



# INFORMATICS INSTITUTE OF TECHNOLOGY

## FOUNDATION CERTIFICATE IN HIGHER EDUCATION

**MODULE:** DOC 330 Designing Innovative Solutions

**MODULE LEADER:** Ms. Jananie Mayooreesan

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**PROJECT NAME:** RobustHq

Student Name	Student ID	Student E-mail
H.T. Perera	20221631	stephan.20221631@iit.ac.lk
N.K.H.V. Wijewardena	20220895	vijan.20220895@iit.ac.lk
G.M.M. Silva	20221161	methul20221161@iit.ac.lk
B.H.M.H. Senarathne	20220877	mahima.20220877@iit.ac.lk
S.L. Jayasinghe	20220888	senithu.20220888@iit.ac.lk
M.K.N. Perera	20220915	kalpa.20220915@iit.ac.lk
R.W.I. Rajapakshe	20220851	uvindu.20220851@iit.ac.lk

## Abstract

As a third-world country, Sri Lanka has experienced and continues to experience various types of crises, none of which have been beneficial to the society. Such events have caused people to suffer economically, physically, and "mentally."

From depression to approximately 6000 people in the general population attempting suicide, Sri Lanka has been named as the country with the highest rates of suicide cases. Furthermore, studies on mental health improvisation static analyses have not been conducted since 2018, making proper therapeutics impossible.

With such issues, it has led to the development of the mental health improvement mobile application "RobustHQ" via various methods. Such methods consisting surveys, questionnaires the project has become quite successful within the current state. This particular report indicates how the project carried out in the development phase with all the details implied adequately.

## Acknowledgement

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## List of acronyms and abbreviations

ADHD - attention deficit hyperactivity disorder

SDLC- The Software Development Life Cycle

QR Code- Quick Response Code



# 1. Introduction

## 1.1 Background of the Problem

Finding mental illness is a serious issue in Sri Lanka that needs immediate response. Due to a shortage of mental health resources, qualified practitioners, and awareness efforts nationwide, mental illness is frequently misunderstood or disregarded. The stigma associated with mental health also significantly contributes to the difficulty in diagnosing and treating mental illness. Many Sri Lankans are hesitant to seek treatment for mental health problems, which might eventually make their disorders worse.

Moreover, the prevalence of mental illness in Sri Lanka is rising, with the COVID-19 pandemic exacerbating the situation. The economic and social consequences of the pandemic have increased stress, anxiety, and depression, emphasizing the need for better mental health services.

Raising awareness, investing in mental health services, and training healthcare professionals are all necessary steps toward addressing the problem of mental illness detection in Sri Lanka. Educating the public about the signs and symptoms of mental illness can help reduce stigma and encourage people to seek help. Investing in mental health services and training healthcare professionals can improve the detection and treatment of mental illness and ensure that individuals receive the care they require.

## 1.2 Problem Statement

In the past Sri Lanka rarely had mental issues, but recently due to covid 19 and inflation the mental issues of the people has increased significantly, it has affected both adults and minors. Mental illnesses have increased so much it is hard to find a family without at least one family member suffering from a mental illness.

Approximately one percent of those aged 10 to 14 and 2.2% of those aged 15 to 19 are known to have been diagnosed with depression. Furthermore, comorbid mental conditions such conduct disorders, personality disorders, anxiety disorders, or being a substance abuser are identified in 40–90% of adolescents with depression. Additionally, indications of ADHD were detected in 3.1% of 10–14-year-olds and 2.4% of 15–19-year-olds (Ginige, 2022).

In Sri Lanka, the general prevalence of mental health disorders among teenagers is greater than the estimated global average estimate of prevalence, which is 10%–20% (Rasalingam et al.,2022).

28 July 2022, Colombo According to a Save the Children study done in June 2022, nearly one in three parents in Sri Lanka have observed unfavorable changes in their children's behavior over the past six months as the nation headed into economic collapse (Burgess et al.,2022).

In addition, nearly three out of four households in Sri Lanka's nine districts with more than 2,300 families found that they needed to spend more time with their kids to meet their emotional and mental health needs, with kids displaying signs of discomfort and withdrawal (Burgess et al.,2022).

Families are struggling beyond their capacity to manage due to rising inflation, frequent power outages, and shortages of food, fuel, and medicines. One in ten children have lost their appetite and shown signs of malnutrition due to the financial strain on families.

According to a survey by Save the Children, one in five kids wet their beds, had trouble controlling their emotions, had changes in their sleep habits, or had trouble controlling their aggression (Burgess et al.,2022).

The ongoing crises are causing quality of life to decline, which directly affects people's mental health. Dr. Akuratiyage cited a Save the Children study from June to make the point that more people have been reporting feeling tired, having trouble sleeping, feeling anxious, and having trouble concentrating symptoms that may indicate mental health problems but do not necessarily indicate mental illnesses. He warned that things could get worse in the future (Burgess et al.,2022).

the COVID-19 pandemic, the growth of social media, and socioeconomic trends that have led to smaller families and less involvement in the society (Burgess et al.,2022).

### 1.3 GAP Analysis

Features	Nimh.health.gov.lk (Local)	Mentalhealth.gov.lk (Local)	Sric.lk (Local)	Mayoclinic.org (U.S.)	Betterhelp.com (U.S.)	Online.therapy.com (U.S.)	Robust Hq
• Mobile Application	✗	✗	✗	✓	✓	✗	✓
• Patient Profile	✗	✗	✗	✓	✓	✓	✓
• Surveys	✗	✗	✗	✓	✓	✗	✓
• Therapy Sessions	✓	✗	✓	✗	✓	✓	✓
• Identifier (Symptoms)	✗	✓	✓	✓	✓	✓	✓
• Categorize (Per Patient)	✗	✗	✗	✓	✓	✓	✓
• Group Sessions	✗	✗	✗	✗	✗	✓	✓
• Private Sessions	✓	✓	✓	✓	✓	✓	✓
• Setting up appointments	✓	✓	✓	✓	✓	✓	✓
• QnA for patients with doctors	✗	✗	✗	✓	✓	✓	✓
• Exclusive offers for health achievements	✗	✗	✗	✗	✓	✗	✓
• Online Payments	✗	✗	✗	✗	✓	✓	✓
• Doctor Ratings	✗	✗	✗	✓	✗	✓	✓
• Customer Reviews	✓	✓	✗	✓	✓	✓	✓
• Chat Bot	✓	✗	✗	✗	✗	✗	✓
• Annual Reports	✓	✓	✗	✓	✗	✓	✓
• Donations	✗	✗	✗	✓	✗	✓	✓
• Referring Books, Magazines & Movies. (For Mental Health)	✗	✗	✗	✗	✗	✗	✓
• Lethal Support	✗	✗	✗	✗	✗	✗	✓
• Daily Updates	✗	✗	✗	✗	✗	✗	✓
• Diversified Mental Health Solutions Therapies	✗	✗	✗	✗	✗	✗	✓
• Daily Challenges	✗	✗	✗	✗	✗	✗	✓

Table 1: Gap Analysis

## 2. Methodology

Structured Evolutionary Prototyping Model was the SDLC method used upon the development of this project. This system mostly relies on the end user's satisfactory levels until all the requirements are met. It is a risky process as the developers have to take leaps of faith till it's completed. Prototype method has 5 stages: defining, focusing on features, production, testing, and presenting (Tutorials point,2023). As for the development of the app RobustHq the prototype method has been most suitable for its development stage.

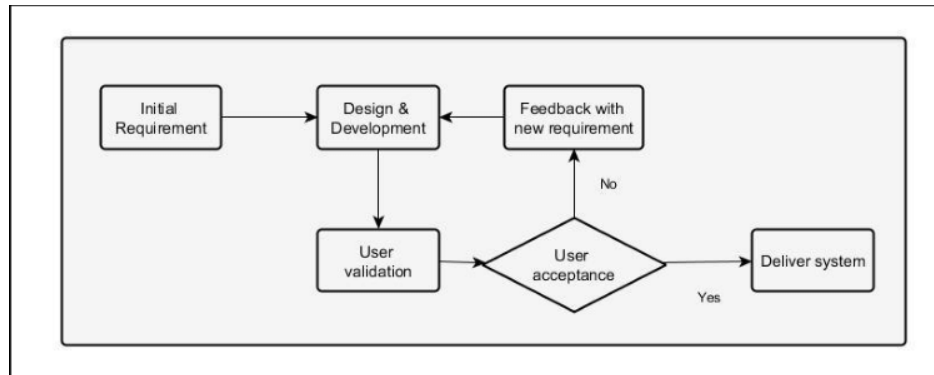


Figure 1: Methodology 1

Health sector is one of the major career pathways in the world, and since the app is based upon treating people who suffer from mental issues; it is a necessity that the app has a user-friendly surface for all patients, doctors, professors and non-Patients. Since the end users give the feedbacks on suggestions; RobustHq developers can have their way for new appliances and changes. The changes must be applicable for the new technological advances in the health field so that the treatments can be done in a safe environment between the doctors and the patients.

However, when in the development phase the developers had faced some issues as well. Such as, sudden changes of suggestions and time consumption. But somehow it has been completed with proper decision making and Active involvement of the members.

## 3. Solution Outline

### 3.1 The Solution

In recent years, the society have seen a remarkable acceleration in the development of technology. Computing power, connectivity, and data analysis advancements have changed the way humans live, work, and interact with the world. The introduction of new technologies such as artificial intelligence, virtual and augmented reality, and blockchain has increased the rate of innovation. As a result, new business models are emerging, traditional industries are being disrupted, and new opportunities are being created. As the day-to-day society try to keep up with the latest trends and developments, the rapid pace of technological change can be both exhilarating and daunting. However, one thing is certain: the impact of technology on society will only grow in the coming years.

Nowadays, technology is rapidly evolving, and people have grown accustomed to it. Furthermore, because technology allows to complete the daily tasks more easily, thus it applies to the medical field as well. Because the society are more into applications to consult doctors, diagnose diseases, and obtain medications, among other things. So, application is more efficient than physically consulting mental health doctors because Sri Lankan mental patients are embarrassed to admit they have a mental disorder. Psychiatrists, private practice physicians, and certain medical officers who have studied mental health are launching programs to help those in need with mental health concerns, with the goal of assisting individuals both professionally and personally. Yet, since so many individuals struggle to find the right solution for their personal problems, it is simple to have an app in the area that addresses the problem directly. With the pharmaceutical process, it will be effective and time- saving.

### 3.2 Idea validation

To validate the solution concept, idea validation techniques are used. Idea validation is the process of gathering evidence around ideas through experimentation in order to make quick, informed, and risk-free decisions. It is a process that begins with an idea and typically ends with a paying customer. The goal of idea validation is to expose the idea to the practicality of the real world before building and releasing the final product. Brainstorming and questionnaires were the primary techniques for idea validation.

Despite the solutions brought by the problem's nature, the team members had to propose suggestions on validating the issues and opinions among the team. Thus, the team first brainstormed together. The initial plan on validating the idea was carried out in certain steps.

1. Running a competitor analysis
2. Research on the existing demand
3. Presenting surveys and questionnaires to the clients

### 3.2.1 Running a Competitor Analysis

As in the GAP analysis chart, it indicated the fact that there were competitors whom are lacking with the innovative solutions presented by RobustHq but still has a popularity among the medical field officers and clients. To keep with the pace, it was essential to conduct a competitor analysis with the present-day active apps and websites.



Figure 2:Competitive Analysis Steps

### 3.2.2 Research on Existing Demand

The research was indeed a massive help at hand for continuing the project. The demand at here in SL was a much different than other countries when it was upon mental health statics and so on. Immediately it was convinced to the team that there should be a rapid change within the industry. Here's a diagram found out through the research program.

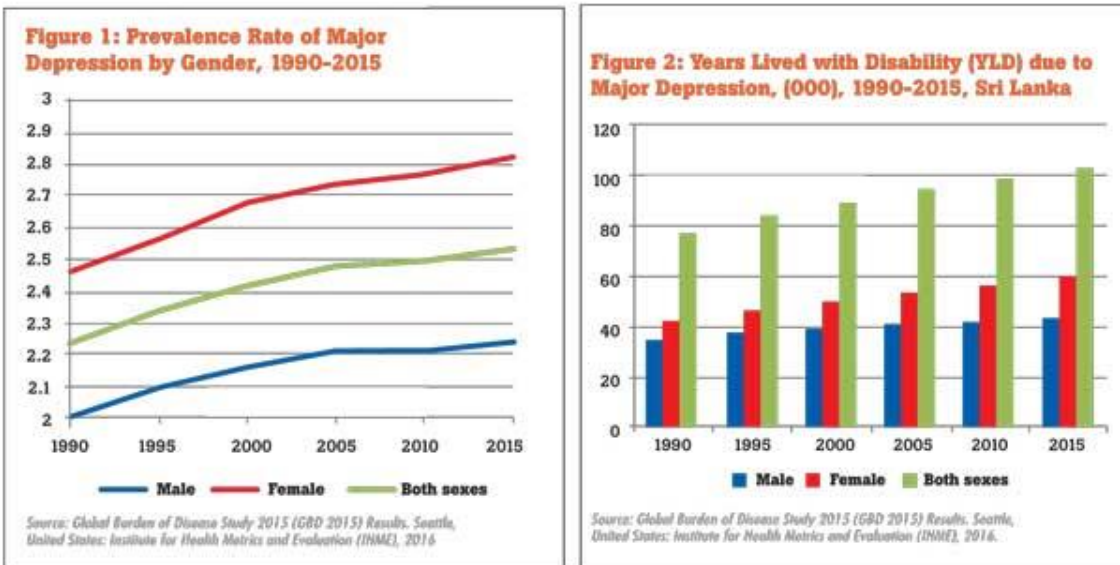


Figure 3: Research of Depression by Gender

### 3.2.3 Presenting Surveys and Questionnaires to the Clients

Since the mobile application was in develop under the prototype method, it was a necessity to meet up with the client needs and suggestions. First the team had created a survey regarding the stakeholders of the application idea. Which turned out quiet a positive than the expectations. With the upper hand on the previous actions the team had prepared and presented a survey on standards of the application and the health states of the clients.

## 4. Innovative Features Incorporated in the Project

### 4.1 Introduction on Innovative Features

When at the initiation of the project it was essential to make **RobustHq** unique on its own with sufficient new innovative feature that would make a much healthier user-friendly experience. And thus, the team successfully had discovered a handful of these features. Such as,

1. Literal sources that can be used as references for patients, doctors and knowledge seekers.
2. Lethal support.
3. Daily updates on improvements and details.
4. Diversified Mental Health Solutions Therapies.
5. Daily Challenges.

#### 4.1.1 Literal Sources that can be Used as References for Patients, Doctors and Knowledge Seekers

As an app classified under medical sector, relying and referring on knowledge source has happened since earliest days. Here in **RobustHq** it had a built up a unique virtual library experience on behalf for the patients to know what they go through and as for the medical officers, gathering and updating they're knowledge on how to act upon certain patient/s' illnesses and conditions.

#### 4.1.2 Lethal Support

Mental health and lethal support are two terms which used commonly in certain cases. As such **RobustHq** has also made partnership with law officers for the betterment in unique client cases. Also, this will be functioning as a safety mode when its needed.

#### 4.1.3 Daily Updates on Improvements and Details

**RobustHq** tracks each and every patient's conditions through doctor-client therapy session reports and also through their smart devices such as smart watches etc. This functions without being a disturbing unpleasant experience; but will trigger when it could detect sudden changes on the patient's status.



#### 4.1.4 Diversified Mental Health Solution Therapies

As mentioned above features, the clients always look up for something new as a refresh for their daily chores etc. **RobustHq** has introduced many therapeutic methods for the betterment of the end user from determining the client's favors and requests. such as suggestions on songs, movies, books etc.; and sound therapies, boot camps on meditating and yoga to build up mental and physical health at the same time etc.

