



Designing Android-Based National University News Portal Application with First In First Out (FIFO) Method

Muhammad Farhan Adistyra, Agung Triayudi, Endah Tri Esthi

Informatika,

Fakultas Teknologi Komunikasi dan Informasi, Universitas Nasional

Jl. Sawo Manila, Pasar Minggu, Kota Jakarta Selatan, Daerah Khusus Ibukota Jakarta 12520

Telp. (021)7806700 – 7806462

*)Email Penulis Korespondensi : agungtriayudi@civitas.unas.ac.id

E-mail: Farhanmhmd6@gmail.com

ARTICLE INFO

Article history:

Received: 04/04/2020

Revised: 20/04/2020

Accepted: 30/05/2020

Keywords:

Android Studio,
CodeIgniter,
MySQL,
PHP,
Portal

ABSTRACT

The study discusses the creation of an Android-based Internet news portal dedicated to the internals around the National University campus using the PHP Framework CodeIgniter (CI) and MySQL databases. This news Portal is designed using Unified modeling Language. This news portal is created inspired by news portal sites that have many benefits to operate. This news Portal serves as a means for the public information media environment of the campus, especially for students at the National University, because the number of students very large reaches almost 5000 students. Media information is not available to meet the needs of students who want the speed and currency of information about the campus. This need can be met with media that can move fast and on a large scale. This news portal site contains the latest news about the National University, which includes formal and informal news. Considering this news site will add information and insights to the newsreader

Copyright © 2020 Jurnal Mantik.
All rights reserved.

1. Introduction

Along with the rapid development of information technology, access to data or information available can take place quickly, efficiently and accurately. The development of this news was then followed by developments in the internet world based on mobile phones.[1] With a mobile phone someone will be very easy to access news, because a mobile phone is a communication tool that is small, lightweight, and easy to use and almost everyone has it. Information portal in a university has a very important role for students, lecturers and university staff as well as others.[2] Our society is accustomed to news media on images and hear media because of this mobile based news portal application to attract students to read more often in any case.

Media information such as announcements in wall magazines, posters or banners for students which are disseminated by word of mouth are felt to be less effective in providing information to students with so many. This Android-based application is made to update campus general news so students can easily get the latest news information quickly and easily known.[3] In this way the campus is also advantageous to easily provide information to students without having to use excessive paper.[1]

Related to accessing a news in a mobile phone, sometimes someone encounters obstacles, such as inconvenience in reading news because many advertisements are on the news site that is accessed, thus slowing down the internet connection to access it, and there is only one news provider in it. Therefore this application was made as an alternative to facilitate someone in getting a news. This news collector application is a news gathering application with an android platform that can collect and display some news in accordance with the latest news and also according to the news category.

In this research, we want to provide complete information about the campus, namely publications, seminars, journals, and other general news. This mobile-based application will contain various publication activities from various types of knowledge.[4] With this research, it will help students to get information about publications, seminars and other general news in order to help students get additional knowledge and also as a graduation requirement from the National University.[5]



From the problems above, we will create a system to get information about campus on a mobile basis.[6][7]It is hoped that this design system will optimally add an existing website-based news that is rarely read by students. And there will be news categories according to the wishes of the reader. The results of the research will produce a mobile-based news that can be easily known without having to open the website first. The purpose of this research is to make it easier for National University students to access the news. In this news there will also be activities such as seminars, workshops, training DLL in order to help students who do not know the information from friends.[5]

2. Research methods

This method is one of the most common prayers used in building journalist information systems, namely the first in first out (FiFo) method. This first-in-first-out method is often applied in the accounting sector and also the storage of samples of goods that first enter will be sold first, and the last items entered will be sold most recently, this method is very suitable for if applied in an information system Journalists with the first data entered directly will be processed, this is also useful for news to keep it updated. FIFO algorithms are often used in various kinds of solving life problems and various applications and existing technologies. FIFO itself is an algorithm that is sequential and turns but remains in the path or path in accordance with the first time entered and then processed in accordance with the turn. Here is a picture of the FIFO algorithm

