E-LEARNING WITH VIDEO CALL, CHAT, PRESENTATION-VIEW MEDIA WEB BASED WITH FRAMEWORK CODEIGNITER

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ABSTRACT

E-Learning is the educational system that uses electronic applications to support the development of teaching and learning activities with the internet, intranet or other network media. E-Learning allows the educational process without face to face. Development of science to students also can be done easily. E-Learning itself is equipped with amenities such as video call, chat, and presentation view so that teaching and learning become more effective and efficient. Teaching and learning activities through e-Learning website allows flexibility of higher learning, because teachers and students can access learning materials at anytime from anywhere and can access it repeatedly. Lecturers can also provide materials and tasks, and students can access the materials and do the tasks from anywhere and at anytime. In addition, the test can also be done online. This mode of learning can save cost, apart from the benefits of effectiveness and high accuracy of the learning process.

Key Word: Website, E-Learning

INTRODUCTION

The world is developing rapidly with the development of information technology utilizing the particular internet technology which has a lot of potential and resources that can be utilized. Today, the use of information technology not only for the continuity of the company's production facility or institution to obtain the latest information, especially in Indonesia, but also can give good impression and professionalism for the education agency. Development of Information Technology is providing new ideas in an educational institution to create a need for a concept and IT-based learning mechanism commonly referred to as e-Learning. The concept, known as e-Learning, brings the influence and the transformation process of conventional education into a digital form, both the content and the system.

E-Learning is the educational system that uses electronic applications to support the development of teaching and learning activities with the internet, intranet or other network media. E-Learning allows the educational process without face to face. Development of science to students also can be done easily. E-Learning itself is equipped with amenities such as video call, chat, and presentation view so that teaching and learning become more effective and efficient. Teaching and learning activities through e-Learning website allows flexibility of higher learning, because teachers and students can access learning materials at anytime from anywhere and can access it repeatedly. Lecturers can also provide materials and tasks, and students can access the materials and do the tasks from anywhere and at anytime. In addition, the test can also be done online. This mode of learning can save cost, apart from the benefits of effectiveness and high accuracy of the learning process.

Based on the background mentioned above, it can be formulated that the problem is as follows;

1. How to design an e-Learning application with video call facility, chat and presentation view media web based with CodeIgniter framework?
2. How the implementation of e-Learning applications with video call facility, chat and view the presentation support the teaching and learning activities?

The purpose of making the application of e-Learning web-based media, are as follows:

1. To build and develop e-Learning applications with video call facility, chat and presentation view web-based media with CodeIgniter framework.
2. To implement e-Learning applications with video call facility, chat and view the presentation in supporting the teaching and learning activities.

Boundary problem for this case include:

1. E-Learning application can only be used by the college.
2. E-Learning applications can only be accessed when connected to the Internet.

Urgency of the study include:

1. For the general public especially students and lecturers, this application serves to facilitate the teaching and learning activities among teachers and students as well as improve the quality of education that is more flexible, efficient and effective.
2. For the author, the creation of this application can determine the design and implementation of an application made namely the e-Learning Applications with video call, chat and presentation view web-based media with CodeIgniter framework.