#### 4.1.5 Daily Challenges

Apps that give small challenges to boost up the livelihood of person's daily activities can be seen in various ways such as in fitness and games. But what about mental health? People would be seeking solutions on how not to be bored throughout the day so the **RobustHq** have designed an automated system that can generate fun activities to boost up the user's memory strength, creativity and competitiveness that is an essential fact upon enthusiasm.

## 5. Requirements and Analysis

### 5.1 Requirement Elicitation Techniques

The process of finding, compiling, and documenting the requirements for a specific system, piece of software, or program is known as requirements elicitation. As it serves to ensure that the system being created meets the demands and expectations of its stakeholders, the requirements elicitation method is a crucial stage in the software development life cycle.

#### 5.1.1 Discover Key Stakeholders and End-Users

To gather and identify the needs, parties were questioned in interviews and business processes were examined. A paper in the intermediate stage was produced because of these stages, and it contains numerous user stories and storyboards.

#### 5.1.2 Questionnaires

The purpose of a questionnaire is to collect information from respondents about their attitudes, experiences, and opinions. You can gather quantitative and/or qualitative data with a certain number of predetermine questions (Bhandari, 2023). You can deliver questionnaires to a target population using online tools. You can choose and insert questions in a specific manner depending on the consumers you choose (L et al., 2022).

Using questionnaires is a quick, easy, and reasonably priced technique to collect a lot of data from a wide sample of people. And since the researcher wouldn't have to be there while answering the questionnaires, data can be gathered rather efficiently. So, a less amount of time is spent on this method (McLeod, 2023).

A fairly large number of respondents' behavior, attitudes, preferences, opinions, and intentions can be measured effectively using questionnaires (McLeod, 2023).

The online questionnaire is far more cost-effective than a face-to-face questionnaire distributed in person, over the phone, or by mail because there are no labor, paper, printing, phone, or postal costs to consider.

You may rapidly connect with your responders and get their opinion by using a variety of distribution methods for your questionnaire, including emailing, texting, posting a link to it on your website, and making it downloadable via a QR code.

With the online questionnaires, responses are automatically entered into databases, spreadsheets, or other software programs, lowering the possibility of human mistake and enabling automatic data validation (Cleave, 2023).

### 5.1.3 Interviews

Key participant interviews can be an effective way to learn more about a project or subject and gain new perspectives.

The screening process is made more accurate through in-person interviews. The interviewee is unable to give false answers in response to screening inquiries about gender, age, or ethnicity. With online and mobile surveys, screening questions can be avoided. Offering rewards in online and mobile polls may inadvertently encourage answer fabrication. In order to finish the survey and receive the reward, people could input false demographic data (DeFranzo, 2022).

Interviews offer several advantages for data collection. Firstly, interviewers can build a relationship with participants to make them feel more comfortable and at ease. This can lead to more insightful answers, especially when sensitive subjects are being discussed. Secondly, interviewers have the opportunity to ask follow-up questions, probe for more information, and circle back to critical questions later in the interview, which can provide a deeper understanding of attitudes, perspectives, motivations, and more. Thirdly, by paying attention to shifts in tone and word choice, interviewers can better grasp the subject under investigation, and in face-to-face interviews, researchers can also focus on body language. Fourthly, interviews generally produce better sampling quality compared to other methods of data collection. Additionally, fewer participants are needed to yield useful and pertinent insights. Finally, interviews do not have the peer-pressure dynamics or potential distractions that can occur in focus groups (Steber, 2021).

In an interview no additional equipment is needed as the only material the researcher should need is the knowledge of the project and it is already present in the researcher's mind

In our project as we need an extensive information about their expertise a researcher going to consult the doctors with a interview is better than other methods to gather information

## 5.2 Context Diagram

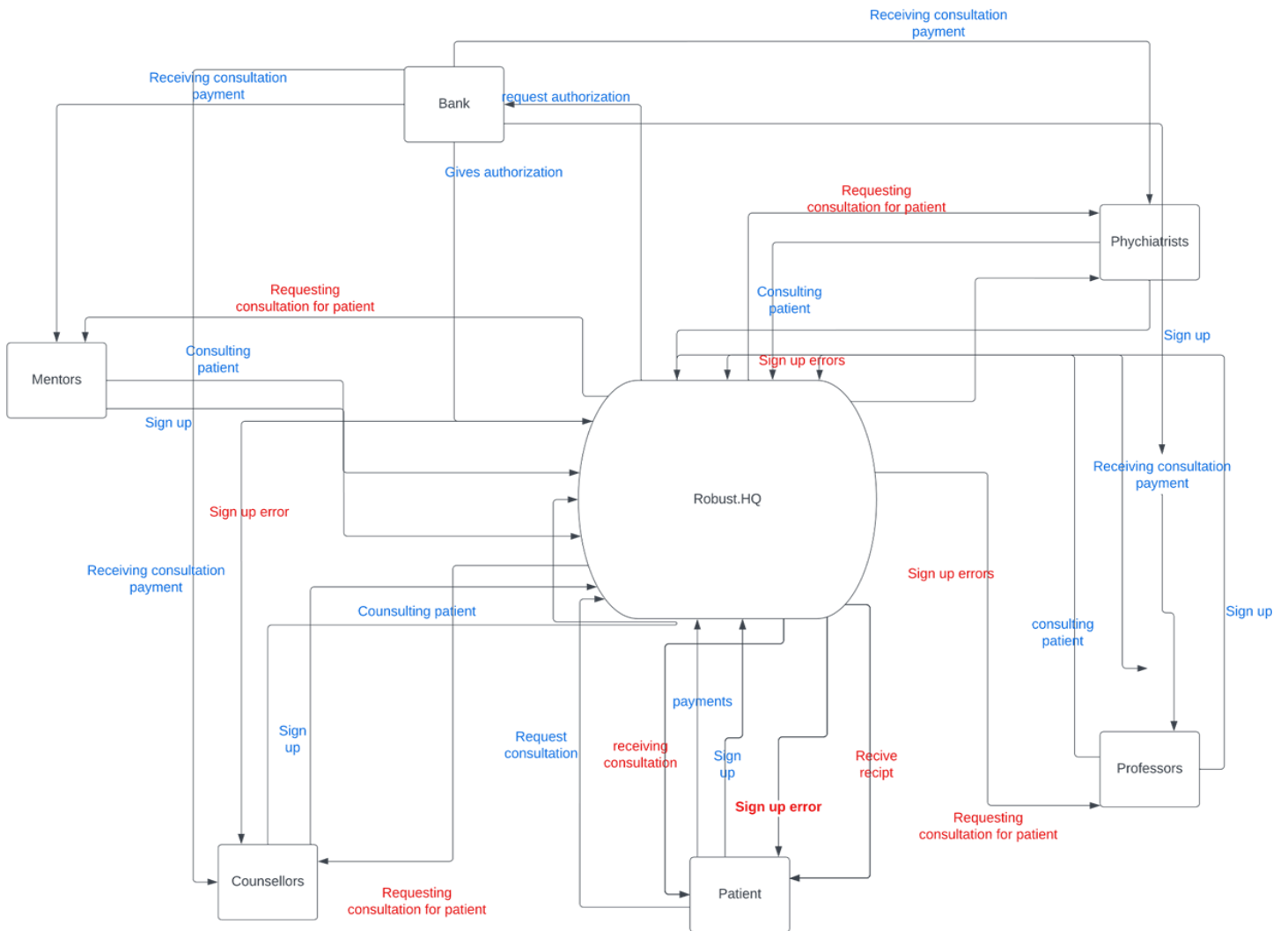


Figure 4:Context Diagram

## 6. Screenshots of the Prototype

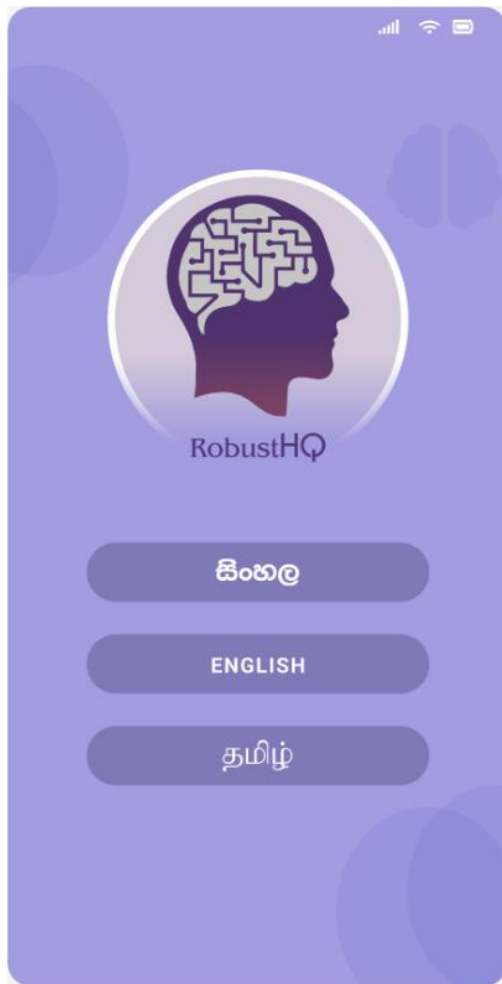


Figure 6: Select Language Page



Figure 5: Sinhala Interface Page

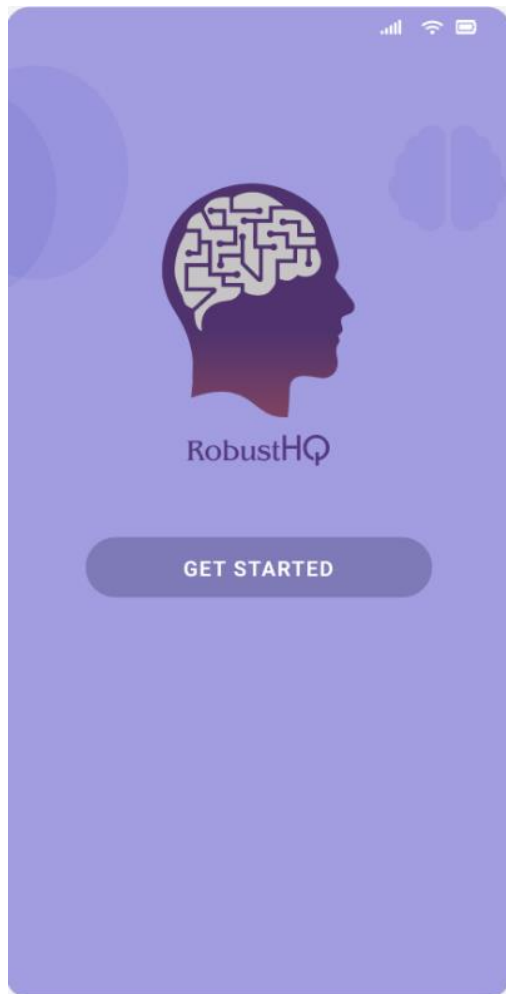


Figure 7: English Interface Page



Figure 8: Tamil Interface Page

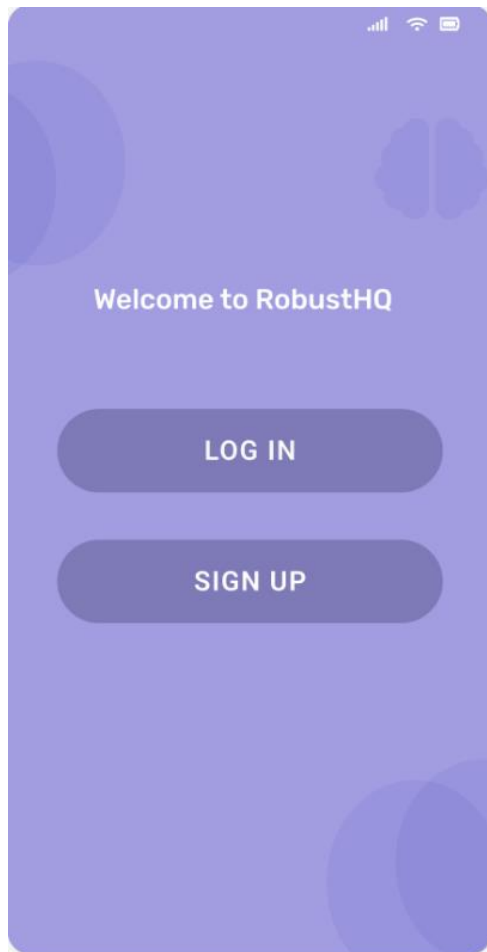


Figure 9: Log in & Sign Up Page

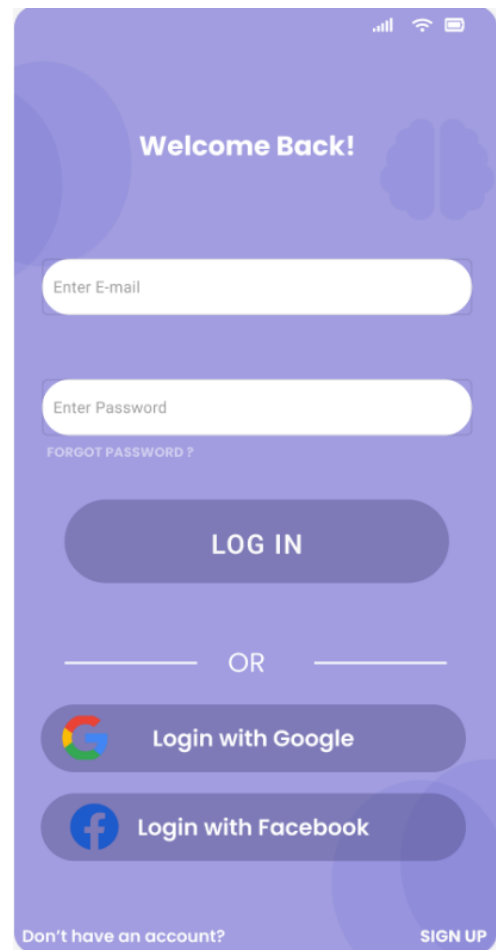
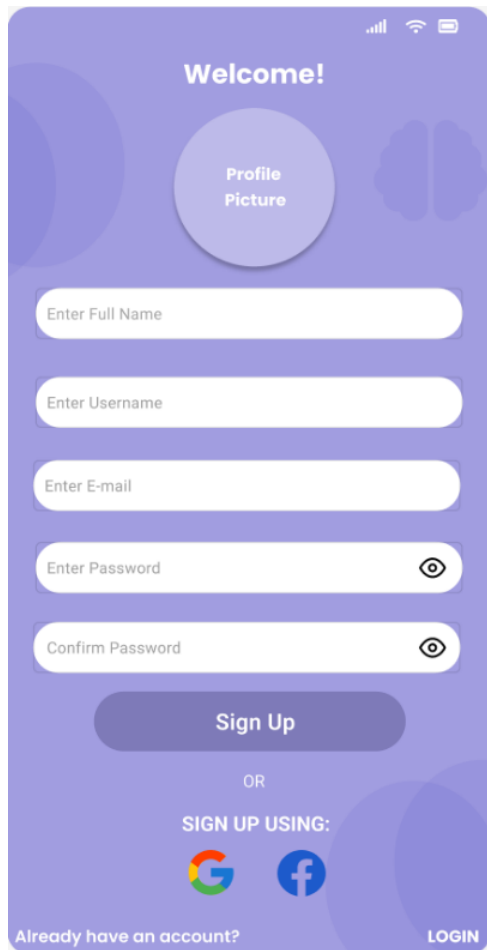


Figure 10: Log in Page



A mobile app sign-up page with a purple background and a brain icon. The page features a 'Welcome!' header, a 'Profile Picture' placeholder, and five input fields: 'Enter Full Name', 'Enter Username', 'Enter E-mail', 'Enter Password', and 'Confirm Password'. Each password field has an eye icon for toggling visibility. A 'Sign Up' button is positioned below the fields, followed by an 'OR' separator and a 'SIGN UP USING:' section with Google and Facebook social login icons. At the bottom, there is a link 'Already have an account?' and a 'LOGIN' button.

