



ANDROID BASED E-PERPUS APPLICATION TO IMPROVE THE QUALITY OF SERVICES IN UNIVERSITIES

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Abstract: The development of the world of technology every year always increases and makes it easier to do anything in their respective fields. Libraries today must adopt technology this time, namely digital technology. A digital library is an electronic library whose information can be stored and retrieved through digital formats. Digital libraries include a group of interconnected workstations connected to a high-speed network. Previous research has developed a library system with non-conventional data processing and easy service for all library members. Based on the above background, the purpose of this research is to create an Android-Based E-Library Application to Improve Service Quality and Support Distance Learning in Higher Education. Place The object of this research is STMIK Pringsewu. The methodology in this study uses qualitative methods. In terms of data collection, there are several types of data collection methods in qualitative research, namely observation, visual analysis, literature review, and interviews. The results of the research are that the downloaded file is a file with a PDF extension, and the downloaded file is complete according to the books that have been registered in the General and System Categories, which have been tested and functioned properly. Suggestions for further research can be integrated with the Higher Education academic administration system and the need for the role of Lecturers to guide, supervise, and invite students to always be independent and patient in learning so that the knowledge gained can be well received.

INTRODUCTION

The development of information technology (IT) is very rapid and makes people find it easier to do their job. IT provides added value in the form of efficiency and effectiveness. The need for IT is quite high because it offers efficiency and effectiveness

to support the organization in achieving its goals, which can contribute to increasing its competitiveness.¹

The development of the world of technology every year always increases and makes it easier to do anything in their respective, one of development of technology that is very important for education institutions is information system technology.

The important role of information system technology in an educational institution is to take affect the intellectual life of the nation. The information system technology is included in any sector of educational institutions and one of them in their library. The library is only a room, part of the building, moreover, that building is used for saving books etc, it usually saved by certain compositions for the reader, not for sale.² The technology of information is much needed that role in the library to save, maintain, and maintain in the dissemination of information in the academic field which is developed for printing, writing, education and information needs.

Currently, the majority of libraries in educational institutions still use conventional methods so reading borrowing, or renting books in the library is still limited in terms of time, place, and limited, availability of books. Libraries today must adopt technology, at this time, namely digital technology. Digital libraries are electronic libraries whose information can be stored and retrieved through digital formats. Digital libraries include a group of interconnected workstations connected to a high-speed network.³

¹ Mezan Kesuma et al., "Design Of Information Technology (IT) Governance Using Framework Cobit 2019 Subdomain APO01 (Case Study : Instidla)," *Jurnal Teknologi Komputer Dan Sistem Informasi* 5, no. 3 (2022): 157–62, <http://ojs.stmikpringsewu.ac.id/index.php/jtksi/article/view/1193>.

² Basuki and Sulisty, *Pengantar Ilmu Perpustakaan*, 1st ed. (Jakarta: Gramedia Pustaka Utama, 1991).

³ W Purtini, "Digital Library From Indonesia DLN," 2010, <http://www.lib.itb.ac.id/~mahmudin/Makalah/Materi-depag07/pelatihanunpad/ Digital %25library.doc>.

Batubara, Supana, et al, in previous research, has developed a library system with non-conventional data processing and easy service for all library members.⁴ Based on the above background, the purpose of this research is to create an android base E-Library application to increase service quality and support for studying or teaching long distance in university.⁵

THEORETICAL SUPPORT

Digital Library

The library is only a room, part of the building contains a collection of books that are warmed and arranged, may readers can find the books easier anytime they want.⁶

A digital library is an information service where all the resources are available in a form that can be read by computer and are useful for storing, preserving, retrieving, accessing and displaying which is done through the use of digital technology.⁷

The term digital library is translated from "digital library". Indonesians understand it as an online library, online library, electronic library (e-library) or virtual library. Digital libraries and conventional libraries are not much different, the difference is the form of collection. Digital libraries have electronic collections or virtual collections and conventional libraries have printed collections.⁸

⁴ E. Batubara, S., Wahyuni, S., Iqbal, M., & Hariyanto, "Sistem Informasi Perpustakaan Digital Berbasis Web (Studi Kasus Perpustakaan Kecamatan Medan Belawan)," in In Prosiding SiManTap: Seminar Nasional Matematika Dan Terapan (Vol. 1, Pp. 145-148)., 2019, 145–48.