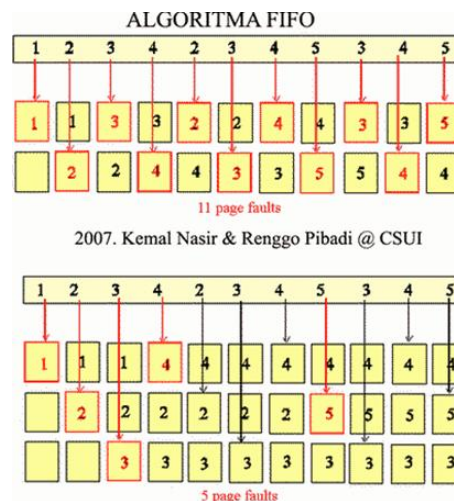


Fig 1. FiFo algorithm

3. Results and Discussion

The result of this application is how we connect 2 different platforms with 1 network. Then on the Android platform display only provides news reading in the category that the reader wants and can also disseminate information in the form of seminars or training courses on the slider in the application. In this study there is a standard specification tool needed as follows;

Table 1
Hardware Specifications

Device	Specification
The laptop	NEC
Processor	Intel Inside Core I7
RAM	4GB
Hard drive	500 GB

Table 2
Software needed

Software
Android Studio
Xampp v3.2.3
Notepad ++

3.1 Application Trial Results

The results of this trial are done by pairing the application to several different devices and also with different versions of Android.

A. Use case diagram

Use Case is used to visualize the design of a software development or information system that explains the functional requirements of the system in question. In the Use Case picture it can be seen that the Admin can see the home page, Open Regist, View data, etc., while for journalists, if you want to write a story, you must log in first and must have an ID granting access rights from the admin as a journalist. Then the role of the publisher is as an editor to determine whether or not the news is displayed.

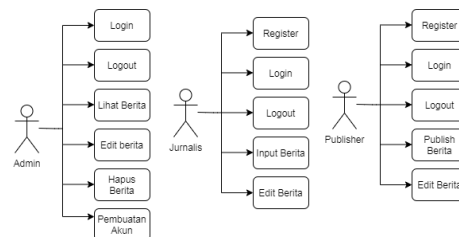


Figure 2. Use case diagram

B. Navigation Structure

In this view shows the flow of 2 different platforms as input media and displays news and also this display acts as admin access to incoming and outgoing news.

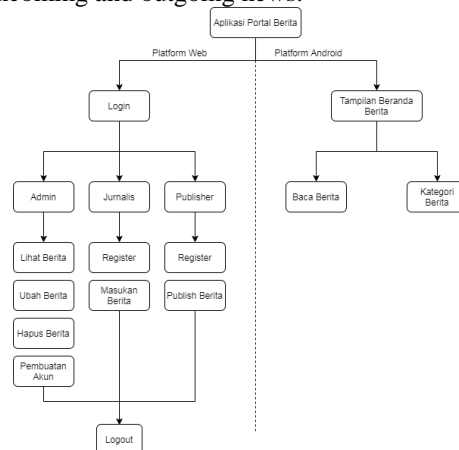


Figure 3. Navigation Structure

Based on the picture above shows in this news portal application there are 3 levels of access, namely admin, journalist, and publisher. Each of the access rights has a different role. This admin as the holder of control of the application which is on the android platform and also the website. And also Journalists and Publishers who have different roles, namely journalists as people who cover the news and enter the news into the application while the publisher is the person who acts as a news correction when the news is eligible to appear or does not depend on the publisher to display the news into the application.

C. Flow chart

Displays a system workflow as it should from start to finish. In the application flowchart section begins by starting the application. Then after opening the application will be presented with the initial appearance of the application with the news and also moving information slider. After that in the application menu section there will be a selection of the most popular news and news categories, news categories containing Economy, Health, Education, Politics, Socio-Culture, and Sports. Readers can choose the category according to the wishes of the topic you want to read.

