

# MOBILE APPLICATION TO IDENTIFY MENTAL HEALTH (MIND WISHES)

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## ABSTRACT

The Mobile application to understanding mental health or mind wishes is designed to help university students, especially UKM students, increase student knowledge and awareness of mental health. This app was also developed to make therapy easier for UKM students if they find it restless and difficult to concentrate. The types of mental health problems that will be discussed specifically are those of anxiety, stress, depression, and ADHD. This application also has a mental health screening test feature that students can take. The screening tests that will be used with will follow the types of mental health problems that will be covered in this project. This test is useful for UKM students to identify and find out their mental health condition. Students can also do free online counselling sessions with professional counsellors from the UKM counselling unit. The methodology used to develop this application is the *Agile* methodology. The software used to develop this application is *Android Studio* and *Firebase database*. In conclusion, the application is expected to provide UKM students with convenience, awareness, and better management of mental health issues.

## 1. INTRODUCTION

Health is the main thing and the most critical thing in the life of a human being. Hence, the definition of health is according to a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. Unfortunately, many people measure their health by their physical condition, not their mental health. Moreover, the lack of discussion and education about mental health in the surrounding environment causes people to pay less attention to health (Pedrelli P et al., 2015).

In 2001, WHO defined mental health as a state of well-being in which the individual realizes their abilities, can cope with the normal stresses of life, work productively and fruitfully, and contribute to their community. A person who does not know himself often experiences excessive stress and does things that are not their habit, especially those that are more negative. It can be said that they have a poor mental state. Widespread outbreaks of infectious diseases, such as COVID-19 are associated with psychological distress and symptoms of mental illness. Many people from all walks of life have been affected by their mental health during the COVID-19 pandemic. The group of university students is a risk group known to have mental health problems and high psychological pressure (Kearns et al., 2015).

There are several reasons associated with the high level of psychological distress experienced by high-ranking students, such as the stress of life as a student and adjustment to life away from family (Furr et al., 2001).

During the COVID-19 pandemic, university students must study online and reduce physical interactions with friends or other people. Because of this, there are problems that students often experience, such as difficulty in focusing on learning, problems related to health, moodiness, stress, indecision, insomnia, self-confidence problems, and suicidal ideation. This situation is a cause for concern as statistics show that 10.1% of young people in Malaysia have attempted to take their own life (National Health Morbidity Survey (NHMS), 2015). Therefore, this mental health problem should not be taken lightly by all society because university students are an asset of a country in the future.

## **2. PROBLEM STATEMENT**

The absence of student university awareness on mental health issues even makes them vulnerable to problems related to this. For example, it can be seen from a study conducted by Furr et al. (2001) that they discovered that over 50% of college students suffered from depression, and 10% had thoughts of suicide. In addition, university students are not quite aware that if their health is not well, it will impact life as a student. Therefore, they must have a platform to help determine whether their health condition is fine or already severe.

Identifying and recognizing mental health problems is the first process and cannot yet be used as a concrete diagnosis. Because it is just a process by which students can better understand mental health. Many university students do not understand how to take a situation and calm down when pressured by their parents, the environment, and the college's academics. As Jennifer Hefner and Daniel Eisenberg (2009) said, college students still find it difficult to calm down under the pressures of the academic environment. They need such as therapy or exercise that can help them to calm themselves.

In addition, college students are prone to so-called self-diagnostic problems. Many university students think about their mental health status, leading to self-diagnosis (David C. Giles and Julie Newbold, 2001). To find out what mental health problems are happening to university students, they should be assisted by an appropriate professional counselor or done by taking a mental health screening test. Mental health screening can be done independently, but it

cannot be a concrete diagnosis. A mental health screening test can only be used as a first reference to find out your current mental state.

### **3. OBJECTIVES OF STUDY**

The main objective to develop this mobile application is to recognize and understanding mental health conditions for college students such as:

1. Provide a platform to assist students understanding of mental health to increase their awareness of this issue.
2. Provide a platform for students to relax when encountered with mental health issues  
Help student to identify their mental health condition at specific points.

