

Mobile-Based Graduate Data Information System Design with Framework 7

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ABSTRACT

Graduates are an inseparable part of an educational institution that can help realize the vision and mission. Besides that, graduates' success in the community can be an indicator of the quality of the education. Therefore, relationships or networks between graduate must be closely intertwined so that later graduates can help each other and share experiences or knowledge with graduates who have just finished their education. Mobile-Based Graduate Data Information System Design with Framework7 is a medium that can facilitate graduates at the Bahrul Ulum Islamic Boarding School Tambakberas Jombang Foundation in recording and collecting graduates spread across various regions. By using the waterfall method as an application design method. This mobile-based application was created to facilitate access to information media according to the current developments. The software used to design this information system is Visual Studio Code, using Mysql as a database and using Framework 7 for mobile application development. With the construction of the Mobile-Based Graduate Data Information System Design, it is hoped that graduates will be able to find out more about graduate data information that is spread out later and can strengthen the synergy between graduates.

Keywords: Graduate; Waterfall; Framework7.

INTRODUCTION

Graduates are an inseparable part, especially in educational institutions, graduates are also one of the valuable assets that must be maintained because they represent an institution in the real world. This happened at the Bahrul Ulum Islamic Boarding School Tambakberas Jombang Foundation, which is one of the oldest Islamic boarding schools in East Java. Every year hundreds of students who have completed formal and non-formal education in *pesantren*, but it often happens that the presence of graduates after completing their education seems to just disappear due to the absence of a well-organized system, so there is often a mismatch of graduate data with the current reality (Sugianto et al, 2019). After completing their education, data or information about these graduates is difficult to obtain and communication is not going well (Widya & Airlangga, 2020).

In order to obtain accurate and easy information in accessing the data, the information can be summarized in an information system which of course can facilitate the process of accessing the data in the database. With this Graduate Information data management system, it is hoped that it will make it easier for the Foundation and the Graduates themselves to manage and search for existing Graduate information data.

METHOD

Research Method

The research method used in making this Graduate Data Information System Design is the waterfall method. It is called the waterfall because the stages that are passed must wait for the completion of the previous stage and run sequentially. The waterfall method provides a sequential or sequential software lifeflow approach starting from analysis, design, coding, testing, and support stages.(Sasmito, 2017)

Here is a picture of the waterfall method:

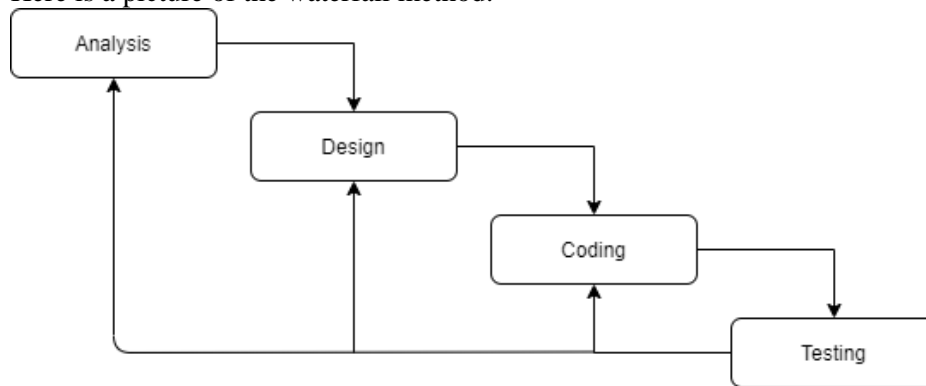


Figure 1. Waterfall Method

Framework of Thinking

- Flowchart

Flowcharts are used to describe the flow of activities that will occur from the program in question into a chart. From this flow chart, it can be observed and determined the flow of program control.

