

ED-CMP

(Early Detection Child Mental Health Problem)



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I. Introduction

I.1. Background

Mental health is as important as physical health for humans. A healthy mental condition cannot be separated from a good physical health condition. Good mental health for individuals is a condition where individuals are free from all kinds of mental disorders, and conditions where individuals can function normally in carrying out their lives, especially in adjusting to face problems that may be encountered throughout their lives.

According to WHO, mental health is a state of conscious individual well-being, in which there are abilities to manage the normal stresses of life, to work productively and productively, and to participate in their community. One or more mental and behavioral disorders are experienced by 25% of the total population at some point in their life. Mental disorders that are often found in primary health care include depression and anxiety, both as separate diagnoses and comorbid with the physical diagnosis.

One of the causes of mental disorders in children is bullying that occurs in schools or the surrounding environment. Domestic violence especially experienced by children. Bullying often occurs in human social life. In general, bullying is an act of violence that is often aggressively manipulative by one or more people involving an imbalance of power whether juniors and seniors, minorities, different classes. Data obtained from the official KPAI website shows that violence against children both psychologically and physically increased in 2020, as many as 76 children were reported to be victims of violence or bullying at school during the year 2020. While in the category of Children dealing with the law, violence against children jumped sharply in 2020, to 249 for the category of victims of physical violence and 119 in the category of psychological violence.

In addition, mental health problems can cause social impacts, including increasing rates of violence both in the household and in the general public, suicide, drug abuse (psychotropic narcotics and other addictive substances), problems in marriage and work, problems in education, and all of these impacts will reduce productivity.

(Kusumorini Kalsel; 2019; Training on Early Detection and Management of Mental Disorders for Health Care Professionals at the South Kalimantan Provincial Health Center)

I.2. Formulation of the Problem

- a. How to make an application that can help parents detect problems in their children's mental health early on?
- b. How to test the effectiveness of this application with standard testing methods.

I.3. Purpose

- a. Make an application to find out the mental health of children from an early age so that appropriate action can be taken as soon as possible.
- b. Testing the effectiveness and ease of application with standardized testing standards whose results can be scientifically justified.

I.4. Scope of Problem

This application is intended for children aged 10-18 years, although the age above is not a problem, but in this study, the subjects studied were 10-15 years old.

I.5. Benefits

- For the Community :

Can help identify mental problems in children by using an easy-to-use application.

- For Researchers:

Making this application can add insight into the science of programming, making good scientific works and about the psychology of children.

II. Basic Theory

II.1. Mental Health

Mental is things related to the mind and human nature. Mental health is a condition when the mind and human character are in a normal, peaceful, calm state. So that they can carry out activities and enjoy daily life.

Mental health includes the emotional, psychological and social well-being of humans. A person with a bad mental condition will find it difficult to control emotions, and cannot think, feel, act and make decisions appropriately. Mental health is an important component in every level of human life, starting from childhood, adolescence to adulthood. Mental conditions in childhood can affect a person's mental development into adulthood. Therefore, it is important to maintain mental health from an early age. A person's mental health can change over time. This depends on many factors that you encounter or experience during your life. Generally, this mental change occurs when you are faced with a demand or burden that exceeds your resources and abilities. By maintaining mental health, we can live and enjoy daily life and avoid various kinds of diseases. (Hellosehat.com)

Association's Diagnostic and Statistical Manual of Mental Disorders (DSM) is a classification of mental disorders with associated criteria designed to facilitate more reliable diagnoses of these disorders. With successive editions over the past 60 years, it has become a standard reference for clinical practice in the mental health field. Since a complete description of the underlying pathological processes is not possible for most mental disorders, it is important to emphasize that the current diagnostic criteria are the best available description of how mental disorders are expressed and can be recognized by trained clinicians. DSM is intended to serve as a practical, functional, and flexible guide for organizing information that can aid in the accurate diagnosis and treatment of mental disorders. It is a tool for clinicians, an essential educational resource for students and practitioners, and a reference for researchers in the field. (*DSM5*)

Major Depressive Disorder (MDD) is a classic type of depression that is defined as a depressed mood that lasts for at least 2 weeks. Symptom the 5 main features of Major Depressive Disorder are feelings of sadness, persistent hopelessness, loss of interest and desire to do things that were once considered pleasurable, loss of appetite and weight loss, and difficulty sleeping. Anxiety Disorder is having a feeling of anxiety. Symptoms include feeling always tense, feeling anxious, feeling restless and unable to calm down, and feeling unable to concentrate. Prevention can be in the form of regular relaxation activities or exercises such as yoga, meditation, or tai chi. Obsessive Compulsive Disorder (OCD) is a type of mental disorder. People with OCD have uncontrollable and repetitive thoughts and urges (obsessions), and compulsive (compulsive) behaviors. People with OCD have symptoms of obsessions, compulsions, or both. These symptoms can interfere with all aspects of life, such as work, school, and personal relationships. Unfortunately, OCD cannot be cured. However, sufferers can relieve symptoms that interfere with their activities by undergoing several treatments. Treatment for OCD consists of medication, psychotherapy, or a combination of the two. Although most people with OCD improve after receiving treatment, some people with OCD continue to experience symptoms.

II.2. Codular

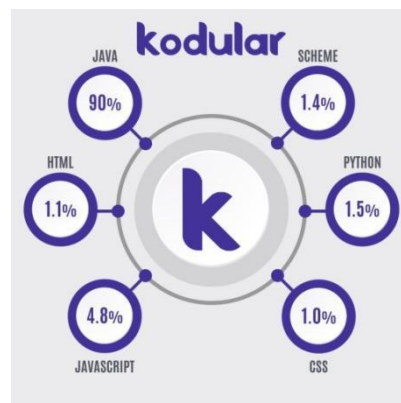
Android application is one of the most widely used applications and is made by application developers. In making android applications, certain skills are needed, including proficient in coding and creative in making GUIs. However, along with the development of emerging software that can be used to create android applications without having to be proficient in coding. This software provides features that are quite complete and can be used to create a simple android application to a rather complex one.

Kodular is a website, which provides tools to create android applications with the concept of drag-drop block programming. Block programming is a mainstay feature

of kodular, with this feature we no longer need to manually type program code to create android applications.

Kodular also provides dBase mini and store functions, so that we can store and upload data as we wish. In terms of GUI / appearance, code can be customized with themes so that the applications we create are more modern and look professional.

Saved code with file existence is (.aia) and plugin existence (.aix). This existence plugin consists of several lines of command code in the Java programming language, the next one (.java) which will convert into an existence plugin file (.aix).