RESEARCH METHODOLOGY

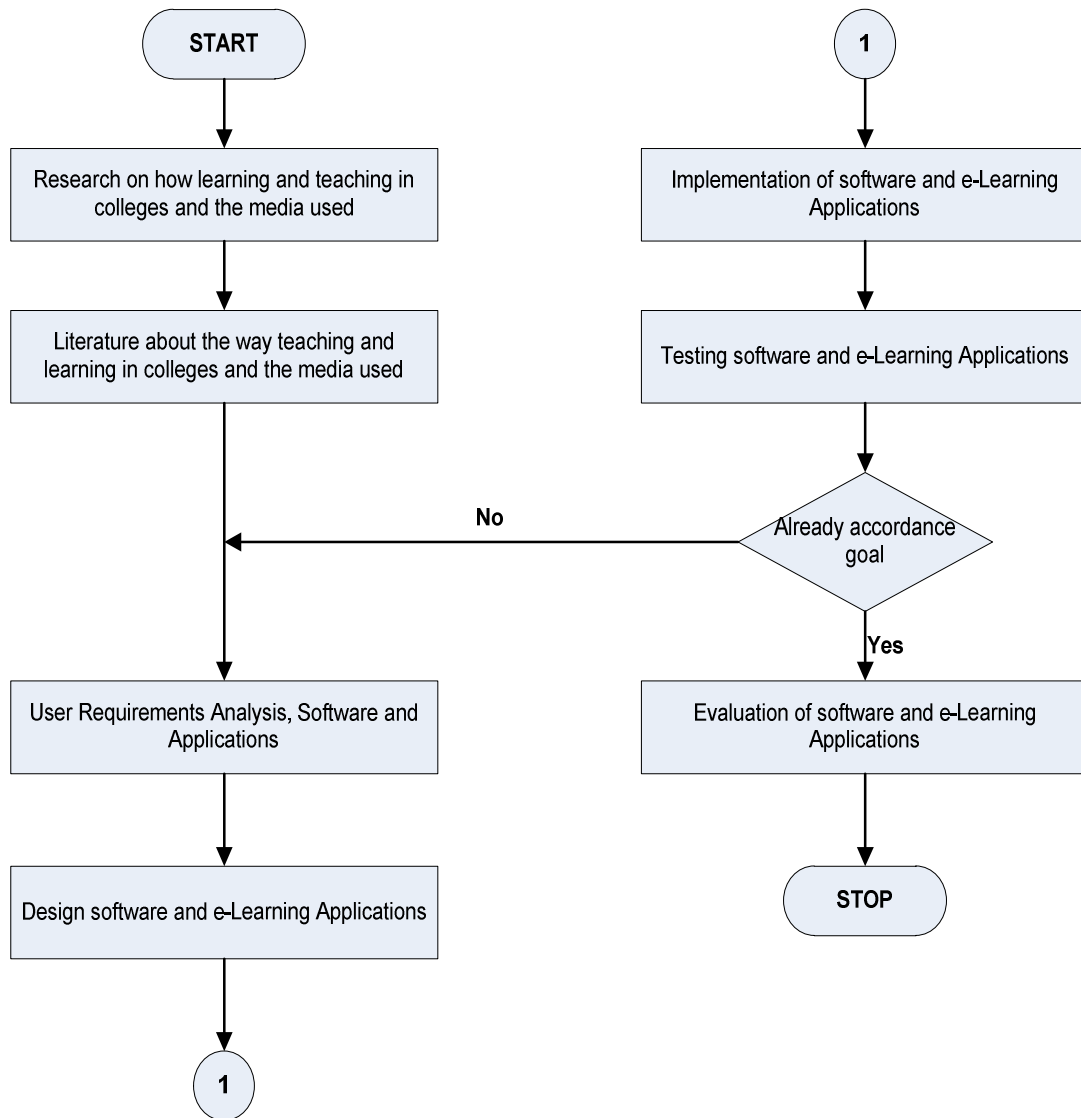The methodology used in this study can be explained through the flow chart as shown in Figure 1.

Figure 1. Flowchart of research methodology.

Stages of research achievement indicators can be explained in Table 1.

No.	Stages	Indicators
1	Research on how teaching and learning in colleges and the media being used	Identification of some of the problems that exist on the media being used in teaching and learning in colleges

No.	Stages	Indicators
2	Literature about the way teaching and learning in colleges and the media being used	Understanding and establishment of the learning concept through e-Learning web media for teaching and learning in colleges
3	User Requirements Analysis, Software and Applications	Formation of specification requirements for e-Learning web design, software used and the features that users require.
4	Design software and e-Learning Applications	Interface formation, Database and mechanisms systems for e-Learning web
5	Implementation of software and e-Learning Applications	E-Learning applications with video call, chat and presentation view with web media
6	Testing software and e-Learning Applications	Identification error on device, system or software
7	Evaluation of software and e-Learning Applications	the realization of the correspondence between software implementation and design of the software.

Table 1. Indicators of the achievement of the research stages.