### **4. METHODOLOGY**

The methodology that will provide clarity for this project is the agile methodology. This methodology refers to the adaptability and flexibility which allows for switching any phase. The phase of agile methodology are:

#### **4.1 Planning Phase**

The planning phase is the first phase to develop the project. Brainstorming ideas with several parties will be held to discuss how the application should be developed. Requirement gathering such as problem statement, scope and purpose from this project must be precise. Comparing with the existing application will be helpful in this phase.

#### **4.2 Design Phase**

The design phase is the phase in which the design of the application interface begins. The interface will be designed, considering the requirements and experience of the user. The comparison with the existing application interface will be of great help in improving it. The suitable software for this project must be decided in this phase

#### **4.3 Development Phase**

This phase is the beginning of application development. Writing the code according to the design and objective functions from the previous phase is done in this phase. During this phase, *Android*

*Studio* software will be used to develop on smartphones, and the primary programming language to be used is Java.

#### **4.4 Testing Phase**

The testing phase is the phase to test the application run as well as planning or not. This phase is conducted to find bugs and errors. All the features should meet the objective that has been set. The testing will use with an android emulator in the *android studio* feature.

#### **4.5 Deployment Phase**

After the testing phase, the application will deploy to the users. Users will run this application and see whether it works like it should be or not. All the feedback and comments that they must be collected to the next phase.

#### **4.6 Maintenance Phase**

This is the last phase where all collected user feedback and comments will be used for improvements. Improvement is maintained and completed until the user experience, and application goals are met and working properly.

### **5. RESULT OF STUDY**

Mobile application to identify mental health or mind wishes has successfully developed in given time. Some of the software used during the development of mind wishes application such as android and google firebase. Android studio is where the application's programming process and interface design are. Firebase is a Google database that is used in mind wishes application to store user data, photos, chat lists, and messages between a group of users. Mind Wishes have two groups of user, which are student and counselor. Both have different features. Several firebase elements such as firebase authentication, firestore database, Realtime database and storage has been used.

#### **5.1 User Log in**

Login interface in figure 1 is the first interface to be see when user open the application. User should fill their email and password to login the application. After filling in the email and password, they click login button to continue if the account is valid. If the user forgets their

account's password, they can click "Forget Password?" then user can write their email in order to reset their password.

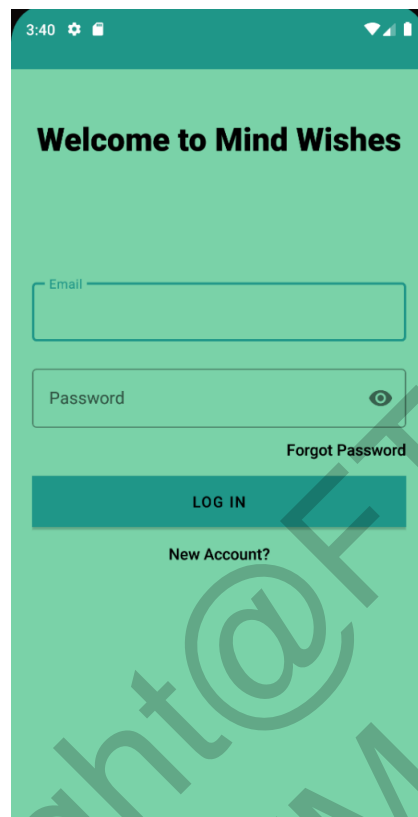


Figure 1 Log in Interface

## 5.2 User Main Menu

Mind Wishes application has 2 group user which are student and counsellor. Both have a different main page and features. Figure 2 shows the main page interface for student user on the left and counsellor on the right.