Picture I.1. Codular (Source : Irham Halik,2020)

Kodular is free for all users who want to create android applications without having to worry about programming languages. You can login by selecting several login options, either direct login or login via Auth (Facebook, Github, Gmail). Kodular provides superior features, namely Kodular Store and Kodular Extension IDE. We can create Applications just by drag and drop blocks.

II.2.1. Codular Companion

Codular Companion allows app makers who use Kodular to test their apps directly, without having to export and compile apps. Just download it, connect with the maker and the app will show in this app. Save a lot of time testing your app in real time. We can also check the status of our server easily with codular Companion.

(apkdownloadforwindows.com)

II.3. Google Spreadsheet

Google Sheets is a spreadsheet program included as part of the free web-based Google Docs Editor suite offered by Google. Google Sheets is designed to meet the needs of dynamic organizations. Spreadsheets can give you the freedom to be creative, while keeping your information secure. Compatibility with a wide variety of external

systems, including Microsoft Office, minimizes common problems when working with multiple data sources.

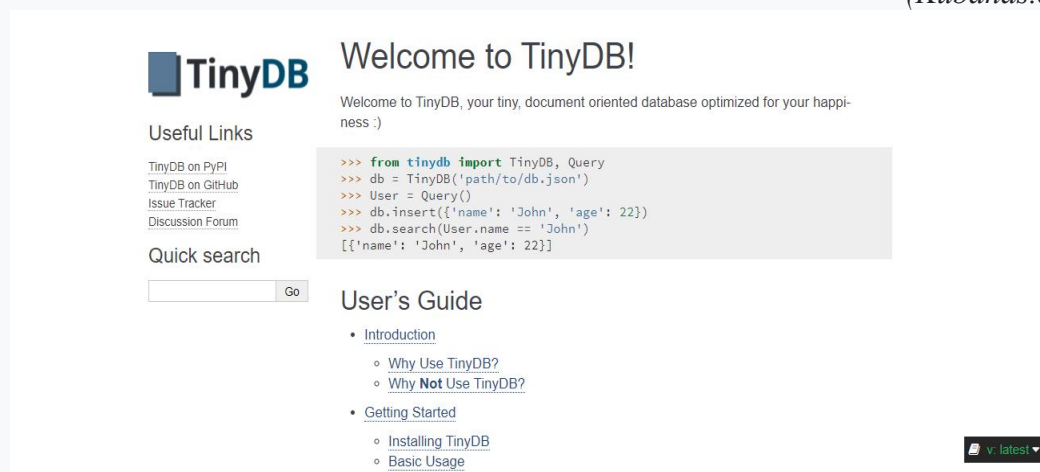
II.3.a. Google Map

Google Map is a web mapping service developed by Google. This service provides satellite imagery, street maps, 360° panoramas, traffic conditions, and route planning for traveling by foot, car, bicycle or public transportation.

II.4. Tiny DB

TinyDB is a component that is used to store application data on App Inventor into an android smartphone device. Where this data storage is offline and the stored data cannot be shared with other smartphones, the data can only be accessed on one smartphone. The data stored in TinyDB will be available and visible when the application is running.

(Kubahas.com)



Picture I.2. Tiny DB Web Preview (Source : Wahyu Arya Pambudi, 2020)

TinyDB is a database-based application in which there are queries to process various data. TinyDB provides power efficiency in a network query processing system that collects data from individual sensor nodes. Reduction in energy consumption is enabled by reducing the number of messages that need to be exchanged. In addition, TinyDB has good data management, minimizes costly communication by implementing aggregation and filter operations in the sensor network.

So, the advantages of TinyDB over other databases include:

1. Small . The current source code has 1800 lines of code (with around 40% documentation) and 1600 test lines.

2. Document Oriented. We can store documents (represented as dictionaries/dicts) in TinyDB.
3. Uncomplicated design. TinyDB is designed in a nice and simple way to use by providing a clean and simple API.

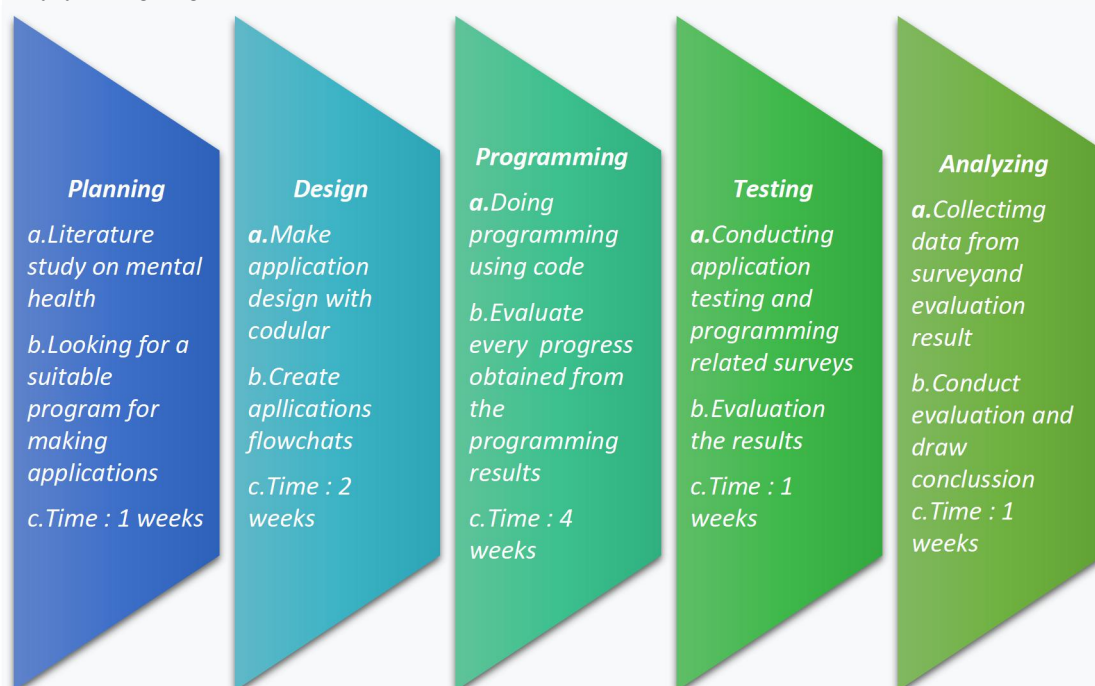
III. Method

III.1. Time and Place

Time : November 2021 - January 2022

Place : Computer Laboratory of SMA N 1 Semarang

III.2. Timeline



Picture III.1. Timeline (Source : researcher documentation)

III.3. Type of Research

This research is a research and development research in the form of an Android-based application with qualitative data analysis methods using survey methods.