Welcome!

Profile Picture

Enter Full Name

Enter Username

Enter E-mail

Enter Password

Confirm Password

Sign Up

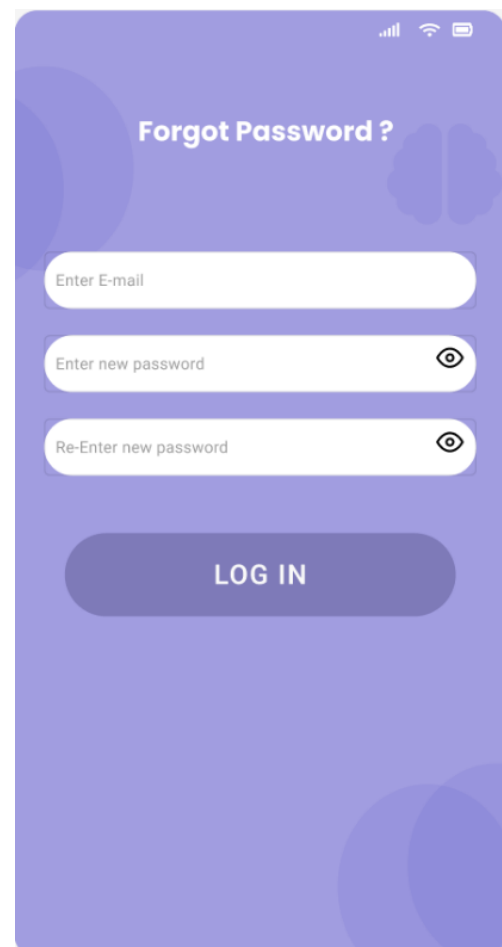
OR

SIGN UP USING:

Google Facebook

Already have an account? LOGIN

Figure 11: Sign Up Page



A mobile app forgot password page with a purple background and a brain icon. The page features a 'Forgot Password?' header and three input fields: 'Enter E-mail', 'Enter new password', and 'Re-Enter new password'. Each password field has an eye icon for toggling visibility. A 'LOG IN' button is positioned below the fields.

Forgot Password ?

Enter E-mail

Enter new password

Re-Enter new password

LOG IN

Figure 12: Forgot Password Page



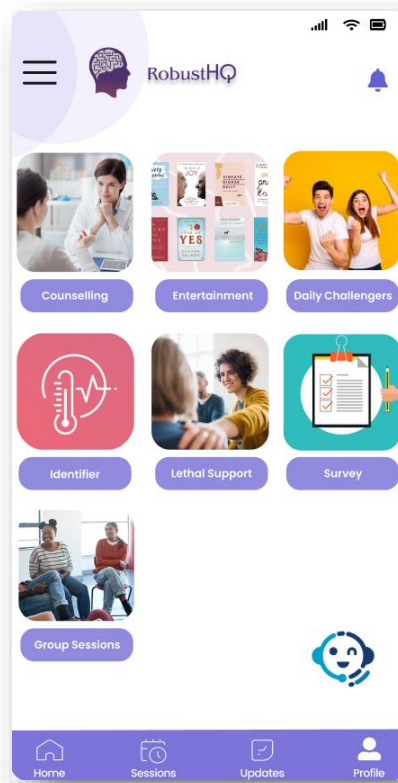


Figure 13: Home Page

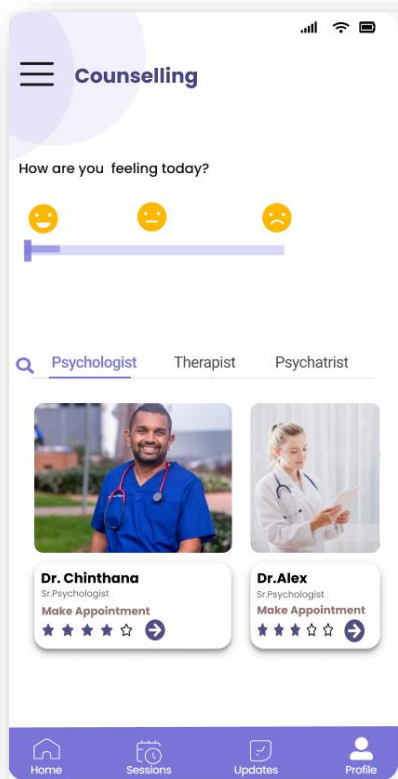


Figure 15: Counselling Page

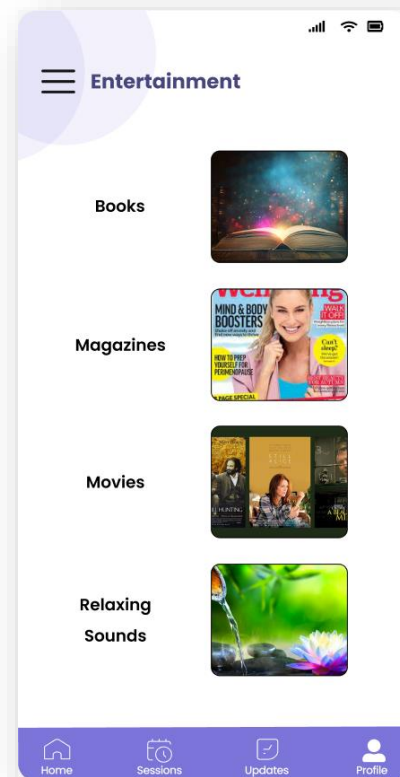


Figure 14: Entertainment Page

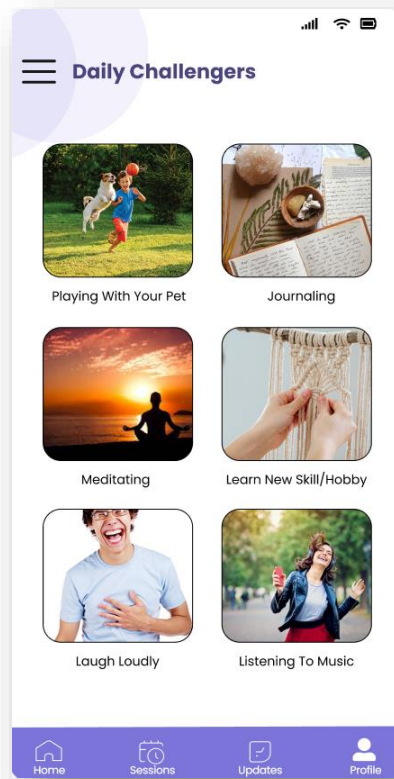


Figure 16: Daily Challengers Page

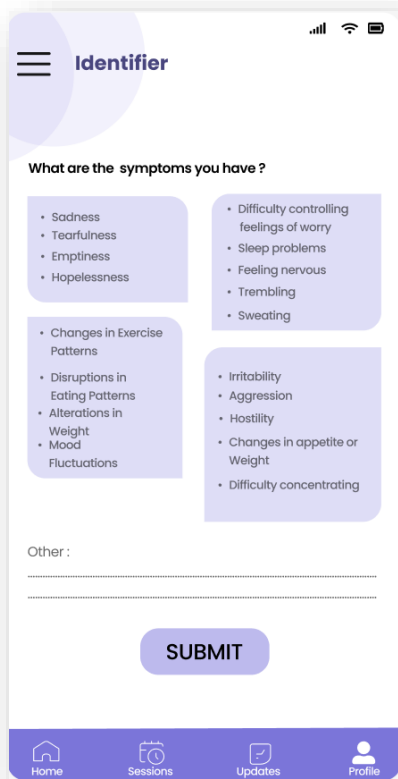


Figure 17: Identifier Page

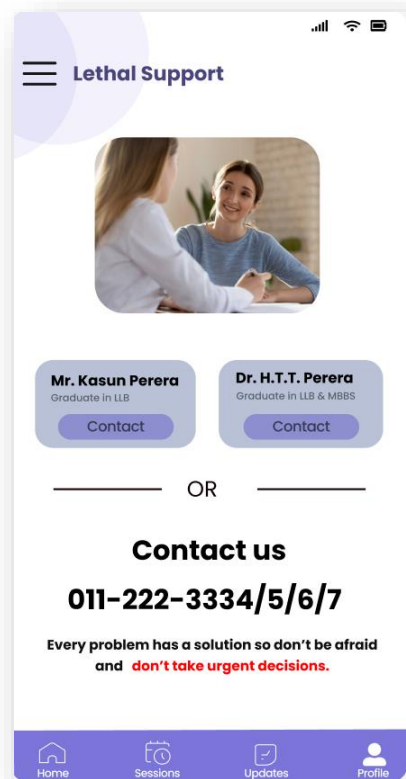
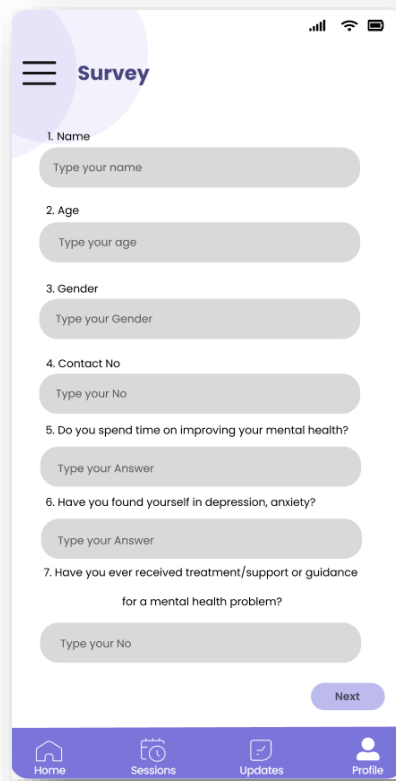


Figure 18: Lethal Support Page



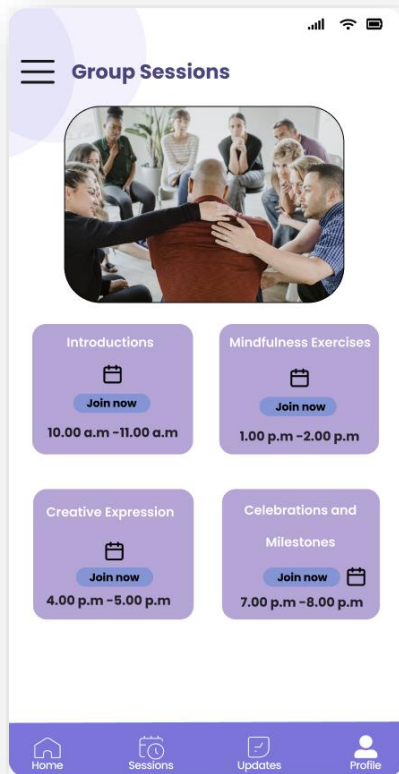
**Survey**

- Name**  
Type your name
- Age**  
Type your age
- Gender**  
Type your Gender
- Contact No**  
Type your No
- Do you spend time on improving your mental health?**  
Type your Answer
- Have you found yourself in depression, anxiety?**  
Type your Answer
- Have you ever received treatment/support or guidance for a mental health problem?**  
Type your No


Next

Home Sessions Updates Profile


Figure 19: Survey Page



**Group Sessions**




**Introductions**



Join now

10.00 a.m - 11.00 a.m


**Mindfulness Exercises**



Join now

1.00 p.m - 2.00 p.m


**Creative Expression**



Join now

4.00 p.m - 5.00 p.m

**Celebrations and Milestones**

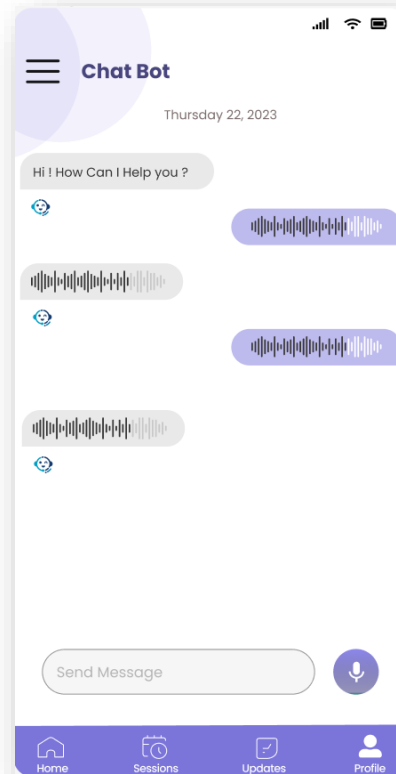


Join now

7.00 p.m - 8.00 p.m

Home Sessions Updates Profile



Figure 21: Group Sessions Page







**Chat Bot**


Thursday 22, 2023


Hi ! How Can I Help you ?

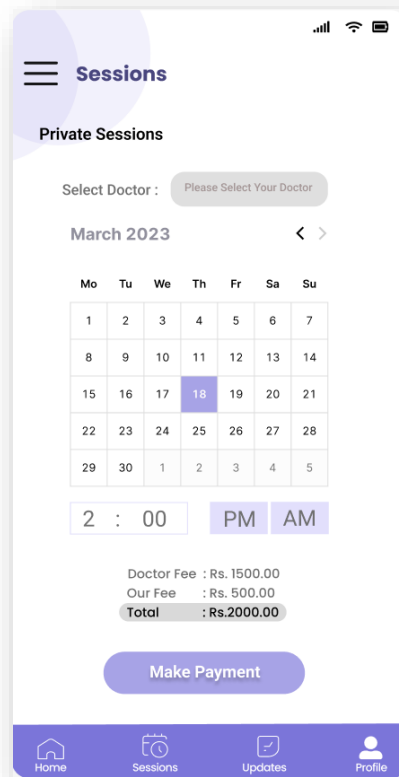
 



Send Message 

Home Sessions Updates Profile

Figure 20: Chat Bot Page



**Sessions**

Private Sessions

Select Doctor : Please Select Your Doctor

March 2023

Mo	Tu	We	Th	Fr	Sa	Su
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5

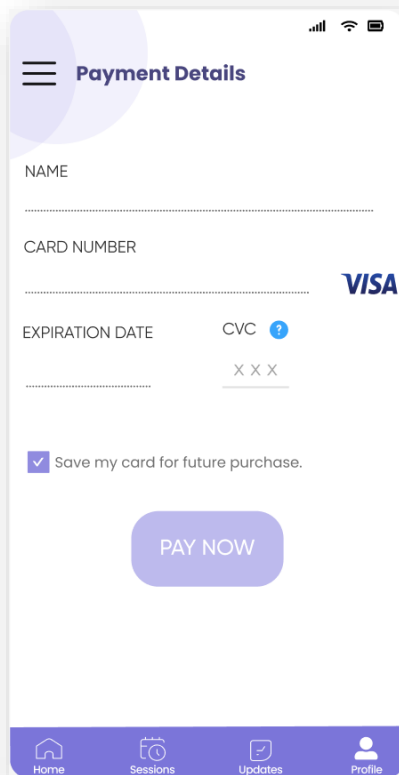
2 : 00 PM AM

Doctor Fee : Rs. 1500.00  
Our Fee : Rs. 500.00  
**Total : Rs.2000.00**

**Make Payment**

Home Sessions Updates Profile

Figure 22: Sessions Page



**Payment Details**

NAME

CARD NUMBER VISA

EXPIRATION DATE CVC ?

☒ Save my card for future purchase.

