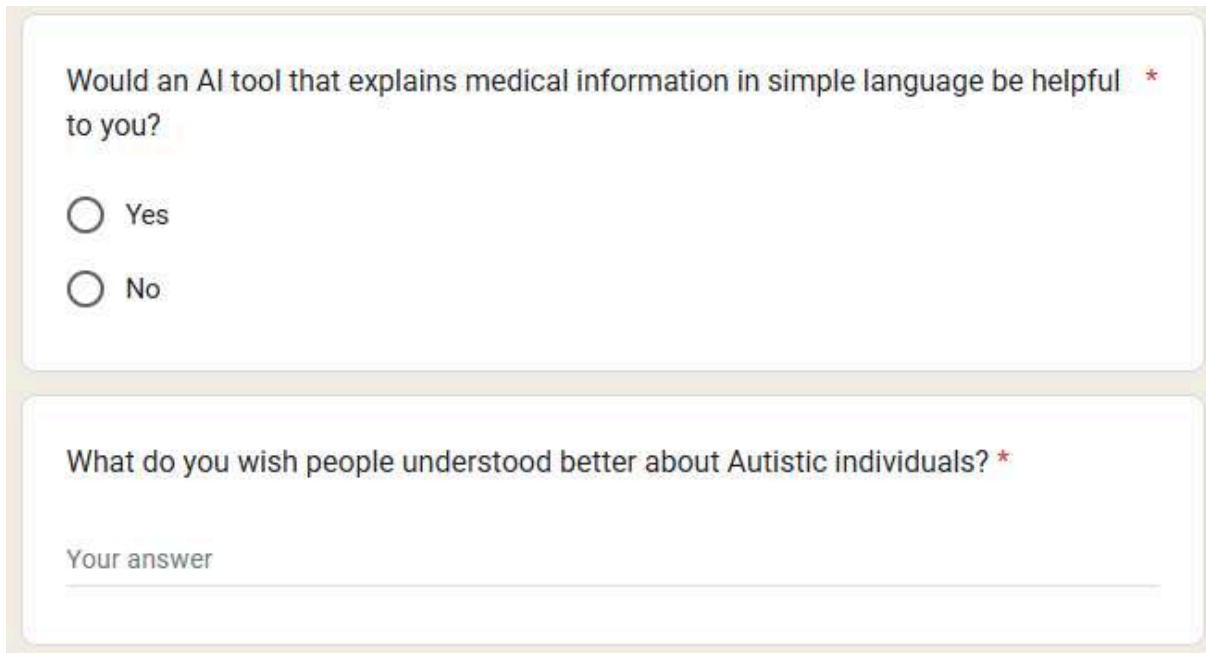
☐ Yes

☐ No

How important is it that medical information comes from trusted and verified sources? Explain. *

Your answer

Figure 3.4



Would an AI tool that explains medical information in simple language be helpful to you? *

☐ Yes

☐ No

What do you wish people understood better about Autistic individuals? *

Your answer

Figure 3.5

Figure 3.1 until Figure 3.5:

Question in Google Form

Define

During this phase, we have collected all the data obtained from the interview session and the Google Form survey. Through the Google Form survey and interview session, it is easier for us to define the core problem to have a more proactive solution.

how old are you?

45 responses

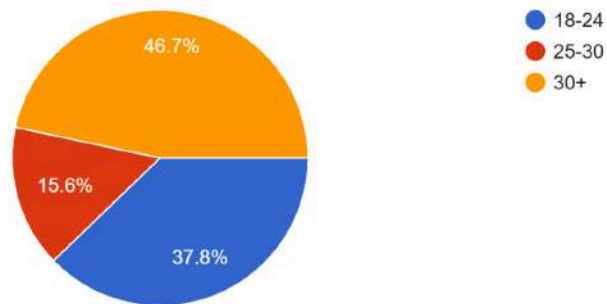


Figure 4.1

What is your gender?

45 responses

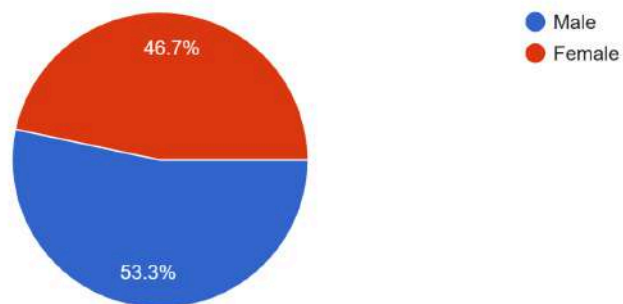


Figure 4.2

Do you know what is Autism Spectrum Disorder (ASD) ?

45 responses

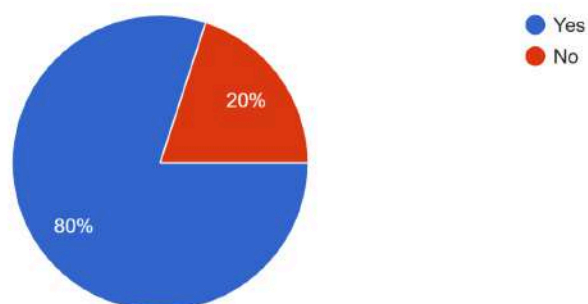


Figure 4.3

Where did you learn about ASD?

45 responses

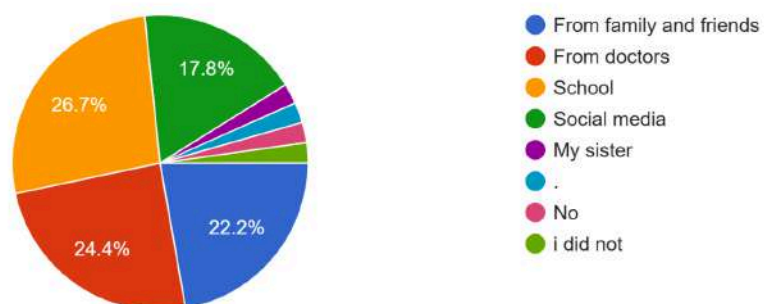


Figure 4.4

Are you aware of anyone close to you who is affected by this? (If yes, please specify.)

45 responses

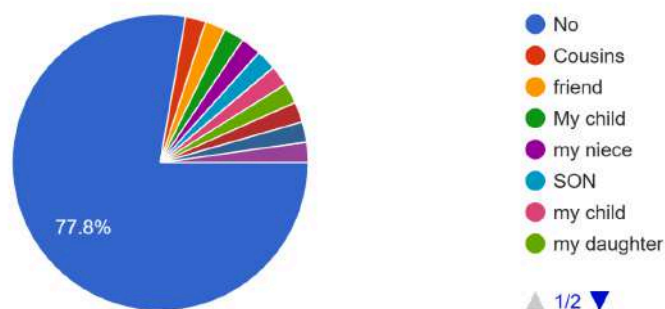


Figure 4.5

Are you aware for a child with special needs or autism?