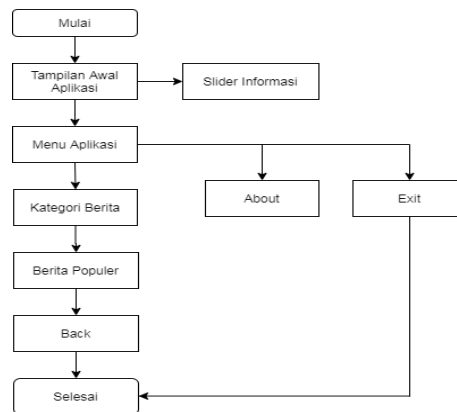


Fig 4. Application Flowchart

D. Class Diagram

Class Diagrams that illustrate the relationship between classes and objects with each other. Next is the class diagram Queue System android based national university news portal Using the First In First Out (FIFO) Method

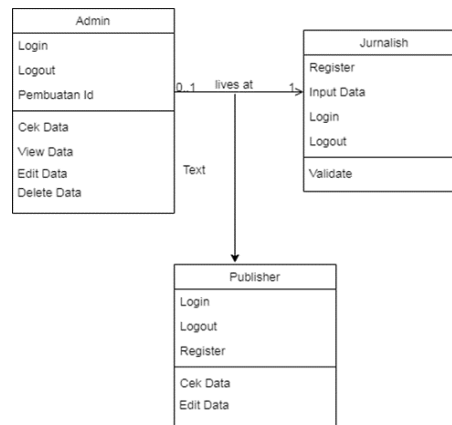


Fig 5. Class Diagram

E. Activity Diagram

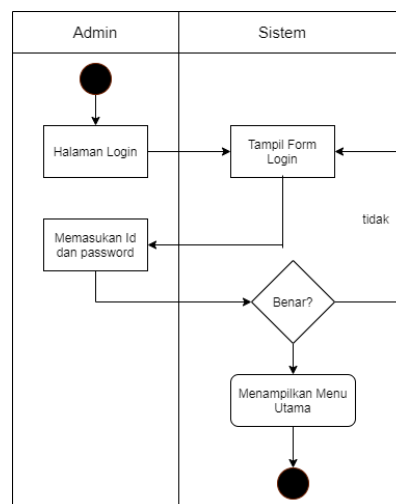


Fig 6. Activity login diagram

At this stage the activity is carried out by the admin then login using the id and password that have been registered from the database.

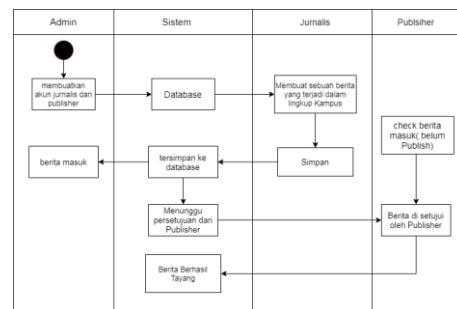


Fig 7. Application Activity diagram

In Figure 4 is the activity diagram of the overall workflow system of the admin, journalist, and publisher who have their respective roles. From a journalist making a story and then saving it to the database and then waiting for approval to pass or not, before the publisher reviews the incoming news, the journalist can still change the news data if an error occurs. And if the news is appropriate, the publisher will approve the news made by journalists.

F. ERD ((Entity relationship diagram))

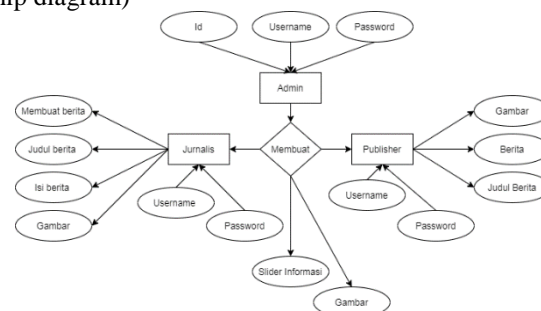


Figure 8. ERD (Entity relationship diagram)

In the picture above is an Entity relationship diagram (ERD) of the application system that is designed. In this system there are 3 related tables, namely admin, journalist, and publisher. This stage will be seen in the system to be designed and also in the form of image captions below.

