

# Implementation of User Centered Design for Psychologist Consultation Application Design

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## ABSTRACT

Divorce of parents is considered to be one of the reasons why children become Broken Home. Some Broken Home children close their social circle because they are traumatized by something they have gone through, and some are also closed off by all their problems, thus harboring all their negative thoughts. Current technological developments can make things easier for those who feel introverted or can't meet someone face to face. Using current technology is one way for those who feel they have problems they can't solve alone and want to tell someone who can. Believed indirectly. In this project, the author tries to design a Psychologist Consultation Service Application at Behome Indonesia. This system was created using the user centered design (UCD) method to produce a systematic and sequential system design. The results of making this application can make it easier for those who want to tell stories and find solutions to problems to order psychologists and consult quickly, safely and calmly.

## General Terms

Android, Flutter, NodeJs

## Keywords

Broken Home, Consultation, User Centered Design, Psychologist.

## 1. INTRODUCTION

Behome Indonesia is a social platform that accommodates broken home friends as a place to share their hearts and minds. there is a significant difference between the academic performance of pupils from single parent homes and those from two parent homes[1]. The increasing divorce rate in Indonesia is based on data obtained from the Religious Courts Agency of the Supreme Court in 2019, as many as 480,018 divorce cases. The number of children who are victims of Broken Homes has also increased[2]. Behome Indonesia's role is to help people in general who feel unwell physically, mentally and socially. Behome Indonesia wants to make them all aware that there are still many people out there who accept all their shortcomings and make them aware that they are not alone. By utilizing social media platforms, Behome Indonesia distributes posters and also provides psychological consultation services which are directly handled by Bachelor's and Master's graduates psychology. many of those experiencing mental health problems do not seek help because of factors such as inaccessibility of help and the stigma and discrimination brought by mental health conditions[3]. Online mental health consultation service information system, to make it easier for people to consult psychologists or psychiatry experts without creating new clusters[4]. The professional role described in this literature is uniquely suited to the perspectives, understandings, and values of a counseling psychologist (e.g., normative behavior in reaction to expected stressors affecting interpersonal, work, family, and community roles). As

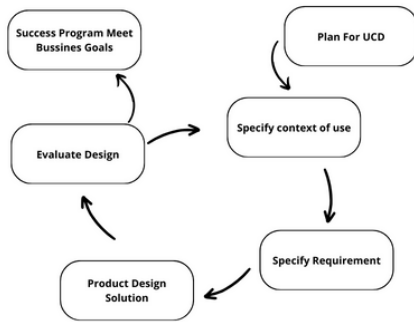
counseling psychologists expand their natural professional roles to embrace advocacy and social justice[5]. Behome Indonesia wants to create a platform that goes even further, Behome Indonesia wants to create a mobile application to make it easier for those who want to take advantage of consultation services with psychologists. Before application development, research will be carried out first regarding the needs of users who will use the application later. Using the User Centered Design method, which focuses on the user, to produce an application prototype design that suits the user's needs. The UCD approach focused on – identification of user's content needs, identification of access concerns, content confirmation, and determination of the functionality, usability, and acceptability study to make the look and feel of the website better[6].

## 2. RELATED WORKS

Related studies about interaction design using User Centered Design, The UCD approach may solve such an integration challenge by positioning the end-users centrally for designing, developing, testing, and evaluating[6]. To know whether the smartphone's gesture was easy to use or not. In addition, it aimed to know whether or not the users experience difficulties when using the desired gesture with no touch screen[7]. During the research, research participants are given several display designs for the application, then participants will be asked to carry out demonstrations and participants will be asked to explain their experiences in running the prototype.

## 3. RESEARCH METHOD

This research designed the Behome application using a User Centered Design. Agile process and User Centered Design (UCD) approach are two fields with high beneficial opportunities when integrated together[8]. UCD process involves understanding the user through research activities, analyzing the requirements of the users and coming up with a UI design to meet their expectations. The interface is validated through iterative testing and feedback from the user. It is also essential that the User Experience and Usability is integrated into the software design, development and testing team to ensure that the interface meets the expected standards and requirements to provide the best user experience[9]. UCD is a method in designing user interface design with a focus on what the user needs. This method will help research to provide user data that parents and children directly, so the search process more accurate data is obtained[10].