Stages used in doing and completing this study are as follows:

1) E-Learning Literature Review

Electronic learning systems or e-Learning is a new way of teaching and learning process. E-Learning is fundamental and consequence logical of the development of information and communication technology. With e-Learning, teaching participants (learner) do not have to sit in a classroom for listening to every word of a teacher directly. E-Learning can also shorten the learning time target schedule, and of course save costs to be incurred by a program of study or educational program. By using the medium of e-Learning, participants and teachers can do teaching and learning activities without determined by time and place.

2) Business process analysis, user needs, Computer and Software

E-Learning applications with video call, chat and presentation view web-based media with CodeIgniter framework is one of the media that is applied to make easy the teaching and learning activities that prioritizes flexibility and also makes the learning activities more efficient and effective. This app is one of the supporting medium of learning in order to improve the quality of education, especially distance education. This application provides many advantages such as saving time for teaching and learning, reducing travel costs, save on the overall cost of education (infrastructure, equipment, and books), to reach a wider geographic area, and train students more independent in getting knowledge. Some of the facilities contained in this application include video call with lecturers, chat with lecturers, watch a presentation of lecturers and do the tasks, quiz and exam given by the lecturer.

The main target user of this application is the students throughout Indonesia who want to attend a lecture at a college that is hampered by distance, time and cost.

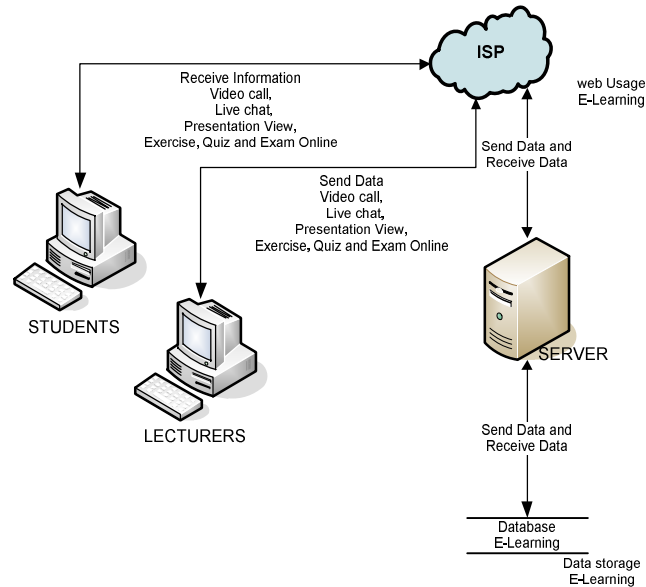Here is the general overview of the system:

Figure 2. System Overview

Lecturer sending or requesting data from the database through an Internet Service Provider (ISP) which is then forwarded to the server, then the data will be stored into the database and returned to the lecturers in form of information. Likewise, students can send or request data to an ISP that is forwarded to the server, then data is stored into a database and returned to students in form of information.