Figure 3 Student Main Menu

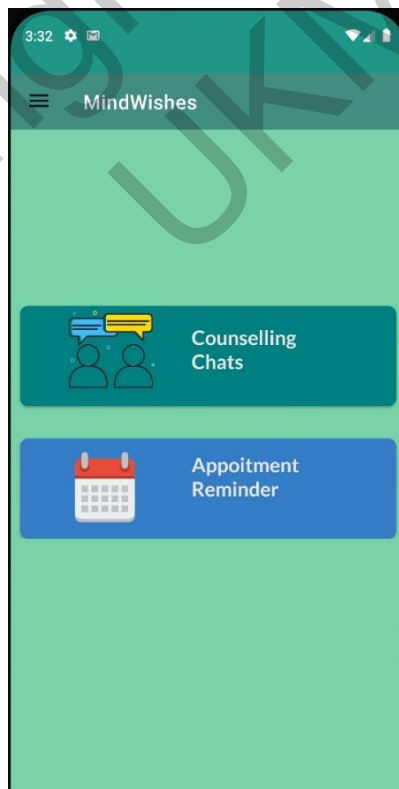


Figure 2 Counsellor User Main Menu

## 5.2 Navigation Drawer

Every group user has their own navigation drawer including the components. Figure 4 shows the navigation drawer of user student that consist of 2 components which are appointment reminder and logout. While figure 5 Show the navigation drawer for counsellor user that only have one component which is logout.

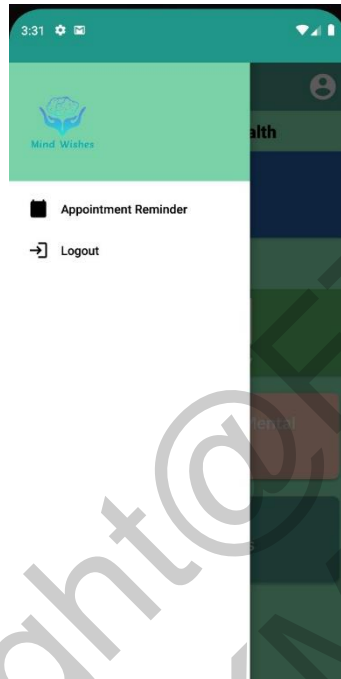


Figure 5 Student User Navigation Drawer



Figure 4 Counsellor User Navigation Drawer

### 5.3 Mental Health Infographics

Figure 6 shows the interface of infographics about mental health that student user can see. There are 4 titles of the infographics which are about anxiety, stress, depression, and ADHD. The infographic is about the definition of disease itself and the symptoms.

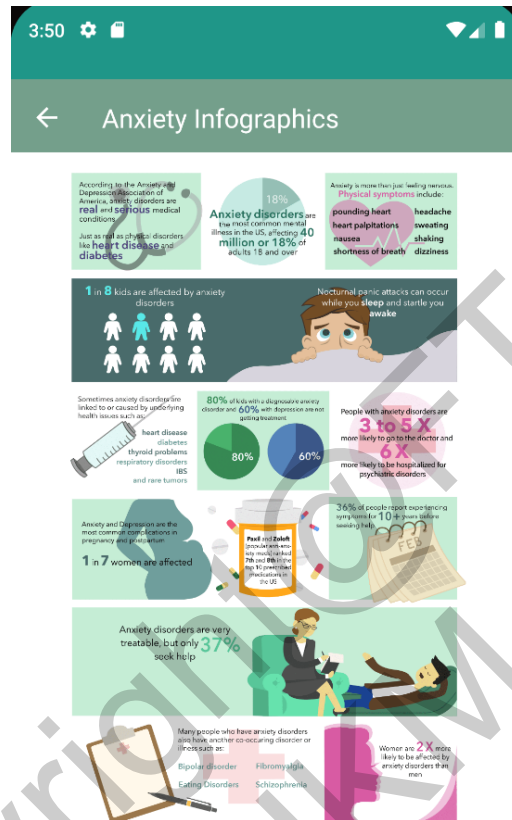


Figure 6 Infographics Interface

### 5.4 Mental Health Tips & Tricks

Figure 7 shows that the interface of video tips & tricks how to handle mental health. Student can choose the title that available in the application and watch the video.