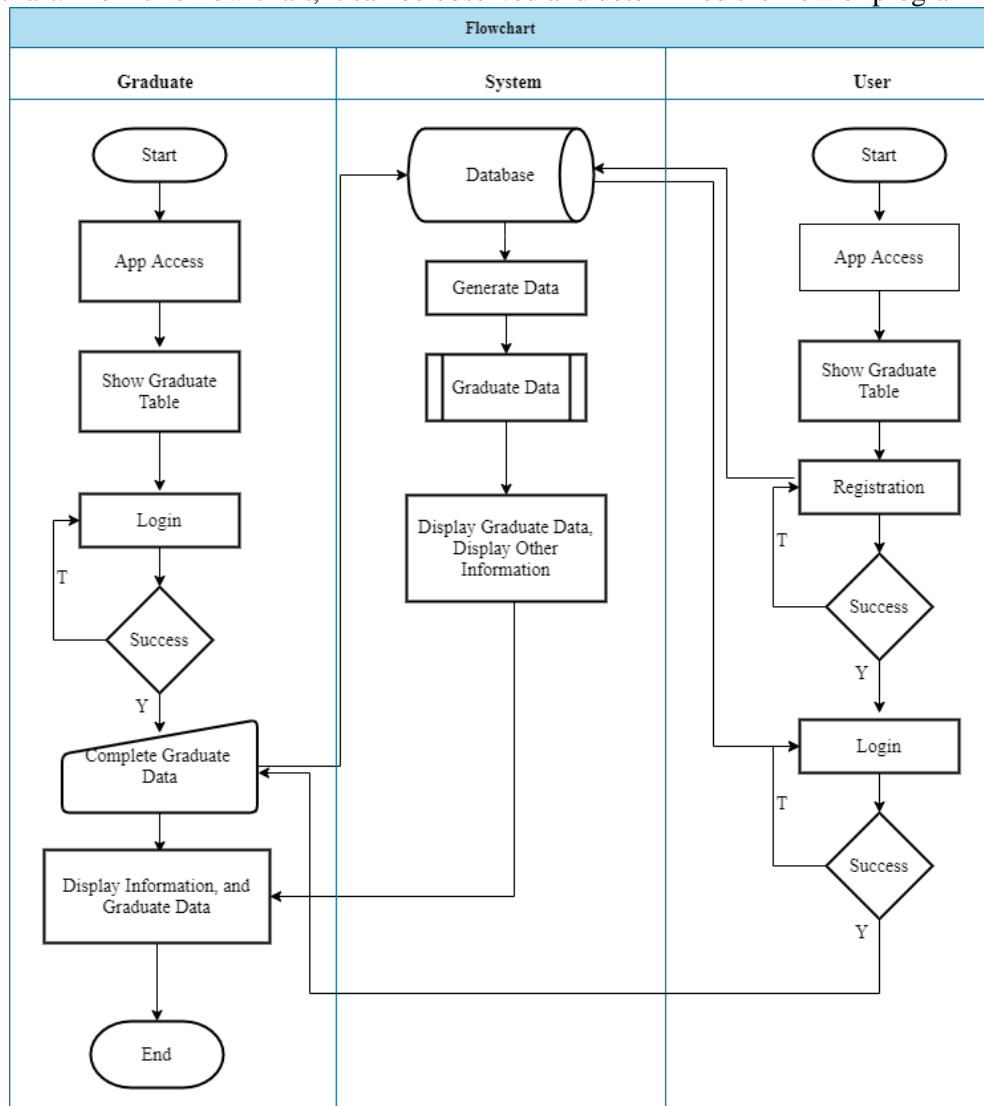


Figure 2. Application Flowchart

- UML (Unified Modeling Language)
 To describe the needs analysis, the authors designed UML in the form of activity diagrams.