**Fig.1 UCD Method Proses**

This research will apply the UCD method in building users interface on the behome application. based on fig 1, these are the stages or processes carried out by researchers. This stage is in accordance with the user centered design (UCD) process, from research preparation to data collection and data processing to test and evaluation results.

### 3.1 Specify the context of use

At this stage, the researcher will carry out a needs analysis, this stage is carried out to find out what kind of users will be used as respondents to carry out the analysis. The activity begins by determining that those who will use this application are those who have problems with themselves from a psychological perspective, they will use this application to carry out online consultations with psychologists. Using mobile application developed country are becoming facilitate and people, society of developing country are upgrading themselves and making a new type of IT infrastructure[11]. For understand who the intended users of the product are and their use environment. This also includes identification stakeholders, or anyone who is directly involved or indirectly in system or application development[12]. And can make it easier for users to place orders.

- 1) User Behavior
  - a. Users can access broadcast news
  - b. Users want to be able to select a psychologist profile and determine a time for consultation
  - c. Want an application with interesting interface, simple, and without any disturbing pop-ups
  - d. Want an easy-to-understand application with features and buttons with clear functions
- 2) User Problem
  - a. Ordering is very complicated and still via WhatsApp admin
  - b. Users cannot choose the psychologist and time for consultation
- 3) User Needs
  - e. Users want to be able to choose the psychologist profile and time for the consultation themselves
  - a. Users want an application interface that is attractive, simple and easy to run

### 3.2 Specify requirement

The data source for this research comes from vulnerable adults aged 18-35 years. This data was obtained from an interview with one of the founders of behome to obtain several conclusions about the visual features that users will need in the

future. The following is a list of visual designs for the Behome application.

**Table 1 Require List**

No	Required List
1.	Register and Log in Behome Application
2.	View and Organize News Feeds
3.	View and Delete Psychologist Profile Data
4.	View Transaction Data
5.	Log Out Application

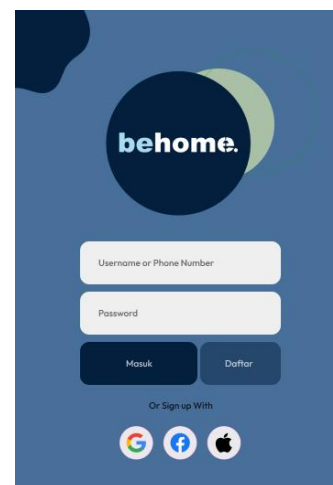
### 3.3 Product Design Solution

The design prototype will later show how the functionality of an application works, and to determine whether it meets the user's needs. Prototype gives users the opportunity to review conceptual models more quickly. Usercentered design process emphasizes the use of prototypes before implementing the product as it helps the user visualize what the designer wants to provide in the application that will be built[11].

Design solutions are carried out based on the specified requirements, interface design iterations are carried out repeatedly so as to produce a design that truly suits the user's needs. here is the design of the Behome application.

#### 3.3.1 Login Page View

This page is a sign-in feature for users who are already registered or have a previous account. On the login page, there is also a forgotten password feature.



**Fig 2 Login Page View**

#### 3.3.2 Home Page View

This page is a display of the employee's home page which displays news, profiles, psychologist's selected pages.



Fig 3 Home Page View

### 3.3.3 List Of Psychologists

This page displays the psychologist's profile, consultation times provided by the psychologist, and users can also make orders. Settings for psychologist profile updates can only be done by the admin.



Fig 4 List Of Psychologist

### 3.3.4 Profile User

This page shows the user's profile, the user can change the email and password.

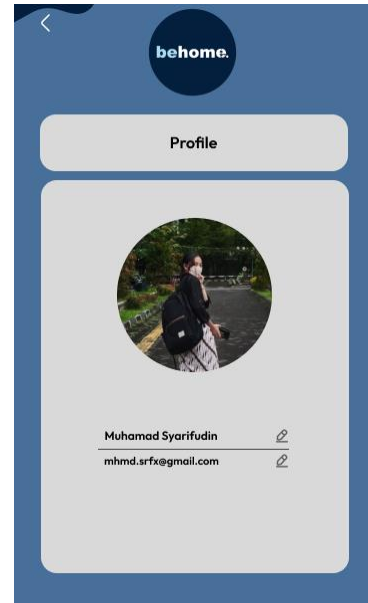


Fig 5 Profile User

### 3.3.5 History

In this order history there is a history of service orders, if the order is still active the customer can chat with a psychologist via the order history, if the order is complete there will be a sign that the order is complete.