⁵ Ibid.

⁶ NS Sutarno, *Perpustakaan Dan Masyarakat* (Jakarta: Sagung Seto, 2006).

⁷ GG Chowdhury, *Introduction to Digital Libraries* (London: Facet Publishing, 2004).

⁸ Rahmat Iqbal et al., "Mobile Library: One Inovation of Literacy Information Reference Oleh:," *LIBRIA* 15, no. 1 (2022): 729–39.

Teaching And Learning Activities

Teaching and learning activities are a form of activity carried out in the classroom that requires intense concentration and maximum attention.⁹ Teaching and learning are activities that have one-way nature. Learning activities are the main activities that are only centred on student activities while teaching activities are secondary activities that only carry out teaching activities.

From the explanation of teaching and learning which are also known as KBM, it can be concluded that the teaching and learning process requires active activities (Active Participation) in every activity carried out so that teaching and learning activities can occur and learn effectively.¹⁰

Android

Android is a Linux-based operating system including operating systems, middleware, and application.¹¹ Android is a Linux-based operating system used for mobile phones such as smartphones (smartphones) and tablets.¹² According to Mezan et al., One of the technologies needed by educators is learning media. This media aims to facilitate educators and students in the process of teaching and learning activities. Educators can deliver the recommended modules using educational media easily and students can easily absorb the modules recommended by educators with the encouragement of educational

⁹ Arsyad Sobby Kesuma, Gesit Yuda, and Mezan El Khaeri Kesuma, "The Nenemo Philosophy of the West Tulang Bawang Community as a Media for Conflict Resolution and Local Politics," *Res Militaris* 13, no. 1 (2023): 204–19.

¹⁰ Gustrio Saputra et al., "PROTOTYPING METHOD IMPLEMENTATION IN HEALTH LABORATORY," *Asia Information System Journal (AISJ)* 1, no. 2 (2022): 80–85.

¹¹ Yuruar Supardi, *Koleksi Program Tugas Akhir Dan Skripsi Dengan Android (Elex Media Komputindo, 2017)*.

¹² Yosep Murya, *Pemrograman Android Black Box*, 2014.

media.¹³ According also to Gozzal, R. M., & Indarti, D. in Ricco et al. in their research, created an expert system to diagnose digestive diseases in toddlers. The method used is the forward chaining method. The technology used is the Android operating system which is made using software with the Java programming language, namely Android Studio.¹⁴

METHOD

Place the object of this research is Institut Teknologi dan Bisnis Bakti Nusantara. Methodology This research uses a collaborative method, in terms of data collection, there are several types of data collection methods in qualitative research, namely visual analysis, observation, heritage review and interview (Individual or Group). However, the most common methods are group interviews and discrimination discussions, in addition, data is collected and analyzed to be able to understand and draw conclusions and research.¹⁵

This research uses a descriptive method with a qualitative approach. According to Sukmadinata, qualitative descriptive research is aimed at describing and describing existing phenomena, both natural and human-made, which pay more attention to characteristics, quality, and interrelationships between activities). This research was conducted from December 2021 to July 2022 at the Bakti Nusantara Institute of Technology and Business. According to Sugiyono, data collection techniques that are suitable for use in this study are observation, document review and interviews. Data

¹³ Mezan el-Khaeri Kesuma, Guntur Cahaya Kesuma, and Dani Saputra, "Rancangan Media Pembelajaran Kosa Kata (Mufrodat) Bahasa Arab Berbasis Game Android," *Jurnal SIENNA* 2, no. 1 (2021): 32–42.