45 responses

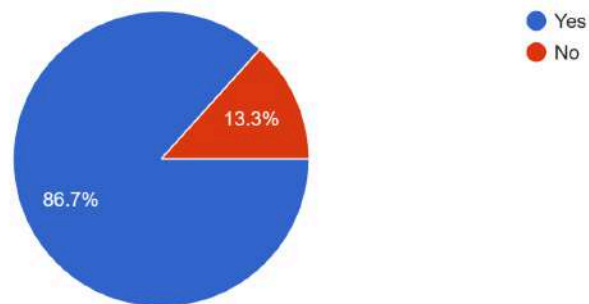


Figure 4.6

Have you ever had trouble finding or booking a daycare that specializes in children with special needs ?

45 responses

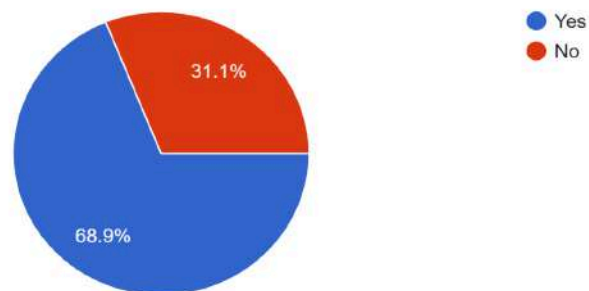


Figure 4.7

Would it be helpful to have a platform to search and compare daycare centers by ratings, price range, and services offered?

45 responses

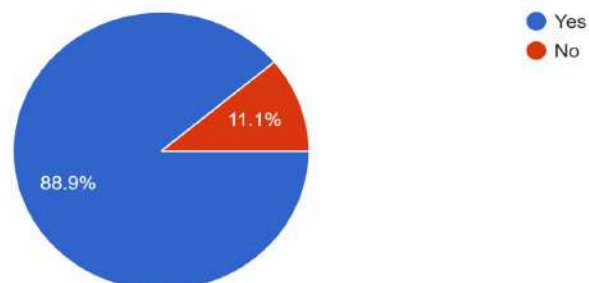


Figure 4.8

Are you struggling understanding autisms child's needs?

45 responses

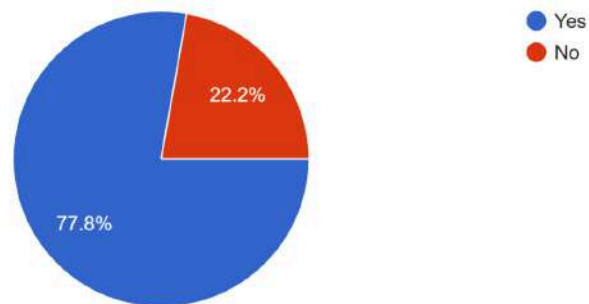


Figure 4.9

Do you feel comfortable sharing your own experiences to help others?

45 responses

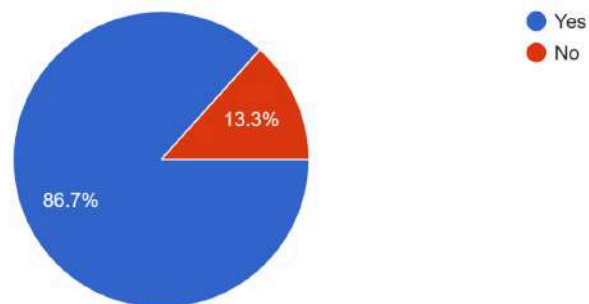


Figure 4.10

Would you be interested in a platform where parents and caregivers share experiences and tips?

45 responses

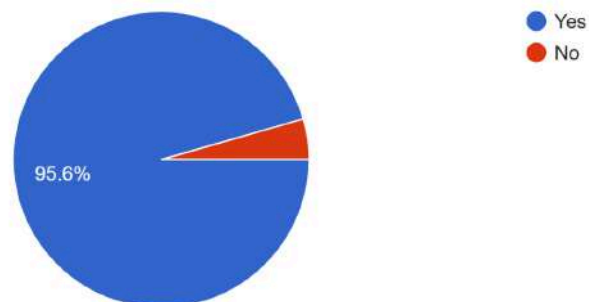


Figure 4.11

Have you ever found it hard to find medical information or research about autism ?

