

## **Design and Development of a Mobile Application for Marriage Counseling and Divorce Mediation at KUA Medan Tuntungan**

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### **ABSTRACT**

Marriage counseling is an effort that can be aimed at preparing prospective couples to establish a more serious relationship. Good communication involvement between the two prospective couples is one factor in building a solid foundation in marriage. Life after marriage has a big role and responsibility. Divorce can occur due to lack of readiness between the two prospective couples, so marriage counseling is very important so that prospective brides and grooms can prepare carefully for the relationship that will be carried out in the future. Therefore, this study builds a marriage counseling mobile application aimed at understanding the roles and responsibilities of marriage. This study itself uses a qualitative method by collecting, analyzing and reviewing valid data and information regarding marriage counseling for prospective couples. The waterfall method is used in this study as a system design where the waterfall is considered adaptable in the development of a marriage counseling mobile application accompanied by Unified Modeling Language (UML) modeling.

**Keywords:** Marriage Counseling; Divorce Mediation, Communication, Mobile, Waterfall

### **1. INTRODUCTION**

Marriage is an important stage in human life. Marital roles and responsibilities are one of the main requirements for maintaining harmony in the household. With the development of the times, households are often faced with various challenges that can lead to divorce, therefore, when you want to establish a domestic relationship, you really need a deep understanding of the roles and responsibilities of each partner. Pre-marital counseling which aims to prepare mentally, physically and/or spiritually with the hope that the marriage that will be held will make it easier to carry out relationships within the household is one of the special requirements that must be fulfilled by prospective couples to complete administration at the Office of Religious Affairs (KUA) (Ulhaq, 2023).

The government institution that has the authority to register Muslim marriages is the Office of Religious Affairs. Additionally, the religious affairs office serves as a place for premarital counseling and guidance, which helps prospective brides and grooms prepare for marriage and establish roles and responsibilities for a longer life ahead (Gibran, 2021). This can also foster a sakinah, mawaddah warahmah family, and reduce the frequency of conflict, divorce and domestic violence. Lastly, marriage is the nature of all living creatures (Himmawan et al., 2023). By providing advice to parents and prospective couples, counseling programs from religious affairs offices can help reduce the number of young marriages (Jaffisa et al., 2021).

Marriage counseling is a type of psychotherapy where marriage counseling is used to help couples from recognizing to resolving conflicts that may arise, conflicts will become part of the waves in a marriage (Fadilah & Sriwahyuni, 2019), many conflicts arise due to miscommunication, apart from that, both partners must always be open with each other, whether related to family finances, children's education or problems that occur due to a lack of openness between each other (Suteja & Muzaki, 2020). Counselors have an important task in directing prospective couples to receive guidance, collaboration and consultation which still needs to be studied [8].

In providing counseling guidance, the religious affairs office still uses the conventional method, where prospective couples carry out counseling by visiting the religious affairs office directly and then the prospective couple provides the documents that must be fulfilled. After providing the documents, the prospective couple must wait to see if there is a schedule for the counselor on duty. Marriage counseling carried out conventionally without technological support will cause problems that have negative impacts such as limited accessibility and flexibility which makes it difficult for prospective couples to access help anytime and anywhere. The process of documenting and recording counseling

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which is done manually can also take time and increase the risk of losing data, while the results of activity reporting should be evaluated and become policy or intervention material for future activities (Fatmawati et al., 2019).

The manual counseling process can also raise concerns about security of privacy between partners, especially if there is discomfort in discussing personal matters. Without technological support it can also make it difficult to monitor progress and evaluate the effectiveness of counseling so that it cannot produce more sophisticated data analysis. To overcome this, a mobile-based application is needed which is used as an innovative tool that can provide marriage counseling services, where the application that will be built can provide greater accessibility, and can produce more sophisticated data analysis.

In previous research conducted by (D. E. Putri & Rosida, 2023) in a scientific journal with the title "Designing a Website-Based Guidance and Counseling Information System". This research was conducted in a high school environment because most students do not want to receive guidance and counseling because there is still a bad opinion that children who are called to the school counseling room are children who have problems or cause difficulties. In addition to encouraging students to seek guidance and counseling with openness, independence, and voluntary behavior in their personal, social, academic, and professional lives, this research aims to help digitize guidance and counseling services. Prototyping techniques are used in developing this web-based guidance information system.