¹⁴ Ricco Herdiyan Saputra, Jimi Ali Baba, and Mezan el-Khaeri Kesuma, "Sistem Pakar Berbasis Android Untuk Diagnosis Penyakit Balita Pada Usia Neonatal," *SEAT* 1, no. 2 (2021): 7–14, <https://tunasbangsa.ac.id/ejurnal/index.php/jsakti>.

analysis techniques used are data collection, data reduction, data presentation and verification or conclusion.¹⁶

According to Permana, the system design that will be used in this research is to use an object-based diagram approach with application design tools in the form of flowcharts and Unified Modeling Language (UML), namely in the form of Use Case Diagrams, Class Diagrams, Activity Diagrams and Sequence Diagrams.¹⁷

RESULT AND DISSCUSION

Android-based E-Library improves quality service and increases teaching and learning long distance in university has any page, see the tabs below,

| No | Page | Information |
|----|--|--|
| 1 | Login pages for android based E-Library Application to improve the quality of services and support for distance teaching and learning in universities. | This page is for entering the android based E-Library application to increase service quality and increase teaching and learning long distance in university |
| 2 | A page for account android based E-library application for increasing service quality and increasing teaching and learning long distance | This page is for making a new account android based E-library application for increasing service quality and increasing teaching and learning long distance in |

¹⁵ P. Gill et al., "Methods of Data Collection In Qualitative Research: Interviews and Focus Groups.," *British Dental Journal* 204, no. 6 (2008): 291–95.

¹⁶ R N Indah, R Z A Syam, and H Agustina, "Analisis Penerapan Pencahayaan Di Pitimoss Fun Library Terhadap Minat Kunjung Perpustakaan," *Jurnal El-Pustaka* 02, no. 01 (2021): 25–34, <https://doi.org/10.24042/el-pustaka.v2i1.8331>.

¹⁷ Silvester Dian Handy Permana and Faisal, "Analisa Dan Perancangan Aplikasi Point Of Sale (POS) Untuk Mendukung Manajemen Hubungan Pelanggan," *Jurnal Teknologi Informasi Dan Ilmu Komputer* 2, no. 1 (2015): 20, <https://doi.org/10.25126/jtiik.201521124>.

| | | |
|---|--|---|
| | in university. | university. |
| 3 | General catalogue page Android Based E-Library application for improving service quality and supporting learning distance teaching at universities. | This page contains a list of books in the android-based e- library application to improve service quality and support long distances at universities. |
| 4 | Pages to pamper books E-Library based application android to service quality and support distance at universities. | This page is just for borrowing an android based e- library application to improve service quality and supporting long distance at universities |
| 5 | Pages menu at Android Based E-Library application for improving service quality and supporting learning distance teaching at universities. | On this page, there is a library menu to get into the general catalogue page and a profile menu which contains the user's data. |
| 6 | Pages database for borrowing books at Android Based E-Library application for improving service quality and supporting learning distance teaching at universities. | The page serves to view the database of borrowing books from the user. |

The flowchart of this program began from the process menu login to enter to E-library, if you have created an account, just put the email address and password that has been created before, if you don't have an account you should register to email for verification. On the next pages there are catalogue general pages which are has a function

for searching and choosing the books from a database application, then choose BORROW BOOK.