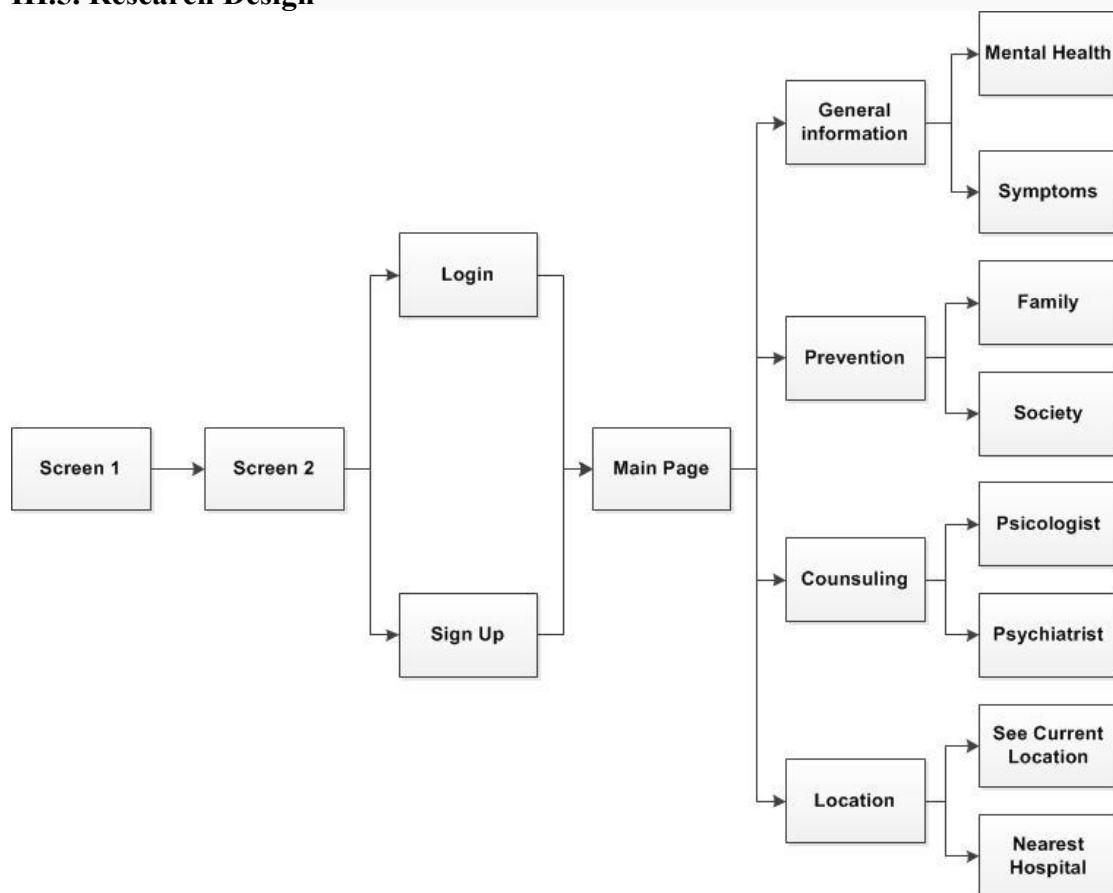
III.4. Novelty

No	Title	Description
1	Activity Apps For Mental Health	This test is web-based
2	Kalm	This android-based application in the form of an app is equipped with

		various articles and videos related to mental health.
3	Riliv	This application is based on Android in the form of an app that provides counseling services, meditation, and various articles that help understand mental health more deeply.

Table III.1. Research Update Table (Source : researcher documentation)