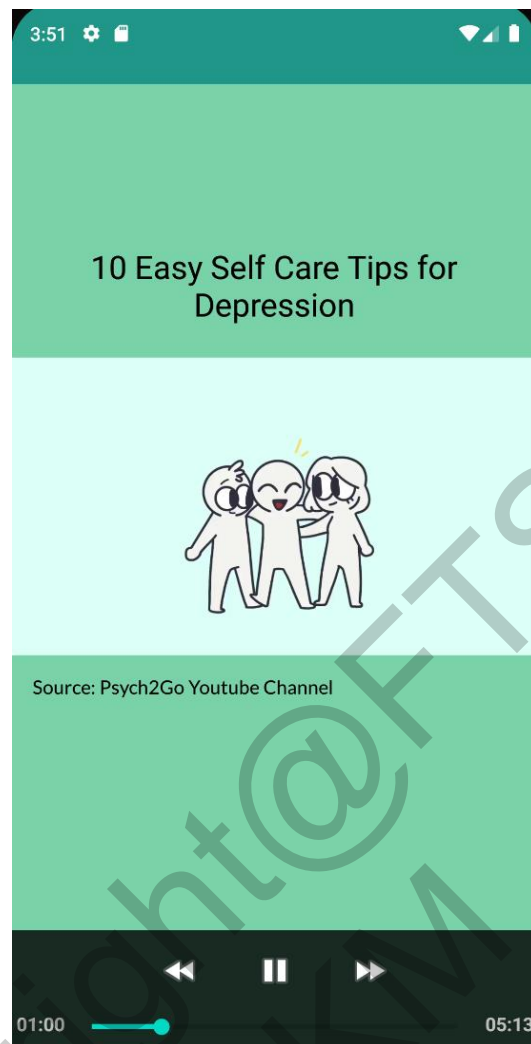


Figure 7 Tips &amp; Tricks Interface

### 5.5 Mental Health Therapy

There are 2 types of therapy which are equal breathing exercise and progressive muscle relaxation exercise. Figure 8 is the explanation about equal breathing exercise and student can start activity by click the button. Figure 9 is the audio player for student to listen also follow the instructions to do the exercise.



Figure 9 Therapy Description Interface

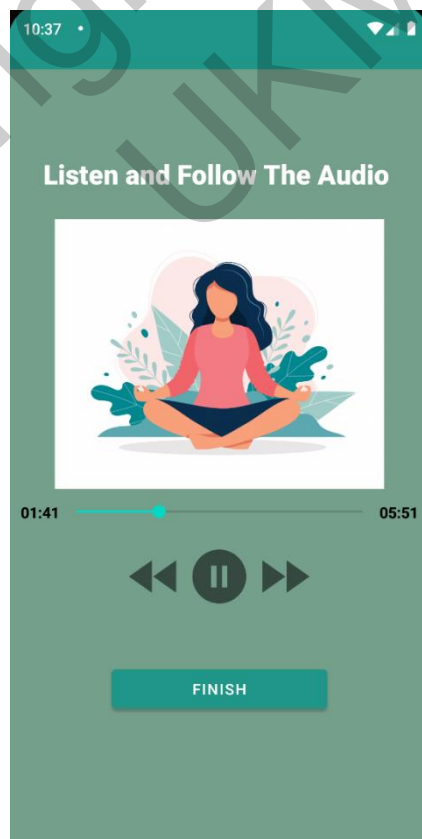


Figure 8 Therapy Audio Interface

## 5.6 Mental Health Screening Test

Mental Health Screening Test have 2 types of tests that student user can take. There are ADHD consist of 6 questions and DASS consist of 21 questions. All of them have 5 different choices of answers. All answers have score. Figure 10 is one of the test questions interfaces while student taking it.