45 responses

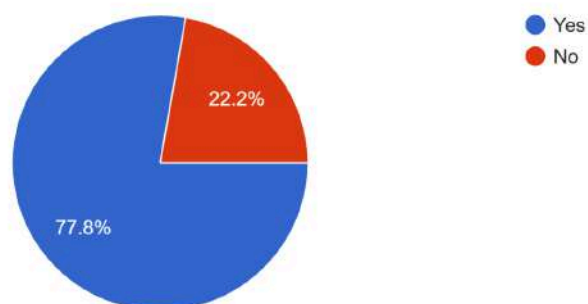


Figure 4.12

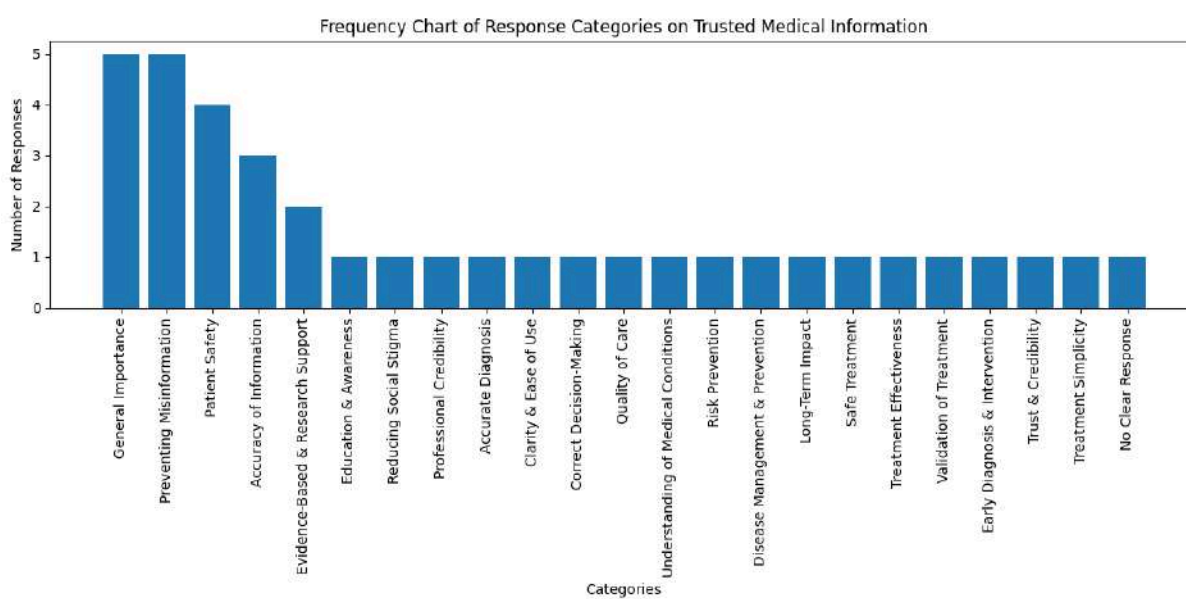


Figure 4.13

Would an AI tool that explains medical information in simple language be helpful to you?
45 responses

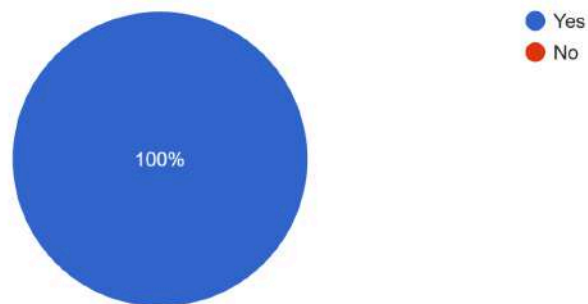


Figure 4.14



Figure 4.15:meeting to define the core problem

Ideate

After we conclude the core problem from the user, we gather around to brainstorm the adequate solution that will help the user to solve their problem. Finally, we come out with the idea of making a social media platform to let the parents have opportunity to express their feeling in the platform while there is an AI chatbot to help the user knows more about autism and services on booking daycare centre.



Figure 5.1



Figure 5.2

Prototype

In this prototype phase, we have optimised the ideas, insights, and data gathered from the earlier phases to have the thought on how our prototype should be designed and still will fulfill the requirement that has been requested by the users.

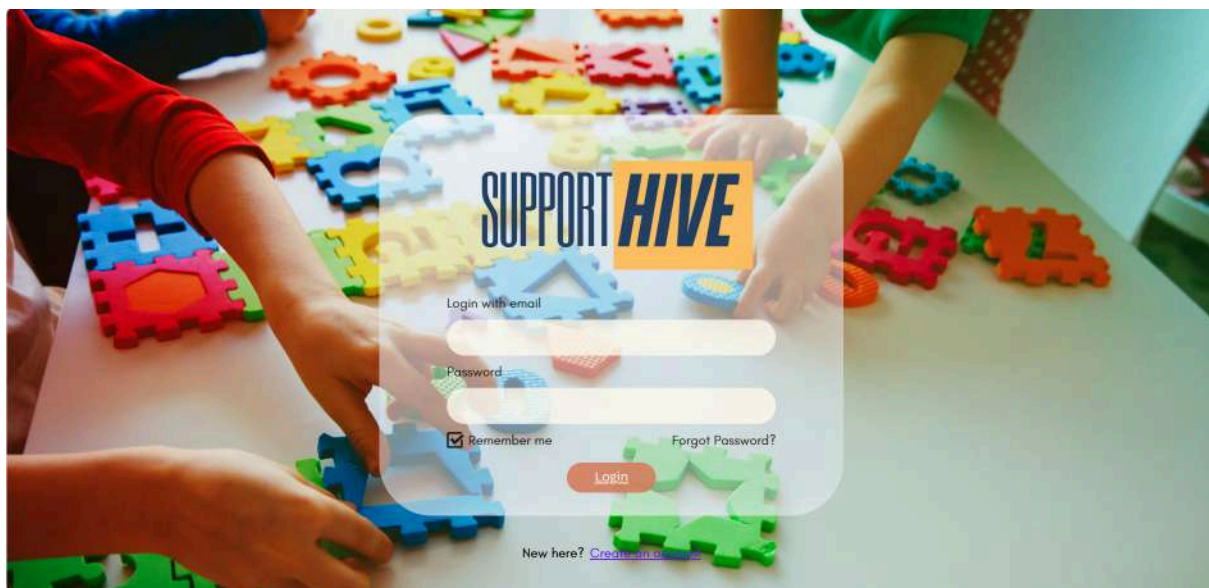
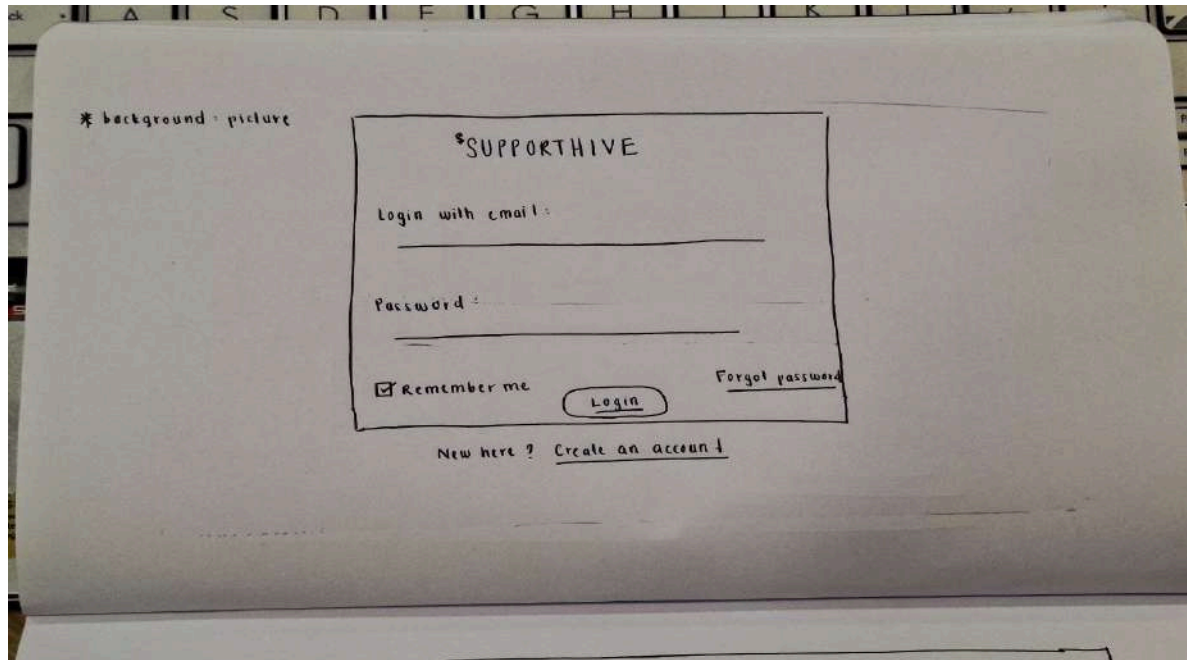