**PAY NOW**

Home Sessions Updates Profile

Figure 24: Payment Page

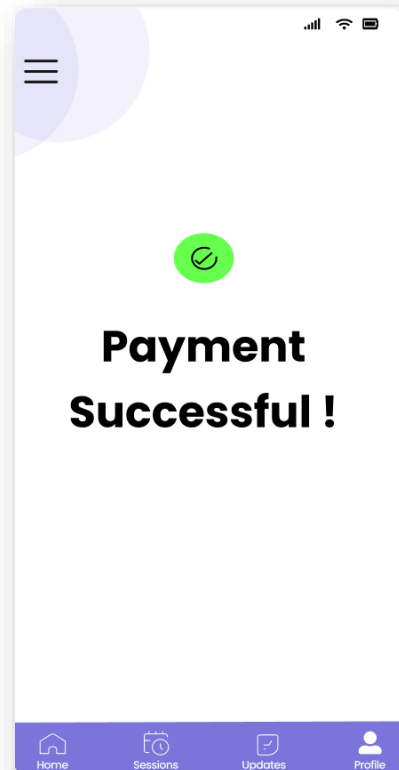


Figure 23: Payment Successful Page

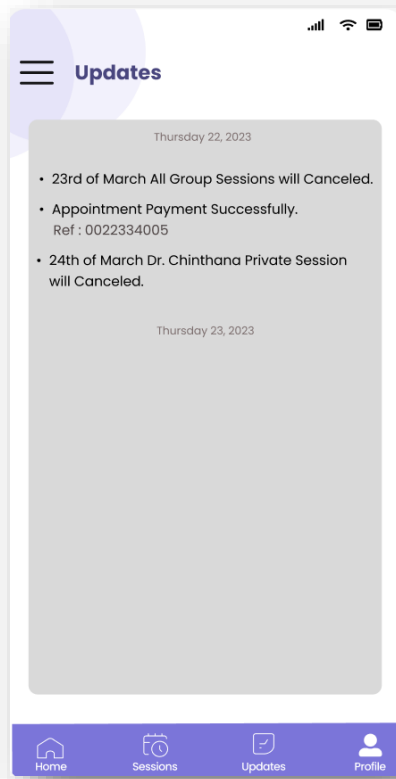


Figure 25: Updates Page

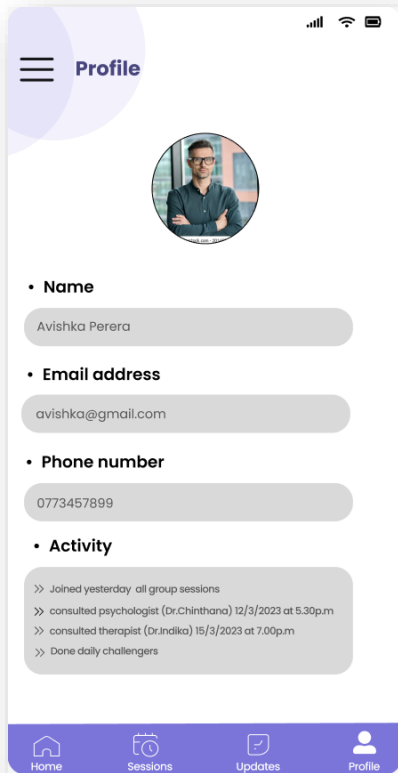


Figure 26: Profile Page

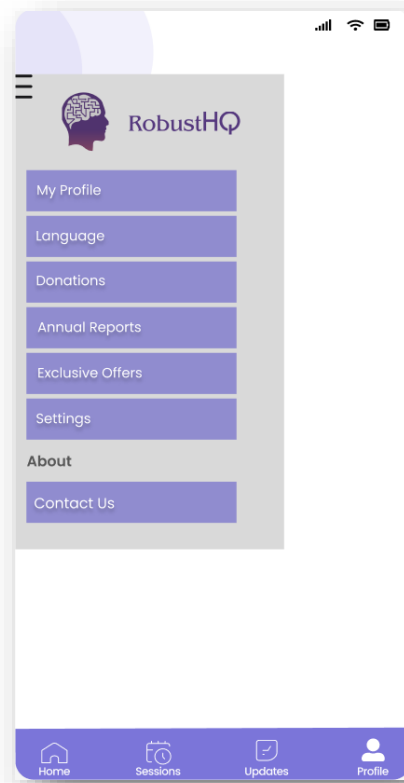


Figure 27: Hamburger Menu

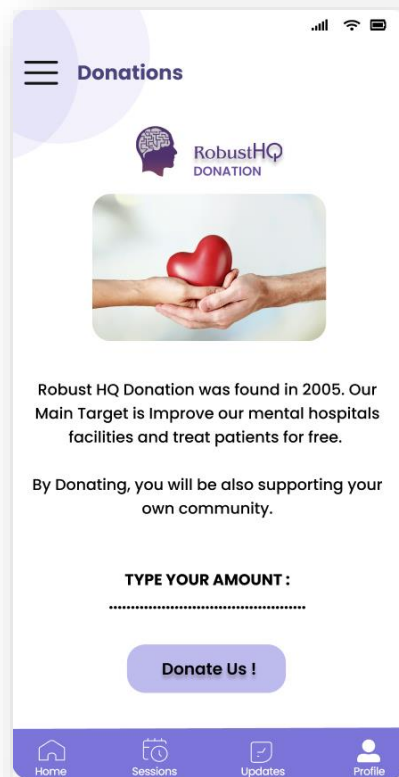


Figure 28: Donation Page

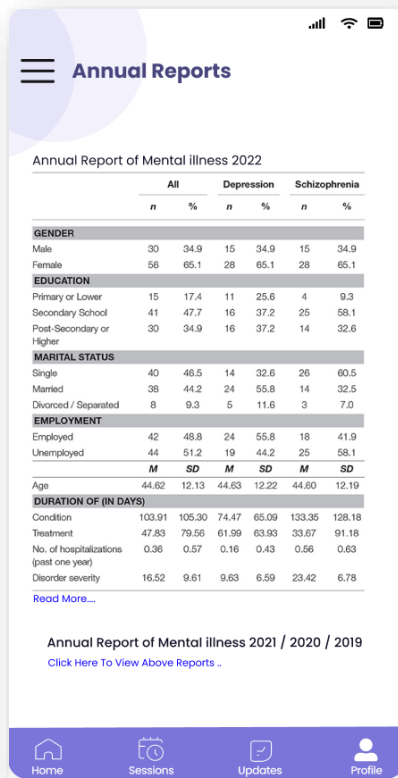


Figure 30: Annual Reports Page



Figure 29: Exclusive Offers Page

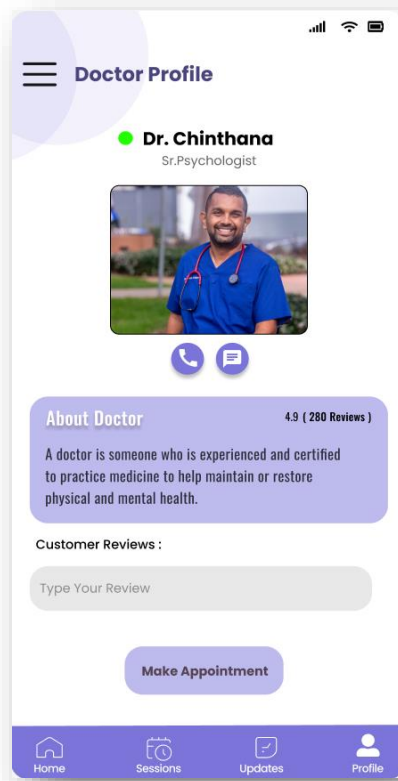


Figure 31: Doctor Profile Page

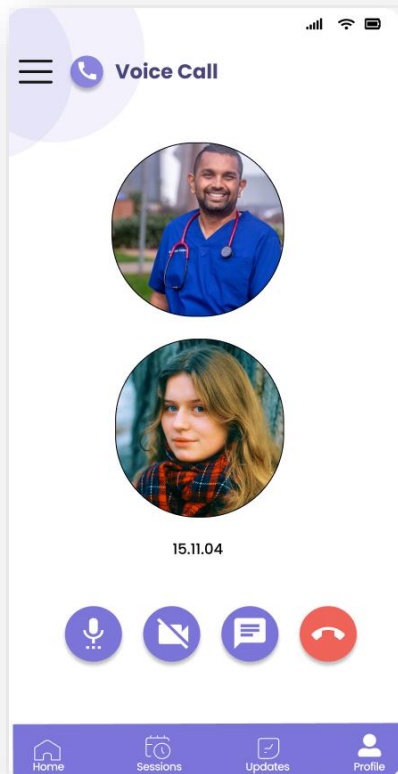


Figure 32: Voice Call Page

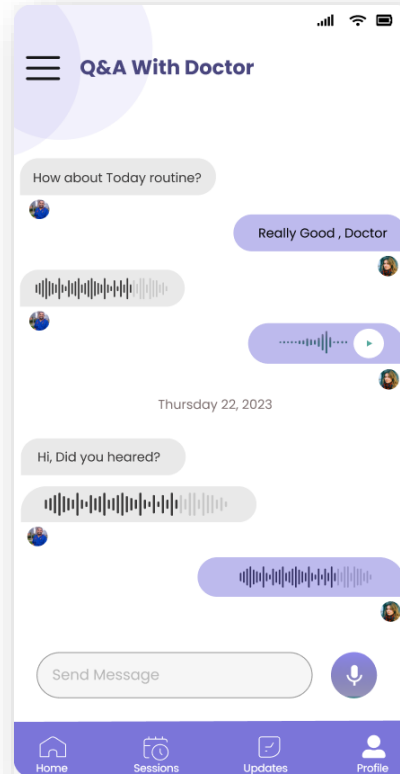


Figure 33: QnA Page

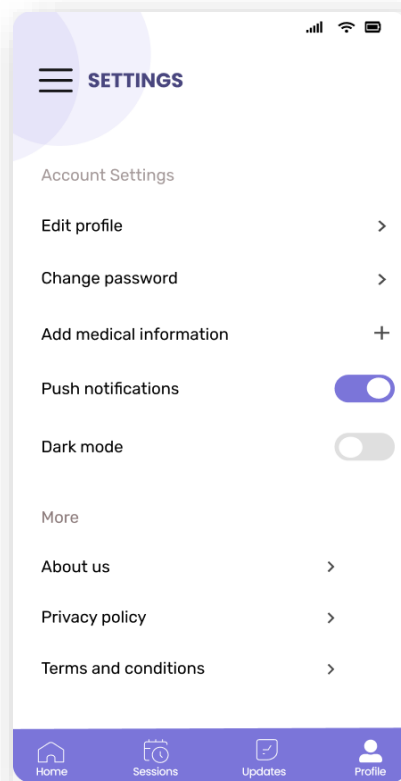


Figure 34: Settings Page

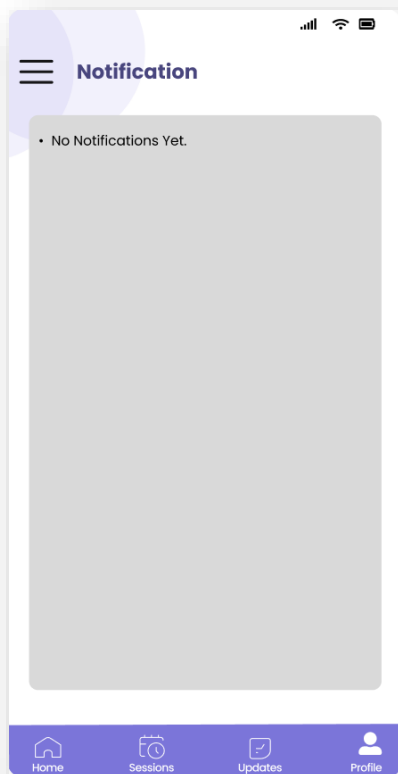


Figure 36: Notification Page

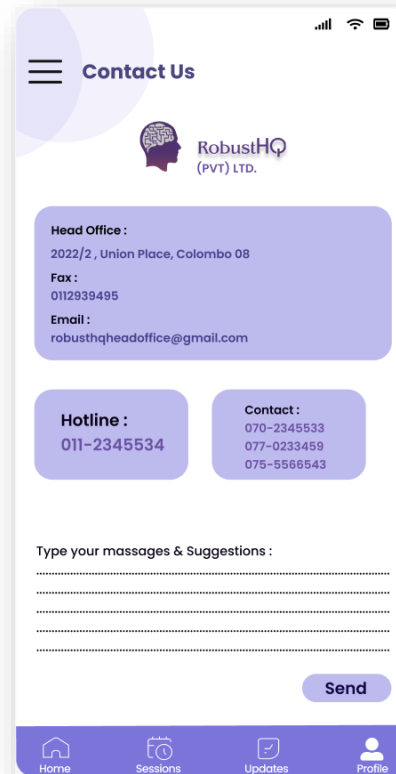


Figure 35: Contact Us Page



## 7. Evaluation

### 7.1 Detailed analysis on the solution

RobustHq is an application which is classified under the medical section. During the development of the application, the team had to face some of the issues in the ethical, availability and referring matters. Some of the issues were,

1. Data banks and charts upon mental health had not been continued since 2019. Since this matter the team had to go through a lot of the different webpages and books etc.
2. New features such as lethal support was looked upon multiple times in order to check the ethicality.
3. The SDLC method used upon the development was the prototype method, and so the group members had to go through a lot of changes to the application until the client requirements are met.

With time in the developing of the application the team had found out certain methods to boost the speed of the final production. It was done under proper analysis and research which was done again to reassure the path is clear for the succession.

Plus, the solution's data was examined in greater depth using test cases and a user validation questionnaire. By running test cases, it was possible to determine whether the program worked properly, met the desired standard, and had any flaws. Using the user validation questionnaire, information on various ways to make the program more user-friendly, issues that users encountered, and new ideas to make the application more enjoyable for users were gathered. the solution's data was examined in greater depth using test cases and a user validation questionnaire. By running test cases, it was possible to determine whether the program worked properly, met the desired standard, and had any flaws. Using the user validation questionnaire, information on various ways to make the program more user-friendly, issues that users encountered, and new ideas to make the application more enjoyable for users were gathered.

## 7.2 Lessons learned

It was necessary for the team members to engage on a proper teamwork effort since it was done with a small-time frame regardless the rarity on gathering knowledge and the opinions from the society. And also, it can be said that skills for working as a team, such as valuing other people's points of view, coming up with more complete ideas, working together to make a better product, etc., were all made stronger by completing these tasks.

This task required the development of application-specific prototypes. This allowed the opportunity on how to design user-friendly interfaces and how to properly prototype those interfaces so that the program could run.

## 7.3 Suggestions for future work

It was suggested that subsequent follow-up and enhancement of the application in accordance with the immediate needs of users be conducted to maintain the program's ongoing development. It was suggested that the mobile application include a process for integrating with store management and distribution in the future.

And also, since there were no proper annual reports have been conducted directly into the matter, it is essential to bank and store all the data to provide details in reports so that the medical field will examine on this mental health matter in a much more efficient way for the betterment of the society.

## 8. Conclusion

Finally, the report investigated the mental health improvement in the **RobustHq** mobile application. The application has shown great promise in addressing mental health issues by providing a variety of features that assist users in managing their emotions, reducing stress, and improving overall wellbeing. The app promotes mental health by utilizing cognitive-behavioral therapy techniques, meditation, and mindfulness exercises, as well as tracking and monitoring functions.

According to the research, the app is user-friendly, accessible, and can be used in a variety of settings. The positive feedback and high satisfaction rates reported by users further demonstrate its effectiveness. According to the report, the **RobustHq** application can make a significant contribution to mental health improvement, especially among people who are unable to access traditional mental health services due to a variety of barriers.

Furthermore, the report suggests that the developers continue to improve the app's features and functions based on user feedback and the most recent mental health research. This would ensure that the application remained relevant, effective, and in line with industry best practices.

