The Use Of Digital Books Based on Android Device Application to Support Intellectual Culture: A Case Study in Open University of Indonesia

Yasir Riady

Universitas Terbuka

UPBJJ UT-Jakarta

yasir@ecampus.ut.ac.id

ABSTRACT

Various applications developed by universities especially the university with distance education system such as Open University in Indonesia, start from easiness of access, facilities and user-oriented for tutorials, registrations and examination. Most device, application and facilities developed to assist students in accessing many services in completing their academic life. This paper tries to explore more about the implementation of android device application in digital teaching material that has been developed by the Open University at the beginning of 2017 which already downloaded and used almost more than 10.000 users, which focused on activities and guides and support intellectual culture, researches, books, paper to students, tutors and lecturers. It can be analyzed based aspects of effectiveness and efficiency. The feature and assessment of application based on android can be analyzed from system quality, number of users, purposes, simplicity, user-oriented of application and time of use. "Bahan Ajar Digital Universitas Terbuka" or Digital Books of Open University of Indonesia in version 2.3.2 (july 2017) bring some invention of eBooks that exposed the opportunities and accesses of our students from all over Indonesia and the world and support limitless access about intellectual property, since we have so many students even in the rural, remote or isolate areas. The conclusion that the application of Android Based Digital Teaching Materials is really help students, tutors and lecturers at the Open University of Indonesia to understand and comprehend materials for online learning, face to face tutorial and also final examination.

Key words : Android, eBook, Access, Application

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INTRODUCTION

Currently there are so many applications developed by many universities such as Open Universities in Indonesia, from easy access, facilities and user needs oriented to tutorials, registration and examination. In general, applications and facilities are developed to assist students in accessing many facilities and services in completing their academic tasks.

At this time, one of the applications that has been developed by the Open University is the Digital Books, it is a new service for all students to access Digital Books of Open University, Digital Books or referred to as Bahan Ajar Digital (BA Digital) is the adaptation of the UT Basic Printed Materials (BMP) which has been used as the main material of the students. BA Digital can be accessed offline via android device. This service has been launched on January 30, 2017.

BA Digital UT is a repository system and electronic book reader developed by Open University. This service is developed with the objective that students can access BMP / Books using mobile device easily and practically. This system allows students to be able to access, download, and read BMP according to the courses that have been registered.

This study discusses the detail application of digital books developed by the Open University, focusing more on the activities and guidelines and the use of android applications as one of the systems that can be analyzed based on aspects of usability, effectiveness and efficiency.

The quality, usability and evaluation in the application of digital books based on android can be seen on the quality of the system, the number of users, purpose, ease of application and time in using it. This study can be drawn the conclusion that Application of Android-Based Digital Books is able to facilitate students at the Open University in understanding the material for learning.

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Picture 1. Home Page of Bahan Ajar Digital UT / UT Digital Library in Android version

The Android System

Wikipedia described Android (/æn.drɔɪd/; AN-droyd) as a Linux-based operating system designed for Touch-screen mobile devices, it runs for smart phones and tablet in computers. The Android users are based on direct operation, using trace input which are actions in the real world, such as swiping, tapping, pinching, and flipping the pinch to operate the object on the screen. Android is the operating system with open source. In addition, Android has various application developer community (apps) that extend device functionality, generally written in a customized version of the Java programming language.

Characteristics of Android

Based on the descripstion above, intheir site (www.android.com) stated that there are 4 characteristics of Android, they are :

1. Openness

Android is built completely open, so an app can develop for many functions of the phone such as making calls, sending text messages, using the camera and others. Android is a virtual machine specifically designed to optimize the memory and hardware resources contained within the device. Android is open source, can be freely expanded to incorporate new, more advanced technologies. This platform will continue to evolve to build mobile applications.

2. Same Access

Android does not make a difference to the main apps of phone and third-party applications. All applications can be built to have equal access to the capabilities of a phone in providing users with a broad range of services and applications.