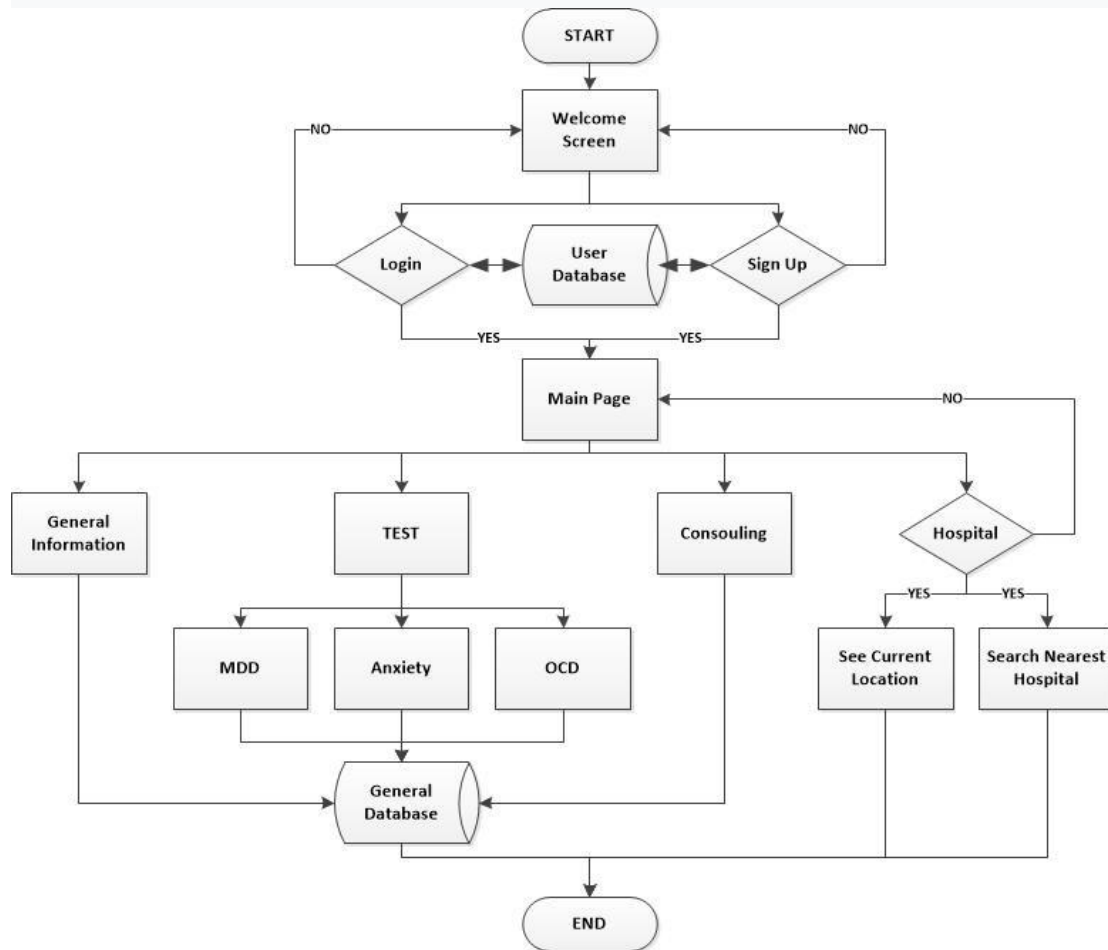
III.5. Research Design



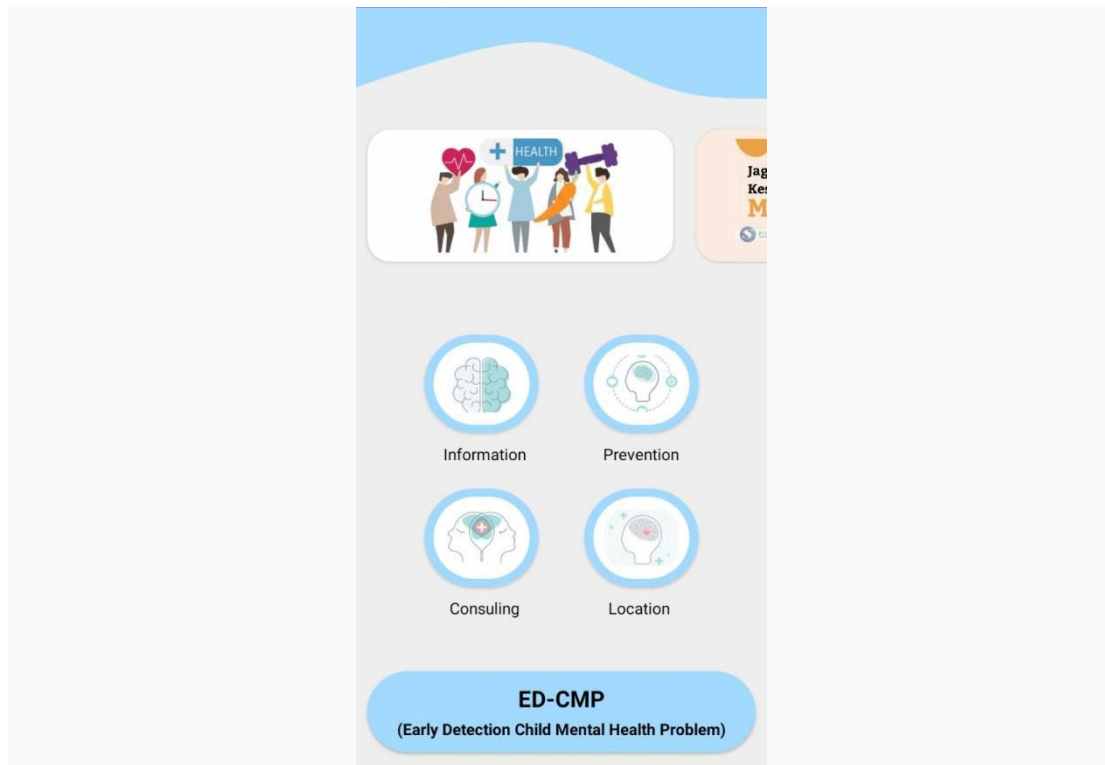
Picture III.2. Research Design (Source : researcher documentation)

The ED-CMP application contains 17 pages, on Screen 1 for the loading screen, on the Main Page menu there is General Information which contains information about mental health and symptoms obtained in sufferers. On the Prevention page there are ways that can prevent children from experiencing mental health problems from an early age, starting from the family and community environment. On the Counseling page, we can consult a doctor who specializes in psychologists and psychiatrists. The Location page is a place to see your current location and the nearest hospital.

III.5.1. Diagram



Picture III.3. Application Flowchart (Source: Researcher documentation)



Picture III.4. Application Display Design (Source : Researcher documentation)

The flow chart illustrates the parts of the ED-CMP application starting from the Login section to the menu section and sub menus. As an illustration of the CD-CMP application:

- a) Welcoming Screen, is the initial screen when the application is opened.
- b) Login, used to log in for users who are already registered.
- c) Sign Up, used by users to register themselves, the data will be stored in the user data database.
- d) Main Page, contains menus in the application.
- e) General Information, contains a general explanation of mental disorders and their symptoms.
- f) Prevention, contains prevention efforts from the family side in particular and society in general.
- g) Counseling, is a menu to consult with psychologists and psychiatrists (psychiatric specialists).
- h) All data in General Information, Prevention and Counseling will be stored in the general data database.
- i) Hospital, to find out the location of the nearest hospital from our starting point, this menu uses googlemap as the navigator.

III.6. Method of Collecting Data

a. Primary Data

Primary data is data obtained from survey results conducted by researchers directly by distributing questionnaires to respondents who have been previously contacted. The purpose of distributing questionnaires is to get direct responses to the applications made in terms of ease of use and benefits for respondents.

b. Secondary Data

Secondary data is obtained from literature studies obtained from the internet, journals, theses, books and other sources. The data obtained are used for analysis and strengthen arguments about the results of the study.

c. Expert Interview

Interviews with experts are intended to provide input so that this application can be used as a means of consulting with experts, in this case psychologists and psychiatrists.

III.7. Data analysis

a) SUS Analysis

SUS is one of the most popular usability testing tools. SUS was developed by John Brooke in 1986. SUS is a usability scale that is reliable, popular, effective and inexpensive.

SUS has 10 questions and 5 answer options. The answer choices ranged from strongly disagree to strongly agree. SUS has a minimum score of 0 and a maximum score of 100.

Here are 10 questions from the System Usability Scale (SUS) :

No	Question
1	I think I will use this system again
2	I find this system complicated to use
3	I find this system easy to use
4	I need help from someone else or a technician in use this system
5	I feel the features of this system are working properly
6	I feel there are a lot of things that are inconsistent (incompatible with the system this)
7	I feel others will understand how to use this system quickly

8	I find this system confusing
9	I feel there are no obstacles in using this system
10	I need to get used to it first before using this system

III.2. SUS Analyze Table (Source : Edi Susilo,2009)

There are rules in calculating SUS:

- For each odd numbered question, the score of each question obtained from the user's score will be deducted by 1
- Each question is even numbered, the final score is obtained from the value of 5 minus the question score obtained from the user
- The SUS score is obtained from the sum of the scores for each question which is then multiplied by 2.5

b) **Blackbox Analysis**

Blackbox testing or more commonly known as functional testing is a software testing method used to test software without knowing the internal structure of the code or program. The “Black Box” test simply consists of reviewing the functions of the app. If it does what it is supposed to, no matter how it does it. Its internal structure and function are not studied. Thus the tester needs to know what the role of the system is, and its function, but not know its internal mechanisms. He has a user profile (user).