Overall, the **RobustHq** mobile application is a novel approach to improving mental health, and its potential impact on individuals, communities, and society as a whole cannot be overstated. The report emphasizes the importance of broadening the app's promotion to ensure that it reaches as many people as possible who could benefit from its use.

## 9. References

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## 10. Appendices

### 10.1 Workload Matrix

Task No	Task	H.T.T. Perera (20221631)	N.K.H.V. Wijewardana (20220895)	G.M.M. Silva (20221161)	B.H.M.H. Senarathne (20220877)	S.L. Jayasinghe (20220888)	M.K.N. Perera (20220915)	R.W.I. Rajapakshe (20220851)
1	Introduction and description of the project	✓	✓	✓				✓
2	Methodology	✓			✓	✓		
3	Solution outline	✓			✓		✓	✓
4	Innovative features incorporated in the project		✓	✓		✓		
5	Requirements and Analysis	✓			✓		✓	
6	Screenshots of the prototype		✓	✓				
7	Evaluation	✓					✓	✓
8	Conclusion	✓			✓	✓	✓	
9	Appendices		✓	✓		✓	✓	
10	Document Edit and Finalize	✓	✓					✓

Table 2: Workload Matrix

## 10.2. Meeting Agenda

### Meeting 1

Project Name	IFD
Place	At IIT
Date	13/03/2023
No of Attendees	7

### Agenda

Description	Owner
Discuss about the IFD	All Members
Analyzing the IPR	All Members
Dividing the works	By the Leader (H.T.T. Perera)
Date for next meeting	By the Leader (H.T.T. Perera)

Table 3: Agenda 1

### Meeting 2

Project Name	IFD
Place	At IIT
Date	17/03/2023
No of Attendees	7

### **Agenda**

<b>Description</b>	<b>Owner</b>
Re Discuss about the IFD	All Members
Discuss the problems of IFD	All Members
Introduction and description of project	H.T.T. Perera
Solution	B.H.M.H. Senarathne
Date of next meeting	N.K.H.V. Wijewardana

*Table 4: Agenda 2*

### **Meeting 3**

<b>Project Name</b>	<b>IFD</b>
<b>Place</b>	At IIT
<b>Date</b>	21/03/2023
<b>No of Attendees</b>	6

### **Agenda**

<b>Description</b>	<b>Owner</b>
Discuss about introduction and description of the project and re write	H.T.T. Perera
Check the Solution and discuss	All Members
Key Benefits	G.M.M. Silva
Date for next meeting	N.K.H.V. Wijewardana

*Table 5: Agenda 3*



## **Meeting 4**

Project Name	IFD
Place	Via Google meet (Online)
Date	23/03/2023
No of Attendees	7

## **Agenda**

Description	Owner
Discuss briefly about key benefits	All Members
Discuss about Innovative features	All Members
Discuss about prototype	G.M.M. Silva, M.K.N. Perera, N.K.H.V. Wijewardana
Date for next meeting	H.T.T. Perera

Table 6: Agenda 4

## **Meeting 5**

Project Name	IFD
Place	Via Google Meet (Online)
Date	25/03/2023
No of Attendees	7

## **Agenda**

Description	Owner
Preview the prototype	G.M.M. Silva, M.K.N. Perera, N.K.H.V. Wijewardana
Finalize the prototype	All Members

Requirements and analysis	B.H.M.H. Senarathne, M.K.N. Perera
Prepare the questionnaires	S.L. Jayasinghe
Date for the next meeting	H.T.T. Perera

Table 7: Agenda 5

## **Meeting 6**

Project Name	IFD
Place	At IIT
Date	28/03/2023
No of Attendees	6

## **Agenda**

Description	Owner
Check requirements and analysis	All Members
Public the questionnaires	H.T.T. Perera
Making the user validation questions	B.H.M.H. Senarathne, M.K.N. Perera
Test case	N.K.H.V. Wijewardana
Start to make IFD document in word	R.W.I. Rajapakshe
Date for next meeting	N.K.H.V. Wijewardana

Table 8: Agenda 6

## **Meeting 7**

Project Name	IFD
Place	Via Google Meet (Online)
Date	30/03/2023
No of Attendees	7

## **Agenda**

<b>Description</b>	<b>Owner</b>
Check the progress of the IFD document	All Members
<b>Methodology</b>	H.T.T. Perera
Evolution	H.T.T. Perera
Start the presentation slides	All Members
Date for next meeting	M.K.N. Perera

*Table 9: Agenda 7*

## **Meeting 8**

<b>Project Name</b>	<b>IFD</b>
<b>Place</b>	Via Google Meet (Online)
<b>Date</b>	01/04/2023
<b>No of Attendees</b>	7

## **Agenda**

<b>Description</b>	<b>Owner</b>
Abstract	M.K.N. Perera
Acknowledgement	H.T.T. Perera
Conclusion	H.T.T. Perera
Finalize the IFD & Presentation Slides	All Members

*Table 10: Agenda 8*

## 10.3 Meeting Minutes

### Meeting 1

**Date & Duration:** 13/03/2023 (1 Hour)

**Online Or Physical:** Physical

**No Of Absentees:** 0

Name	Student ID	Attendance
H.T.T. Perera	20221631	✓
N.K.H.V. Wijewardana	20220895	✓
G.M.M. Silva	20221161	✓
B.H.M.H. Senarathne	20220877	✓
S.L. Jayasinghe	20220888	✓
M.K.N. Perera	20220915	✓
R.W.I. Rajapakshe	20220851	✓

*Table 11: Meeting Minutes 1*

### Meeting 2

**Date & Duration:** 13/03/2023 (1 Hour)

**Online Or Physical:** Physical

**No Of Absentees:** 0

Name	Student ID	Attendance
H.T.T. Perera	20221631	✓
N.K.H.V. Wijewardana	20220895	✓
G.M.M. Silva	20221161	✓
B.H.M.H. Senarathne	20220877	✓
S.L. Jayasinghe	20220888	✓
M.K.N. Perera	20220915	✓
R.W.I. Rajapakshe	20220851	✓

*Table 12: Meeting Minutes 2*

### **Meeting 3**

**Date & Duration:** 13/03/2023 (1 Hour)

**Online Or Physical:** Physical

**No Of Absentees:** 1

<b>Name</b>	<b>Student ID</b>	<b>Attendance</b>
H.T.T. Perera	20221631	✓
N.K.H.V. Wijewardana	20220895	✓
G.M.M. Silva	20221161	-
B.H.M.H. Senarathne	20220877	✓
S.L. Jayasinghe	20220888	✓
M.K.N. Perera	20220915	✓
R.W.I. Rajapakshe	20220851	✓

*Table 13: Meeting Minutes 3*

### **Meeting 4**

**Date & Duration:** 13/03/2023 (1 Hour)

**Online Or Physical:** Online

**No Of Absentees:** 0

<b>Name</b>	<b>Student ID</b>	<b>Attendance</b>
H.T.T. Perera	20221631	✓
N.K.H.V. Wijewardana	20220895	✓
G.M.M. Silva	20221161	✓
B.H.M.H. Senarathne	20220877	✓
S.L. Jayasinghe	20220888	✓
M.K.N. Perera	20220915	✓
R.W.I. Rajapakshe	20220851	✓

*Table 14: Meeting Minutes 4*

### **Meeting 5**

**Date & Duration:** 13/03/2023 (1 Hour)

**Online Or Physical:** Online

**No Of Absentees:** 0

<b>Name</b>	<b>Student ID</b>	<b>Attendance</b>
H.T.T. Perera	20221631	✓
N.K.H.V. Wijewardana	20220895	✓
G.M.M. Silva	20221161	✓
B.H.M.H. Senarathne	20220877	✓
S.L. Jayasinghe	20220888	✓
M.K.N. Perera	20220915	✓
R.W.I. Rajapakshe	20220851	✓

*Table 15: Meeting Minutes 5*

### **Meeting 6**

**Date & Duration:** 13/03/2023 (1 Hour)

**Online Or Physical:** Physical

**No Of Absentees:** 1

<b>Name</b>	<b>Student ID</b>	<b>Attendance</b>
H.T.T. Perera	20221631	✓
N.K.H.V. Wijewardana	20220895	-
G.M.M. Silva	20221161	✓
B.H.M.H. Senarathne	20220877	✓
S.L. Jayasinghe	20220888	✓
M.K.N. Perera	20220915	✓
R.W.I. Rajapakshe	20220851	✓

*Table 16: Meeting Minutes 6*

### **Meeting 7**

**Date & Duration:** 13/03/2023 (1 Hour)

**Online Or Physical:** Online

**No Of Absentees:** 0

<b>Name</b>	<b>Student ID</b>	<b>Attendance</b>
H.T.T. Perera	20221631	✓
N.K.H.V. Wijewardana	20220895	✓
G.M.M. Silva	20221161	✓
B.H.M.H. Senarathne	20220877	✓
S.L. Jayasinghe	20220888	✓
M.K.N. Perera	20220915	✓
R.W.I. Rajapakshe	20220851	✓

*Table 17: Meeting Minutes 7*

### **Meeting 8**

**Date & Duration:** 13/03/2023 (1 Hour)

**Online Or Physical:** Online

**No Of Absentees:** 0

<b>Name</b>	<b>Student ID</b>	<b>Attendance</b>
H.T.T. Perera	20221631	✓
N.K.H.V. Wijewardana	20220895	✓
G.M.M. Silva	20221161	✓
B.H.M.H. Senarathne	20220877	✓
S.L. Jayasinghe	20220888	✓
M.K.N. Perera	20220915	✓
R.W.I. Rajapakshe	20220851	✓

*Table 18: Meeting Minutes 8*

## 10.4 Survey questionnaire / Interview questions etc.

### 10.4.1 Questionnaire for patients

#### **RobustHq**

Hello There! This Survey About the Overall Status of Your Mental Health. Please Take a Few Minutes to Fill Out This Survey. We Value Your Feedback and Your Responses For Develop Our Project.

**Your Name \***

Your answer \_\_\_\_\_

**Which age group do you belong to ? \***

☐ Below 18

☐ 18 - 25

☐ 26 - 35

☐ 36-50

☐ 51 - 60

☐ Above 60

**Gender \***

☐ Male

☐ Female

☐ Prefer not to say

Figure 37: Patients Survey



occupation

Your answer

Contact No \*

Your answer

Overall how much do you rate yourself mentally stabilized?

	1	2	3	4	5	
Weak	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Healthy

Do you spend time on improving your mental health? (hobbies, meditation etc:) \*

☐ Yes

☐ No

☐ Maybe

Have you found yourself in depression,anxiety? \*

☐ yes

☐ No

Figure 38: Patients Survey

Have you ever received treatment/support or guidance for a mental health problem? \*

☐ Yes

☐ No

If you have mental illness, can you share some symptoms about that illness \*

Your answer \_\_\_\_\_

have used any mobile applications regarding mental health guidance? \*

☐ Yes

☐ No

If have used such application, how much would you rate the app \*

	1	2	3	4	5	
Bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent

would you like to have an app regarding mental health as a healthy kickoff for your day?

☐ Yes

☐ No

☐ Maybe

Figure 39: Patients Survey

Would you be interested in joining our app, RobustHQ? \*

☐ Yes

☐ No

If you like participate our online therapies or meetups with doctors in our platform \*

