E-Registration Application
Read Al-Quran Development for Student's
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Abstract—**Registration the Quran Reading Development Program for Darmajaya Institute of Informatics and Business Students is currently still using the google form where the link is shared manually using social media such as WhatsApp, Instagram, Facebook or orally directly through lecturers teaching Islamic subjects. The Quran Reading Development Program Team opened registration for approximately 2 weeks to ensure that information on this activity had been conveyed to all students who had taken religious courses. Furthermore, the team took 1 week to validate the registration and payment data, then the Quran reading team publish information for students who succeeded or failed in registering. This causes the activity to experience problems where the implementation of the Bina Baca Quran program can run 3 to 4 weeks after the implementation of the learning lecture takes place. With the development of the use of electronic systems in community services, the Bina Baca Quran registration application is an Android-based mobile registration information system application that serves to facilitate students and teams in carrying out Quran reading development activities, especially during registration. The method in designing the Quran reading application for Darmajaya Institute of Informatics and Business students used is the SDLC method, namely the waterfall model. After testing and based on the results that have been done using blackbox testing, the Quran reading application can run smoothly as expected and there are no bugs and in the testing process. The registration application for the Quran reading development program is more efficient and can make it easier to carry out registration activities in the Quran reading development program for IIB Darmajaya students.**

Keywords— Registration, Quran Reading, Waterfall, Blackbox Testing, Android Mobile

I. INTRODUCTION

Education is the main need for the life of all humans, therefore education is very important for all Indonesian people [1]. Through the world of education, humans can increase their dignity [2]. Darmajaya Institute of Informatics and Business Campus has The Best culture which can be interpreted as Taqwa, Heart, Empathy, Brilliant, Energetic, Synergy and Trustworthy. To achieve taqwa graduates, one of them is to require all students to take part in Quran reading activities in accordance with the Rector's Decree Number : SK.0515/DMJ/REK/XI-2018 organized by the student affairs bureau, this activity is one of the mandatory requirements for attending the thesis trial for students who are Muslim to create one of the best cultures, namely Taqwa. For this activity, an assignment team has been made to control the implementation of the program. With the rapid development of information technology, nowadays many people use digital media as a means of delivering information. The ease of accessing information is felt by the community due to very fast technological advances. We know that many Indonesian people currently use Android smartphones, the increasingly widespread internet network in Indonesia is one of the factors in the development of technology. The information we need can be received in a very short time. In the world of education, the impact felt by the community in the development of communication and information technology is very much felt. [3].

II. THEORETICAL FRAMEWORK

A. Al-Quran

Al-quran is a guide for all human life who live on earth created by Allah SWT. The content of the meaning of the contents in the book of the Quran does not only discuss spiritual life, but in the holy book of the Quran there are elements of universal, holistic and comprehensive teachings. In fact, in the Quran there are also scientific elements that remain relevant over time so that the order in human life has a high civilization.[4]. Linguistically or the study of language, the Quran comes from a word Qara

yaqrau Quran, which means reading or in other words reading. The Qur'an is universally interpreted as a holy book which contains a collection of the sentences of Allah SWT. [5]

B. Smartphone

Smartphone technology is growing rapidly and affecting business activities, marketing, daily lifestyles and consumer behavior. User acceptance of Smartphone technology is an important key factor to determine its success in technological change. hence the identification and better understanding of the key factors influencing the adoption of Smartphone technology users is very valuable for all those who have an interest. The main aim of this paper is to review the existing body of literature on the subject related to Smartphone adoption and to explore how it can be studied, identifying research gaps and what methodologies are used. One of the main parts of this research is to present the introduction of Smartphone technology, the theory of information technology cultivation and the cultivation of the latest technology.[6]. Here are pictures of several kinds of smartphones with different operating systems, namely blackberry, android, windows phone and ios which we can see in Figure 1 below.