3.2. Explanation of Pictures

This stage explains the description of the image that will be displayed below. To find out how the function and workflow of an application.

a. Android platform

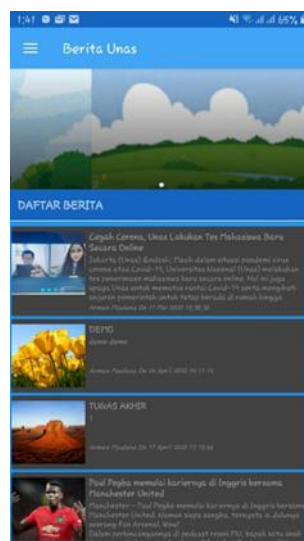


Fig 9. Initial Appearance

there is picture 1 explaining the initial appearance on the news portal. The concept is almost similar to the news in the Line, which is at the top there is a slider that functions to display images which contains information about the existence of campus activities such as training, DLL seminars. The next part is in the form of a picture and also the title along with the title of a story



Fig 10. News Categories

The picture above contains news categories related to the reader's will. In this view, if the reader wants to read news by category, the reader must select the menu and then choose explore. Based on the picture below.

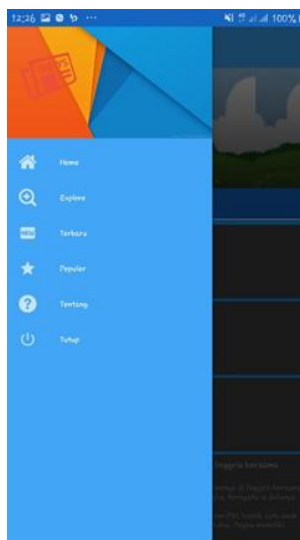


Fig 11. Application Menu

b. Web Platform

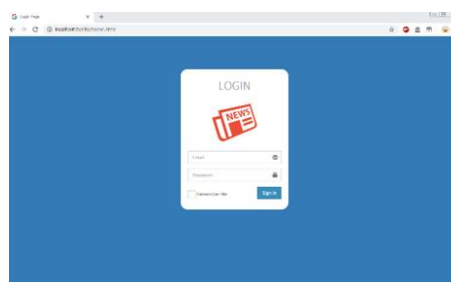


Fig 12. Display Login

In the picture above shows if we as admin, journalist, and publisher, we must log in first to create news or publish the news. To log in we must have permission from the campus then to the admin to register an account. Then the account will be created by the admin.

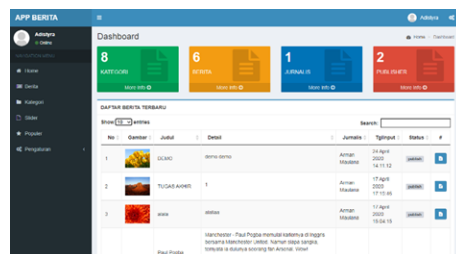


Fig 13. Display Admin Login

In Figure 5 is the initial display when the admin has logged in. Dashboard information shows that there are a lot of news, categories, journalists, and publishers.