Figure 6.1

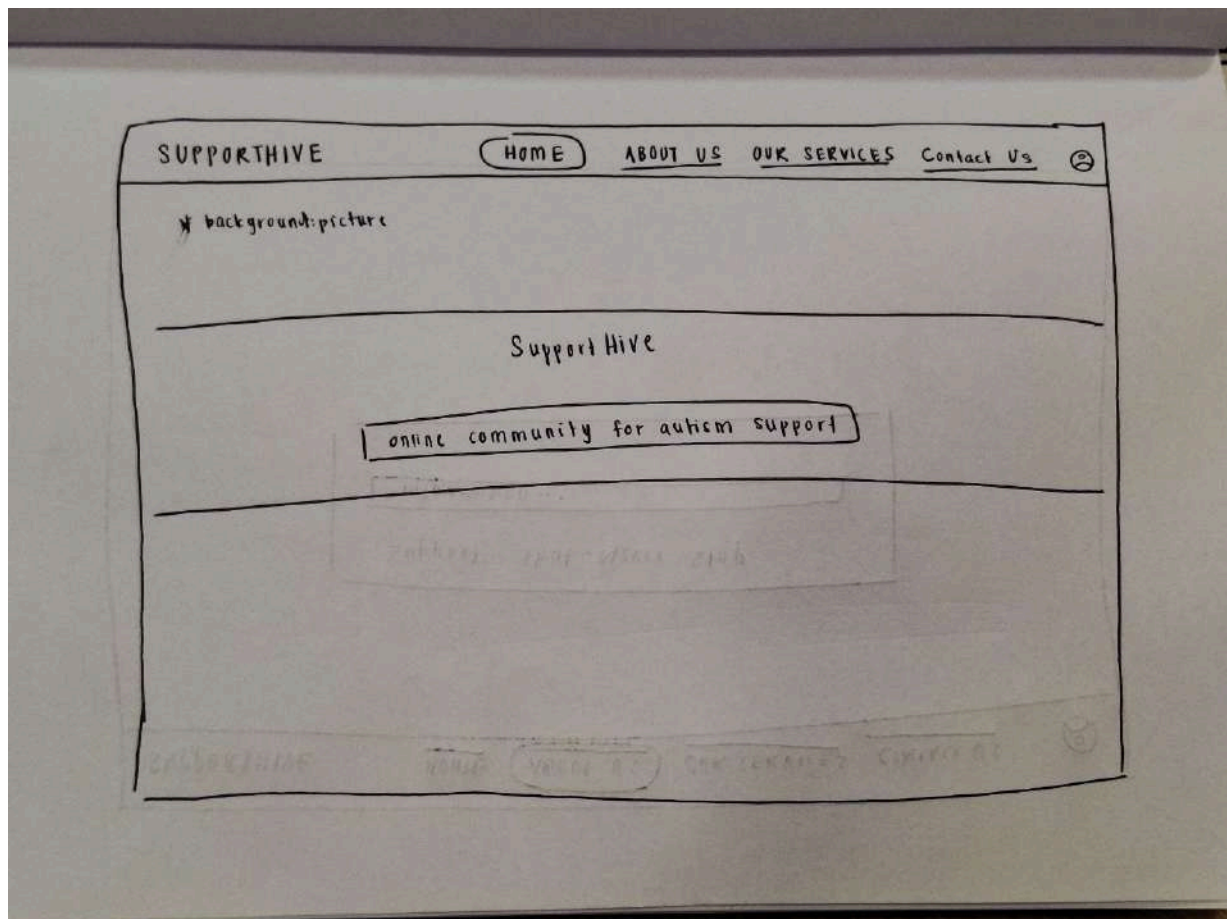


Figure 6.2

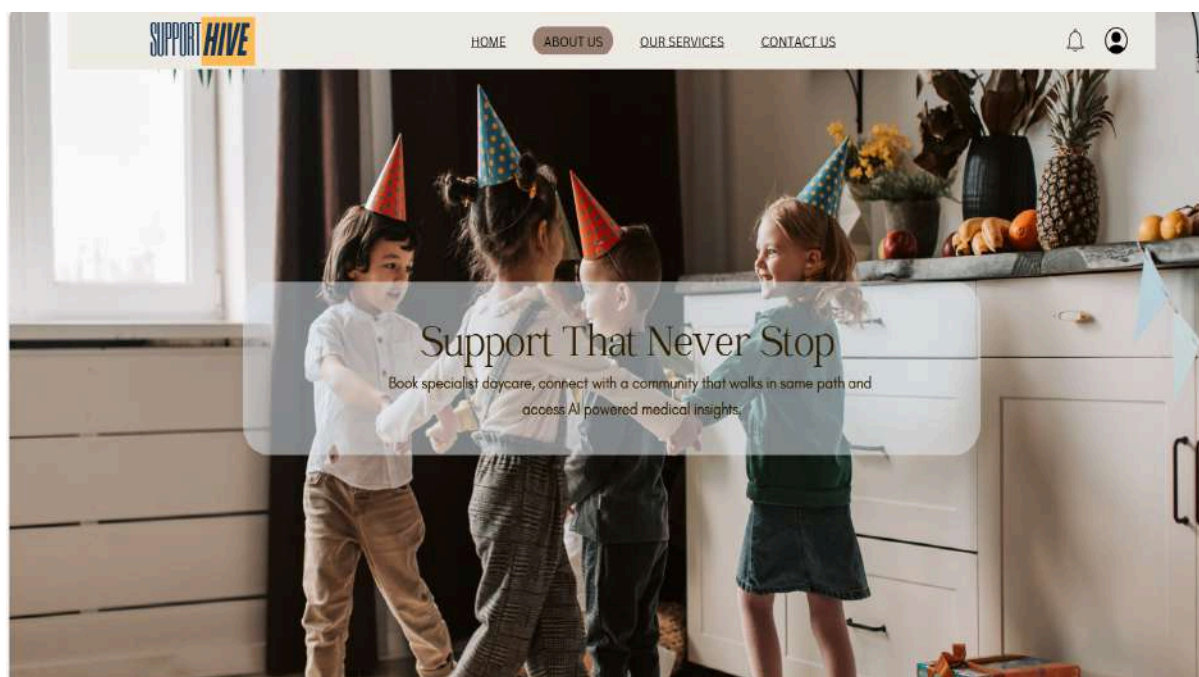