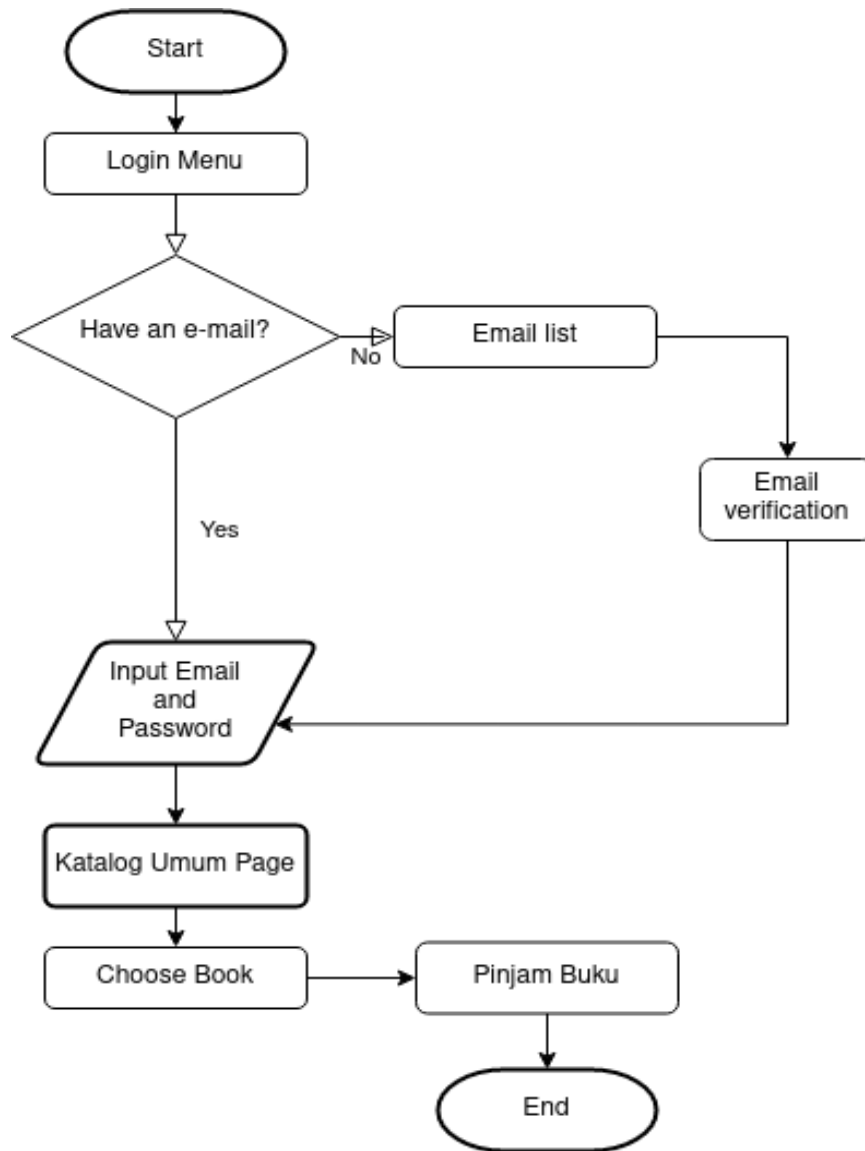


Figure 1. Android Based E-Library Flowchart application for improving service quality and supporting learning distance teaching at universities.

User Interface Program

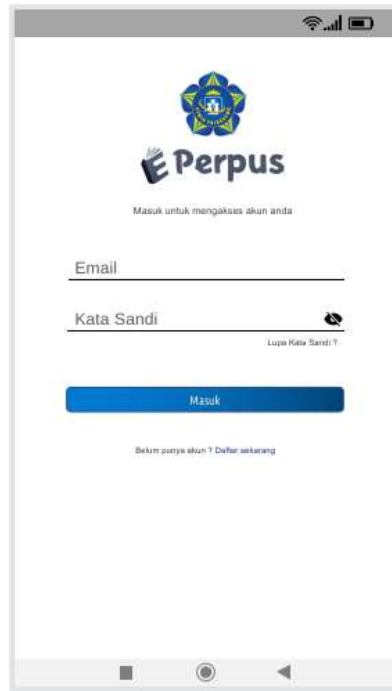


Figure 2. Login pages at Android Based E-Library application for improving service quality and supporting learning distance teaching at universities.



Figure 3. Pages for a new account at Android Based E-Library application for improving service quality and supporting learning distance teaching at universities.



Figure 4. general catalogue pages at Android Based E-Library application for improving service quality and supporting learning distance teaching at universities.



Figure 5. Pages for borrowing the books at Android Based E-Library application for improving service quality and supporting learning distance teaching at universities.

