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ANDROID BASED QUIZ DESIGN FOR SMA LEARNING MEDIA

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Abstrak

In this study, the use of smartphones continues to grow along with the changing times. Especially for students the use of smartphones can facilitate the learning process. Therefore the author is interested in building an android-based high school quiz application. There are several stages in the system design process using the waterfall method and collecting data obtained from various sources, which include process modeling use case diagrams, activity diagrams, sequence diagrams, database design, and interface design according to the design that has been made. From all the stages that have been carried out, an Android-based high school quiz application is then generated.

Keyword : *Android, app, quiz, waterfall method*

INTRODUCTION

The development of information technology is growing rapidly. Modern humans need tools that can simplify their lives to be effective and efficient. The technology that exists today is very helpful for humans in carrying out activities and developing over time. The technology being developed at this time is an Android-based smartphone which is a Linux-based operating system and is able to outperform iOS and blackberries. Android uses the most user-friendly mobile operating system in the world today. With a fairly easy use and become the latest trend in the modern market.

In the teaching and learning process, there is an interaction between the teacher and students or students with other students, either directly or indirectly. The success of student learning depends on several factors, including internal factors, one of which is the ability and confidence of students, and external factors such as characteristics of subjects, teacher competencies and methods used by teachers in the learning process. One of the methods used is the Quiz learning method. Giving quiz assignments is part of an effort to add insight and improve their abilities about what is being studied. Quizzes are often used as the main instrument to measure the level of student achievement in mastering a subject. In other words, the teacher gives a quiz as part of the student assessment. So, the quiz method is used to measure students' readiness in participating in the learning they will receive.

According to the author's interviews and observations at Xyz High School that the method used by the teacher is still conventional by giving assignments through textbooks or in oral form, thus making an android-based quiz application can help and facilitate teachers and students in the process of getting to know student learning outcomes in one subject. that they can achieve or do anywhere without having to be in school hours.

Definition of Applications, Quizzes and Learning Methods

Applications are a subclass of computer software that uses the immediate capabilities of a computer to perform tasks that users want. Usually compared to system software that

integrates various computer capabilities, but does not directly use these capabilities to perform tasks that benefit the user. Stating that students will study more diligently if they know there will be a quiz. Therefore, giving quizzes is one way to motivate student learning . There are several types of learning methods in general, namely: lecture method, discussion method, demonstration method, combination of lecture method with other methods, recitation method, experimental method, study tour method, skills training method, team teaching method, peer teaching method. , problem solving method, project method.

Android and Android Version

Android is an operation for Smartphones and Tablets. The operating system can be described as a 'bridge' between the device (device) and its user, so that the user can interact with the device and run the applications available on the device. In the world of personal computers, the most widely used operating systems are Windows, Mac, and Linux. Since April 2009, Android versions have been developed under code names taken from the names of desserts and sweet treats. Each version is published in alphabetical order.

Java, Database and SQLite

Java is the name of a group of technologies for creating and running software on stand-alone computers or in a networked environment. Java is also a mobile programming language because it can run on various operating systems. That is why the term “write once, run anywhere” is known. A database is a collection of interconnected data, stored on computer hardware and used in software to manipulate it. SQLite is one of the most popular embedded software, the combination of SQL interface and very little memory usage with very fast speed .

RESEARCH METHODS

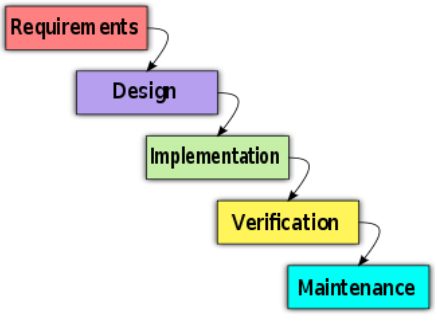
The research method used in this preparation is to use descriptive methods, namely research conducted based on actual data by comparing theories and then drawing conclusions. Data collection method is a method used to collect data from an application. To obtain the data needed in this preparation, the authors use data collection methods. The data collection method used by the author to compile this journal is as follows.

App Design

Application design can be defined as drawing, planning and sketching or arranging several separate elements into a single and functional unit. Application design determines how the system will be designed, shaped and engineered in such a way.

Waterfall Method

The Waterfall method is a sequential software development process, where the process continues to flow from top to bottom (like a waterfall) through the Needs phase (needs analysis), Design (design and modeling), Implementation (application), Validation (testing)), and maintenance.



Picture. Waterfall Method

Needs (need analysis)
In this step, an analysis of application requirements is carried out. Data collection at this stage can be done by conducting studies, interviews or literature studies. A researcher will extract as much information as possible from the user so that an application/program will be created that can perform the tasks desired by the user.

Design (Design / Design)
The Design Process will translate the requirements into a software design that can be estimated before implementation. This process focuses on Procedure Details (Flowchart & Diagram), software architecture, interface representation.