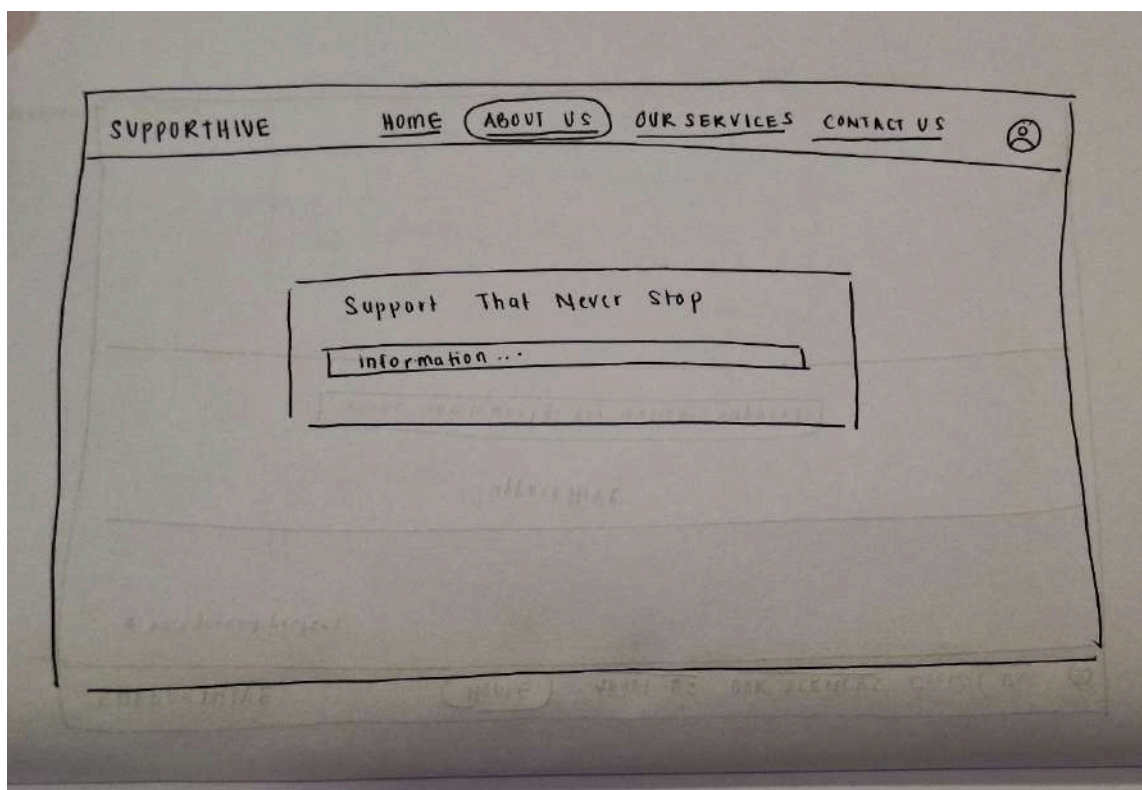


Figure 6.3

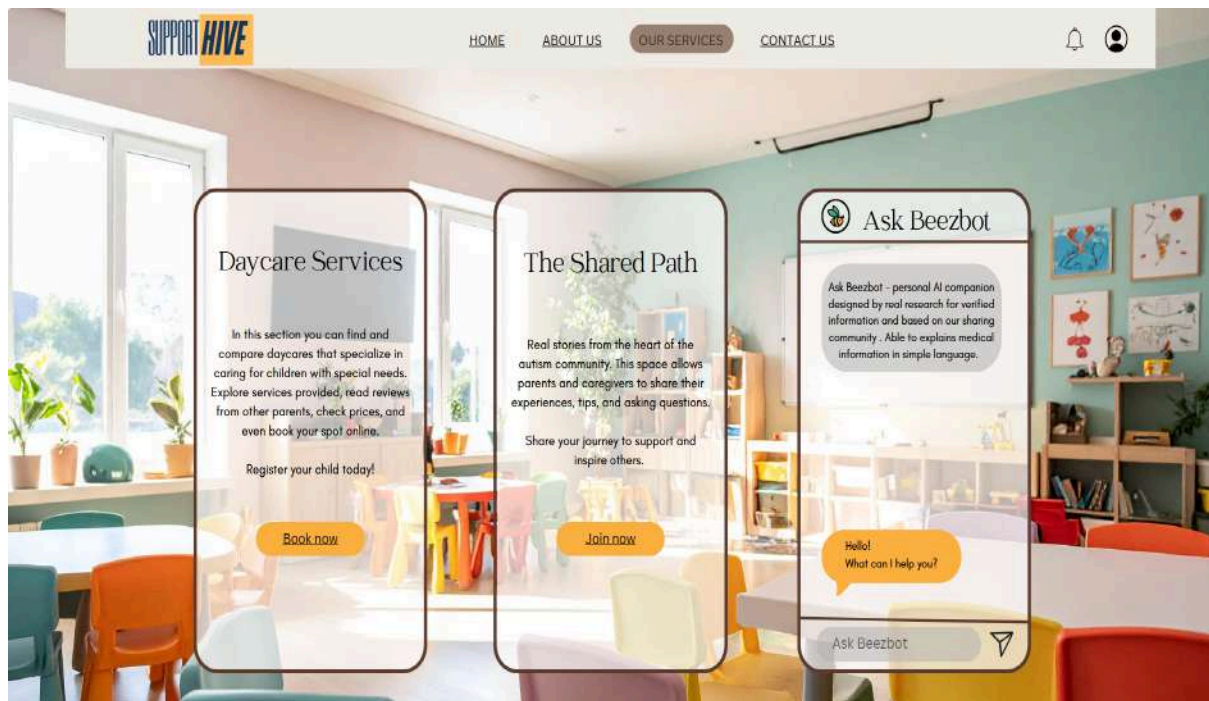
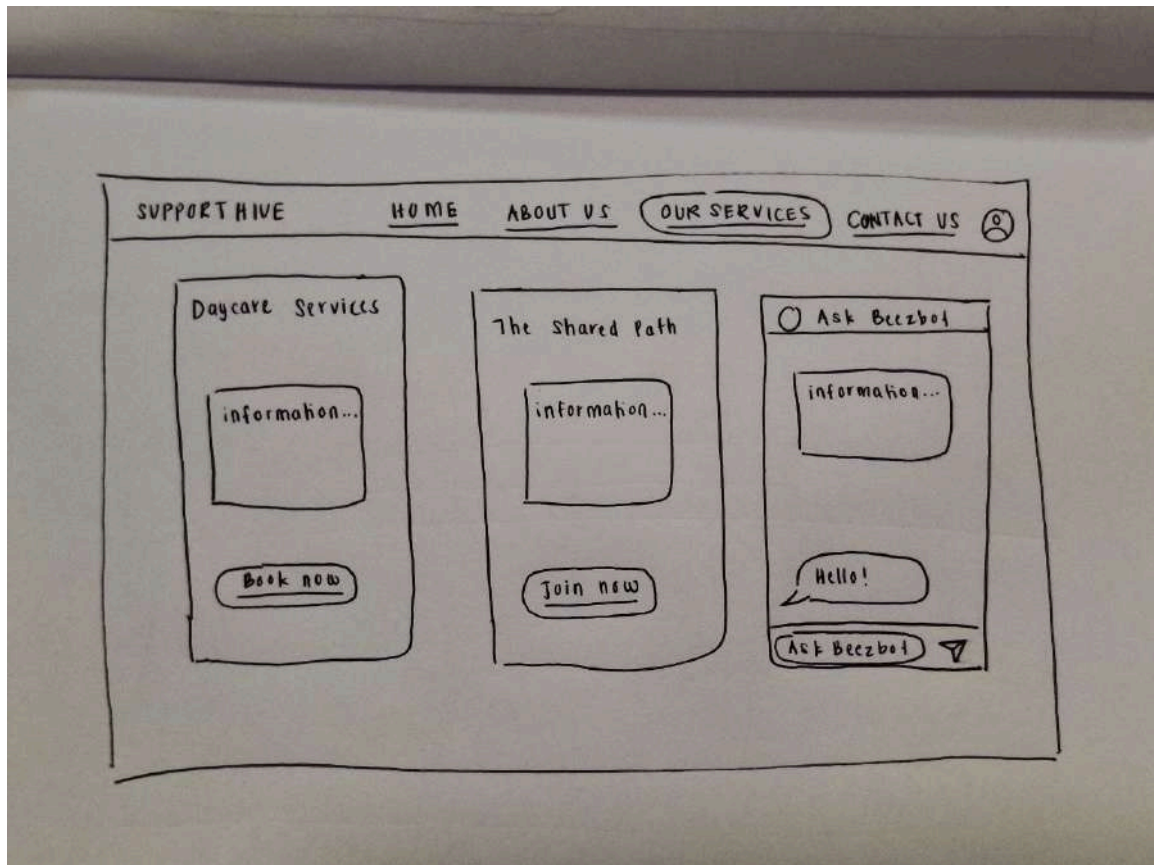








