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Implementation of Information Technology System Innovation Strategy Application of Premarital Course Based on Android

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Abstract: Implementation of strategy in an organization requires strategy of weapon (weapon strategy), that is information technology system effective and efficient. This research activity is focused on the development of pre-marriage education application based on multimedia. The purpose of this study is to (1). Developed a premarital based on android application design model using functional modeling; (2). Develop features of the android premarital course suite that covers all components technically. The design of this study uses object oriented methodology with functional modeling of Unified Modeling Lantage (UML), to meet the needs of visual modeling specifications. Unified Modeling Lantage (UML) modeling diagram is grouped into three (3) categories, namely structure diagram, behavior diagram and intraction diagram. The application of premarital android based courses generated with the development version will help prenuptial course participants to access all premarital learning materials. Content of material prepared there are two, namely: the material in conceptual and material in the form of audiovisual / multimedia. The achievement of this android-based preliminary application program will be a new paradigm in learning, so premarital course participants can make this application as a supplement, complement and substitution.

1. Introduction

Law Number 1 Year 1974 secures that Marriage is a mental bond between a man and a woman as husband and wife in order to form a happy and eternal family (household) based on the One Supreme Godhead [1]. Marriage aims to create a sakinah family based on sakinah, mawaddah, warahmah, preserving the eyes and honor and to obtain offspring.

Government efforts in realizing the formation of the purpose of marriage is the issuance of Decree of the Minister of Religious Affairs (KMA) no. 477 Year 2005, about providing insight into marriage in the household to the bride and groom [2]. The regulation is confirmed by the issuance of Regulation of Director General of Islamic Guidance No. DJ.II / 542 year 2013, about Guidance of Implementation of Preweding Course for married age society which will hold marriage [3]. The premarital course is the provision of knowledge, understanding, skill and awareness raising to the married age teenagers about household and family life. According to the law, married age is a Muslim managed at least 19 years and a female Muslim 16 years old.

Advisory, Counseling and Conservation Agency of marriage, hereinafter referred to as BP4, is a professional socio-religious organization as a partner of the Ministry of Religious Affairs in realizing



sakinah, mawaddah, warahmah's family. The Ministry of Religious Affairs conducts pre-marriage courses that work in collaboration with the BP4, or other Islamic religious organizations, which have been accredited by the government. The BP4 administrators at the district level are headed by the head of the district religious ministry [4].

The Implementation Process of Preparation Course in BP4 of the Ministry of Religious Affairs of Maros Regency tends to be similar to the implementation of the panikah course in other areas. In general, the premarriage program is conducted by BP4 administrators at the sub-district level in religious affairs offices, since pre-marriage courses conducted after marriage age have registered marriage. Implementation The prenuptial course is given at least 24 hours of lesson, conducted by lecture method, dialogue, simulation and case study. After the process is implemented, the premarital course participants will get the syllabus, module and certificate. Pass mark certificate is a requirement of marriage registration.

However, with the increasing volume of pre-marriage program participants from year to year, due to the proliferation of population distribution in maros district in general, it will affect the performance of the board of BP4 Maros Religious Affairs Ministry, especially BP4 at religious affairs office, during the implementation of prenuptial activities. Therefore, the need for a new breakthrough in developing the premarital course learning model. The Board of BP4 of the Ministry of Religious Affairs of Maros Regency, wants to undertake a premarital course of learning innovation from conventional traditional models by blending interesting learning concepts effectively and efficiently [5]–[7].

One alternative solution offered is to integrate the process of face-to-face learning with the use of application technology based android [8]. Premarital material content and multimedia content are included in premarital course mobile handsets, so course participants can use and access anytime and anywhere [9].

In general, this research activity aims to develop the application software premarital based on android, which includes all components of the application technically from the content of the material or in the form of view/display, so that the level of effectiveness and efficiency can be achieved [10]. Specific objectives of the study are to:

- Designing premarital mobile learning application development with functional modeling of Unified Modeling Language (UML) [11], which is sequentially comprised of use case diagrams, class diagrams, sequence diagrams, activity diagrams [12].
- Undertake the development and version of premarital mobile learning application, which covers all components technically on the Android operating system.

Develop premarital mobile learning applications on the downloading process on the playstore. While the benefits of research as for this is as follows:

- Increase the repertoire of science development, especially the field of Information and Communication Technology (ICT) to the public in general.
- Developing learning methods by integrating conventional course activities with conventional multimedia-based learning through premarital mobile learning application.
- Premarital mobile learning applications have strategic functions as supplementary learning activities (supplements), as complementary (supplement) and as alternative substitution (substitution).

2. Methodology

The method used in this research is the method of research development (research and development), where the selected development design is using Dick and Carey Model (quoted from Santyasa, 2009). Because the main output to be generated in the research is a software, then in the process of developing the media will be equipped with special method of software development using Software Development Life Cycle (SDLC) [13] method with Waterfall-based Model.