☐ Yes

☐ No

Would you like to get daily updates and recommendations to improve your day

☐ Yes

☐ No

If you like to join with our app and get support to your illness \*

☐ Yes

☐ No

☐ Maybe

Figure 40: Patients Survey

Please rate for " RobustHq " \*

1 2 3 4 5 6 7 8 9 10

Not Neccessary ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Useful

Please share your ideas for develop our app

Your answer

---

Figure 41: Patients Survey

## Answers

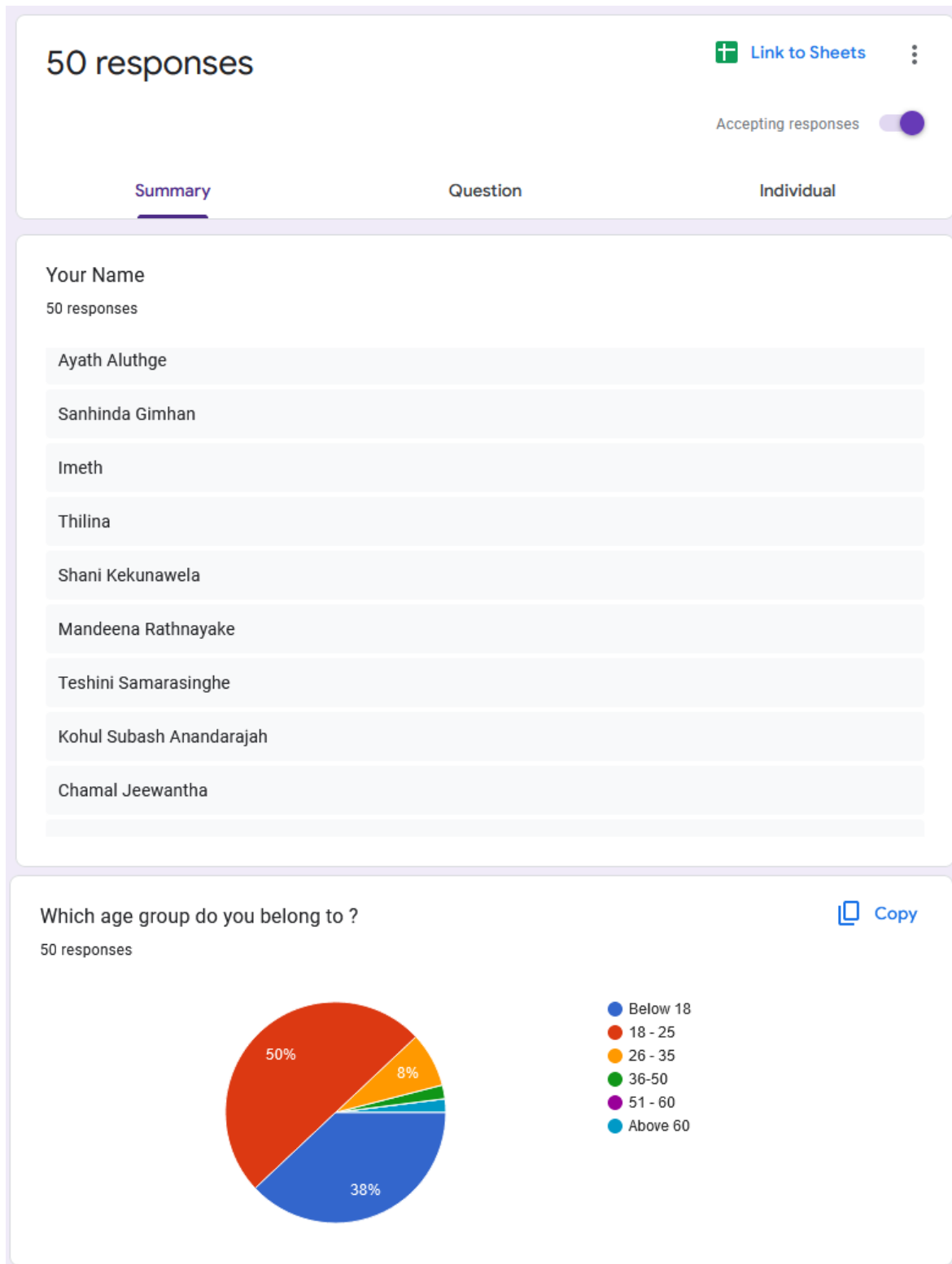


Figure 42: Patients Survey Answers

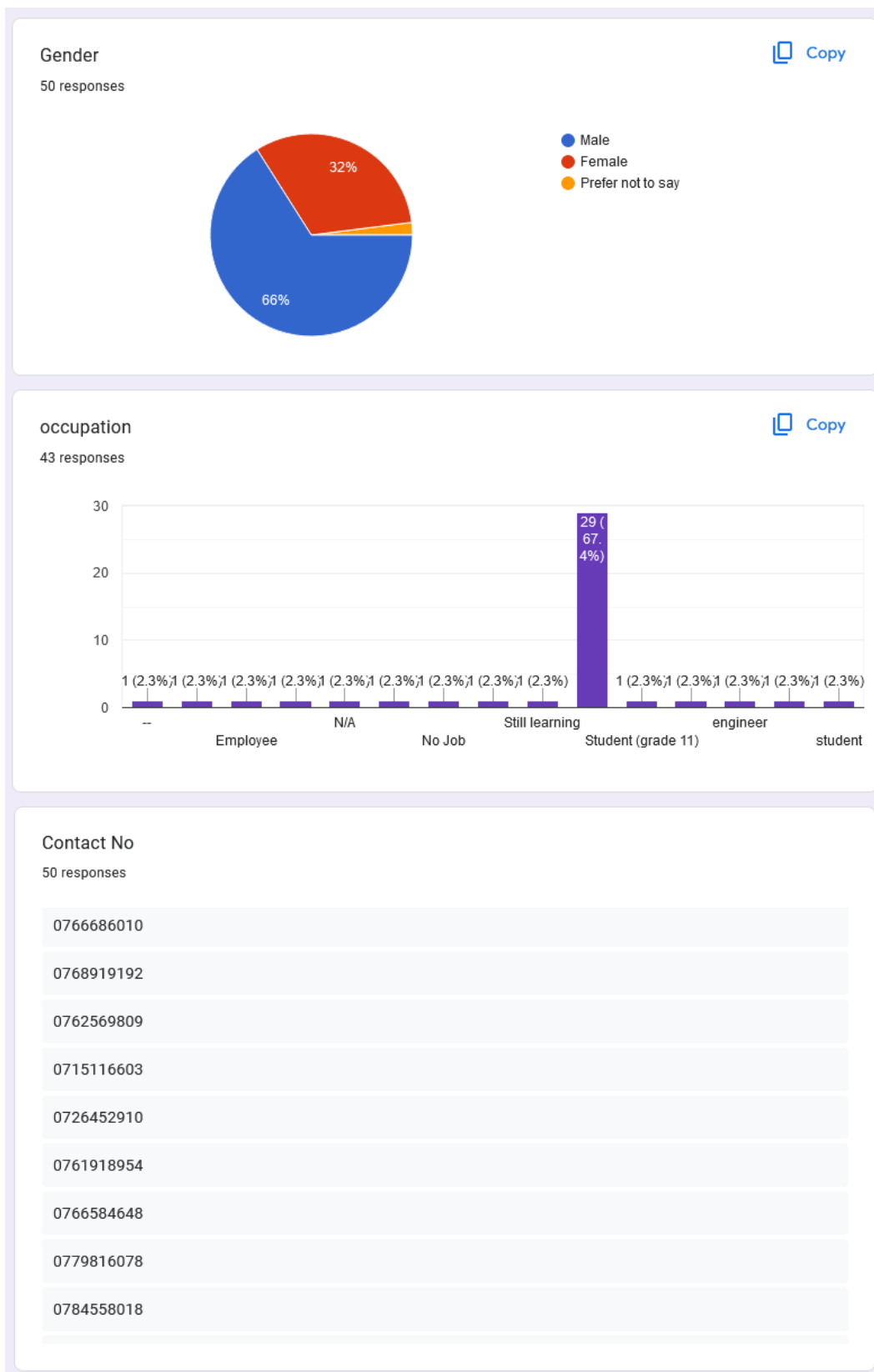
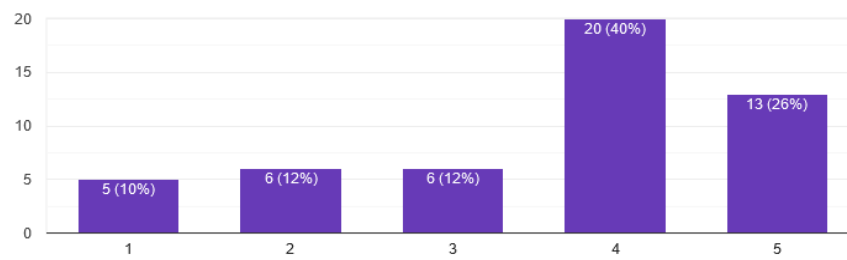


Figure 43: Patients Survey Answers

Overall how much do you rate yourself mentally stabilized?

 Copy

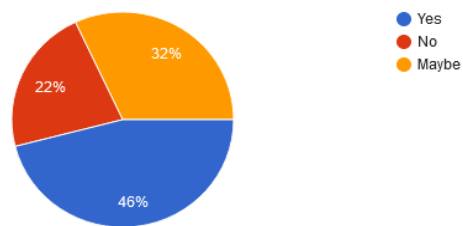
50 responses



Do you spend time on improving your mental health? (hobbies, meditation etc:)

 Copy

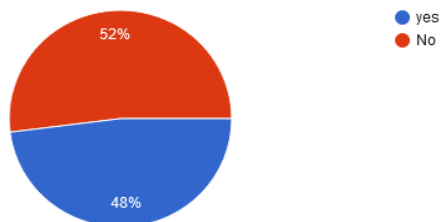
50 responses



Have you found yourself in depression, anxiety?

 Copy

50 responses



Have you ever received treatment/support or guidance for a mental health problem?

 Copy

50 responses

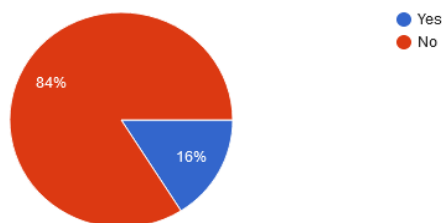


Figure 44: Patients Survey Answers

If you have mental illness, can you share some symptoms about that illness

51 responses

Overthinking

I dont have any illness so far

I don't have any mental illness

Stress

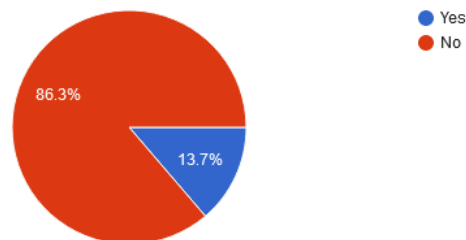
Feeling broken and down.  
Confused thinking or lost the ability to concentrate.  
Excessive fears or worries, or extreme feelings of guilt.  
Extreme mood changes of highs and lows.  
Withdrawal from friends and activities.  
Significant tiredness.  
lack of energy.  
problems sleeping.

Feeling sad and down

have used any mobile applications regarding mental health guidance?

 Copy

51 responses



If have used such application, how much would you rate the app

 Copy

51 responses

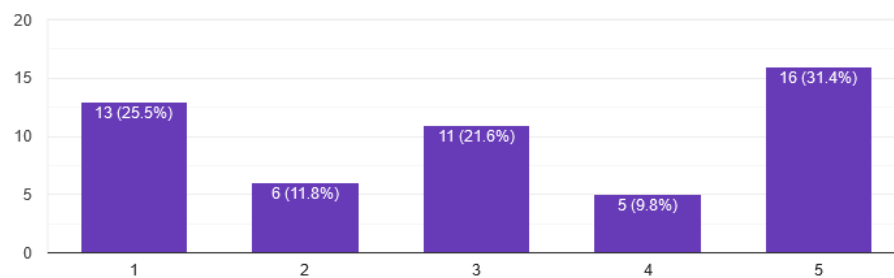


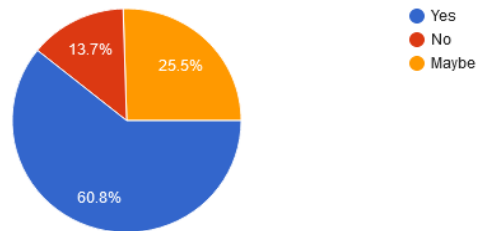
Figure 45: Patients Survey Answers



would you like to have an app regarding mental health as a healthy kickoff for your day?

 Copy

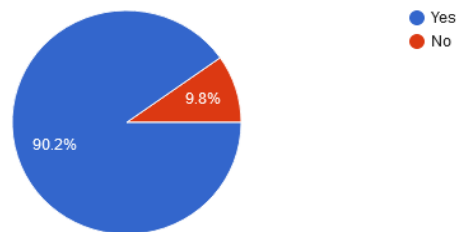
51 responses



Would you be interested in joining our app, RobustHQ?

 Copy

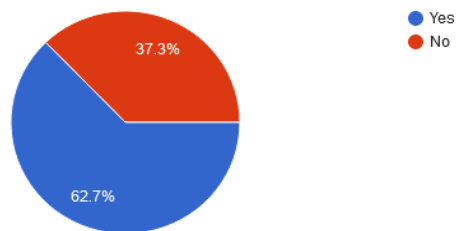
51 responses



If you like participate our online therapies or meetups with doctors in our platform

 Copy

51 responses



Would you like to get daily updates and recommendations to improve your day

 Copy

51 responses

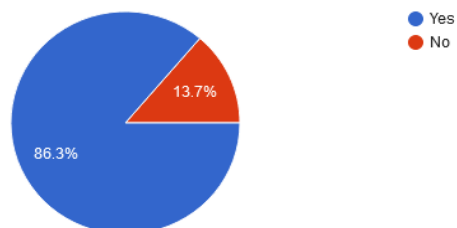
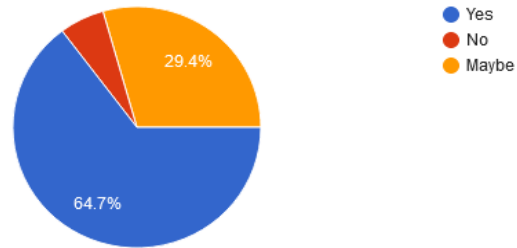


Figure 46: Patients Survey Answers

If you like to join with our app and get support to your illness

 Copy

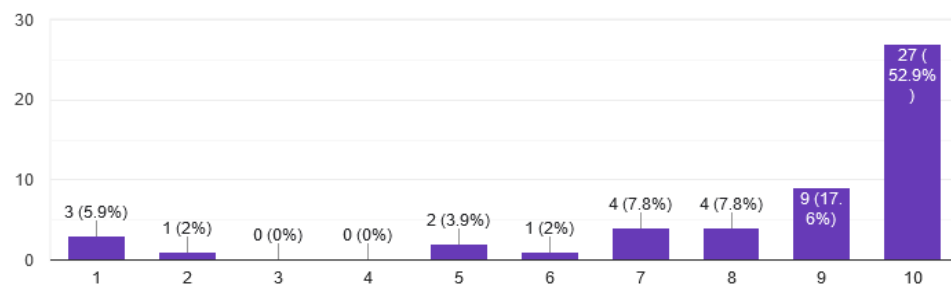
51 responses



Please rate for " RobustHq "

 Copy

51 responses



Please share your ideas for develop our app

24 responses

- Good..
- You can send a positive message in the morning to the phone , just a good morning would be fine too.
- No idea
- Don't do this please
- Good Project
- Waited for the app
- I think it's usefull
- Better Solution for mental illness patients
- I think Better way to solve the mental problems

Figure 47: Patients Survey Answers

## 10.4.2 Questionnaire for Doctors

### RobustHq

Only Doctors,  
Please take a few minutes to fill out this survey.  
We value your feedback and your responses for develop our application  
Thank you!

Name \*

Short answer text

Email \*

Short answer text

Contact number

Short answer text

Gender \*

☐ Male

☐ Female

Currently working hospital

Short answer text

Which specialist are you ? \*

Short answer text

Figure 48: Doctors Survey

Are you someone who tries to improve the mental condition of people in society ? \*

☐ Yes

☐ No

What are the common mental illnesses ?

Long answer text

What are the common medicine for the mental illnesses ?

Long answer text

Do you all ready a member in a any mental health application ? \*

☐ Yes

☐ No

Do you know about our Robust Hq.org.lk application ? \*

☐ Yes

☐ No

Do you use our application ? \*

☐ Yes

☐ No

Do you like to member in our application ? \*

☐ Yes

☐ No

Figure 49: Doctors Survey

Are you satisfied that our app has all main three languages ?

☐ Yes

☐ No

If you use our application what are the new features to include our application ?

Long answer text

⋮

What symptoms should be included in application ?

Long answer text

Is it ok to include basic and deep symptoms in a application ?

☐ Yes

☐ No

What kind of symptoms should we include to our application ?

Long answer text

⋮

Which additional doctors should be include more to our application ?

Long answer text


Rating for " RobustHq " \*

	1	2	3	4	5	
Low	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	High

Figure 50: Doctors Survey

## Answers

19 responses

 [Link to Sheets](#)