Application
This stage is the actual stage in working on an application. In the sense that the use of computers will be maximized at this stage. That is the stage where the entire design is converted into program code. The resulting program code is still a module which will then be integrated into a complete application to ensure that the software requirements have been met.

Verification (Integration & testing)
This stage can be regarded as the final stage in the application process. That is the level of validation by the user. The user will test whether the application that has been made is in accordance with the wishes of the user. This stage is final in programming, but not in program development methods.

Maintenance
The final stage of application development in the Waterfall model is maintenance which includes the process of installing and repairing applications according to the wishes of the user or according to the work contract.

RESULTS AND DISCUSSION

Results
At this stage, the results of all functions in the application will be explained, such as displaying name input, questions, true or false results and displaying exit or re-entry, which will be explained in the steps below. So that users can understand in detail how to run it.

Icon
This display will display the quiz application on the offline android menu and display the android-based high school quiz application icon display as follows:

Image. Icon

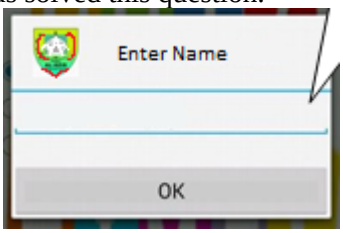
Quiz App

is the display of the quiz application, here the user must click the android-based high school quiz application icon to enter the next screen.

Picture. Quiz App

Enter Name

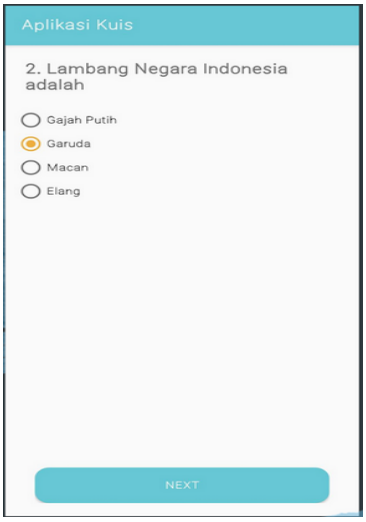
Entering a name in an Android-based high school quiz application where entering a name is intended to find out which user has solved this question.



Picture. Enter Name

Question Display

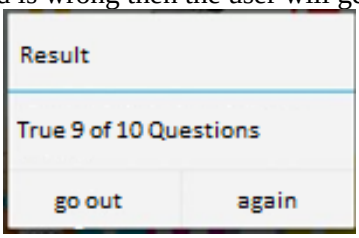
Questions where users will answer questions on an android-based high school quiz application.



Picture. Question Display

Result Display

Here the user can see the display of the obtained values. If the answer is correct the user will get a value of 1, if the answer entered is wrong then the user will get a value of 0.



Picture. Result Display

Discussion

System Work Procedure

The system work procedure contained in the Android-based high school quiz application begins with the user clicking the application icon. Next, the application will display the name input display. To be able to enter into the application, the user will be asked to enter a display name first before being able to enter the question screen. After entering the application, a question display will appear, where the user can enter the answer as desired. If the answer entered has expired then if it is true the user will get a value of "1" and if it is wrong the user will get a value of "0". If you want to work on the problem again, click "Again", otherwise click "Exit".

CONCLUSION

Based on the results of the implementation of the Vocational Quiz Application, it can be concluded that:

1. The android-based high school quiz application can be used by students in doing the quiz given by the teacher using an android-based smartphone.
2. The android-based high school quiz application can be implemented on the android operating system.

SUGGESTION

In this case the author provides suggestions that may be useful for the progress of this High School Quiz Application, namely:

1. The SMA Quiz application is still very simple, so it is necessary to add features in the application to make it look attractive.
2. It is expected to provide a voice function so that users can find out the number of correct and incorrect questions being worked on.

REFERENCES

Setyabudhi, A. L., Setyawan, D., & Alfiana, D. Y. (2019). Sistem Pengelolaan Data Pengadaan Dan Transaksi Penjualan Pisang Sunpride Cabang Batam Menggunakan PHP Dan MYSQL. *JR: Jurnal Responsive Teknik Informatika*, *3*(01), 23-39.

Widiastika Asti, M., Hendracipta, N., & A Syachruroji, A. S. (2021). Pengembangan Media Pembelajaran Mobile Learning Berbasis Android Pada Konsep Sistem Peredaran Darah Di Sekolah Dasar. *Jurnal Basicedu*, *5*(1), 47-64.

Komalasari, H., Budiman, A., Masunah, J., & Sunaryo, A. (2021). Desain Multimedia Pembelajaran Tari Rakyat Berbasis Android Sebagai Self Directed Learning Mahasiswa Dalam Perkuliahan. *Mudra Jurnal Seni Budaya*, *36*(1), 96-105.

Fatmawati, F., Yusrizal, Y., & Hasibuan, A. M. (2021). Pengembangan Media Pembelajaran Berbasis Aplikasi Android Untuk Meningkatkan Hasil Belajar IPS Siswa. *ELEMENTARY SCHOOL JOURNAL PGSD FIP UNIMED*, *11*(2), 134-143.