IMPLEMENTATION OF GOLEM BASED MOSTLY MOBILE LEARNING APPLICATION AS A VERSATILE LEARNING MEDIA
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Abstract

Computer technology has been experiencing a quite fast development within which it, in turn, has additionally caused a modification in human life vogue. one among technologies delivery an impression on such life vogue is within the use of technology embedded in mobile communication devices. Nowadays, a brand new trend in e-learning is thought as Mobile Learning, the employment of moveable media like smartphone. This analysis uses the Development and analysis technique a search to make and develop m-learning that may be used as a versatile learning media. Meanwhile, for the planning of code, this analysis uses falls technique. The result obtained from this analysis is that ninety fifth of user from university students get pleasure from in victimisation the application of mobile learning and it is solely five-hitter will not get pleasure from. At last, it is terminated that the employment of the mobile learning application will create the educational method additional versatile.

1. Introduction

Computer technology has apace been up. This, as a result, has created a modification in human life vogue. one among technologies that have brought an impression on this life vogue is that the use of laptop technology embedded in mobile communication device. The employment of this technology, in fact, will facilitate human in getting the update info in several aspects, one among that is in academic facet. On the opposite facet, the fast development of science ANd technology within the style of info and communication technology (ICT) has brought an impact on any fields together with in academic and learning field in that the data of learning will be apace delivered to all learners through web.
The options of web technology embrace being continuously be accessible anyplace offers all its simplicities. For these options, web has been turning into a really appropriate media for the event of consecutive education. The implementation of knowledge and Communication Technology (ICT) in academic world, in turn, can improve the standard of the education itself. The implementation of ICT in establishment |institution |establishment} these days has been a should since it will be one of indicators for action of an academic institution. several academics or lecturers use the advance of technology, in this case web, as on-line learning additionally referred to as e-learning. E-learning (electronic learning) is one among the aspects of the ICT implementation in establishment. it's outlined as a media of delivering the content of learning or expertise in learning electronically with the use of laptop of laptop based mostly media[1]. According to international convention[2], learning content will be distributed through net or CD/DVD. In addition to learning content e-learning will monitor the performance of the faculty students.

A new trend in e-learning today is thought as Mobile Learning the use of moveable media like Smartphone either victimisation the golem system, IOS or Windows Phone. The use of Mobile Learning to support the teaching- learning method is thought of vital to add the flexibleness within the activity of teaching and learning. Thus, the educational method is done anyplace and anytime

2. Literature Study

The term of info technology has been turning into widespread in the finish of Nineteen Seventies. Previously, this term was usually referred to as technology or electronic processing. info Technology is outlined as technology of process and sending knowledge victimisation hardware and code, computer, communication and digital electronic. The development of communication technology in Dutch East Indies is usually dynamic from time to time. As a developing country, Dutch East Indies continuously adopts any info technology till it involves an era wherever the use of web can have started to be a daily consumption referred to as web based mostly technology.

The development of info technology extremely influences communication technology. E-mail may be a core key for the modification of communication manner. solely victimisation one E-mail address, the user will follow any models of communication provided on web such as: Forum, Mail list /Group, Social Network sites, journal or Sharing File Sites. The improvement of life quality has additional needed human to do any activities required by optimizing the accessible sources. info and Communication Technology (ICT) that features a fast development indirectly has duty-bound human to

use it in any activities. The use of mobile learning cannot be apart from the event of mobile technology. For this reason, technology of mobile learning additionally desires supports from infrastructure from digital communication system in mobile devices shows the infrastructure of digital communication system in mobile devices [3].