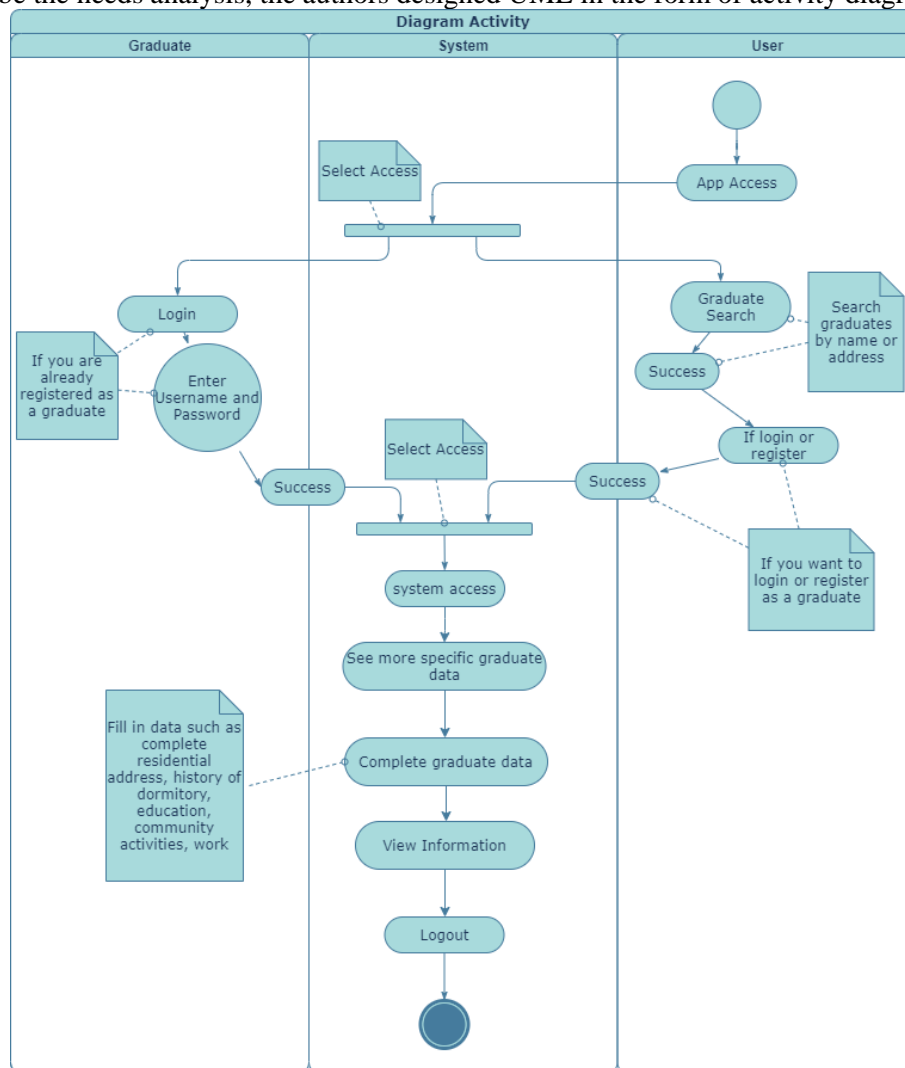


Figure 3. Activity Diagram

Previous Research

There are several relevant research results, one of which is a study with the title "Perancangan Sistem Informasi Pendataan Alumni Pada Ikatan Alumni Universitas Padjajaran" by Ferdy Syari Hidayat, Marlina B. Winanti (2018), discussing a website-based application. This system was built using the PHP programming language, where the purpose of this research, apart from building an information system for Graduate data collection, is to facilitate the Graduate Association of Padjadjaran University in exchanging information.(Syari Hidayat, 2018); (Alimuddin et al, 2020).

Research conducted by Ariansyah, Fajriyah, and Febby Satryadi Prasetyo (2017) with the title "Rancang Bangun Sistem Informasi Pendataan Alumni Pada STIE Prabumulih Berbasis Website Dengan Menggunakan Bootstrap", this website-based application is built with the Bootstrap framework as its appearance, PHP as the programming language, and MySQL as the database. By using the descriptive method, which is a method that clarifies the data that has been obtained so that it gets a clear picture of the state of the Graduate data collection information system at STIE Prabumulih.(Ariansyah et al., 2017)

Research conducted by Rodianto, Muhammad Abduh Robbani, Nora Dery Sofya with the title "Sistem Informasi Alumni Program Studi Informatika Universitas Teknologi Sumbawa Berbasis Web", in this application is aimed at Graduate of the Sumbawa Technology University Informatics Study Program which aims to facilitate processing and search for information related to Graduate data.(Rodianto, Muhammad Abduh Robbani, 2020).

In this study, the author makes a mobile version that can be accessed anytime and anywhere which will later be integrated with a website-based application, which is expected when implemented this

system can be used by Graduate and parties who need to manage Graduate information so as to simplify and speed up the process. perform data collection and reporting of existing Graduate data.

Theoretical Basis

- Information Systems

System is a set of interrelated or integrated elements intended to achieve a goal, if in a system there are elements that do not provide benefits in achieving the same goal, then these elements are certainly not part of the system. Information is data that has been processed into a form that is meaningful to the recipient and useful in current or future decision making.