3. Resolve problems

Android breaks down barriers to building new and innovative applications. For example, developers can combine information obtained from the web with data on a person's phone such as a user's contact, calendar or geographic location.

4. Fast and easy application development

Android provides users with extensive access to better applications. Android has a set of tools that can be used to help developers in improving productivity when building applications that are created.

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(Source: http: //www.android.com.about/)

Digital Books for Learning Material in Android

Digital Books is one of the most important parts in the learning process, because the source of information in the can on the learning process can be started from teaching materials. Mulyasa (2006: 96) defines that teaching materials is one part of teaching resources that can be interpreted something which contains learning messages, both specific and general nature that can be utilized for the benefit of learning.

The explanation of the definition of teaching materials is further explained by Widodo and Jasmadi in Ika Lestari (2013: 1) which states that teaching materials are a set of learning tools or tools containing learning materials, methods, limitations, and ways of evaluating systematically designed and Interesting in order to achieve the expected goal, it is designed to achieve competence and sub-competence with all its complexity.

In the help of technology, the Directorate of High School Development (2008) classifies teaching materials into four categories, they are *printed materials*; Such as the distribution of notes in lectures, books, modules, student activity sheets, brochures, leaflets, wallcharts, photographs or drawings, and modules. Then *audio materials* such as cassettes, radio and audio compact disks. In addition there is *audio-visual learning materials* such as video compact disks, projectors and movies, and the last category is *Interactive multimedia* teaching materials such as CAI (Computer Assisted Instruction), interactive multimedia compact disc (CD) and web-based learning materials (web based learning materials).

Based on previous exposure, the definition and term of teaching materials used in this study is a systematic learning materials or materials used by teachers, lecturers, tutors, teachers and students in learning to achieve the expected goals.
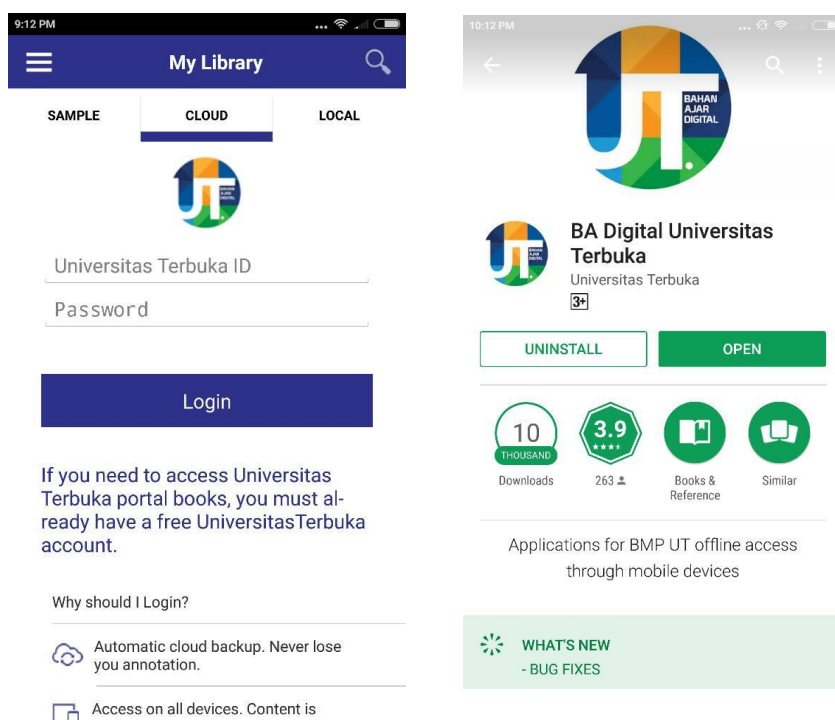
Types of Teaching Resources

In general, teaching materials can be divided into two types, such as printed and non-printed materials. Printed teaching materials can be handouts, books, modules, brochures, and student worksheets. While non-teaching materials include, audio teaching materials such as tapes, radio, video and audio compact discs.