The research "Implementation of the Premarital Marriage Guidance Program for Prospective Brides in Kua, Cilandak District, South Jakarta City" was published in a scientific publication in 2019 and was conducted by Jalil. The aim of this research is to find out how the pre-wedding marriage guidance program is implemented for prospective brides and grooms in KUA Cilandak District, South Jakarta City. The premarital marriage guidance program is intended to provide information and direction to prospective brides and grooms who will build a household. To overcome this, a new technique that can provide marriage counseling services is a mobile application (Anisah et al., 2019) where the application to be built can provide greater accessibility, and can produce more sophisticated data analysis. Based on the description above, to help provide counseling services, a final assignment is submitted with the title "Design and Build a Mobile Counseling Application in an Effort to Understand the Roles and Responsibilities of Marriage".

## 2. LITERATURE REVIEW

### 2.1 Technology in Counseling and Mediation

Technological advances have brought significant changes in various fields, including counseling and mediation services. According to (Utami, 2021), internet-based therapy and mobile applications offer greater flexibility and accessibility compared to traditional methods. The use of technology in counseling allows service providers to reach clients who may have difficulty accessing face-to-face services due to geographic or time limitations.

### 2.2 Mobile Applications in Mental Health Services

Mobile applications have been widely used in mental health services to provide psychological support. (Sangiba et al., 2022) found that mobile applications can reduce barriers to access to mental health services and provide ongoing support for users. Features such as chat, video calls, and educational content are often included in these applications to help users solve their problems.

### 2.3 Mobile Application Design and Development

Mobile application design must pay attention to usability aspects to ensure the application is easy to use by target users. (Malik & Frimadani, n.d.) Emphasized the importance of usability in application design to ensure that users can use the application efficiently and effectively. In this context, the mobile application design for KUA Medan Tuntungan must consider the specific needs of users and ensure that the application is intuitive and easy to access.

## 3. METHOD

Research methods are a set of procedures that scientists use to collect, examine, and evaluate data to provide reliable findings that can be applied in subsequent stages of the process. The method of descriptive qualitative research was used in this research. Primary and secondary data sources were used in this research (Fatmawati et al., 2019). Through observations and interviews with the Medan Tuntungan District Religious Affairs Office, primary data was collected. A large amount of literature found in the journals used as reference sources provided secondary data for this investigation.

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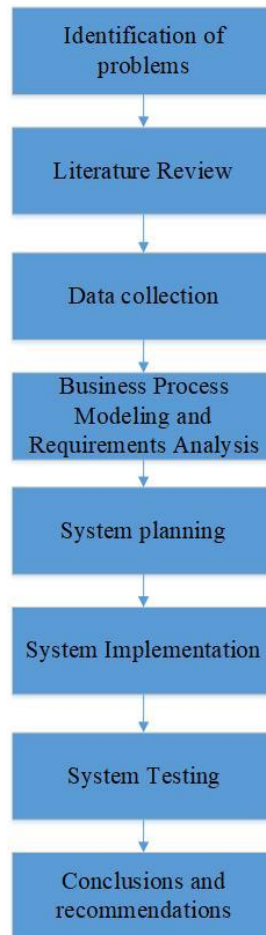


Fig. 1 Research Framework

### 3.1. Data Collection Strategy

When researchers collect information, they use a methodology called a data collection method. There are three data collection techniques used in this research:

- a. Observation is a process of observation carried out on research objects. The observation process is carried out directly and is used to find out what phenomena are occurring so that researchers can take steps to overcome them.
- b. Interviews are a data collection process in which the researcher carries out a question and answer process with the research object so that in-depth information can be obtained. The interview involves asking questions about the requirements for applying for the counseling process and how to make a counseling schedule.
- a. Literature study is a type of data collection technique that is carried out by researching and analyzing existing literature so that it can provide additional material or information to complete the research process and collect relevant information based on published articles (N. M. Putri et al., 2021).

### 3.2. Application Development Methods

In this article, the waterfall method can be adapted for developing a marriage counseling mobile application, where in this method there is a planning stage in which there are goals and schedules when conducting counseling, an analysis stage (requirements), namely there is a collection or needs in developing a counseling mobile application, there are features- The feature also includes training in understanding the roles and responsibilities of prospective partners, the design stage, namely the attractive appearance of the mobile counseling application, the implementation stage, namely

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where the application is tested regularly so that it is ready to be used, there is also a maintenance stage. The waterfall method is also known as the next stage receiving input from the previous stage (Muhamad Alda, 2019). The design stage uses Unified Modeling Language (UML) such as use case diagrams, activity diagrams, and class diagrams.