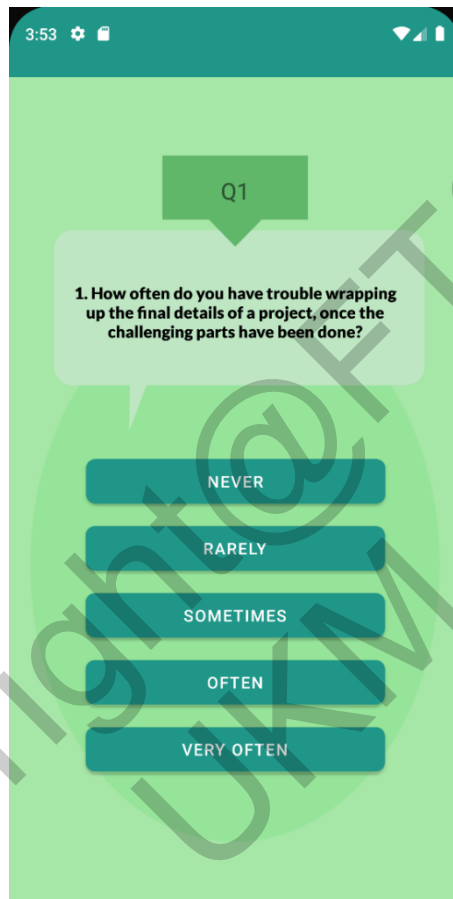


Figure 10 Mental Health Screening Test

### 5.7 Profile Student User

The profile user of student can see their image profile, name, matric number, faculty, email, and phone number. Figure 11 show the profile of student user.

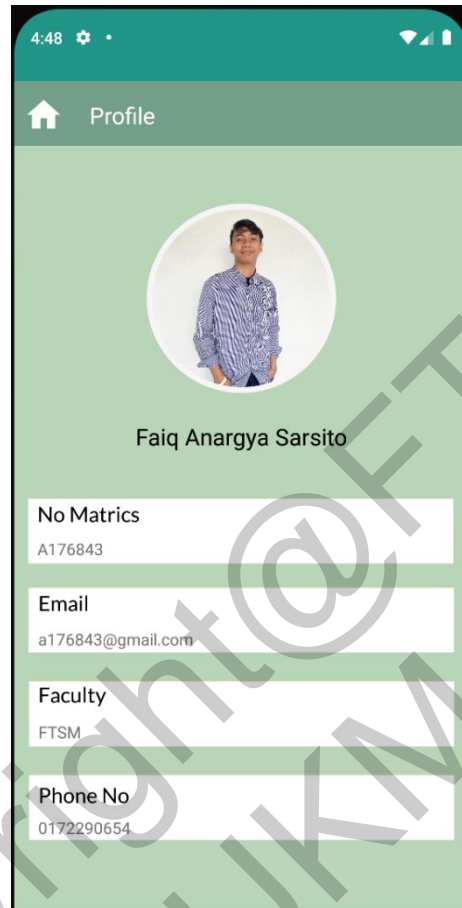


Figure 11 Profile Student User Interface

## 5.8 Mental Health News

Figure 12 shows the interface for list of news. It will show the title, image, and source of the news. Student can choose one of the news in the list to see and read through the source website.