3. Discussion

3.1. Design methodology with Software Development Life Cycle (SDLC) with Waterfall-based Model.

Design Method with Software Development Life Cycle (SDLC) is an information system development methodology or application that done functionally to do development or change process and stages of software, so as to produce quality information system. The cycle of system development design with SDLC (Rosa, U.S: 2015) unum consists of: 1). Initialization, 2). Development of system concept, 3). Planning, 4). Needs analysis, 5). Design, 6). Software development, 5). Integration, 6). Implementation, 7). Operation and execution, 8). Deposition.

However, in relation to the development of an android premarital course application in accordance with the design methodology with SDLC, it is focused on four (4) stages as follows:

1). Planning

The planning activities begin with some information related to pre-marriage course activities, including: the procedures for course execution, course requirements and prenuptial course materials. Then proceed with the identification of the main problem, namely the implementation of prenuptial coursework according to the law, that is done during 24 hours of lessons face to face. The next planning activity is to identify the needs of both the content needs of the application, the needs of the features, the interface requirements and the resource requirements to be used, with target specification needs on a periority basis. The end result of this planning method will be generated a prototype in the design of the application by visualization.

2). Analysis

At the stage of analysis, a process of activity takes place in dealing with the depiction of the running system, in the form of conventional pre-marriage course implementation process, by proposing a new system design by integrating premarital android based applications as supplements, complement and substitution of pre-marriage course activities.

3). Design process

The design process undertaken in the SDLC methodology step by transforming the detailed needs into a complete system requirement, the system design document focused on meeting the needs of the function.

4). Implementation

This stage is the stage of socialization of the application development of premarital android based courses in the user environment. This stage is the longest stage performed in the construction of an information system. This implementation process is done by giving the application of premarital based on android to course participants who have enrolled at Religious Affairs Office of minos of maros regency

3.2. Functional Modeling with Unified Modeling Language

Modeling system is an activity to make technical design based on evauasi which have been done in activity analysis. In modeling / design of system design, items and components are designed with the aim to facilitate and streamline the performance and work activities and provide an overview of how the appropriate mechanism to design a system in accordance with the needs of agencies, advantages and advantages presented by an application design .

The focus of the UML category used in the development of this application is the Behavior Diagram, which is a collection of diagrams used to describe the behavior of the system or a series of changes that occur in an application system. In Behavior Diagram, will be used 3 part diagram, that is use case diagram, activity diagram, and sequence diagram.

Use Case Diagram of premarital mobile learning describes the interaction between the users / participants of the premarital course with the preacher / premarital source. So the model can show the function of each actor between user and *penghulu* in running its role in the application to be generated. The depiction of the system by using this modeling functionality is provided by the system as units

that exchange messages between units and or between actors. Here is a description of the system modeling of premarital and premarital course application programs, starting from the use case diagram, Activity Diagram and sequence diagram.

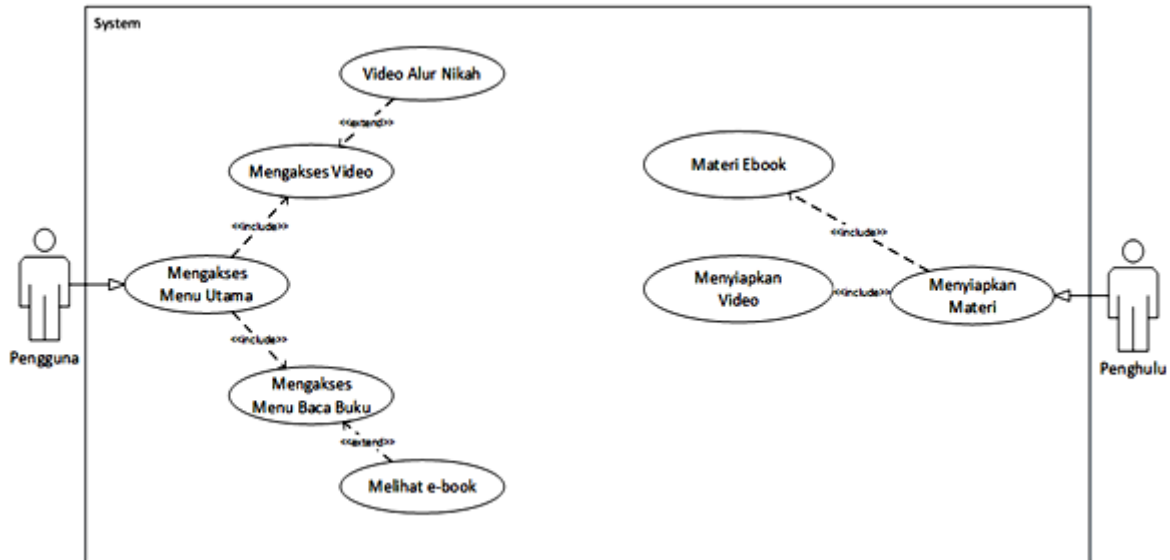


Figure 1. Use case diagram (Indonesian version)