The trials on the Black Box method are:

1. Enter correct data for example the system accepts input data to be stored in the database.
2. Entering data in the form of random data to ensure the system refuses to store input data in the database.

In the test results there is a test case table that serves to conclude whether the system is successful in testing the type or not.

Here are some explanations of the test table that will be used:

1. Input is an explanation of entering correct data or random data.
2. Expected results are the results should occur when in the testing process.
3. Output is the result of testing after the system has been tested.
4. Conclusion is a conclusion whether the system is declared successful or failed.



Picture III.1. Blackbox Test Illustration (Source : syahnidawati,2020)

So this method aims to check, after the final stage of the project, whether the software or application is working properly, and serve its users efficiently. Typically, testers look for missing or incorrect functions; interface, performance, program initialization and error exit; data structure or external database access error.

c) App Testing

ED-CMP Application Testing was conducted on a population of 50 students with an age range of 12 to 18 years. In this test, students are asked to use the ED-CMP Application and answer a number of predetermined questions, according to the table below :

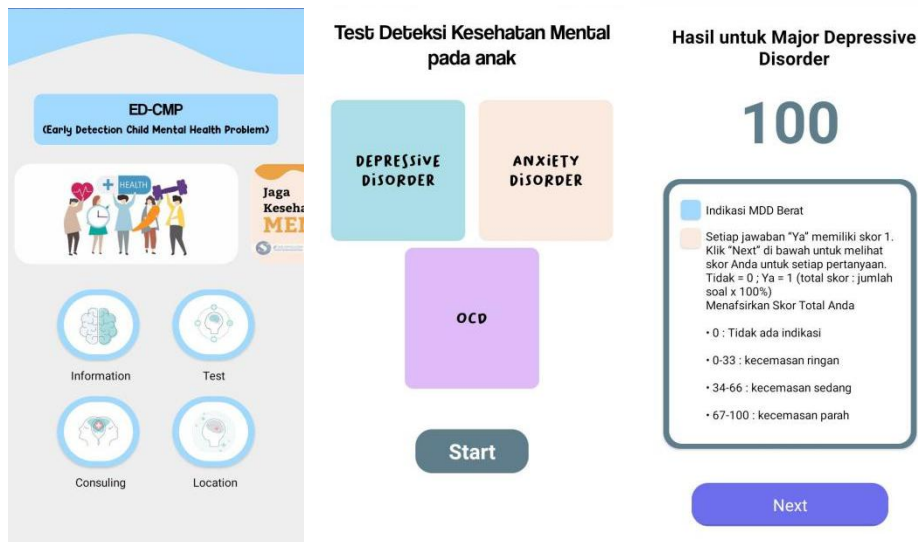
No	Kuesioner Bahasa Inggris	Kuesioner Bahasa Indonesia	Tidak	Ya
1	Little interest or pleasure in doing things	Saya merasa tidak bergairah dalam melakukan aktifitas saya sehari-hari.		
2	Feeling down, depressed, or hopeless	Saya merasa sedih tanpa sebab apapun.		
3	Trouble falling or staying asleep, or sleeping too much	Saya merasa pola tidur saya tidak beraturan seperti kesulitan untuk tidur, sering terbangun ketika tidur, atau tidur telalu		
4	Feeling tired or having little energy	Saya merasa capek dan kurang bersemangat		
5	Poor appetite or overeating	Saya merasa pola makan saya tidak beraturan seperti kurang nafsu makan atau makan secara berlebihan		
6	Feeling bad about yourself - or that you are a failure or have let yourself or your family down	Saya merasa bersalah karena saya gagal dalam mencapai tujuan atau membuat keluarga saya kecewa		
7	Trouble concentrating on things, such as reading the newspaper or watching television	Saya merasa sulit untuk berkonsentrasi dalam melakukan aktivitas seperti membaca atau menonton TV/film/video		
8	Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual	Saya merasa saya tidak betah diam dari biasanya		
9	Thoughts that you would be better off dead, or of hurting yourself	Saya memiliki pemikiran untuk mencoba menyakiti diri saya atau saya berpikir bahwa lebih baik tidak menjalani kehidupan ini		
10	If you checked off any problems, how difficult have these problems made it for you at work,	Jika anda merasa pertanyaan tersebut sering terjadi, saya merasakan bahwa permasalahan		

11	Feeling nervous, anxious, or on edge	Saya sering merasa gugup,cemas,atau bahkan gelisah		
12	Not being able to stop or control worrying	Saya sering merasa tidak bisa menghentikan atau mengendalikan rasa khawatir		
13	Worrying too much about different things	Saya merasa terlalu mengkhawatirkan sesuatu hal yang berbeda		
14	Trouble relaxing	Saya sering merasa kesulitan untuk waktu bersantai		
15	Being so restless that it is hard to sit still	Saya sering merasakan gelisah sehingga sulit untuk duduk diam		
16	Becoming easily annoyed or irritable	Saya merasa mudah kesal atau mudah tersinggung		
17	Feeling afraid, as if something awful might happen	Saya sering merasakan takut,seolah olah akan terjadi hal yang buruk		
18	Do you feel afraid that you might get contaminated by germs, or contaminate others with germs?	Apakah anda merasa takut bahwa anda mungkin terkontaminasi oleh kuman,atau mencemari orang lain dengan kuman?		
19	Do you suffer from unwanted thoughts and mental images, including ones that are sexually explicit or violent?	Apakah anda menderita pikiran dan gambaran mental yang tidak diinginkan,termasuk dalam eksplisit secara		
20	Do you feel the need to organise items in a certain way – for example lining everything up until they feel 'right'?	Apakah anda merasa perlu untuk mengatur item dengan cara cara tertentu,misalnya mengatur semuanya sampai merasa "benar"?		
21	Do you worry that you might lose control and say or do something that hurts someone else?	Apakah anda khawatir bahwa anda mungkin kehilangan kendali dan mengatakan atau melakukan sesuatu yang mungkin menyakiti orang lain?		
22	Do you find yourself constantly checking switches, locks or making sure the cooker is turned off?	Apakah anda terus menerus memeriksa sakelar,kunci motor,atau kompor dipastikan mati?		
23	Do you spend a lot of your time cleaning or washing (either personal hygiene, or your home)?	Apakah anda menghabiskan banyak waktu untuk membersihkan atau mencuci (baik kebersihan pribadi atau rumah anda) ?		
24	Do you find yourself repeating words, counting or doing other repetitive behaviours when you are feeling anxious?	Apakah anda mendapati diri anda mengulangi kata kata,menghitung atau melakukan perilaku berulang lainnya ketika anda merasa		
25	Do you find yourself avoiding certain situations due to your thoughts or fears? For example, avoiding public transport due to fear of germs?	Apakah anda menemukan diri anda menghindari situasi tertentu karena pikiran atau ketakutan anda? Misalnya menghindari angkutan umum karena takut terkena kuman		