The teaching materials referred to in this study are more into printed textbook material. This is because textbooks are closely related to the curriculum, syllabus, competency standards, and basic competencies. Rudi Susilana (2007: 14) stated that the textbook is a book

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about a particular field of study or science that is structured to facilitate the teachers and students in an effort to achieve learning goals.

This type of teaching materials is developed based on the needs of its users and the characteristics of the community in the environment. The Open University initiated the use of non-printed digital teaching materials through digital libraries in the Virtual Reading Room or RBV and then redeveloped on android-based applications in Digital Teaching Materials or Digital Books. It is intended that students can access in and also outside Indonesia can access the materials easily.
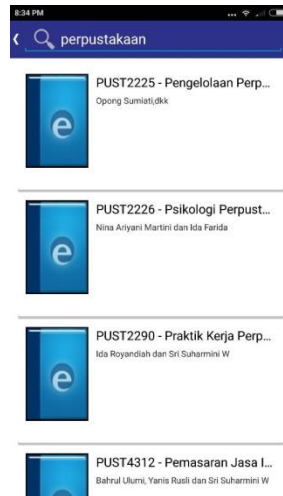

Picture 1. Home Page of Bahan Ajar Digital UT / UT Digital Library in Android version

Digital Instruction Service

This Digital Teaching Service can only be obtained free of charge by all students who have registered on certain subject in the running semester. Students can access the Digital Books by entering their students number and name of the course that are registered, not all teaching materials can be downloaded. UT students who do not register courses in the current semester cannot access Digital Books. To be able to use this service, students must first do the registration of the course at the beginning of the semester. UT students are able to access BA Digital content a week after the ending of registration period.

The use of this Digital Books begins with installing the app, by opening Google Playstore and using the keyword 'BA Digital UT'. In addition students also get email notifications
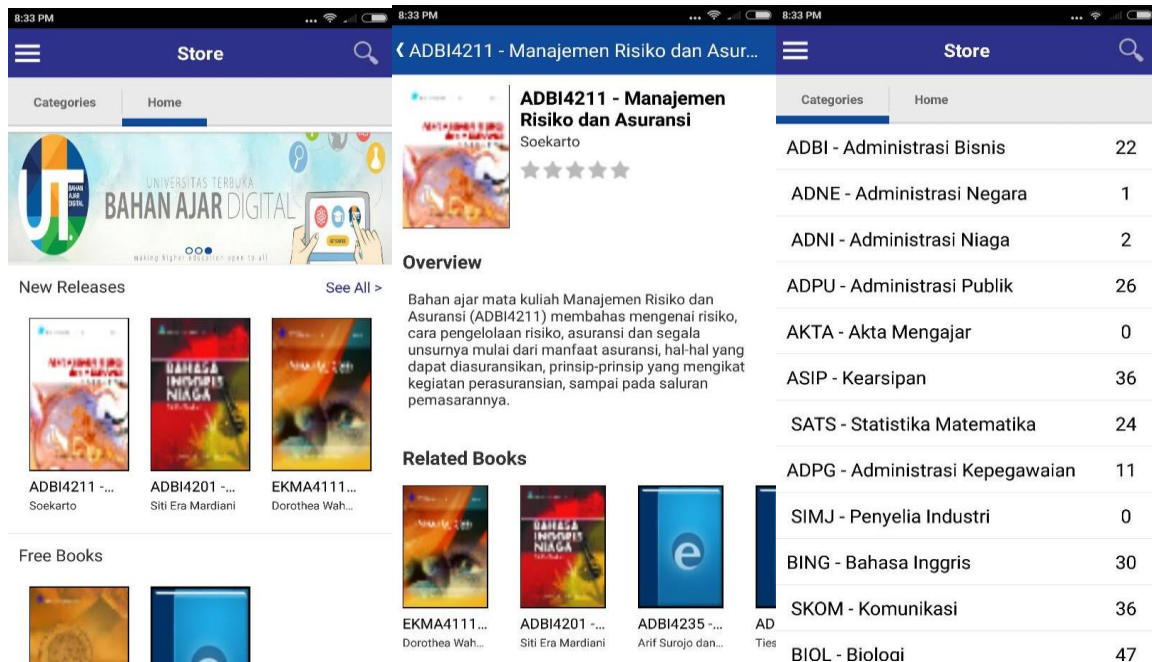
Proceeding International Conference on University and
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Seminars.unj.ac.id/icuic ISSN: 2622-688X