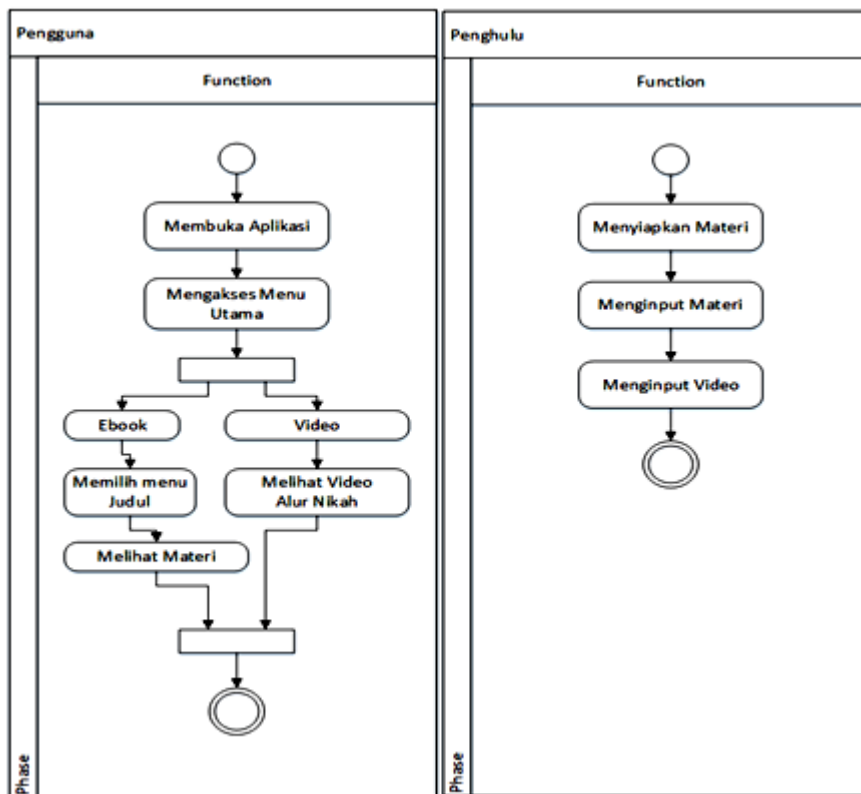


Figure 2. Activity diagram (Indonesian version)