Figure 1. Smartphone

C. Android

Android is a mobile phone operating system that has a Linux operating system base. Android provides a free platform for application developers to create their own applications and use them for various mobile devices. Android has advantages in improving capabilities such as copy and paste or duplicate files or what is often known as copy paste. Previous versions of Android already had this feature, but some of these Android users still have problems selecting text because it is a little difficult to select the text. But the problem has been solved, in addition to the copy paste feature on android text, it also adds a sharing feature to the selected text.[7]. We can see the android system interface in the figure 2 below

Figure 2. Android Operating System

D. Waterfall Method

Initially building the whole system, there are several steps that need to be done. Software development method is also known as software development life cycle (SDLC). Waterfall method is the oldest software development method because of its natural nature. The waterfall method is the earliest SDLC approach used in software development. Waterfall flow begins with the process of planning, analysis, design, and implementation of the system and continues. This method is carried out with a systematic approach, starting from the system requirements stage and then moving on to the analysis, design, coding, testing/verification, and maintenance stages. The steps that are passed must be completed one by one (cannot jump to the next stage) and run sequentially, therefore it is called a waterfall and the flow can be seen in Figure 3 below [8].

Figure 3. Software Development Life Cycle

Backbox testing method is applied by finding the upper and lower limits of the desired data. We can calculate the estimated data in the test from the number of data input fields to be tested. The conditions that must be met are that the upper and lower limits must be as expected. This allows you to see if the function can accept unexpected input data. This will reduce the effectiveness of the stored data.[9]

III. METHODOLOGY

Research method used in the design of the android-based e-registration application for reading the Quran for the Darmajaya Institute of Informatics and Business students uses the Waterfall development method.

A. Requirements analysis

The need for an e-registration application for reading the Quran for Darmajaya Institute of Informatics and Business students is as follows:

- Admin and user are roles for users of the e-registration application for reading the Quran for students of the Darmajaya Institute of Informatics and Business.
- The main menu of the e-registration application for reading the Quran for Darmajaya Institute of Informatics and Business students consists of the admin menu and the user menu.
- The user has successfully registered first in order to enter the main menu of the Darmajaya Quran reading development application.
- The application can display student data after successfully registering.
- Students can search for class data.

B. Design

Stages in designing the e-registration application for reading the Quran for students of the Darmajaya Institute of Informatics and Business with the formation of an architectural design for the overall application system design. Actors exchanging messages between other actors are the functionality provided by the Use case diagram [10]. Use Case The diagram of the e-registration application for reading the Quran for students at the Darmajaya Institute of Informatics and Business can be seen in Figure 4 below.

Figure 4. Use Case Diagram

C. Development

The implementation phase and the unit test phase are programming phases. Software development is divided into smaller modules which will be put together in the next step. In addition, the functionality of the created modules is also checked and checked during this phase to determine if they meet the desired criteria [8]. At this programming stage, the researcher uses a website, which provides tools to create android applications with the concept of drag-drop block programming, which is coded, which we can see in Figure 5 below.
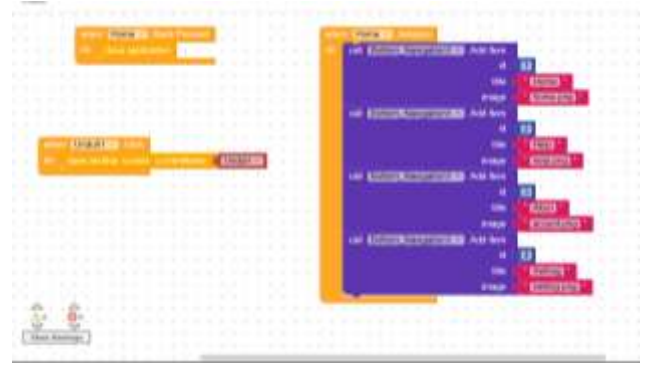

Figure 5. Display block creator.kodular.io on the app

D. Testing

E-registration application system for reading the Quran for Darmajaya Institute of Informatics and Business students can be seen in the table 1 below

TABLE I. SYSTEM TESTING

No	Name	Hope	Yes	No	% Score
1	Registration	NPM, Full Name, Password, Re-Password, Email, No. Telp (Data entered successfully)	Yes		100
2	Main Menu	Enter the Main Menu page normally	Yes		100
3	Profile View	Display NPM Data, Name, Class, Status and Teacher	Yes		100
4	Information Class	Displaying BBQ Class Schedule Information	Yes		100

E. Maintenance

In the final stage of the waterfall model, the finished software is operated and maintained by the user. By providing services, developers can fix previously undetected bugs. Maintenance includes troubleshooting, improving the implementation of system units, and upgrading and adjusting the system as needed.