sent to the official email account which registered in UT database (http://ecampus.ut.ac.id).

Picture 2. Homescreen and Searching features

Students can login using their data along with notification on email. If they success to login, students can get a list of BMP titles that can be accessed for free. Since its launch in January 2017 until April 2017, there have been over 10,000 users downloading this app on their mobile device.

Students can access this application freely with the user name: studentsnumber@ecampus.ut.ac.id and initial password: Ut + mmddyy For example: Ut + mmddyy (Ut22031997). This Digital BA can only be accessed online and offline. BMP can be downloaded and opened anytime and anywhere without the need of internet connection (offline access). The collection of BA Digital contained in this system has been protected by a security system to avoid illegal access.
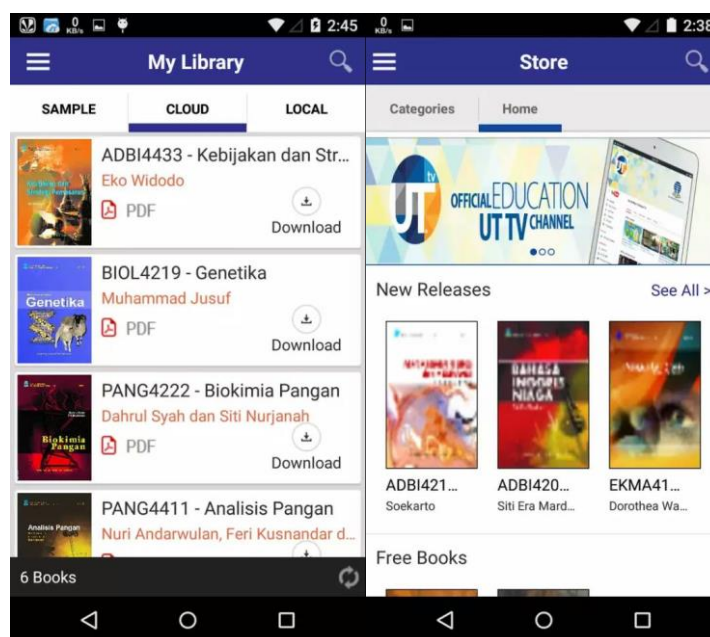
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Picture 3. Information about books and its description

No	Topics	Comments
1	Loading	The app works fine, but for books in the my library, will it be updated several time and sometime takes time too long.
2	Download	For downloading should use "Loading progress%" in order to see the progress of its download.
3	Screen	The screen is really small when it opens the book. Though the screen 5.5 "should be enough.
4	Brightness	App is good, please give some option for setting brightness when opening file. Brightness is so bright that it makes eyes sore. thanks. Good job
5	Loading	Good, Free .. Just want to ask how to move books from cloud to local? It is took time in every page loading.
6	Download	This app always closes itself when the book is already downloaded
7	App	Thats so good and so help for me to learn
8	Log in	I have installed and successfully login / sign-in. Unfortunately when will open, sometimes it did not give any respond and application get closed.
9	App	Good & easy at login, but when all modules are downloaded, suddenly the application did not respond.