Accepting responses

Summary

Question

Individual

Name

19 responses

Dr. Rasika

Sithiji wikramasinha

Theekshana

Gawri senawirathna

Chiran Ekanayake

Kennula disanayaka

DR . Methuki silva

Danushaka

Nethmi

Email

19 responses

Danushka@gmail.com

pererak123@gmail.com

klperera660@gmail.com

niroshans.use@gmail.com

fazlulrahman78@gmail.com

mariyamjameela23@gmail.com

arithiqazoo@gmail.com

disanayake435@gmail.com

Senarath@gmail.com

Figure 51: Doctors Survey Answers

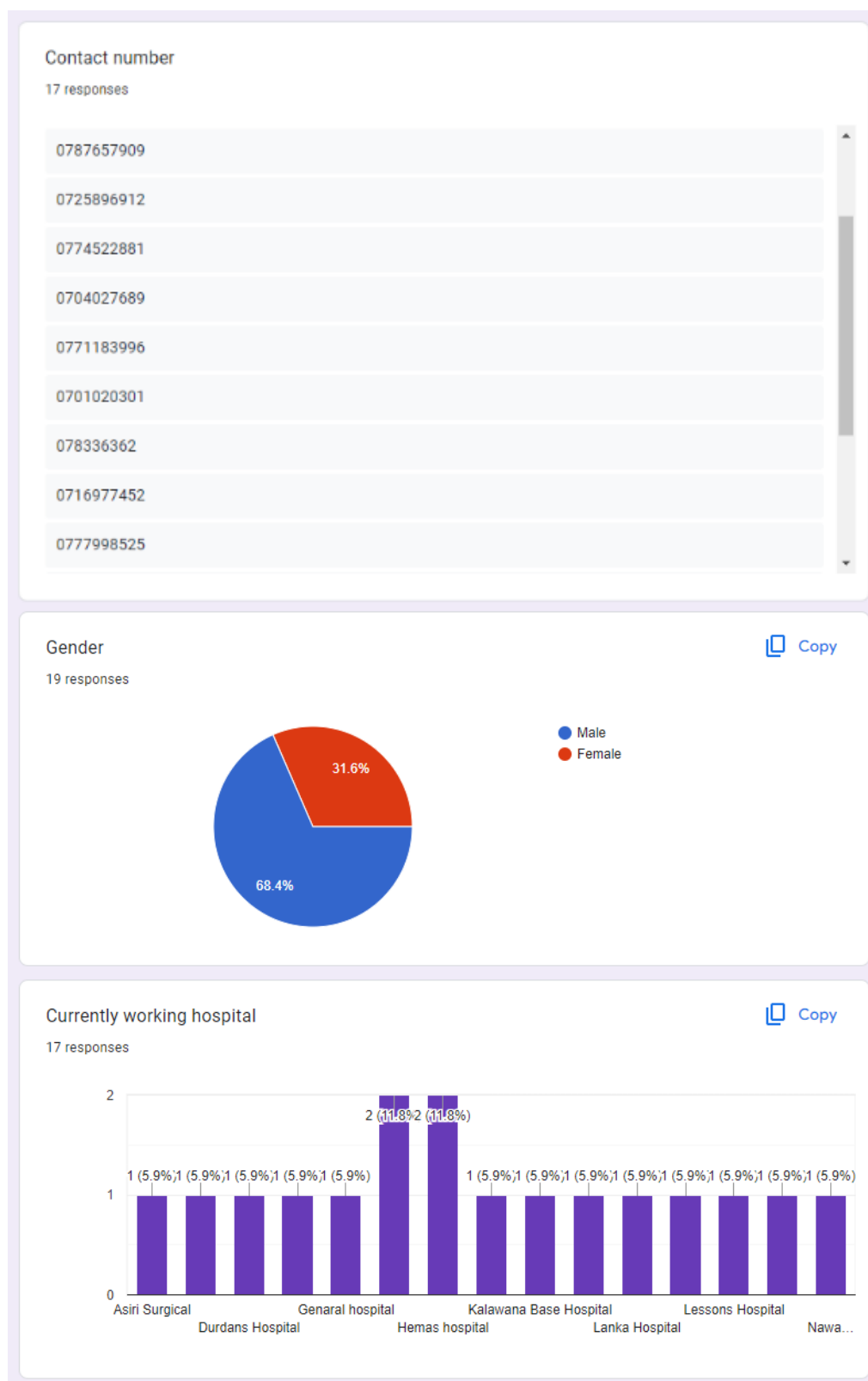


Figure 52: Doctors Survey Answers

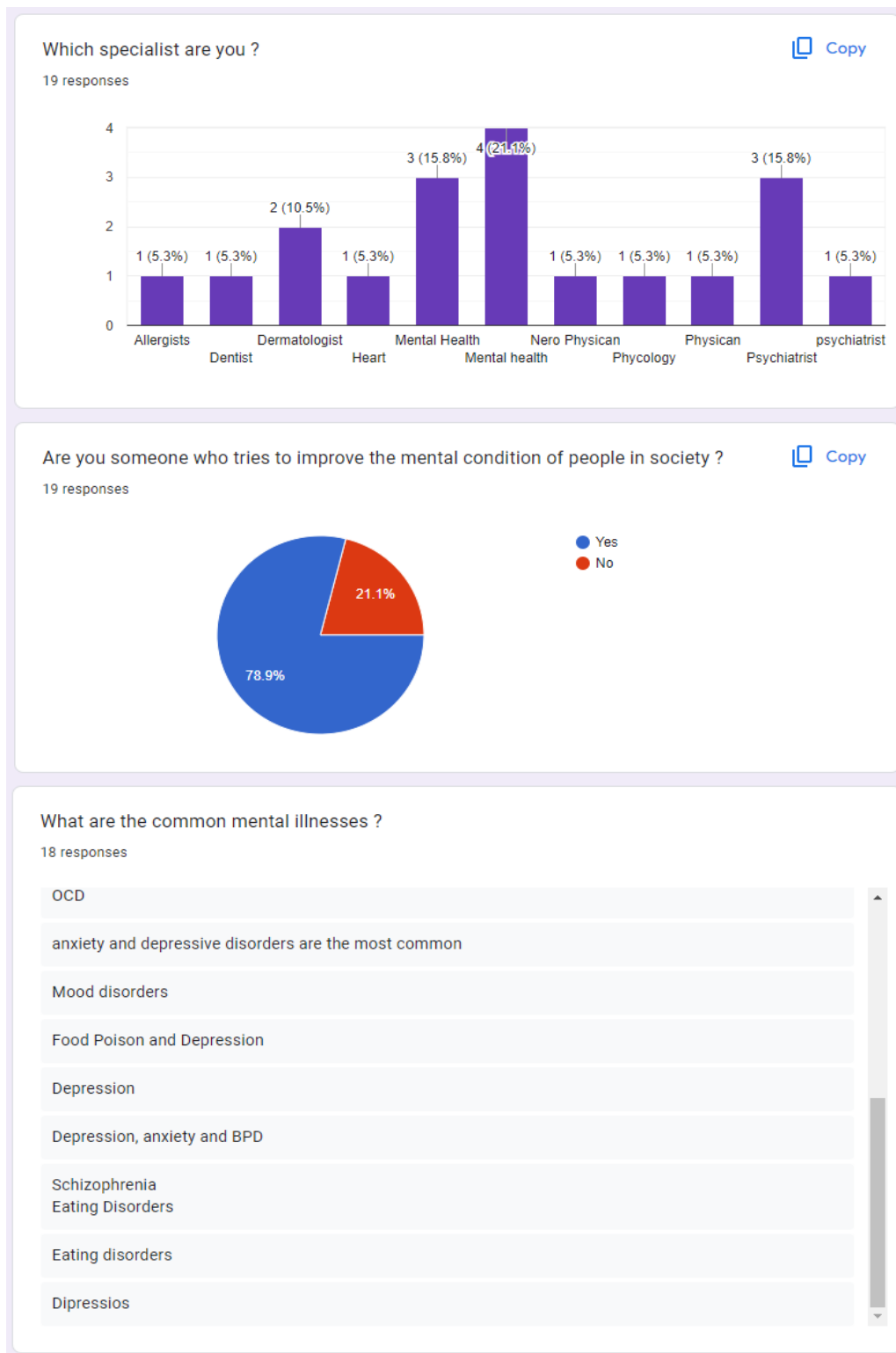


Figure 53: Doctors Survey Answers



What are the common medicine for the mental illnesses ?

13 responses

Duloxetine

Therapy

Beta blockers

Anti-anxiety medications

mind telexing activities

prozac , zoloft

Therapy or counselling

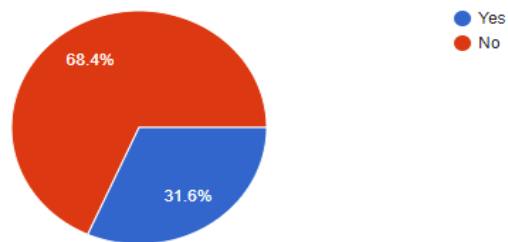
Anorexia nervosa

Lisdexamfetamine

Do you all ready a member in a any mental health application ?

 Copy

19 responses



Do you know about our Robust Hq.org.lk application ?

 Copy

19 responses

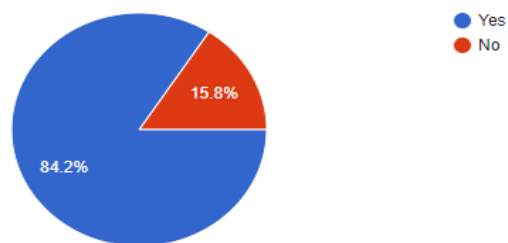


Figure 54: Doctors Survey Answers

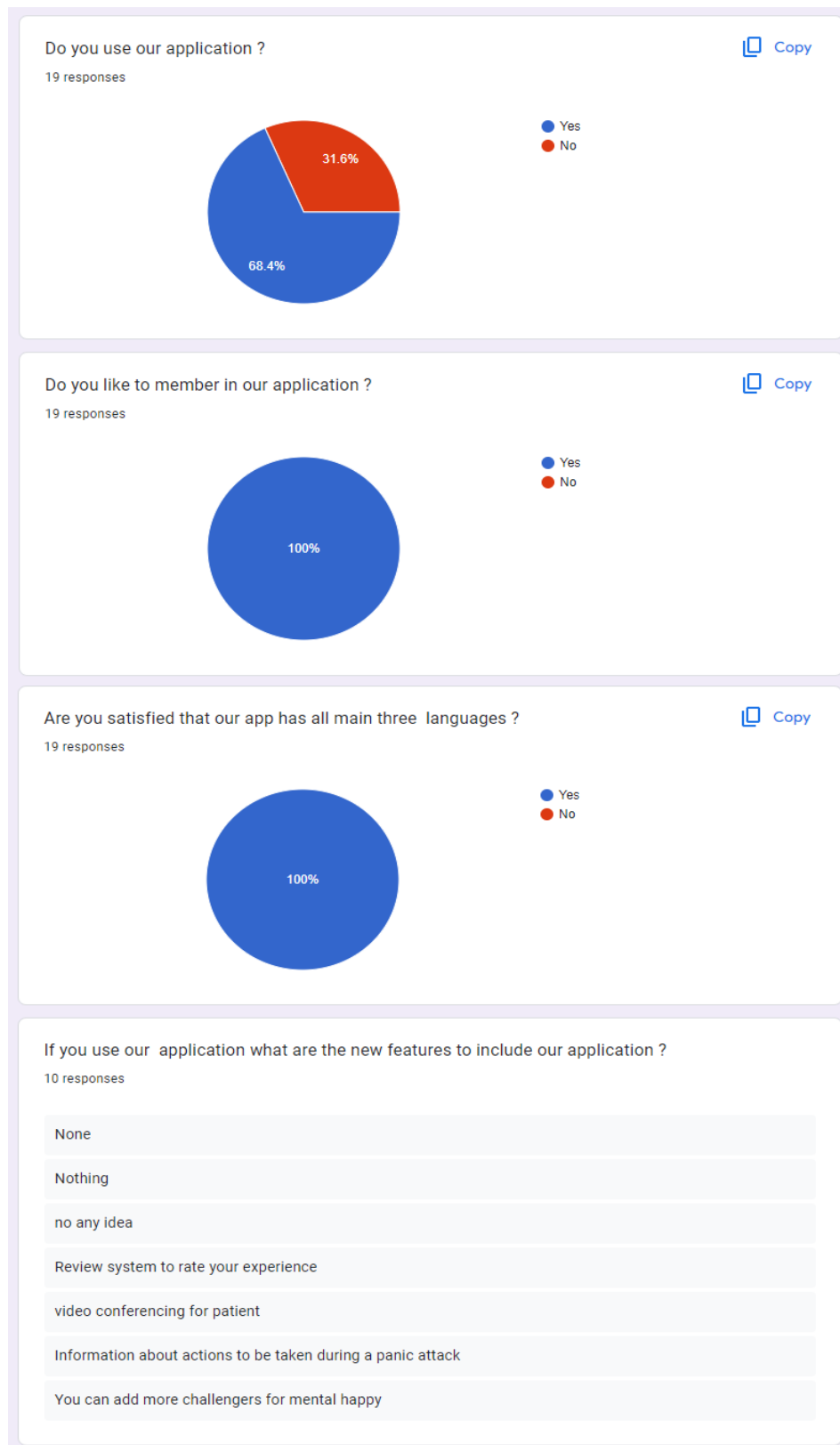


Figure 55: Doctors Survey Answers

What symptoms should be included in application ?

7 responses

Headache

None

How many hours of sleep you get

Oral hygy

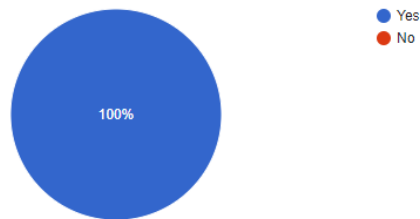
Panic attack, anxiety and depression symptoms

Sleep problems  
appetite changes  
Quiet  
withdrawn

Is it ok to include basic and deep symptoms in a application ?

 Copy

16 responses



What kind of symptoms should we include to our application ?

6 responses

Nine

Headache

If you have trouble sleeping

Back pain

Panic attack, anxiety and depression symptoms

Mental illness

Which additional doctors should be include more to our application ?

3 responses

No

Therapist

Therapists

Figure 56: Doctors Survey Answers

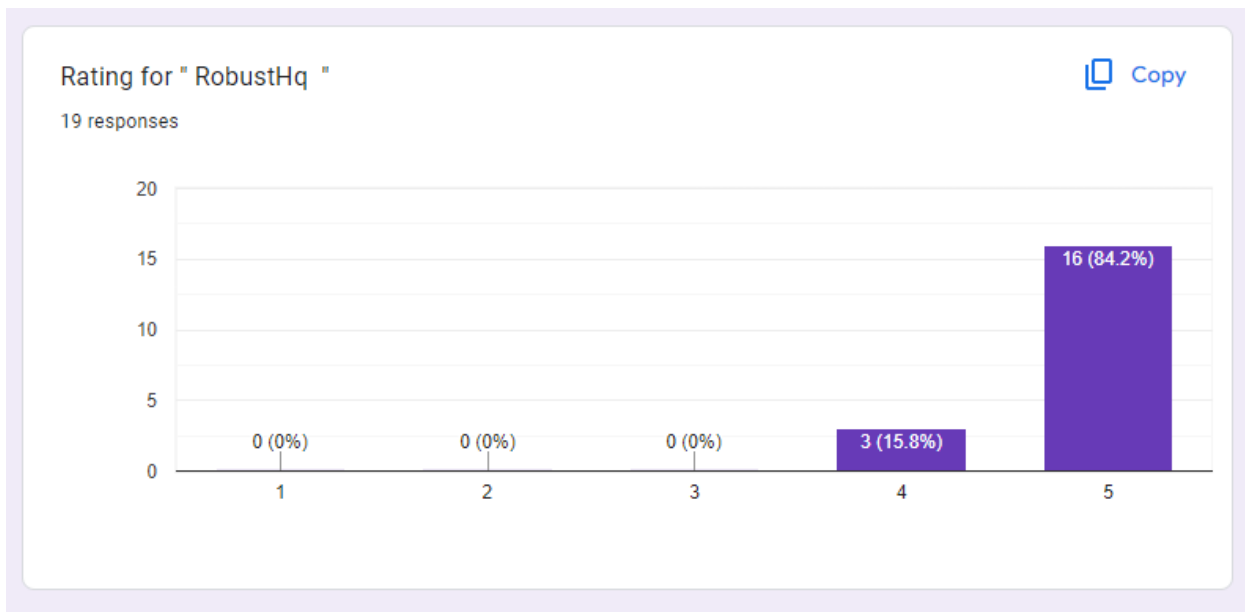


Figure 57: Doctors Survey Answers

#### 10.4.2 Doctors Interview

**1. Which of the following features do you find most appealing in a mental health app?**

- a. Survey for mental illnesses
- b. Therapy sessions
- c. Symptom identifiers
- d. Categorization according to mental illness
- e. Group sessions
- f. Private sessions
- g. Doctor Q&A
- h. Achievements and progress tracking
- i. Online payment
- j. Doctor ratings and customer reviews
- k. Chatbot support
- l. Annual reports
- m. Donations
- n. Resources (books, magazines, movies)
- o. Lethal support
- p. Daily updates and challenges
- q. Diverse mental health solutions

**2. Are there any additional features you would like to see in a mental health app?**

**3. How likely are you to use an app like this to seek help for mental health issues?**

**4. What concerns, if any, do you have about using a mental health app?**

**5. How important is it for you to have access to a diverse range of mental health professionals within the app?**

**6. How interested are you in participating in virtual group sessions with others who share similar mental health challenges?**