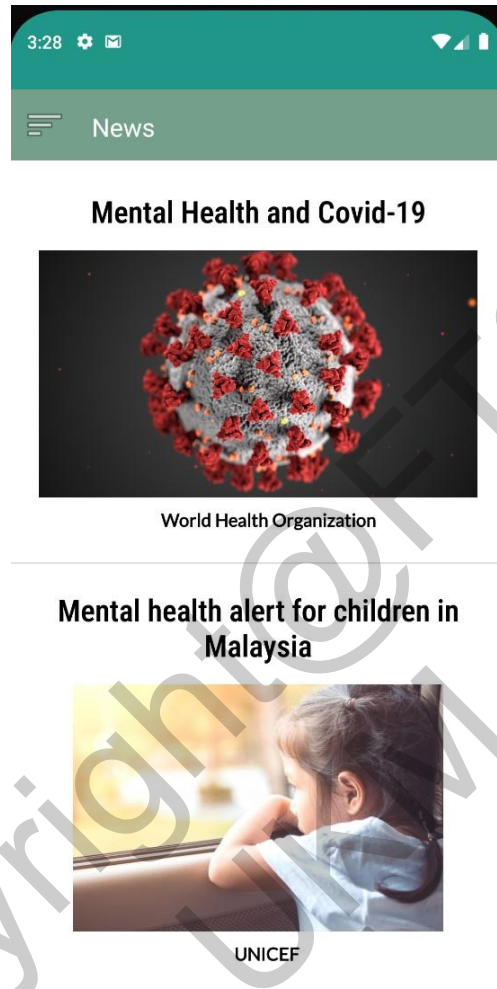


Figure 12 News Interface

### 5.9 List of Counsellor at Counselling Unit UKM

Figure 13 is an interface where the list of counsellors on duty will be displayed on the student screen only. The list of counsellors on duty will be taken from the database. This list of counsellors is displayed via Recycler View. If a student clicks on one of the names in the list, the counsellor's information will be displayed.



Figure 13 List of Counsellor Interface

### 5.10 Counselling Chat

Figure 14 shows the interface when student send and received a message from counsellor. Figure 15 the interface when counsellor send received a message form the student user. All the messages history will be saved in the database, and it will show in the chat interface

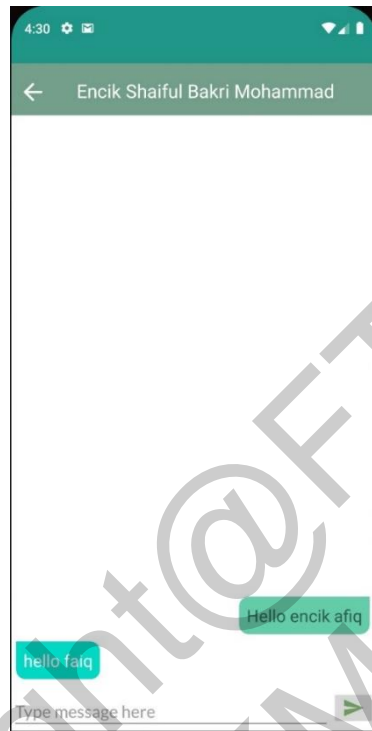


Figure 14 Student Chat Interface



Figure 15 Counsellor Chat Interface

## 6. CONCLUSION

In conclusion, awareness about mental health is still weak, especially for students in the university environment. Usually, people who suffer from mental health problems are because they are not aware of their mental health. If exposed to it can reduce their performance in the academic or social field. Mind Wishes application has successfully developed to help university student increase their awareness of mental health and help them to calm down when getting pressure from the environment. Hopefully, with mind wishes application, most of the students in the university can have good mental health, and they will excel in academic or non-academic fields

## 7. REFERENCES

- Furr., S.R., Westefeld, J.S., McConnell, G.N., & Jenkins, J.M. (2001). Suicide and depression among college students: A decade later. *Professional Psychology: Research and Practice*, 27, 97-100.
- Giles, David & Newbold, Julie. (2011). Self- and Other-Diagnosis in User-Led Mental Health Online Communities. *Qualitative health research*. 21. 419-28. 10.1177/1049732310381388.
- Hefner, Jennifer & Eisenberg, Daniel. (2009). Social Support and Mental Health Among College Students. *The American journal of orthopsychiatry*. 79. 491-9.
- Kearns, M., Muldoon, O. T., Msetfi, R. M., & Surgenor, P. W. G. (2015) Understanding help-seeking amongst university students: the role of group identity, stigma, and exposure to suicide and help-seeking. *Frontiers in Psychology*, 6, 1-8.
- National Health Morbidity Survey, 2015, [http://www.iku.gov.my/images/IKU/Document/REPORT/nhmsreport2015vol2 .pdf](http://www.iku.gov.my/images/IKU/Document/REPORT/nhmsreport2015vol2.pdf). [28 Oktober 2020]
- Pedrelli, Paola & Nyer, Maren & Yeung, Albert & Zulauf-McCurdy, Courtney & Wilens, Timothy. (2014). College Students: Mental Health Problems and Treatment Considerations. *Academic Psychiatry*. 39. 10.1007/s40596-014-0205-9.
- World Health Organization, 2004. Promoting Mental Health <https://apps.who.int/iris/bitstream/handle/10665/42940/9241591595.pdf>