Figure 6.4

SUPPORT HIVE HOME ABOUT US **OUR SERVICES** CONTACT US  

Daycare Service

— description

	name	
	(rating)	
	location	
	info	
	prices	

	name	
	(rating)	
	location	
	info	
	prices	

Date: _____ No: _____

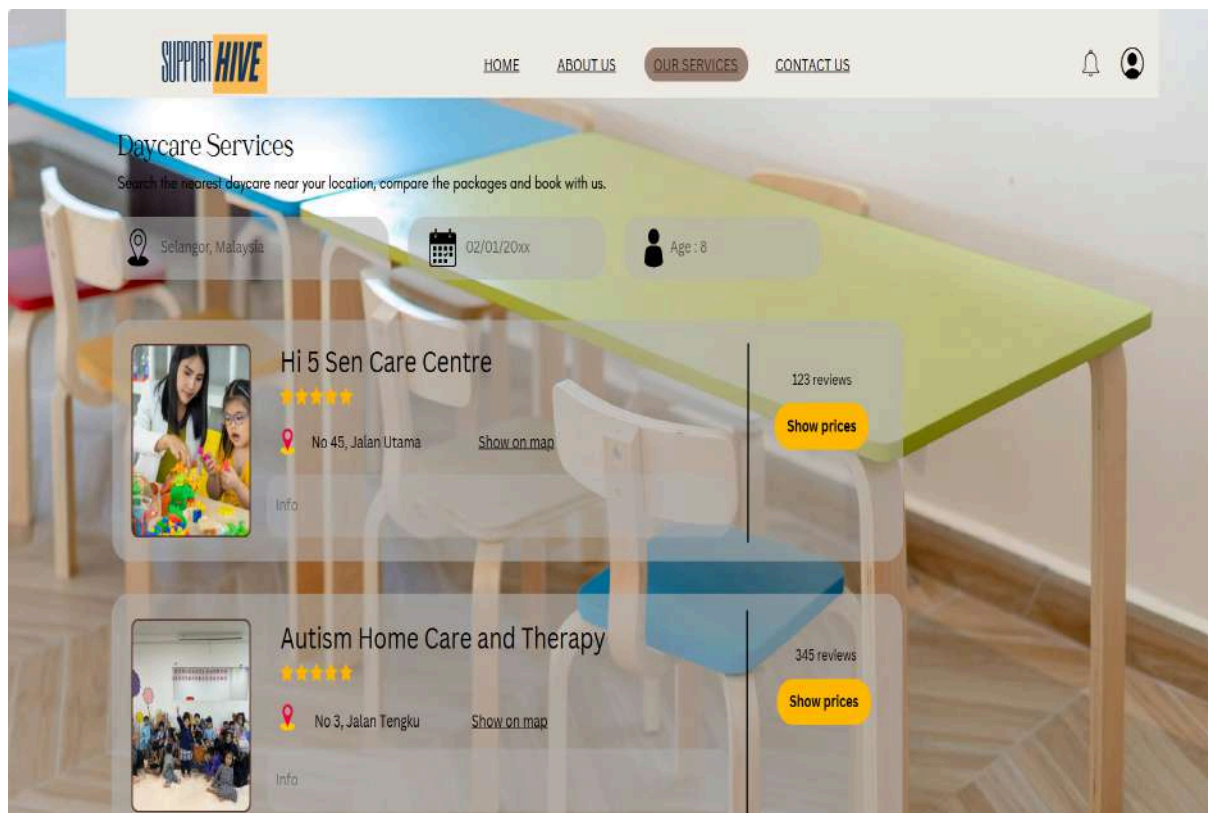