Fig 6 History

### 3.3.6 Consultation

If payment has been confirmed, the customer can immediately have a consultation session with the psychologist on the history page. Here the user will be given time given by the psychologist to limit the consultation session.

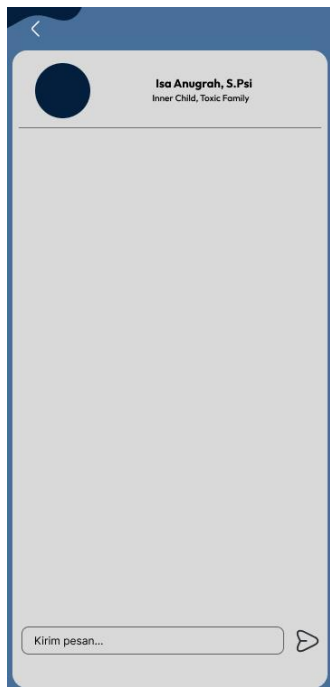


Fig 7 Consultation

### 3.4 Evaluate Design

Based on the flow block diagram of the stages design evaluation of user needs on the Behome application system.

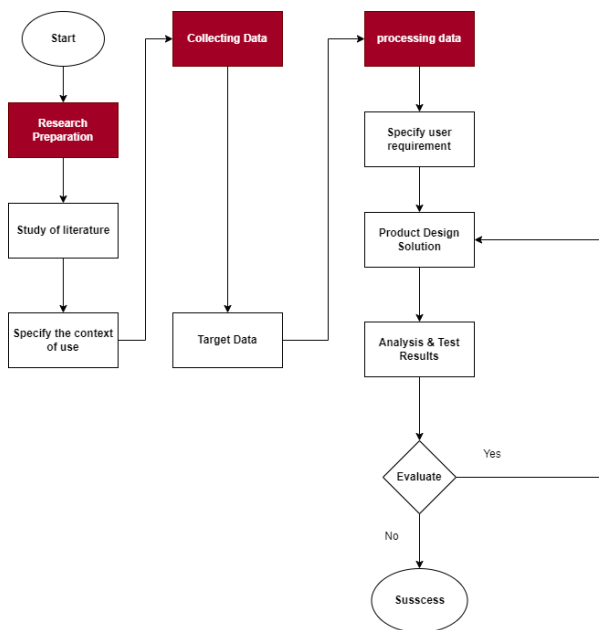


Fig 8 Flow Diagram System

#### 3.4.1 Testing

Black Box testing refers to the technique of testing a system with no knowledge of the internals of the system. Black Box testers do not have access to the source code and are oblivious of the system architecture. A Black Box tester typically interacts with a system through a user interface by providing inputs and examining outputs without knowing where and how the inputs were operated upon. In Black Box testing, target

software is exercised over a range of inputs and the outputs are observed for correctness[13].

Table 2 Black Box Testing

Feature	Input	output	Result
Register	Register on the login menu then fill in the registration form	Successful registration	Success
Login	Fill in your username and password then select login	Enter the main application page	Success
Profile	Press the profile feature on the main page	User profile view	Success
list of psychologist	Choose a psychologist profile	success in viewing the psychologist 's profile	Success
Booking	Choose a psychologist and determine the consultation time	make payment for the order	Success
Transaction	make a payment	successfully paid for the order	Success
Consultation	Open your history and consult with a psychologist	Enter the consultation page with a psychologist	Success

## 4. RESULT AND DISCUSSION

### 4.1 Assumption

Users of the behome application are aged 18-35 years, from high school graduates to graduates, workers and smartphone users. Social media admins serve orders for those who have complaints and want to consult with a psychologist.

Customers can make orders via the application, customers can choose a psychologist profile and expertise according to customer needs, customers can also determine the time for a consultation.