III.3. Table of Respondents Questions (*source: Researcher's documentation*)

IV. Discussion

IV.1. How it Works



Picture IV.1. ED-CMP Application Display (Source: Researcher documentation)

1. Login on the app
2. After logging in to the information section, there is an explanation of mental health and what symptoms there are
3. Then in the location section, there is a button that shows your current location and the closest available doctor/psychiatrist
4. In the counseling section, there is a photo card and information about psychiatrists who will direct you to whatsapp and can start an online consultation
5. And in the test section, there are tests to find out indications of mental health symptoms, including Anxiety, OCD, and Major Depressive Disorders

IV.2. Result

a) SUS Analyze

No	Responden	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Total	Nilai (x 2,5)
1	Respondent 1	4	1	5	3	5	1	5	2	4	4	34	85
2	Respondent 2	4	2	5	2	4	3	4	2	4	2	32	80
3	Respondent 3	4	1	5	2	4	2	5	1	5	1	30	75
4	Respondent 4	5	2	4	2	5	2	5	1	4	4	34	85
5	Respondent 5	5	1	5	2	4	2	4	1	4	2	30	75
6	Respondent 6	4	2	4	2	4	2	4	2	4	2	30	75
7	Respondent 7	4	1	4	1	4	2	5	1	4	2	30	70
8	Respondent 8	4	4	5	2	4	2	5	1	5	2	34	85
9	Respondent 9	4	2	4	4	4	2	3	2	4	4	33	82,5
10	Respondent 10	5	1	5	2	4	2	5	1	5	2	32	80

Last Score : 79,25

Table IV.1. SUS Test Results (Source: Researcher documentation)

b) Blackbox Analyze

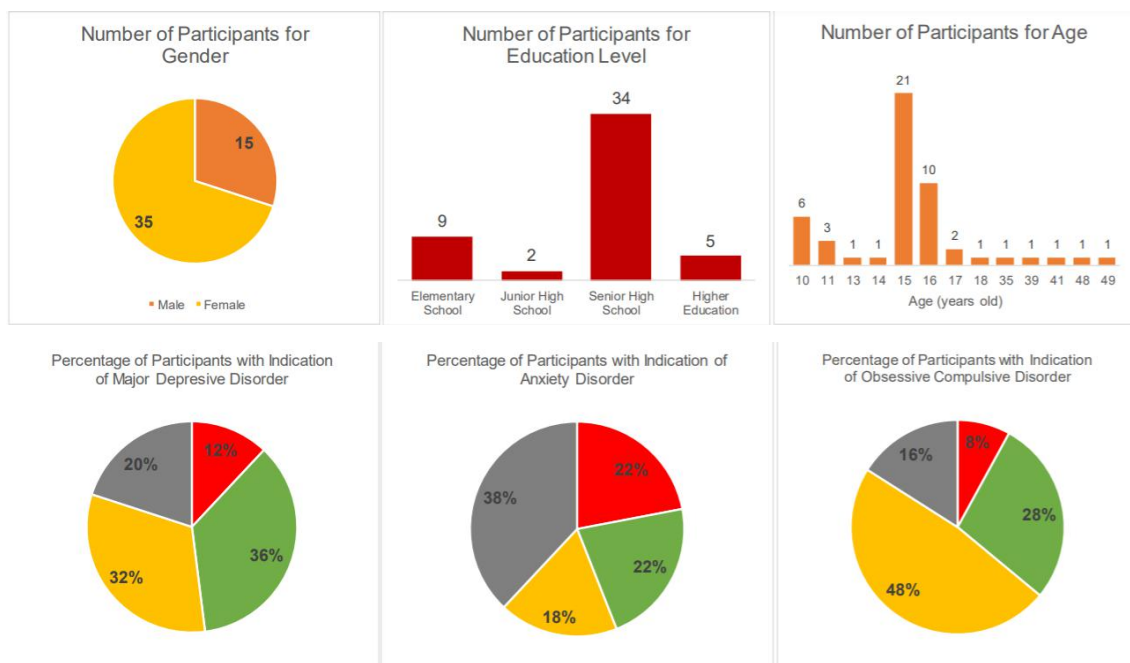
b.h	Testing	Expected Realization	Result	Conclusion
1.	Main page login list	The user will create an account to be able to enter the next page	As expected	Valid
2.	Information page	There will be several explanations about mental health and what symptoms there are	As expected	Valid
3.	Test page	There will be tests given to determine mental health symptoms, including Anxiety, OCD, and Major Depressive Disorders	As expected	Valid
4.	Consultation page	On this page there will be a photo card and information about psychiatrists who will direct you to whatsapp and do an online consultation	As expected	Valid
5.	Location page	On this page there is a button that will show your current location and the location of the nearest doctor/psychiatrist	As expected	Valid

Table IV.2. Blackbox Test Results (*Source: Researcher documentation*)