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Table 1. Comments and Suggestions from Students

Features in the Applications of Digital Learning Materials

The reader application contained in Digital Learning Materials is equipped with bookmark, note, and highlight feature (Highlight feature only works on book format). These features are expected to assist students in reading and understanding the contents of BMP. The features in the application of digital teaching materials will be added so that the use of this application more and can be used massively.
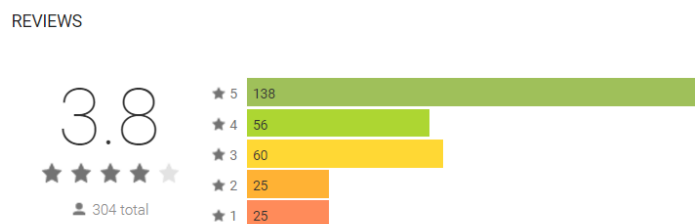

Picture 4. Books and its features

Usability of Application

The definition of usability according to International Standard Organization (ISO) in 9241 about usability standard (1998) is the product that can be used by a particular user to achieve a target with effectiveness, efficiency and satisfaction of use in a particular context. The usage context consists of users, tasks, equipment (hardware, software and materials). Based on these definitions usability is measured by component:

a. Easiness is defined as how fast the users are proficient in using the system as well as the ease of use of running a function as well as what the user wants they can get. Digital Books in UT is really easy and students can access it from their smartphone, it is designed for students to learn and comprehend materials by themselves.

b. Efficiency is defined as the resources spent to achieve accuracy and completeness of objectives. This Digital Books in android will avoid several unusable budget and time, it is really efficient for students to find their needs by using their smartphone.

c. Importance is defined how the user's ability to retain knowledge after a certain period of time, the ability to remember obtained from the laying of the menu is always fixed. The application will update several periods if there is some suggestions and input for better ways and fix some errors.

d. Errors are defined by how many mistakes the user makes, the user-generated error encompasses what nonconformity the user thinks with what the system. This application also provides some input, comments, testimonials for students to give some feedback if they find any error, so the developer will fix the errors as soon as possible.

REVIEWS

3.8
★ ★ ★ ★ ☆
👤 304 total

★ 5 — 138
★ 4 — 56
★ 3 — 60
★ 2 — 25
★ 1 — 25

Picture 5. Review rating from more than 300 users (3.8 out of 5.0) in July 2017

e. Satisfaction is defined as the freedom from discomfort, and a positive attitude toward the use of a subjective product or measure as the user feels about the use of the system. Most students satisfied with this application and it still developing to be better in the future. Some of our students also gave ratings 3.8 out of 5.0 in July 2017.

CONCLUSIONS

Various applications developed by universities such as Open Universities in Indonesia, which started to be developed, from easy access, facilities and user needs oriented to tutorials, registration and examination.

Applications and facilities developed are very helpful for students in completing their academic tasks. Quality Evaluation in this android-based materials application runs well with users reaching over 10,000 for just 4 months since launch in January 2017.

Application of Android-based Digital Teaching Materials is able to facilitate students at the Open University in understanding the material for learning, this is can be seen by the number of downloads both on the device and the application.

Mobile devices that can be used to access BA Digital UT are mobile devices with Android operating system, it is expected that in the future Apple iOS users can use the Service of Digital Teaching Facilities at the Open University.

BIBLIOGRAPHY

Android, Definition about Android, http: //www.android.com.about/

International Organizaztion for Standardization, https://www.iso.org

Lestari, Ika. 2013. Disertasi. Universitas Negeri. Malang. Pengembangan Bahan Ajar Berbasis Kompetensi.

Mulyasa. (2006). Menjadi Guru Profesional Menciptakan Pembelajaran.

Rudi Susilana dan Cepi Riyana. (2007). Media Pembelajaran. Bandung: CV.

Safaat, Nazruddin, 2013, "Aplikasi berbasis Android", Bandung : Informatika

Universitas Terbuka, 2017, "Lampiran sosialiasi Bahan Ajar Digital". www.ut.ac.id