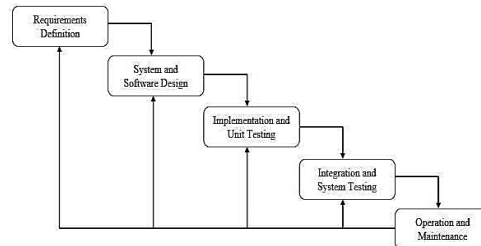


Fig. 2 Waterfall Method

According to (Wicaksono et al., 2022), there are several main steps in the waterfall application development model:

- a. Planning, namely describing the system specifications (Pratama & Ikhwan, 2023) carefully planning the work by compiling the detailed stages that will be carried out in designing a mobile marriage counseling information system.
- b. Analysis, namely conducting an analysis of user needs. This stage is carried out to evaluate suitable materials to be included in the system to be built.
- c. Design, namely designing the application architecture based on needs. At this stage, it starts with designing the concept and creating the application from start to finish. Then the teaching materials are designed to create a suitable learning environment so that learning takes place well and learning objectives can be achieved.
- d. Implementation, namely the process of coding the application based on design and testing the application that has been built and is expected to be implemented at the Medan Tuntungan District Religious Affairs Office.
- a. Operations and maintenance: In the final phase of the waterfall method, the user runs the finished software and performs maintenance.

## 4. RESULT AND DISCUSSION

Modeling Unified Modeling Language (UML) is a standard visualization language. The most common mobile counseling application design process aims to evaluate the system and create a well-functioning system implementation that produces correct data. Evaluation is also used to significantly increase understanding of roles and responsibilities in marriage after using the application.

### 4.1. System Design

System design is a process used to define architecture or interface components so that effective and efficient solutions can be created. System design also contains operational steps in data processing that support system operation. The diagrams used in this application design are Usecase Diagrams, Activity Diagrams and Class Diagrams.

#### a. Use Case Diagram

The use case diagram design in the mobile counseling application is aimed at two actors who interact with one or more of the information systems created in this application, namely admin and user. Both actors have their respective duties and roles in this application. To start activities in this application, both actors are required to log in first. The following is a use case diagram of activities that can be carried out by users and admins in the system:

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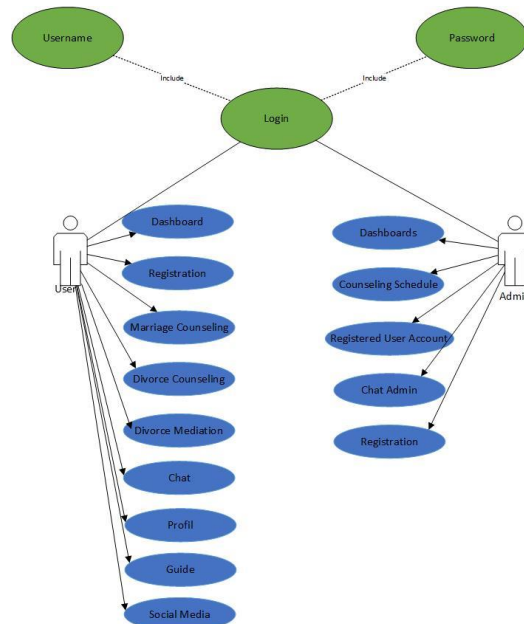


Fig. 3 Use Case Diagram

b. Activity Diagram

After designing a use case diagram, the next step is to create an activity diagram which aims to help identify potential errors that will arise in the system to be built so that it can be made possible to make improvements before the process of implementing the system. In this process it can also be described what data activity flows are being carried out designed. The following is an activity diagram for the marriage counseling mobile application that was built:

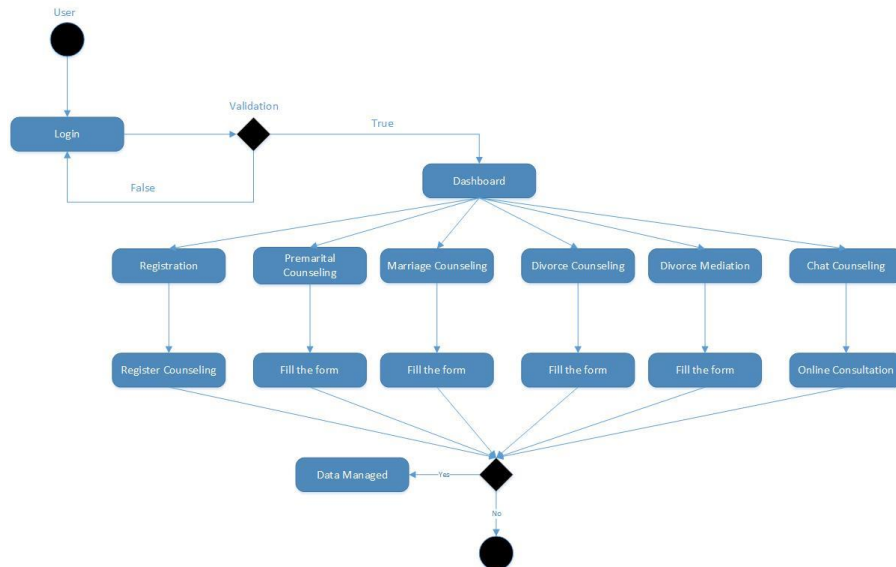


Fig. 4 Activity Diagram

c. Class Diagram

Class diagrams are a type of diagram used in designing this marriage counseling mobile application. Class diagrams describe the structure of the system by showing the classes that exist in the system. The following is a class diagram of a marriage counseling mobile application.

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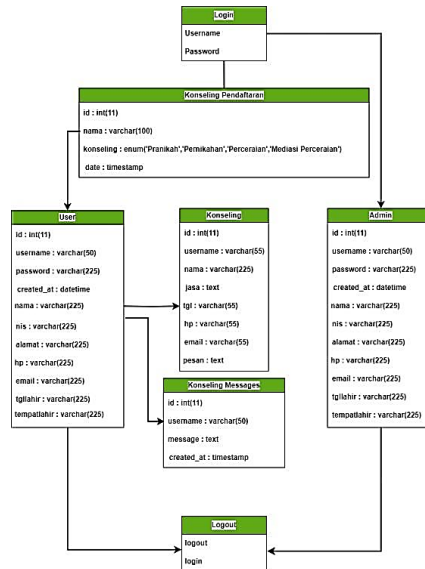


Fig. 5 Class Diagram

## 4.2. System Implementation

### a. Application Dashboard View

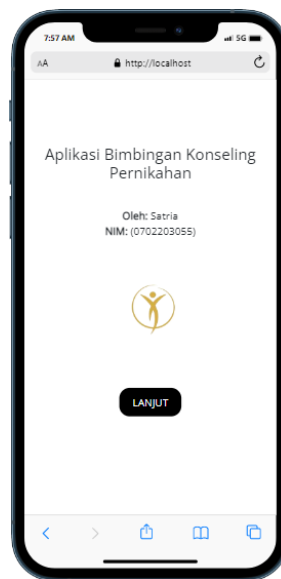


Fig. 6 Dashboard Application

The dashboard is the main page that can be seen when you want to use the mobile counseling application. On the dashboard page, the user or admin can press the continue button to enter the login page.

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b. Login Page Display



Fig. 7 Login Page

The login page is the verification page of the marriage counseling mobile application which displays the username and password login form which must be entered to successfully access the marriage counseling mobile application.