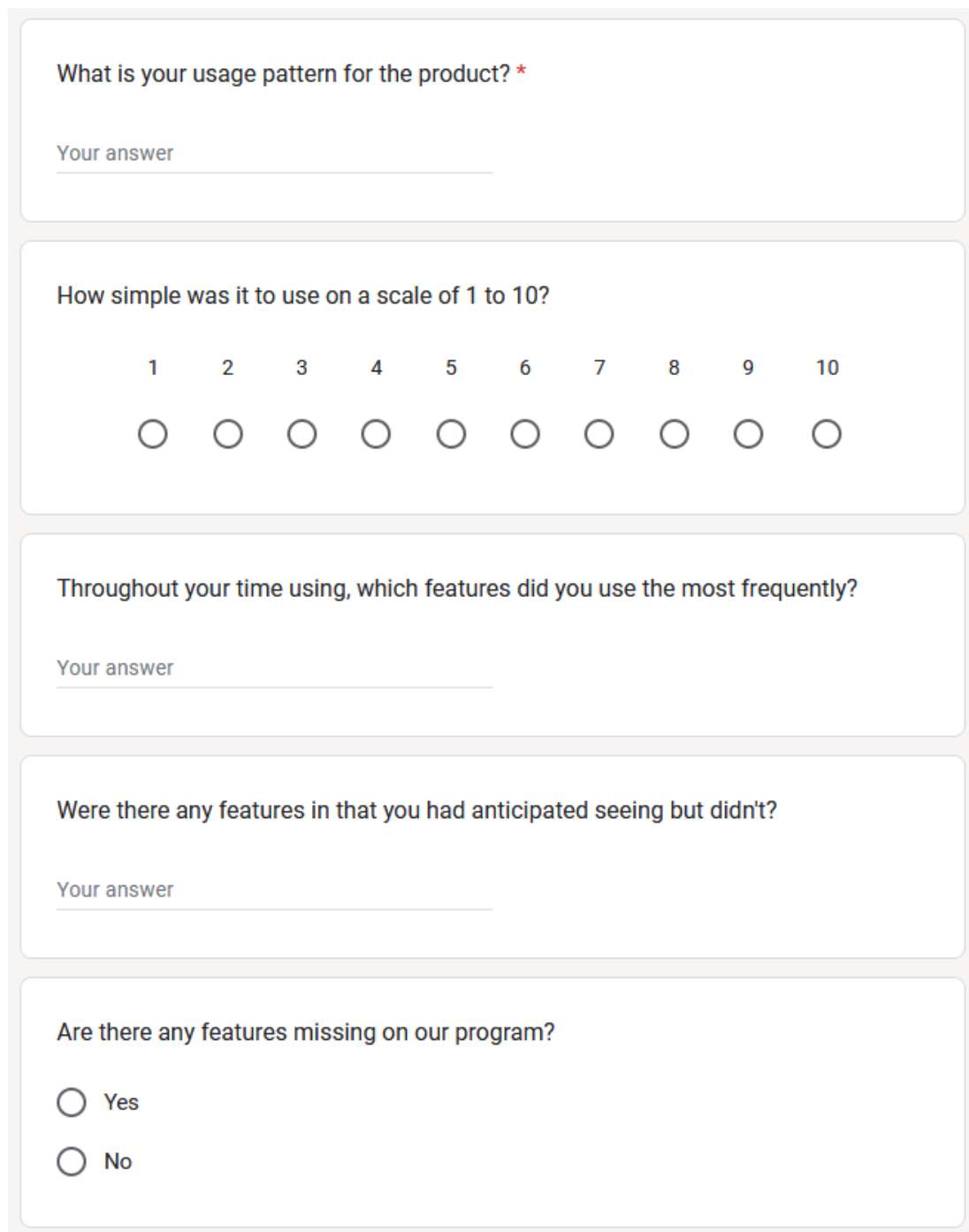
**7. How useful do you think daily updates and challenges would be in helping you manage and overcome mental health issues?**

**8. How much do you value the option to participate in both private and group therapy sessions within the app?**

**9. How confident are you in the effectiveness of an app like this for improving your mental health and overall well-being?**

**10. How likely are you to recommend a mental health app like this to friends or family members who may need support?**

### 10.4.3 User Validation Questionnaire



The form consists of five distinct sections, each with a light gray border and rounded corners. The first section contains a text input field for usage patterns. The second section features a horizontal scale from 1 to 10 with radio button options. The third and fourth sections are text input fields for frequently used features and anticipated but missing features, respectively. The fifth section contains two radio button options for missing features.

What is your usage pattern for the product? \*

Your answer \_\_\_\_\_

How simple was it to use on a scale of 1 to 10?

1 2 3 4 5 6 7 8 9 10

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Throughout your time using, which features did you use the most frequently?

Your answer \_\_\_\_\_

Were there any features in that you had anticipated seeing but didn't?

Your answer \_\_\_\_\_

Are there any features missing on our program?

☐ Yes

☐ No

Figure 58: User Validation Survey

How likely are you, on a scale of 1 to 10, to tell a friend or co-worker about?

1

2

3

4

5

6

7

8

9

10

☐

☐

☐

☐

☐

☐

☐

☐

☐

☐

During your use of the product, did you come across any bugs or technical problems?

☐ Yes

☐ No

☐ Maybe

Do you have any other thoughts to share on the product?

Your answer \_\_\_\_\_

Are the colors up to your satisfaction?

☐ Yes

☐ No

☐ Maybe

Once we showed you our prototype did you understand the purpose of the program?

☐ Yes

☐ No

☐ Maybe

How well did the product satisfy your needs or expectations on a scale of 1 to 10?

1

2

3

4

5

6

7

8

9

10

☐

☐

☐

☐

☐

☐

☐

☐

☐

☐

Figure 59: User Validation Survey



## Answers

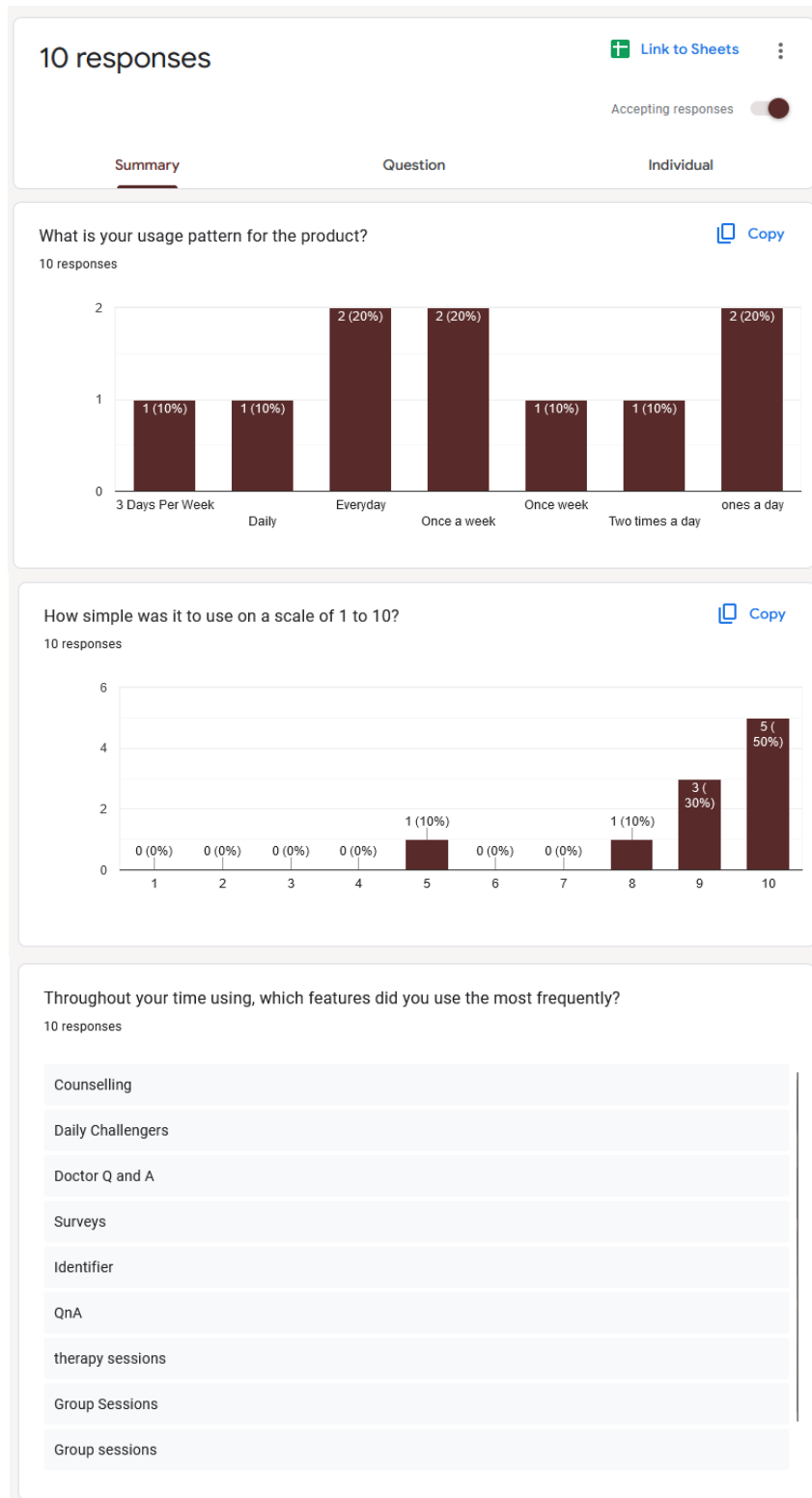


Figure 60: User Validation Survey Answers

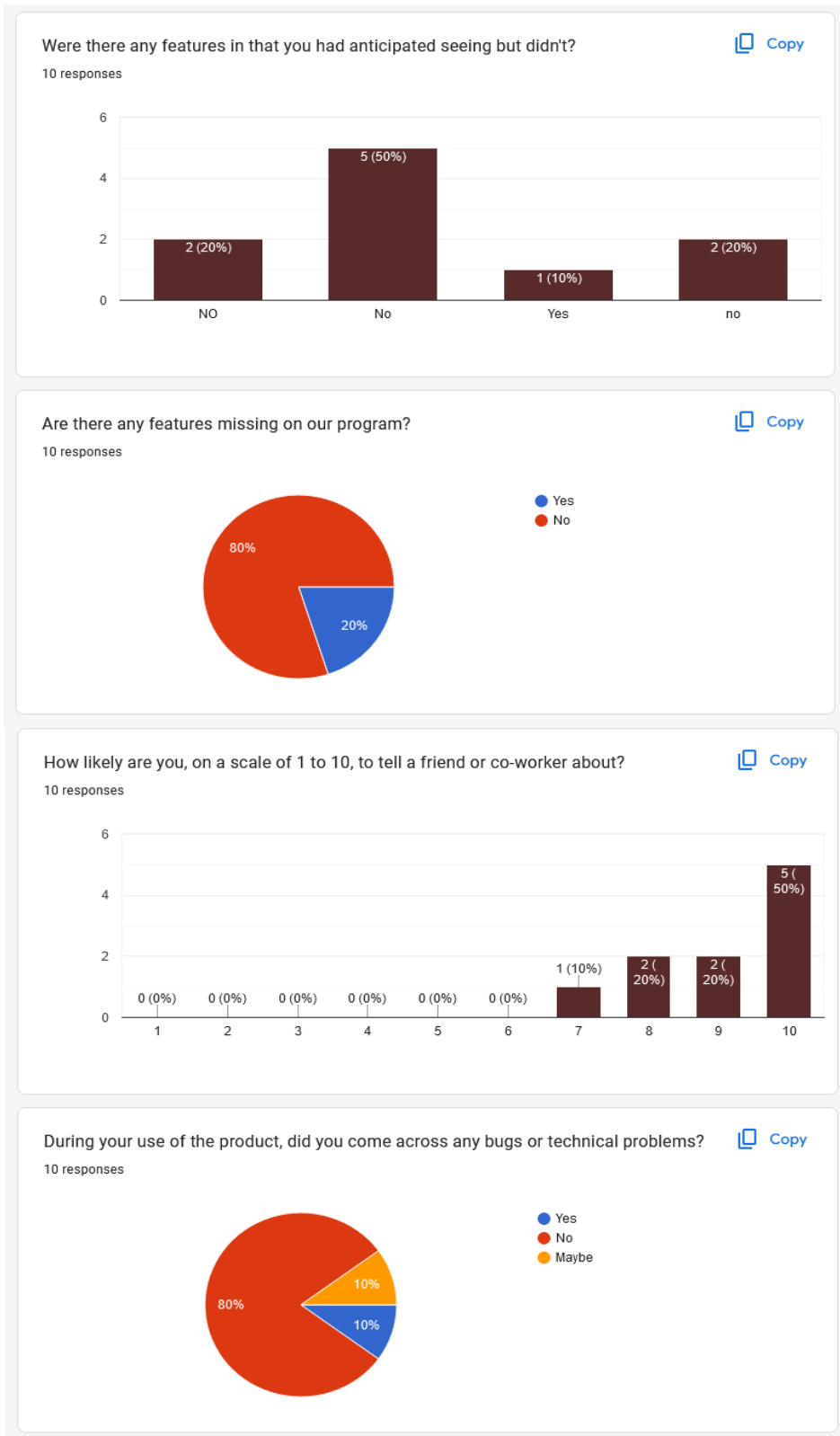


Figure 61: User Validation Survey Answers



Figure 62: User Validation Survey Answers

## 10.4.4 Test Case

Test Case ID	Test Description	Test Steps	Test Data	Expected Results	Actual Results	Pass / Fail
1	Select your language	1.Open the app 2.Select your language	1.Sinhala 2.English 3.Tamil	Convert to chosen language and go to the welcome page	As Expected	Pass
2	Welcome Page	1.Open the app 2.Select your language 3.Click Get Started button	1.Get Started Botton	Showing the robustHQ logo and get started button	As Expected	Pass
3	Sign up to the RobustHQ	1.Open the app 2.Select language 3.Tap Get started 4.Click the sign up button	1.Log in 2.Sign up	Successfully Sign Up	As Expected	Pass
4	Log in to the RobustHQ	1.Open the app 2.Select language 3.Tap Get Started 4.Click Log in button	1.Email 2.Password	Access to the home page	As Expected	Pass
5	Home page	1.Open the app 2.Log in	1.Counselling 2.Entertainment 3.Daily Challengers 4.Identifier 5.Leathal Support 6.Survey 7.Group Sessions	Showing the main categories of RobustHQ	As Expected	Pass
6	Counselling Page	1.Open the app 2.Log in 3.Tap Counselling	1.psychologist 2.Therapist 3.Psychatrist	Showing the Psychologist,therapist and psycharist sections	As Expected	Pass
7	Entertainment Page	1.Open the app 2. Log in 3.Tap Entertainment	See Books, Magazines,Movies,Relaxing Videos	Showing the four sections in entertainment page	As Expected	Pass

8	Daily Challengers Page	1.Open the app' 2.Log in 3.Tap Daily challengers	See the daily challenges categories. 1.Playing with your pet 2.Journailing 3.Meditating 4.Laugh loudly 5.Listening to the music 6.Learn new skill	Showing the six categories of daily challengers	As Expected	Pass
9	Identifier	1.Open the app 2. Log in 3.Tap Identifier	See the typing section for identifier the symptoms	Showing the illness do you have and identify the symptoms	As Expected	Pass
10	Lethal Support	1.Open the app 2.Log in 3.Tap lethal support	See the contact details and contact us section for lethal support	Showing the contact details (contact no.) and main contact number for lethal support	As Expected	Pass
11	Survey	1.Open the app 2.Log in 3.Tap Survey	See the questions to answer	Showing the Some questions to Answer for patients		
12	Group Sessions	1.Open the app 2.log in 3.Tap Group Sessions	See the available group sessions to join	Press the join botton and joined to the sessions	As Expected	Pass
13	Donation	1.Open the app 2.Log in 3.Tap hamburger icon 4.Tap Donation	1.See the details about RobustHQ Donations 2.Make donation Us icon	Press the Donate Us icon and donate to robustHQ	As Expected	Pass
14	Annual Report	1.Open the app 2.Log in 3.Tap hamburger icon 4.Tap Annual Report	1.Annual Report 2. Previous Reports	Can view current and previous mental illness reports	As Expected	Pass
15	Exclusive Offers	1.Open the app 2.Log in 3.Tap hamburger icon 4.Tap Exclusive Offers	Details about Special offers	Can claim offers and get discounts for your total amount	As Expected	Pass

16	Contact Us	1.Open the app 2.Log in 3.Tap hamburger icon 4.Tap Contact us	1.About Company 2.Hotline 3.Contact 4.Massege Section	See contact details and about RobustHQ	As Expected	Pass
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Table 19: Test Case