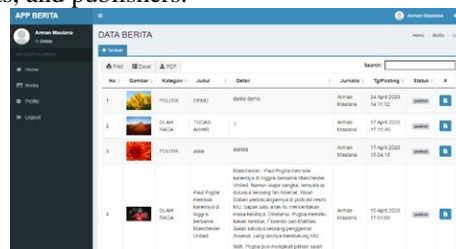


Fig 14. Journalist Pages

In Figure 6 is a work function rather than a journalist that is making an actual news. Journalists can also change the news before it is published by the publisher

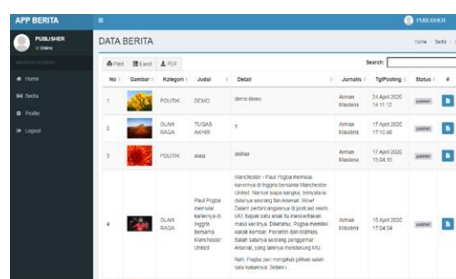


Fig 15. Publisher Page

The Publisher page is almost the same as the journalist page. This publisher page can only publish a news or reject a news in the sense that the publisher's function is to correct a news. Related to the news standard that will be published.

c. Android Application Testing Version

The results of this trial are done by pairing the application to several different devices and also with different versions of Android. In this application you can only use Android version 5 (Lollipop) up to Android version 9 (Pie).

Table 3.
Smartphone Specifications

	Samsung J7 Pro	Samsung S7	Oppo F3
Android version	Android 9 (Pie)	Android 8 (Oreo)	Android 6 (Marshmallow)
RAM	3 GB	4GB	4GB
Chipset	Exynos 7870	Exynos 8890	Snapdragon 653

In the table above shows 3 differences in smartphones that are used as trial applications from different devices.

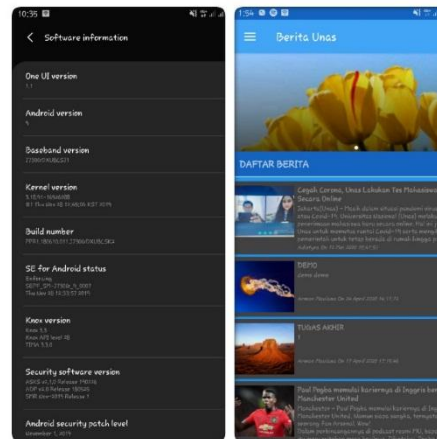


Fig 16. Trial on Android 9 (pie)

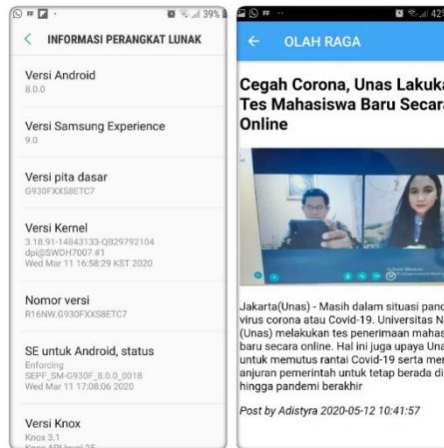


Fig 17. Trial on Android 8 (Marshmallow)

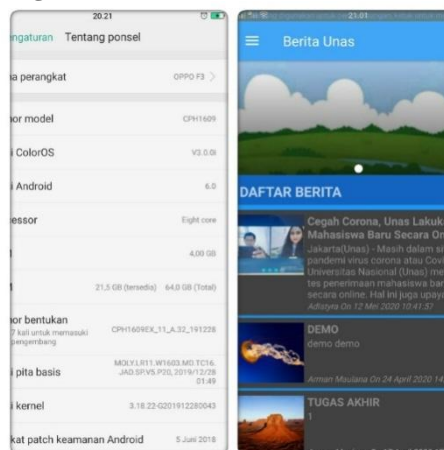


Fig 18. Test run on Android 6 (Lollipop)

4. Conclusion

So, the results of research done can be concluded that this Android-based application can help students in getting information about the National University campus. Implementation of the first in first out method in this news portal application can facilitate journalists and publishers in the process of entry, editing, and revoke on the news. And it is also hoped that this application will be useful for the National University campus. thanks.