From the definition of the system and information above, it can be concluded that the information system is an element or component that is interconnected to collect data, manage data and produce information for users. Information submitted to users is the result of data that has been processed into complete and accurate information. (Rodianto, Muhammad Abduh Robbani, 2020)

- Framework 7

Framework7 is a framework work that is open source and can be used for free to create or develop mobile applications, desktop or web with native view, and this framework7 is also a tool prototyping which is indispensable for showing a prototype application that function to create or use as soon as possible if it is necessary, of course it will make it easy for developers *android or the usual programmer* do development or make an application, especially android and ios, because there has been entered several models ready for developed and just stay add features and functions according to what that has been needed, where there are we can easily imitate or even copy the source code of the interface model from display the template, stay how do we activate the function function and customize our features need later. (Aminulloh et al., 2020)

- API

Application Programming Interface (API) is a documentation consisting of interfaces, functions, classes, structures and so on to build a software. With this API, it makes it easier for programmers to "disassemble" a software, then it can be developed or integrated with other software. API can be regarded as a liaison of an application with other applications that allow programmers to use system functions. This process is managed through the operating system. The advantage of this API is that it allows an application with other applications to be interconnected and interact. (Ramadhani, 2015)

- Javascript

JavaScript is a language for clients in which scripts are downloaded by website users and then processed on the local computer. Server side languages work differently where the script will be run on the server then sent to the client. How it works The JavaScript language is embedded in the script is sent directly to the web page in the form of a separate .js file. (Ramadhani, 2015)

- MySQL

MySQL is a database management system software SQL (English: database management system) or DBMS that is multithreaded, multi-user, with about 6 million installations worldwide. MySQL AB makes MySQL available as free software under the GNU General Public License (GPL), but they also sell under a commercial license for cases where its use is incompatible with the use of the GPL. Relational Database Management System (RDBMS). MySQL is a Relational Database Management System (RDBMS) which is distributed free of charge under the GPL (General Public License). Where everyone is free to use MySQL, but it should not be used as a commercial derivative product. (Bahtiar & Sifaunajah, 2018)

- HTML

HTML (Hypertext Markup *Language*) is the basic language for the web scripting is client side allows to display information in the form of text, graphics, and multimedia and also for link between web page views (hyperlinks). And those HTML codes, universal, will be translated by the user's computer with the same good appearance as it text, graphics or even multimedia. (Aminulloh et al., 2020)

- PHP

PHP is the most widely used script programming language today. PHP is widely used to program dynamic websites, although it is possible to use it for other uses. Well-known examples of PHP applications are forums (phpBB) and MediaWiki (the software behind Wikipedia). PHP can also be seen as an alternative to Microsoft's ASP.NET/C#/VB.NET, ColdFusion Macromedia, Sun

Microsystems' JSP/Java, and CGI/Perl. Examples of other applications that are more complex in the form of CMS built using PHP are Mambo, Joomla!, Postnuke, Xaraya, and others.(Bahtiar & Sifaunajah, 2018)

RESULT AND DISCUSSION

Result

This research produces a mobile-based application for graduate data collection information system that serves to provide convenience to graduate in order to find information and graduate data scattered in various regions and can input their own if they are not registered as graduates. In a mobile-based application, the graduates data collection information system makes it easier to search for other graduate and related parties at the Bahrul Ulum Islamic Boarding School Tambakberas Jombang Foundation.

Discussion

- Main page

This main page is the page when the user first visits this application. On this page there is Graduate data that has been stored in the database. There is a search input where the function is to directly search for Graduate by name, which is displayed only with name, gender and address. On the tab on the user icon whose function is to move the application login page.



No	Nama	Alamat
1	Budi 1	jln Tembelang
2	Budi 2	jln megaluh
3	Budi 3	jln ngusian
4	Budi 4	jln betung
5	Budi 5	jln merpati

Figure 4. Main Page

- Graduate Login Page

On this page there is a username and password input, where if the data has been previously registered, it will successfully enter the Graduate page. If you haven't registered yet, select the "Register Account" link under the "Login" button.

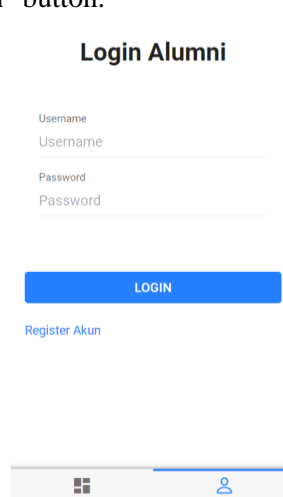
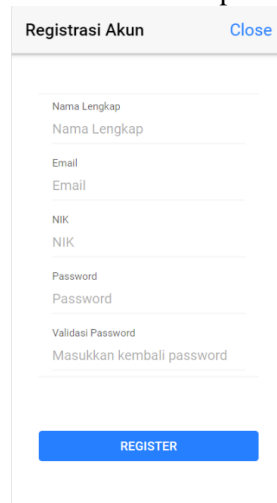


Figure 5. Graduate Login Page

- Account Register Page

On the Account Register or Account Register page, there are inputs of Full Name, Email, NIK, Password, and Password Validation. In inputting full name, email, NIK, it is filled in according to the Graduate data who will register, in the password input, it is filled as desired, where the password must be the same as the password validation confirmation input.