c. Admin and User Menu Display

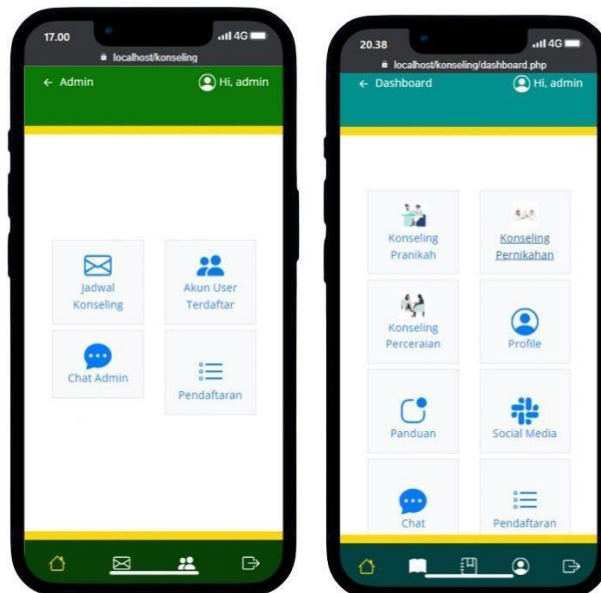


Fig. 8 Admin Menu Display and User

The admin menu is an interface display of activities that admins can carry out on the marriage counseling mobile application. In this menu there are 4 buttons, namely the counseling schedule button, registered user account button, admin chat and registration. On the menu user There is an interface displaying activities that users can carry out on

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the mobile counseling application, including buttons for premarital counseling, marriage counseling, divorce counseling, Profile, guides, chat, registration and social media from the relevant agencies, namely the Office of Religious Affairs, Medan Tuntungan District, as well as a guide. in using the marriage counseling mobile application.

d. Display Registration and Counseling Schedule Confirmation

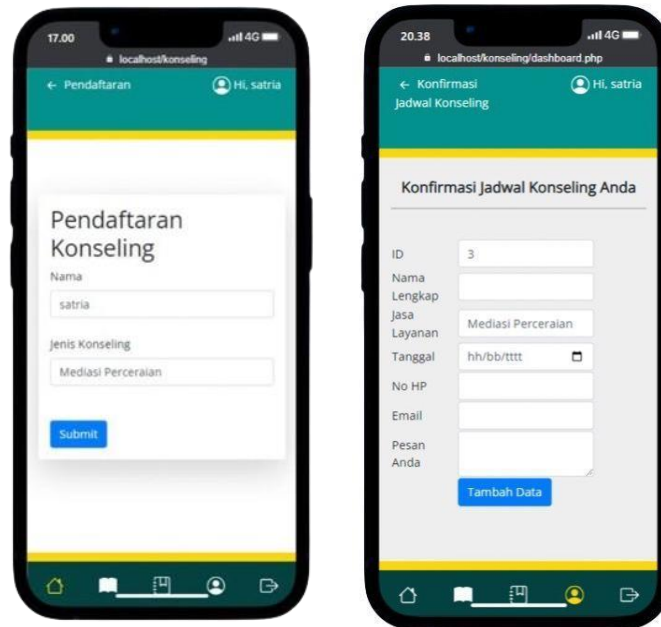


Fig. 9 Registration and Confirmation of Counseling Schedule

On the counseling list, users can register by filling in the identity form and selecting the type of counseling. When confirming the counseling schedule, the user can fill in their identity and can choose the right time to carry out the counseling process and the selected schedule will immediately be processed by the admin

e. Chat Counseling

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Fig. 10 Chat Counseling

The counseling chat menu is used as a medium that can help users communicate remotely. The existence of chat counseling allows users to carry out the counseling process online by telling them what problems arise, then the counselor will immediately provide counseling via chat counseling.

### 4.3. System Testing

System testing using black box testing can be used to ensure that the coding process on the mobile application marriage counseling can run according to expectations. The black box testing is as shown in the image below:

Table 1  
Blacbox Testing

Testing	Expected realization	Test results	The final result
Application Dashboard	Select the Next Button	Successfully Displays Dashboard	Succeed
Form Login	Enter Username and Password	Successfully Login to the Application	Succeed
Menu Page	Select Menu	Successfully displays admin and user menus	Succeed
Counseling Registration	Select Counseling Type	Successfully displays the registration form	Succeed
Schedule Confirmation	Select a Counseling Schedule	Successfully Selecting a Counseling Schedule	Succeed
Chat Counseling	Enter Message	Successfully Communicated Via Chat	Succeed

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## 5. CONCLUSION

The marriage counseling mobile application built on this research can help to increase prospective couples' understanding of marital roles and responsibilities. By implementing this marriage counseling mobile application, it can improve the quality of marriage and prevent conflict in marital relationships, thereby reducing the divorce rate. Implementation of the waterfall method allows application development to be more agile to user needs. By providing mobile-based counseling sessions, it makes it easier to carry out consultations which previously had to come to the Religious Affairs Office, which can now be done more flexibly using just a smartphone so that the accessibility of using the application is very easy.

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