The customers are the general social media public, from students to students and workers. Customers can choose a psychologist with expertise according to the complaint they need, and customers can determine a schedule for consultations as they wish

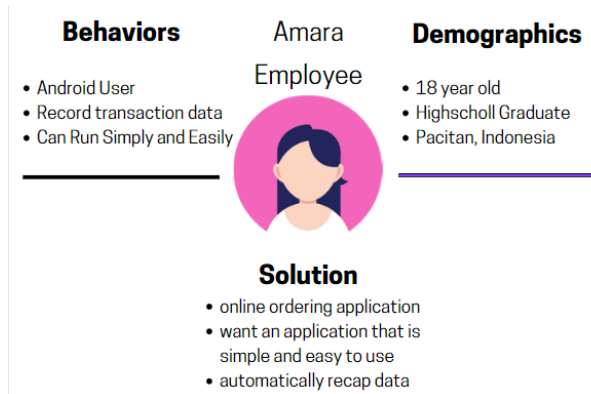
### 4.2 Hypothesis

This hypothesis is based on the assumptions obtained and proven in the feedback and research stages. This research has a hypothesis that "The behome application can make it easier for customers to order psychologist services to support the performance of behome admins and customers for make an order online."

### 4.3 User Persona

Personas are lifelike characters that are driven by potential or real user personal goals and experiences when interacting with a product. Personas support user-centered design by focusing on real user needs[14]. user persona for future applications

based on assumptions from fig 2 showing the user persona of the behome application.



**Fig 9 User Persona Behome Application**

#### 4.4 Feature

There are several features in the Behome application. These features are designed based on user personas and requirements collected from customers. Here are some parts Behome Application:

**Table 3 list of features in the behome application**

No	Actor	description
1.	Customer	log in, register, forgot password, manage profile of psychologist, profile, managing news reports.
2.	Employee	log in, register, forgot password, profile, choose a psychologist profile and consultation time, transaction data, consultations.
3.	psychologist	log in, register, forgot password, profile, carry out consultations.

#### 4.5 FeedBack and Research

Result of feedback provided by 6 Behome Indonesia admins, the application was tested by observing the test results for each feature. The following is a list of tasks tested in the application.

1. Participants are asked to run the application by thinking hard and giving opinions about their experience when running the application. Each participant's opinion will be recorded until the end of the test. Ideas and suggestions from participants will be recorded to analyze improvements in the application.

**Table 4 Test List**

No	Test List
1.	Register on the login menu then fill in the registration form
2.	Fill in your username and password then select login
3.	Press the profile feature on the main page
4.	Choose a psychologist profile
5.	Choose a psychologist and determine the consultation time
6.	Make a payment
7.	Open your history and consult with a psychologist

The following is task success data to evaluate test results. This evaluation was carried out by 4 participants for carry out seven tasks according to the task list.

**Table 5 List of Test Results**

Act or	Tas k 1	Tas k 2	Tas k 3	Tas k 4	Tas k 5	Tas k 6	Tas k 7
User 1	S	S	S	S	S	S	S
User 2	S	S	S	S	S	S	S
User 3	S	S	S	S	S	S	S
User 4	S	S	S	S	S	S	S

The evaluation results from 28 experiments obtained a success rate of 100%, providing the conclusion that the prototype designed was in accordance with user needs.

#### 5. CONCLUSION

After going through the design, application, implementation and application testing stages, the following conclusions can be drawn from the research.

1. To make it easier for customers to order services provided by behome Indonesia by utilizing an Android application that has been designed, utilizing sophisticated technological developments and can be done anywhere using a smartphone. The development of this application began with creating a front-end using the Dart programming language, the Flutter framework and continued with creating a back-end using NodeJS. Database storage uses mysql, namely phpmyadmin, then stored in the cloud, namely VPS.
2. This application also makes it easier for customers to carry out consultations by utilizing the consultation feature with a psychologist in the application.
3. This application can make it easier for customers to determine the time for consultations with several time options that have been provided.

#### 6. ACKNOWLEDGMENTS

Thank you to psychologists who can ease the burden on friends who have problems in their minds and hearts, and to those who create communities that care about their mental health by accommodating friends who have mental disorders, so they can continue to socialize and express their feelings and thoughts. their thoughts.

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