c) Survey Analyze

	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM
1	14	15	16	17	18	19	20	21	22	23	24	25		MDD	Anxiety	OC		MDD	Anxiety	OC
2	0	0	0	0	0	0	1	0	0	0	0	0		30%	29%	13%		Ringan	Ringan	Ringan
3	0	0	1	1	1	0	0	1	0	0	0	1		50%	71%	38%		Sedang	Berat	Sedang
4	1	1	1	1	0	0	1	0	1	1	1	1		60%	100%	63%		Sedang	Berat	Sedang
5	0	0	1	1	1	0	1	0	1	1	1	1		60%	71%	75%		Sedang	Berat	Berat
6	0	0	0	1	1	0	1	1	0	1	1	0		70%	43%	63%		Berat	Sedang	Sedang
7	0	0	0	1	0	0	0	1	1	1	1	1		60%	43%	63%		Sedang	Sedang	Sedang
8	1	0	0	0	1	0	1	1	0	0	1	0		30%	43%	50%		Ringan	Sedang	Sedang
9	1	0	0	0	1	0	0	1	0	0	0	0		40%	29%	25%		Sedang	Ringan	Ringan
10	1	0	0	0	1	0	0	1	0	0	0	1		30%	14%	38%		Ringan	Ringan	Sedang
11	0	0	0	0	0	0	0	1	0	0	1	0		40%	43%	25%		Sedang	Sedang	Ringan
12	1	0	1	0	0	0	1	0	1	0	0	1		80%	71%	38%		Berat	Berat	Sedang
13	0	0	0	0	0	0	0	1	0	0	0	0		40%	0%	13%		Sedang	Tidak Ada	Ringan
14	0	0	0	0	1	0	0	1	0	0	1	1		30%	0%	50%		Ringan	Tidak Ada	Sedang
15	1	0	1	1	1	1	1	1	0	0	0	0		50%	71%	50%		Sedang	Berat	Sedang
16	0	0	0	0	0	0	0	1	0	0	0	0		10%	14%	13%		Ringan	Ringan	Ringan
17	0	0	0	0	1	0	1	0	0	1	0	1		0%	0%	50%		Tidak Ada	Tidak Ada	Sedang
18	0	1	1	1	0	0	1	1	1	1	1	0		60%	43%	63%		Sedang	Sedang	Sedang
19	0	0	1	1	1	0	1	1	1	1	1	1		50%	57%	88%		Sedang	Sedang	Berat
20	1	0	1	1	0	0	0	1	1	1	1	1		20%	43%	63%		Ringan	Sedang	Sedang
21	0	1	1	1	0	1	1	1	0	0	1	1		70%	86%	63%		Berat	Berat	Sedang
22	0	0	0	0	0	0	0	0	0	0	0	0		30%	0%	0%		Ringan	Tidak Ada	Tidak Ada
23	0	0	0	0	0	0	0	0	0	0	0	0		0%	0%	0%		Tidak Ada	Tidak Ada	Tidak Ada
24	0	1	1	0	0	0	0	1	0	0	0	0		30%	29%	13%		Ringan	Ringan	Ringan
25	0	0	0	1	1	0	0	0	0	0	0	0		0%	29%	13%		Tidak Ada	Ringan	Ringan
26	0	0	0	0	0	0	0	0	0	1	1	0		0%	0%	25%		Tidak Ada	Tidak Ada	Ringan
27	0	0	0	0	0	0	0	0	0	0	0	0		0%	0%	0%		Tidak Ada	Tidak Ada	Tidak Ada
28	0	0	1	1	0	0	1	1	1	1	0	0		90%	71%	50%		Berat	Berat	Sedang
27	0	0	0	0	0	0	0	0	0	0	0	0		0%	0%	0%		Tidak Ada	Tidak Ada	Tidak Ada
28	0	0	1	1	0	0	1	1	1	1	0	0		90%	71%	50%		Berat	Berat	Sedang
29	1	1	1	1	0	0	1	1	0	1	0	1		50%	100%	50%		Sedang	Berat	Sedang
30	0	0	1	0	1	0	1	1	1	0	1	1		40%	29%	75%		Sedang	Ringan	Berat
31	0	0	0	0	0	0	0	0	0	0	0	0		0%	0%	0%		Tidak Ada	Tidak Ada	Tidak Ada
32	0	0	0	0	0	0	1	0	0	0	0	0		30%	0%	13%		Ringan	Tidak Ada	Ringan
33	0	1	1	1	0	0	1	0	1	1	0	1		50%	43%	50%		Sedang	Sedang	Sedang
34	0	0	0	1	0	0	0	1	0	0	1	0		30%	29%	25%		Ringan	Ringan	Ringan
35	1	1	1	1	0	0	1	1	0	0	1	1		90%	100%	50%		Berat	Berat	Sedang
36	0	0	0	0	0	0	1	1	0	0	1	1		10%	0%	50%		Ringan	Tidak Ada	Sedang
37	0	0	0	0	0	0	1	1	1	0	0	0		40%	0%	38%		Sedang	Tidak Ada	Sedang
38	0	0	0	0	0	0	0	0	0	0	0	0		30%	14%	0%		Ringan	Ringan	Tidak Ada
39	0	0	0	0	1	0	1	1	1	0	1	1		40%	0%	75%		Sedang	Tidak Ada	Berat
40	0	0	0	0	0	0	0	0	0	0	0	1		0%	0%	13%		Tidak Ada	Tidak Ada	Ringan
41	0	0	0	0	0	0	0	0	0	0	0	0		0%	0%	0%		Tidak Ada	Tidak Ada	Tidak Ada
42	0	0	0	0	1	0	1	0	1	0	0	1		10%	0%	50%		Ringan	Tidak Ada	Sedang
43	0	0	0	0	1	0	0	0	0	0	0	0		0%	0%	13%		Tidak Ada	Tidak Ada	Ringan
44	0	0	0	0	0	0	0	1	1	0	1	0		30%	29%	38%		Ringan	Ringan	Sedang
45	0	0	0	0	0	0	0	0	0	0	0	0		0%	0%	0%		Tidak Ada	Tidak Ada	Tidak Ada
46	1	0	1	1	0	0	0	0	1	0	1	0		10%	43%	25%		Ringan	Sedang	Ringan
47	0	0	0	0	0	0	0	1	0	0	1	0		10%	14%	25%		Ringan	Ringan	Ringan
48	0	0	0	0	0	0	1	0	1	0	1	0		10%	0%	38%		Ringan	Tidak Ada	Sedang
49	0	1	1	1	0	0	1	1	0	1	1	1		40%	86%	63%		Sedang	Berat	Sedang
50	0	0	0	0	0	0	0	0	0	0	0	0		10%	0%	0%		Ringan	Tidak Ada	Tidak Ada
51	1	0	1	1	0	0	1	0	1	1	1	1		80%	86%	63%		Berat	Berat	Sedang

Table IV.3. Respondent Survey Results (Source: Researcher documentation)



Picture IV.3. Graph of Respondents Survey Results (Source: Researcher documentation)

IV.3. Analyze

Based on the results of the SUS analysis on the basis of 10 respondents, the Android-Based ED-CMP (Early Detection Child Mental Health Problem) Application Test, the application score is 79.25 which means our application is on a class C scale and with good scores in the adjective range. Then in the blackbox analysis application there are no bugs or technical errors in the application, but it still needs to be further improved by adding features that make it easier to use this application.