2.1. E-Learning

E-learning stands for electronic learning a brand new manner within the teaching and learning method victimisation electronic media notably web as its learning system. Through E-Learning, it is attainable for the learners to learn victimisation Learning refers to the employment of web technology to send a series of solutions that may improve information and skill[4]. From this definition, it is terminated that e-learning may be a recovery of learning content electronically distributed through net (Internet and/or Internet) or through CD/DVD (offline) and it is equipped with analysis parts inside[5]. supported technology that's used, e-learning is divided into bases of technology including:

1. CBT (Computer based mostly training)
2. LMS (Learning Management System)
3. Application of Web-based Learning

2.2 M-Learning

Mobile Learning may be a learning model that's done entomb place or surroundings victimisation moveable technology regardless of area and time. With its potencies and excellences, Mobile Learning is expected to be one of various learning sources that will enhance potency and effectiveness of learning method for human.

Mobile learning as AN intersection of Mobile Computing and E-Learning providing resources that may be accessed in anyplace has capability in a superb looking out system, made interaction ANd full support towards an effective learning and performance-based assessment. additionally, it’s a characteristic of not being hooked in to time and area. Education needs AN various learning model generally not dependent on time and area. It is additionally expected that the various model will facilitate information sharing and information image so as to form information additional attention-grabbing and straightforward to understand[6]. the employment of knowledge and communication technology in education has been continuously being developed in any numerous methods and expected patterns. e-Learning system as a learning type that uses a set of electronic devices and digital media or mobile learning (m-Learning) refers to a learning type notably victimisation mobile devices and communication technology. The use of this m-learning technology is aimed to
assist the university students or society to be in a position to access the lecture materials or info anytime, anyplace and in any conditions. laptop in their own places, rather than physically Aplikasi m-Learning attending the category for learning.

Since the term of e-learning contains a really broad that means, Operator Server m-Learning any specialists outline e-learning from any views. e- the applying of mobile learning is developed employing a selection of mobile technologies and platforms[7]. every implementation of mobile learning has a totally different characteristic. the applying of mobile learning consists of:

1. Mobile Devices
2. Software
3. Content of application

In a learning activity (classroom instruction), mobile learning plays three roles:

1. Nonobligatory supplement
2. Complement
3. Substitute

3.2. Mobile Programming

Android package is one among new styles of package in mobile communication device. This package has a Linux base. golem provides AN open platform for developers to form their own applications to be employed by any varied mobile devices. The update options and specifications of OS golem embrace application framework, Dalvik Virtual Machine, integrated browser, optimized graphic, SQLLite, media support, GSM phonephone, Bluetooth, EDGE, 3G, WIFI, camera, GPS, compass, and measuring device. Operating system of golem primarily relies on a pair of6.x version Linux kernel that's a monolithic kernel. This kernel consists of driver wont to hardware on mobile devices like screen, keyboard, and camera, USB, wireless local area network and Bluetooth.

The kernel additionally provides interface on hardware and memory management. The Library accessible during this kernel a library is needed to translate Java language, which, during this case, is handled by Core Libraries. Dalvik Virtual Machine: Register based mostly Virtual machine optimized to run the functions expeditiously within which this is often a development that's able to create Linux kernel to do threading and low-level management.
The development of application in golem package is done by victimisation 2 sorts - linguistic communication or net base. the employment of linguistic communication is that the earliest manner within which the development of this golem operational system based mostly application uses Java artificial language as a base programming. the event of golem application uses variety of basic parts as follows:

1. Activities (Activity base class),
2. Service (Service base class),
3. Content supplier (ContentProvider base class),
4. Broadcast Receiver functioned to receive and run BroadcastReceiver
5. Message (Intent class).

3. Analysis Technique

The analysis technique in this analysis used Development and analysis technique, a search to make and develop m- learning that may be used as a versatile learning media. The steps of the analysis that may be done area unit as follows:

Literature Study:
1. Mobile Learning
2. Golem package
3. Net Base Technology

2.5. Blackbox Testing

The take a look at of Black Box treats code as “Black Box” with none information concerning the interior work and it solely examines the elementary aspects of the system. whereas throughout the take a look at of recording equipment, the tester should conclude the design system and cannot have any accesses to the code of the sources [9]. Black-Box Testing tends to search out out the subsequent points:

1. Error or unobtainable operate
2. Interface errors
3. Errors on organization and access of info
4. Performance errors
5. Error in data format and termination
Black Box testing is designed to answer the following questions:

1. However area unit these functions tested to be valid?

2. What reasonably input that may be a decent testing case material?

3. Is that the system sensitive to sure inputs?

4. However will a bunch of information be isolated?

**Software Planning:**

1. Drawback Identification

2. Collection knowledge

3. Want analysis hardware and software

**System style**

1. Interface style

2. Basis knowledge style

3. Creating ASCII text file

**System Testing**

Result?