5. Reference

- [1] E. Ernawati, A. Johar, and S. Setiawan, "Implementasi Metode String Matching Untuk Pencarian Berita Utama Pada Portal Berita Berbasis Android (Studi Kasus: Harian Rakyat Bengkulu)," *Pseudocode*, vol. 6, no. 1, pp. 77–82, 2019, doi: 10.33369/pseudocode.6.1.77-82.
- [2] S. V. Dewi and E. N. Mayuska, "Perancangan Aplikasi Portal Informasi Mahasiswa Pada Universitas Ubudiyah Indonesia Berbasis Android," *J. Informatics Comput. Sci.*, vol. 5, no. 2, p. 117, 2019, doi: 10.33143/jics.vol5.iss2.549.
- [3] S. Sutariyani, P. Paryanta, and D. T. Akhir, "Sistem Informasi Kampus Di STMIK AUB Surakarta," *Go Infotech J. Ilm. STMIK AUB*, vol. 24, no. 1, p. 1, 2019, doi: 10.36309/goi.v24i1.83.
- [4] C. A. Pamungkas, "Pemanfaatan Codeigniter Framework Dalam Membangun Sms Gateway Gammu," *Inf. Politek. Indonusa Surakarta*, vol. 1, no. 1, pp. 1–10, 2015.
- [5] E. S. Laksono, I. Husni, and A. Amin, "Penerapan NoSQL Pada Portal Berita Berbasis Android Dengan Menggunakan Metode First In First Out," *Pros. SENDI_U 2019*, pp. 978–979, 2019.
- [6] F. N. Hidayat and I. H. Al Amin, "Implementasi Metode First in First Out (Fifo) Untuk Analisa Sistem Antrian Pengaduan Pelanggan Internet Service Provider (Isp)," *Dinamik*, vol. 23, no. 2, pp. 73–79, 2019, doi: 10.35315/dinamik.v23i2.7180.
- [7] E. B. Prasetya, "Pembuatan Aplikasi Car Storage Dengan Menggunakan Metode Fifo (First in First Out) Berbasis Web," *Elektum*, vol. 14, no. 1, p. 45, 2017, doi: 10.24853/elektum.14.1.45-51.
- [8] Budaya, K. K., & Samosir, T. (2016). Culture is a way of life that developed and shared by a group of people , and inherited from one technology as a competitive sector that can added value to the business processes that run . The development of information and communication technology make. APLIKASI EDUKASI BUDAYA TOBA SAMOSIR BERBASIS ANDROID Harni, 9(1), 9–18.
- [9] Pamungkas, C. A. (2015). Pemanfaatan Codeigniter Framework Dalam Membangun Sms Gateway Gammu. *INFORMA Politeknik Indonusa Surakarta*, 1(1), 1–10.
- [10] Faizal, M., Abdillah, M. F., Sari I.M.S, D. A., Setiadi, W., Octavia, D., Suhendari, W., & Soewardikoen, D. W. (2018). Penggunaan Website Portal Berita Sebagai Media Informasi Untuk Mahasiswa. *Jurnal Bahasa Rupa*, 2(1), 34–42. <https://doi.org/10.31598/bahasarupa.v2i1.217>
- [11] Jenih, J., Hidayanti, E., & Sugiarso, T. (2019). Perancangan Sistem Informasi E-Bast Pada Pt . Dayamitra Telekomunikasi Menggunakan Framework Codeigniter, 5(1).
- [12] Defni. (2017). Perancangan Dan Implementasi Sistem Informasi Data-Data Sekolah Di Kota Padang Berbasis Android. *Jurnal Momentum*, 19(1), 1–9. <https://doi.org/10.21063/JM.2017.V19.1.1-9>
- [13] Surya Duha, D. L., Sarkum, S., Rasyid Munthe, I., & Purnama, I. (2018). Aplikasi Berita Online Berbasis Android: Studi pada Pemerintah Kabupaten Labuhanbatu. *Jurnal Informatika: Jurnal Pengembangan IT*, 3(3), 380–386. <https://doi.org/10.30591/jpit.v3i3.963>