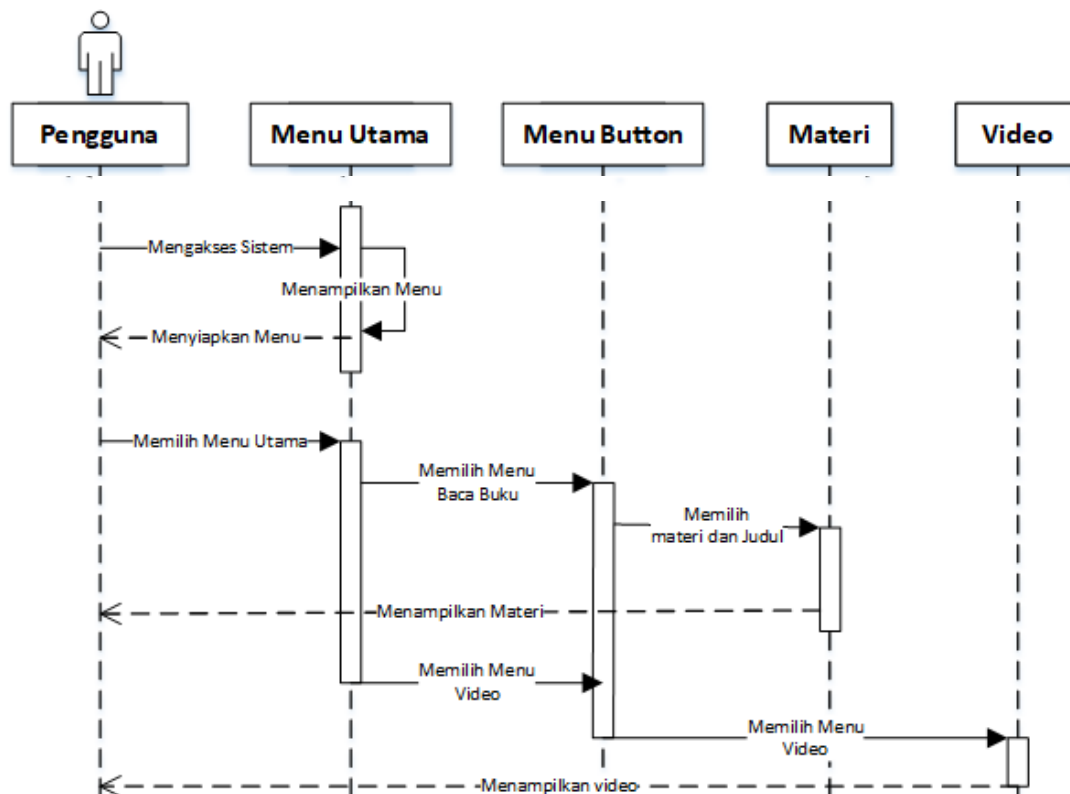


Figure 3: Sequence diagram (*Indonesian version*)

In the functional modeling consisting of a figure 1, figure 2 and figure 3 indicates functional modeling which is visualiasasi display of premarital android based applications designed.

3.3. Interface Design of the application of premarital course based on Android

The Interface design is a design that is designed to provide an intersting look for the user. The application of pre-married android based courses built has two general content, of the application of premarital course based on Android material in conceptual and multimedia of marriage flow. In the process of developing the interface is focused on the elements and objects that the user (*Penghulu* and premarital course participants) can see and use it. Here are some interface views resulting from the development of premarital course based on Android. In Figure 1 is a Home menu that displays a list of ebook menus, which contain conceptual material content that is divided into several tabs.

In the Interface design that in a row can be seen the interface design of pre-marriage courses based on android, starting from the home containing the e-book content, followed by displaying premarital course material conceptually, then equipped with multimedia groove marriage. The interface design of this android premarital course allows participants in premarital courses that will use this application to communicate virtually with application software. This premarital course based on Android application program will help premarital course participants. Premarital course application is used as a supplement, complement and substitution of premarital course activities at the Maros District Counseling, Coaching and Conservation Agency of the Ministry of Religious Affairs.

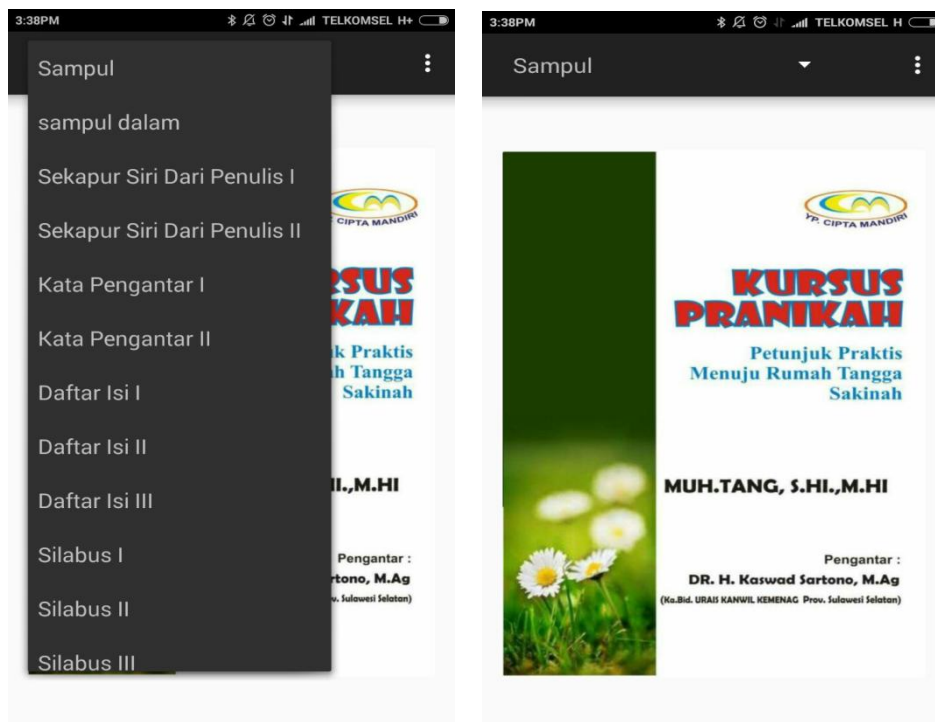


Figure 2: Interface design (*Indonesian version*)

4. Conclusions

Based on the results of research that has been done, it concluded the following points, namely:

1. Development of the system to produce premarital course based on Android application software development version by completing the material conceptually with video groove marriage.
2. Application Of Premarital Course Based On Android will be a strategic function as a supplement, complementary and as a substitute for pre-marriage course activities conducted by Maros Counseling, Supervision and Conservation (BP4) Ministry of Religious Affairs of Maros Regency

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