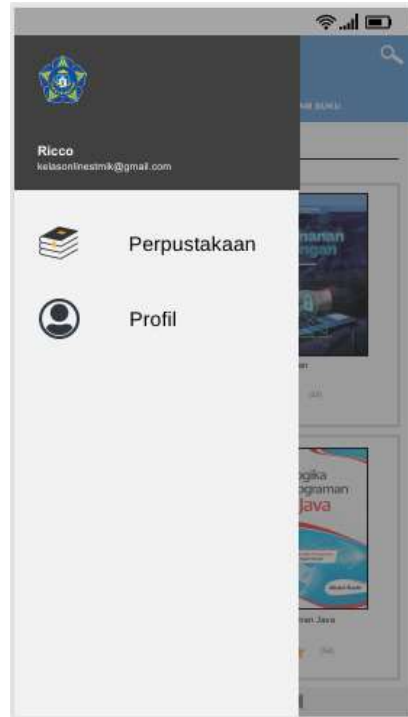


Figure 6. The menu at Android Based E-Library application for improving service quality and supporting learning distance teaching at universities.



Figure 7. Page database for borrowing books at Android Based E-Library application for improving service quality and supporting learning distance teaching at universities.

Implementation

This stage begins with the socialization of this application and its users are students of the Bakti Nusantara Institute of Technology and Business. This activity introduces students to how to use it, starting from the material menu (start) and settings as well as the training/test menu in the application. After students understand how to use it, students are asked to read and understand and follow the exercises in the application. For 1-month students are given treatment and then given exercises/tests to practice using the application. Finally, the results of this exercise/test can be calculated and it is assumed that this exercise can help students use the e-Library Application.¹⁸

Evaluate

Students are the source (base) of this stage. This stage contains how to provide several questions about the use of the e-Library Application. This question consists of 10 questions before using the application and 10 questions after using the application. The questions asked about the use of the application, starting from the application method, recognizing the buttons and practising the e-Library. This research results in students not being bored and bored, easy to understand the material, and borrowing books using the e-Library application can also be checked directly.¹⁹

CONCLUSION

Based on research android E-Library applications improve quality service and increase teaching and learning long distance in universities can be determined as follows:

¹⁸ Mezan el-Khaeri Kesuma, Ahmad Basyori, and Ahmad Zaki Alhafidz, "Rancang Bangun Media Pembelajaran Imla' Pada Materi Penulisan Hamzah Berbasis Android," *International Research on Big-Data and Computer Technology: I-Robot* 5, no. 1 (2021): 20–27, <https://doi.org/10.53514/ir.v5i1.203>.

¹⁹ Prasetyo, "Evaluasi Penerimaan E-Library Sebagai Sistem Otomasi Perpustakaan Menggunakan Teori Technology Acceptance Model (TAM) Berdasarkan Persepsi Pustakawan Di Perpustakaan Universitas Muhammadiyah Yogyakarta" (UIN Sunan Kalijaga, 2017).

1. The file downloaded is an extension file (PDF).
2. The complete downloaded file according to the book has been registered in the general category.
3. The system has been tested and works well.

SUGGESTION

Android E-Library applications improve quality service and increase teaching and learning long distance in universities there are still shortcomings. The researcher's suggestions for further research are :

1. Android E-Library applications improve quality service and increase teaching and learning long distance in universities still not integrated with the universities' academic administration system.
2. The lecturer needs to guide, keep, and invite all students to always be independent and patient in learning so that the knowledge gained can be well received.

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Qualitative Research: Interviews and Focus Groups.” *British Dental Journal* 204, no. 6 (2008): 291–95.

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Prasetyo. “Evaluasi Penerimaan E-Library Sebagai Sistem Otomasi Perpustakaan

Menggunakan Teori Technology Acceptance Model (TAM) Berdasarkan Persepsi

Pustakawan Di Perpustakaan Universitas Muhammadiyah Yogyakarta.” UIN Sunan

Kalijaga, 2017.

Purtini, W. “Digital Library From Indonesia DLN,” 2010.

<http://www.lib.itb.ac.id/~mahmudin/Makalah/Materi-depag07/pelatihanunpad/>

Digital %25library.doc.

Saputra, Gustrio, Ahmat Suhelmi, Nizamiyati, Ida Ayu Puspitasari, and Williams

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