Figure 6.5

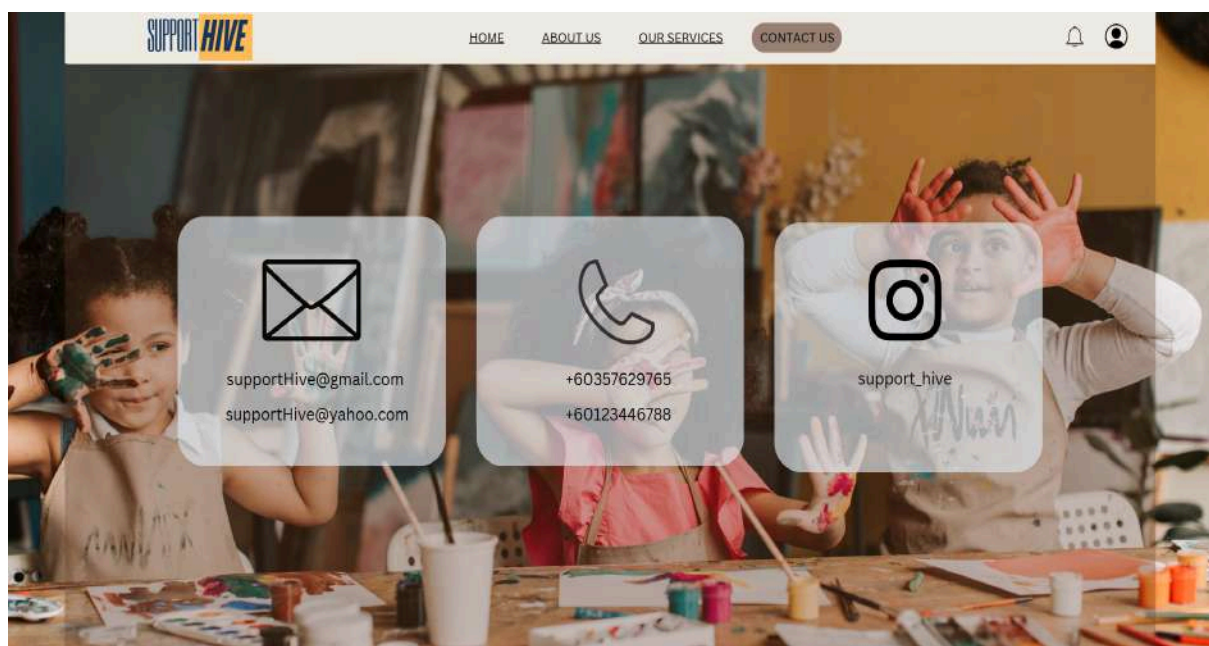
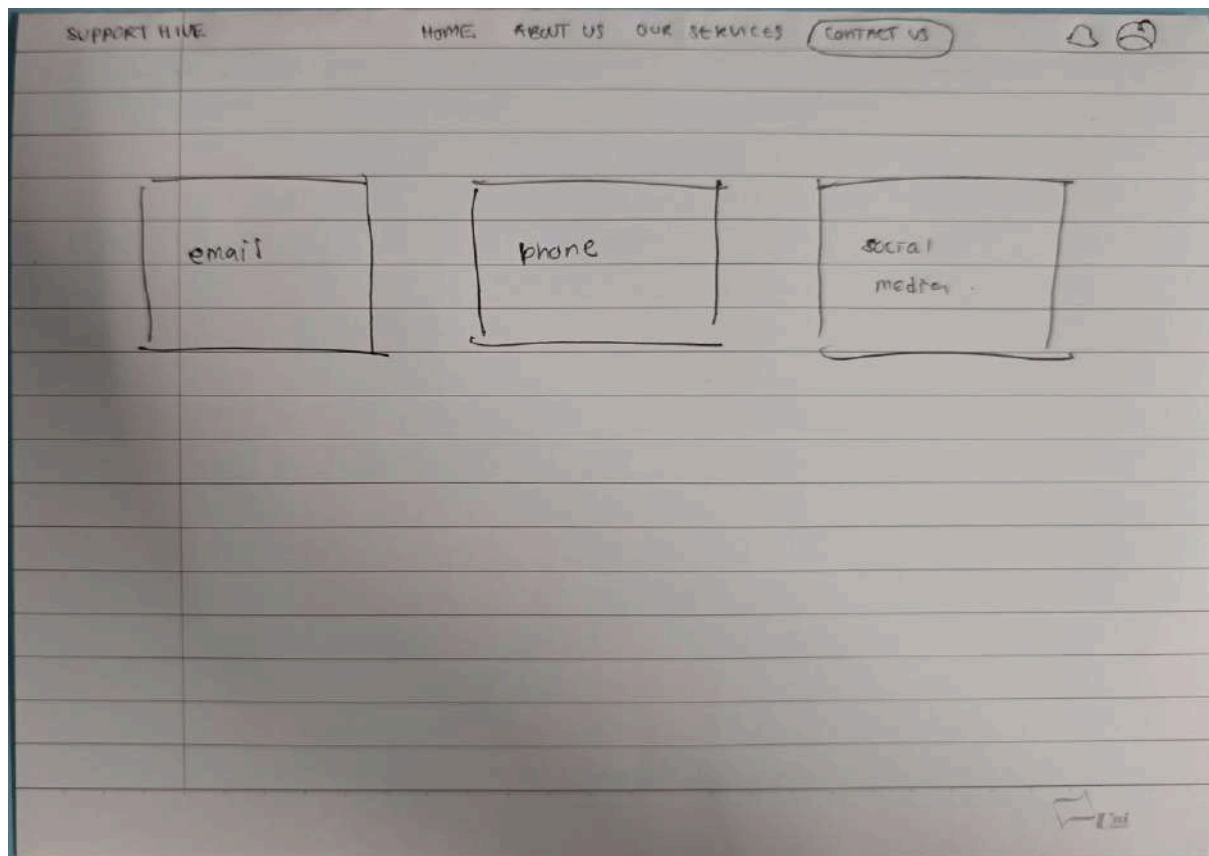


Figure 6.6

Test

In this phase, we will provide our users to handle our prototype and review it and give some comments on the prototype we made.