ImplemeSystem style finish

Further, {the technique|the tactic|the strategy} employed in code style used falls method, a way suggesting a scientific and ordered approach accessible in SDLC. This technique emphasizes on AN order within the method of code development.

Scores for college students

1. The requirements of hardware wont to develop the applying of m-learning includes as follows: User Name Mata Kuliah
   a. laptop: Intel® Core™ i5-3330S Processor (2.7 GHz,

   Password

   Evaluasi

   Cache 6M)

   b. RAM DDR three a pair of GB PC-10600

   c. HDD 320 GB
2. golem Device
d. Monitor liquid crystal display 20”

Footer

Footer

a. Samsung Galaxy ACE three
b. Samsung Galaxy S4

Meanwhile, the requirements of code wont to develop the m-learning application embrace as follows:

1. IDE pad ++
2. JQuery Mobile
3. Phonegap
4. Beta.appinventor.mit.edu

The needs of users on this application carries with it computer user, lecturers, and school students. The code designed are going to be employed by 3 styles of user. Table 3.1 shows the detail of the sort.

The application take a look at victimisation the recording equipment testing is employed to search out out the practicality of the system whether or not it works properly with the style or not. Meanwhile, the implementation testing of the system is conducted victimisation questionnaires that are unit distributed to thirty school students.

4. Testing and Implementation

This half is said to the testing and analysis of code and implementation of code application. This code User Rights of Adding the Managing the is tested based mostly on practicality and performance in the surroundings of testing at Study Program of ADP system in Diponegoro University. Administrator lecturer users 2. Managing system system show comprehensively

4.1 Testing Of Administrator System

The first testing is to check the page of administrator on the system of application.

4.2 M-Learning Testing

The part of m-learning application testing includes:

1. User installs the applying of m-learning on the mobile communication devices.
2. User will login supported the amount given

3. User runs application

The testing on the m-learning application performance uses the Black Box testing. This testing is used to test the practicality of every element within the m-learning system. Table 4.1 shows the results of the testing.

4.3 Implementation

The application of mobile learning will be accessed at http://elearning.ce.udip.ac.id victimisation the golem mobile communication device. to check this application, thirty school students are concerned because the users. The parameters of this take a look at include:

1. Acceleration in accessing the page
2. Acceleration for the login to the system
3. Acceleration for downloading the file of lecture material in PDF type
4. Delivering quiz/evaluation of the lecture
5. Layout of module and material on layout
6. Clear writing size (caption, texts, and typography)
7. Simplicity within the use of navigation
8. The show of interface web site style layout for the educational media
9. The displayed options area unit in accordance with the requirement of lecture. Of the parameters of the take a look at given, it's found from the result that ninety fifth of the user feels comfy and happy in victimisation the applying of mobile learning. five-hitter of the user, on the different hand, feels uncomfortable in accessing the applying of mobile learning. it's thanks to the matter in telecommunication network employed in accessing the mobile learning.

5. Conclusion

Some conclusions below is drawn from this research:

1. The applying that's created is in accordance with the requirement of the user
2. Supported the results of the take a look at victimisation the case of recording equipment, it's found that the code will conclude the functions that area unit incorrect or missing, interface errors, performance error, data format, and termination error. Functionally, the take a look at has given the result needless to say
5. ninety fifth of user of school students state that they're happy in accessing the applying and it's solely of them feel uncomfortable

4. By victimisation the applying of mobile learning, the educational method is additional versatile since it will be done anytime, anyplace and in any conditions.

References


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