IV. RESULTS AND DISCUSSION

A. Registration Page

Registration Page is the page to register as a new customer. To register, the user must enter complete and important data in the form provided. The registration form contains the following data: 1. Student Identification Number (NPM), 2. Full Name, 3. Password, 4. Re-Password, 5. Email and 6. Cellular Phone Number. All fields on the registration page display form must be filled out completely. The display of the account registration page for new students of the Darmajaya Institute of Informatics and Business can be seen in Figure 6 below.

Figure 6. Registration Page

B. Main Menu

This page has menus for registration, schedule, certificate, information, calendar, and SK download. To view classes, students can select the schedule menu and to view student profiles, select the third icon on the bottom row of the menu as shown in Figure 7 below.
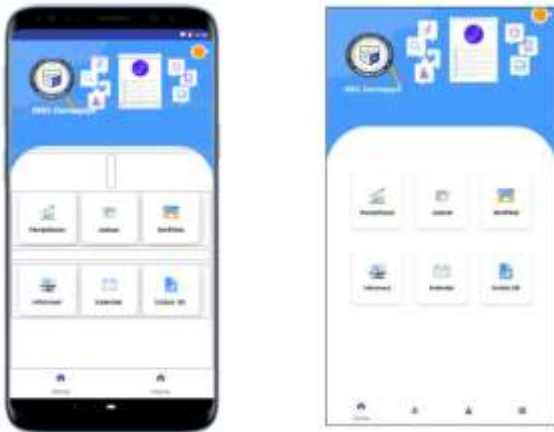

Figure 7. Main Menu

C. Profile Menu

This page has menus for registration, schedule, certificate, information, calendar, and SK download. To view classes, students can select the schedule menu and to view student profiles, select the third icon on the bottom row of the menu as shown in Figure 7 below.
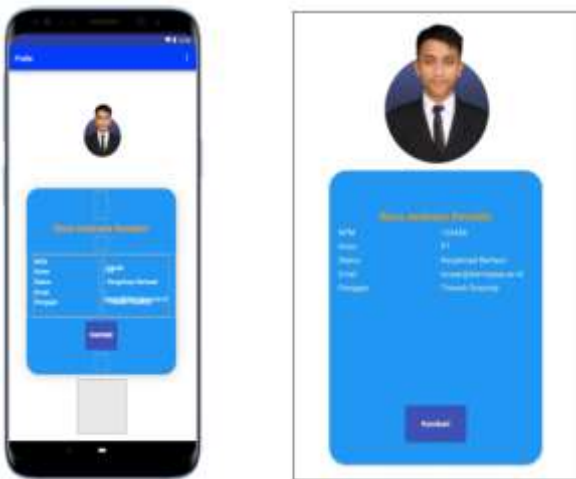

Figure 8. Profile Menu

D. Information Class

Information page there is student data in one class of the bbq program. On this page students can also see the status of success in registration. There is a back button that serves to return to the main menu at the bottom as shown in Figure 9 below.

Figure 9. Information Class View

E. System Testing

The following table is the result of testing the functionality of the e-registration application for the Quran reading program for students of the Darmajaya Institute of Informatics and Business using blackbox testing where the results with a value of 0-99% are declared failed/inappropriate and 100% for the value of success/success, as shown in Table 2 below.

TABLE II. SYSTEM TEST RESULT

Number	Name	Expected output	Result		% Score
			Yes	No	
1	Registration	NPM, Full Name, Password, Re-Password, Email, No. Telp (Data entered successfully)	Yes		100
2	Main Menu (Certified)	Enter the Main Menu page normally	Yes		100
3	Students Profile View	Display NPM Data, Name, Class, Status and Teacher	Yes		100
4	Information Class	Displaying BBQ Class Schedule Information	Yes		100

F. Conclusion

The conclusion from the design of the e-registration application for reading the Quran for students of the Darmajaya Institute of Informatics and Business is that the

application design can make it easier for the admin to convey information to students and this application can also make it easier for students who want to register for the Quran reading development program on the campus of the Informatics and Informatics Institute. Darmajaya business and this application can be implemented and continue to be developed for the smooth running of Quran reading activities on the Darmajaya Institute of Informatics and Business campus.

This research is only limited to one activity and one android platform so that other operating system users cannot use this application

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