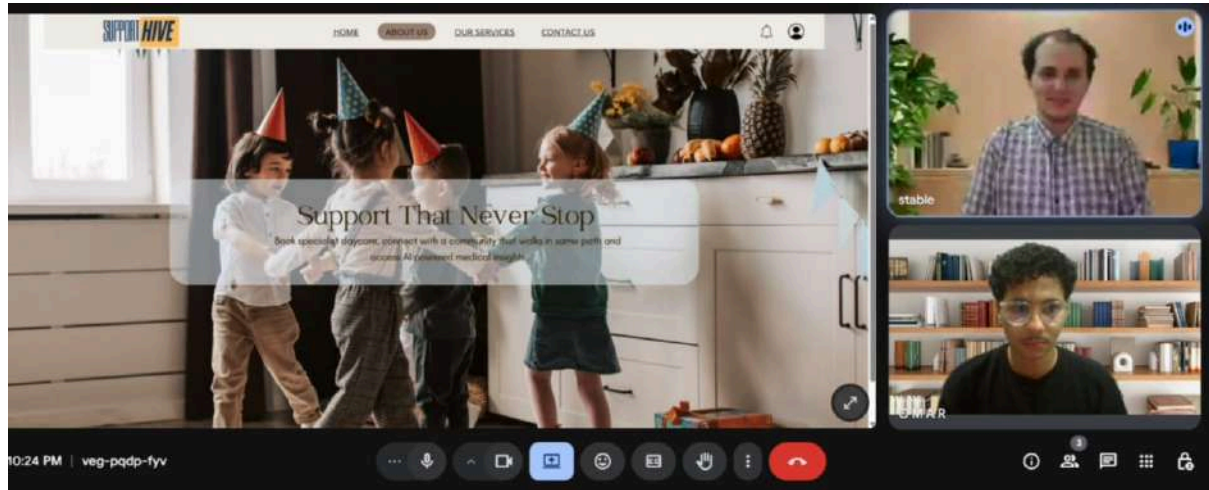


Figure 7.1



Figure 7.2

6.0 REFLECTION

1. ELSEYAH OMAR MOH A

My ultimate career goal as a network engineer is to be recognized for protecting the integrity of global data and establishing telecommunications networks worldwide using innovative technologies. A key driver of my development as a network engineer is to employ design thinking to help me expand from a typical technical view of the world to an understanding of user needs that combines empathetic thinking with creative methods to develop solutions for the complex architectural problems associated with designing and implementing new communications services. In order for me to achieve my goal within this highly competitive industry, I have developed a long-term plan focused on ongoing academic and practical development that will allow me to continue to grow. This plan includes increasing my skill set and knowledge within specialized security areas and developing my skills through participation in intensive internships so that I can better relate theoretical concepts to practical situations, develop high-level critical-thinking abilities, and enhance my ability to work collaboratively. Additionally, by being aware of new and emerging technologies, I intend to develop and design resilient, user-centric systems that will meet the security challenges of the 21st century.

2. LIM LEE XIANG

My goal with regard to my course is to be helping the community in the most basic ways just by improving human living lifestyle, by creating solutions that will fulfill the needs of each person which will be the endless goal and need to pay much more hardworks. For the design thinking, I think it is essential for me to learn that and have a hands on how programmers should think, act and solve problems based on real-life problems. With this opportunity, I am able to learn to solve and think of useful ways to solve and learn more about Autism while having to think of a unique and helpful ways to help the community to solve the most basic problem in the world due to the improvement of technology is originally been use as a method to help human in daily life. In this design thinking, I am one step closer to achieving my dream. The action for me to improve my potential in the industry is to learn the basics of computing and having the ability to master all fundamentals of computing. Thus, it will help me to easily suit myself in the industry which consists of more than one approach method with getting mastered the fundamentals of all.

3. MUHAMMAD ALIFF SAFFUWAN BIN MOHD AZMI

As a computer network and security student, I am ambitious to unite our community from diverse backgrounds with secure and ethical solutions. Even though the technology is rapidly evolving day by day, there are still some minority groups of communities that did not get much benefit from this development. By doing this design thinking project, we aimed to help the parents with Autism Spectrum Disorder (ASD) children to help them raise and manage their kids by providing a helpful website that focuses on helping them physically and mentally. Therefore, my future plan ahead is that I want to master building an accessible & ethical web design and mastering in advance secure back end development so that I can give back a positive impact to society.

4. NORALYAA WAFAA BINTI MOHD NAWAWI

My dream regarding my program Computer Network and Security is to unite our community from diverse backgrounds under a protected, easily accessible and reliable digital platform. I realise that despite rapidly advancing technology, there are still some communities that have seen less improvement along with this development. Design Thinking does impact this dream to understand and empathize with the basic needs of our society, from thinking of an updated modern innovation to a practical improvement. Our project is aimed to help the parents or caregivers of the Disadvantaged Community with a specific focus on Autism Spectrum Disorder (ASD) as a way of showing virtual support in raising these individuals. Therefore, my future plan to improve my potential in this industry is to go beyond the basics in the backend system and master in system security to serve the best for society's needs.

7.0 TASK DISTRIBUTION

NAME	TASK
ELSEYAH OMAR MOH A (A25CS0380)	<ul style="list-style-type: none"> ● Report Writing (Detailed Description) ● Report Writing (Thinking assessment) ● Presentation Slides Preparation ● Video
LIM LEE XIANG (A25CS0083)	<ul style="list-style-type: none"> ● Report Writing (Introduction) ● Report Writing (Design Thinking Evidence) ● Presentation Slides Preparation ● Data Collection
MUHAMMAD ALIFF SAFFUWAN BIN MOHD AZMI (A25CS0263)	<ul style="list-style-type: none"> ● Prototype Design ● Prototype Sketch ● Website Prototyping ● Video
NORALYAA WAFAA BINTI MOHD NAWAWI (A25CS0297)	<ul style="list-style-type: none"> ● Report Writing (Detailed Steps) ● Report Formatting ● Data Collection ● Website Prototyping

8.0 REFERENCE

Lovely Disabled Home. "Recycle Day." *Lovely Disabled Home*, 7 Feb. 2023, <https://www.lovelydisabledhome.com/our-workshop/recycle-day>

Krishnan, Ettiyammal. *2ICOFEA-23-008-Ettiyammal-Krishnan*. 2023. PDF.

[2ICOFEA-23-008-Ettiyammal-Krishnan.pdf](#)

Basri, N. A., & Hashim, N. N. W. N. (2019). *Stress in parents of children with autism: A Malaysian experience. Intellectual Discourse*

<https://www.bing.com/ck/a?!&&p=abb6002ae37b30148139f58094acac14a175fa5240ccc10659979262cae70c0cJmltdHM9MTc2ODAwMzIwMA&pfn=3&ver=2&hsh=4&fclid=3bd6fea2-ba77-6f45-2224-eab7bbe06e26&psq=parents+thought+of+autism+child+in+malaysia&u=a1aHR0cHM6Ly9wbWMubmNiaS5ubG0ubmloLmdvdi9hcnRpY2xlcy9QTUMxMjA2OTUwOC8>