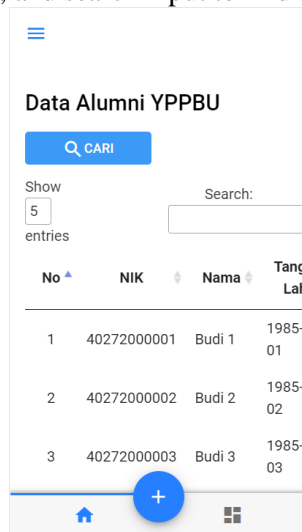


The screenshot shows a registration form titled "Registrasi Akun" with a "Close" link. The form contains the following fields: "Nama Lengkap" (Full Name), "Email", "NIK", "Password", and "Validasi Password" (Password Confirmation). A blue "REGISTER" button is located at the bottom of the form.

Figure 6. Register Page

- Dashboard Page

On the Dashboard page there is a more detailed view of Graduate data. There is an icon plus tab whose function is to switch to the page to complete the Graduate data that has been previously registered on the register page, the square icon tab to move to the information portal page, the sidebar tab above to open a new window, and search input to find the desired Graduate data.



The screenshot shows a dashboard titled "Data Alumni YPPBU". It includes a search bar with a "CARI" button, a "Show 5 entries" dropdown, and a table with the following data:

No	NIK	Nama	Tang Lah
1	40272000001	Budi 1	1985-01
2	40272000002	Budi 2	1985-02
3	40272000003	Budi 3	1985-03

At the bottom, there is a navigation bar with a home icon, a plus icon, and a grid icon.

Figure 7. Dashboard Page

- Sidebar Window

In this sidebar window there are hyperlinks to switch to pages such as Profile, Dormitory History, Education History, Employment History, Community Activity Forms and Log Out which Graduate are later asked to complete all the history that has been done while studying at the Bahrul Ulum Islamic Boarding School Foundation.

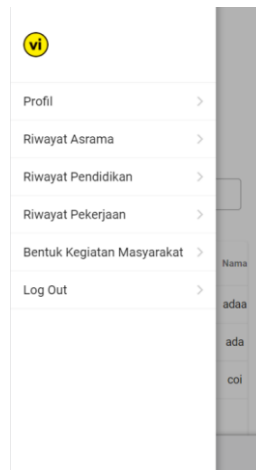


Figure 8. Sidebar Window

- Graduate List Page

This page contains input such as full name and NIK which have been automatically filled in at the beginning of the register, place of birth, date of birth, gender, status, country, province, district, sub-district, village, and address, where Graduate will be asked to complete applicable data. to be registered in the database as Graduate after clicking the save button below.

Close

Daftar Alumni

Nama Lengkap
adaa

Tempat Lahir
Your Tempat Lahir

Tanggal Lahir
dd/mm/yyyy

Jenis Kelamin
Laki-laki

Status

NIK
30247293

Negara
Negara

Figure 9. Graduate List Page

- History Page

This page contains input that must be completed by Graduate such as history of dormitory, education, community activities, and work.

← Pilih Riwayat Asrama

Riwayat Asrama
...Pilih Asrama...

Tahun Lulus
dd/mm/yyyy

SIMPAN

Some text about login information.
Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Asrama	Tahun Lulus
Al-Fathimiyah	2021-08-02
Pondok Induk	2021-07-01

Figure 10. Dormitory History Page

CONCLUSION

Based on the research that has been done, it can be concluded:

- This application is used to make it easier for Graduate and related parties to easily obtain information, view Graduate data in detail anytime and anywhere.
- Make it easy for Graduate to register or register without having to come directly to the Bahrul Ulum Islamic Boarding School Foundation.
- With the Graduate Data Collection Information System, it can accommodate and collect Graduate data from all institutions under the Bahrul Ulum Islamic Boarding School Foundation.

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