The results of the survey with a population of 50 students with the highest age and level of education being high school students, the following results were obtained :

- A. Based on the MDD indication test at the vulnerable age of 15-18 years, the largest percentage (36%) of the symptoms are mild
- B. Based on the test indications for Anxiety Disorder in the vulnerable age group of 15-18 years, the largest percentage (38%) is that there are no symptoms.
- C. Based on the OCD indication test at the age of 15-18 years, the largest percentage (48%) of the symptoms are moderate

V. CONCLUSION

1. The ED-CMP application is an application that can detect mental disorders early on in a person so that immediate action can be taken to prevent bad things from happening.
2. The results of the test with SUS Analyze, the ED-CMP application got a score of 79.25 and entered category C, which means that the ED-CMP application is easy to use.
3. The results of the Blackbox test show that the ED-CMP application has no system problems, so it can run normally.
4. The results of the survey with a population of 50 students with the highest age and level of education being high school students, the following results were obtained :
 - A. Based on the MDD indication test at the vulnerable age of 15-18 years, the largest percentage (36%) of the symptoms are mild
 - B. Based on the test indications for Anxiety Disorder in the vulnerable age group of 15-18 years, the largest percentage (38%) is that there are no symptoms.
 - C. Based on the OCD indication test at the vulnerable age of 15-18 years, the largest percentage (48%) of the symptoms are moderate

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EXPERT CONSOULING



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Dr. Trubus Raharjo, S.Psi.,M.Si Universitas Muria Kudus



Intan Yuliyati, S.Psi., M.Si Universitas Muhammadiyah Surakarta

LOGBOOK

No	Date	Place	Description of activities
1.	6 November - 13 November 2021	Research house	Literature study on mental health and looking for a suitable program for making applications
2.	14 November - 27 November 2021	School computer lab	Designing apps using Kodular And Create application flowchart
3.	28 November - 24 Desember 2021	School computer lab	Doing programming using Kodular and Evaluate any progress made from programming results
4.	25 Desember - 31 Desember 2021	School computer lab	Conduct application trials and surveys related to application use and evaluate the results
5.	1 January - 8 January 2022	Research house	Collect data from the results of evaluations and surveys and carry out evaluations and make conclusions

Lampiran I
Peraturan Menteri Kehakiman R.I.
Nomor : M.01-HC.03.01 Tahun 1987


Kepada Yth. :
Direktur Jenderal HKI
melalui Direktur Hak Cipta,
Desain Industri, Desain Tata Letak,
Sirkuit Terpadu dan Rahasia Dagang
di
Jakarta

PERMOHONAN PENDAFTARAN CIPTAAN

- I. Pencipta :
- | | |
|--------------------|--|
| 1. Nama | : Aditia Narayan Gilang Saputra |
| 2. Kewarganegaraan | : WNI |
| 3. Alamat | : Srandol Bumi Indah Blok S No 6 |
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- II. Pemegang Hak Cipta :
- | | |
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- | | |
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| 4. Telepon | : 085865297934 |
| 5. No. HP & E-mail | : 085865297934 & budysmg007@gmail.com |
- IV. Jenis dari judul ciptaan yang dimohonkan
- | | |
|---|--|
| : | ED-CMP (Early Detection Child Mental Health Problem) |
|---|--|
- V. Tanggal dan tempat diumumkan untuk pertama kali di wilayah Indonesia atau di luar wilayah Indonesia
- | | |
|---|----------------------------|
| : | Semarang, 12 Februari 2022 |
|---|----------------------------|

- VI. Uraian ciptaan
- : Aplikasi ED-CMP ini berguna untuk mengetahui permasalahan pada mental health yang terdapat pada seseorang, sehingga bisa diberi tindak lanjut oleh orang yang ahli (psikolog atau psikiater).

Semarang, 12 Februari 2022

Tanda Tangan : 
Nama Lengkap : Aditia Narayan Gilang Saputra
Nama Lengkap : Keisha Kirania Safitri

SURAT PERNYATAAN

Yang bertanda tangan di bawah ini, pemegang hak cipta:

Nama : Keisha Kirania Safitri
Kewarganegaraan : WNI
Alamat : Perum Dolog K No 185, Semarang

Dengan ini menyatakan bahwa:

1. Karya Cipta yang saya mohonkan:
Berupa : Aplikasi
Berjudul : ED-CMP (Early Detection Child Mental Health Problem)
 - Tidak meniru dan tidak sama secara esensial dengan Karya Cipta milik pihak lain atau obyek kekayaan intelektual lainnya sebagaimana dimaksud dalam Pasal 68 ayat (2);
 - Bukan merupakan Ekspresi Budaya Tradisional sebagaimana dimaksud dalam Pasal 38;
 - Bukan merupakan Ciptaan yang tidak diketahui penciptanya sebagaimana dimaksud dalam Pasal 39;
 - Bukan merupakan hasil karya yang tidak dilindungi Hak Cipta sebagaimana dimaksud dalam Pasal 41 dan 42;
 - Bukan merupakan Ciptaan seni lukis yang berupa logo atau tanda pembeda yang digunakan sebagai merek dalam perdagangan barang/jasa atau digunakan sebagai lambang organisasi, badan usaha, atau badan hukum sebagaimana dimaksud dalam Pasal 65 dan;
 - Bukan merupakan Ciptaan yang melanggar norma agama, norma susila, ketertiban umum, pertahanan dan keamanan negara atau melanggar peraturan perundang-undangan sebagaimana dimaksud dalam Pasal 74 ayat (1) huruf d Undang-Undang Nomor 28 Tahun 2014 tentang Hak Cipta.
2. Sebagai pemohon mempunyai kewajiban untuk menyimpan asli contoh ciptaan yang dimohonkan dan harus memberikan apabila dibutuhkan untuk kepentingan penyelesaian sengketa maupun pidana sesuai dengan ketentuan perundang-undangan.
3. Karya Cipta yang saya mohonkan pada Angka 1 tersebut di atas tidak pernah dan tidak sedang dalam sengketa pidana dan/atau perdata di Pengadilan.
4. Dalam hal ketentuan sebagaimana dimaksud dalam Angka 1 dan Angka 3 tersebut di atas saya / kami langgar, maka saya / kami bersedia secara sukarela bahwa:
 - a. permohonan karya cipta yang saya ajukan dianggap ditarik kembali; atau
 - b. Karya Cipta yang telah terdaftar dalam Daftar Umum Ciptaan Direktorat Hak Cipta, Direktorat Jenderal Hak Kekayaan Intelektual, Kementerian Hukum Dan Hak Asasi Manusia RI dihapuskan sesuai dengan ketentuan perundang-undangan yang berlaku.
 - c. Dalam hal kepemilikan Hak Cipta yang dimohonkan secara elektronik sedang dalam berperkara dan/atau sedang dalam gugatan di Pengadilan maka status kepemilikan surat pencatatan elektronik tersebut ditangguhkan menunggu putusan Pengadilan yang berkekuatan hukum tetap.

Demikian Surat pernyataan ini saya/kami buat dengan sebenarnya dan untuk dipergunakan sebagaimana mestinya.

Semarang, 12 Februari 2022

Keisha Kirania Safitri