Use case system consisting of actors/users of information systems that will manage the content/services in the information systems and information system functionality overview. So the use case diagram is a depiction of the system from the viewpoint of the system user (user). The following figure is the use case of this system:
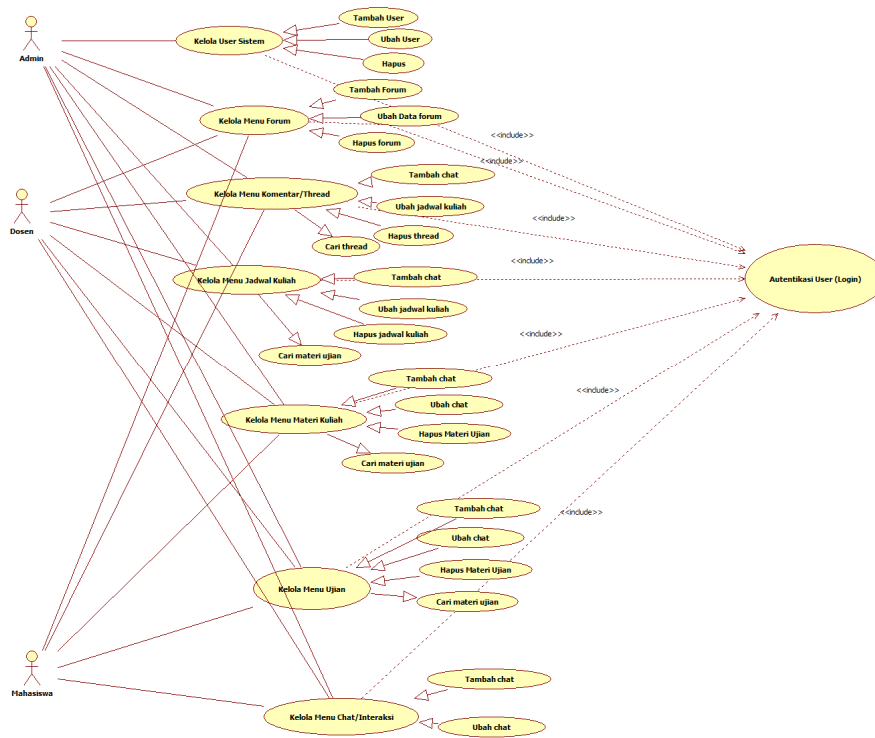
Figure 3. Use Case System e-Learning Applications

Some menus are available on the website for the following:
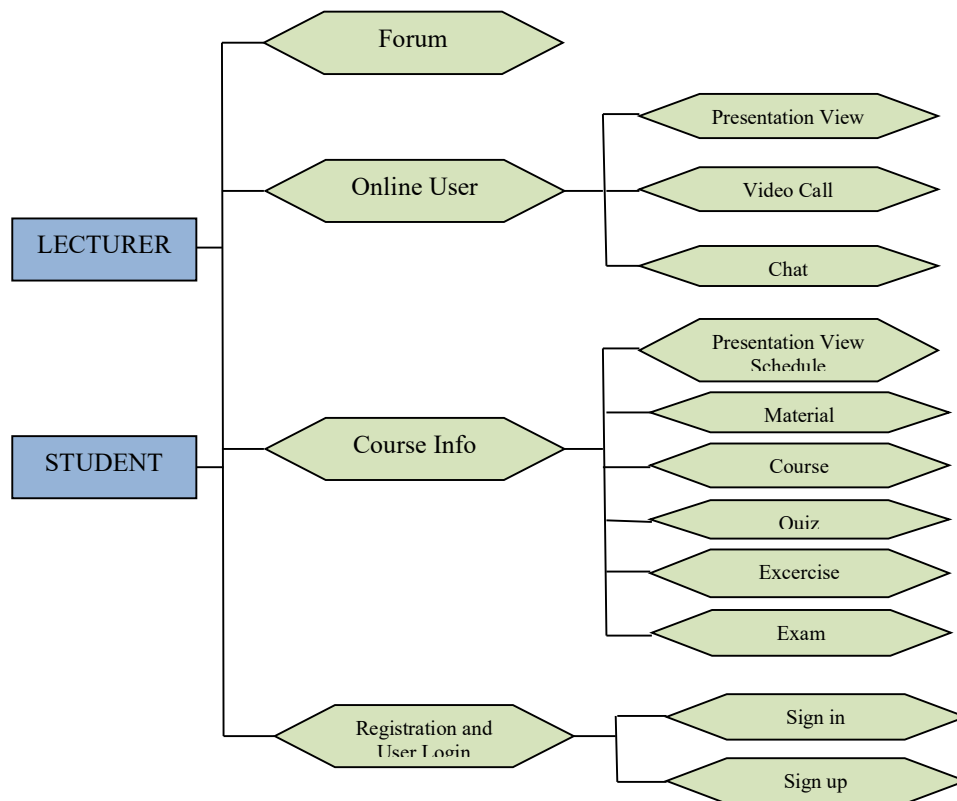
Figure 4. Features and Menu System

From Figure 2 we can see few features that will be developed in e-Learning Applications with video call facility, chat and presentation view web-based media with CodeIgniter framework.

1. For Students

    *   Forum is a menu that is used as a means of interaction among users who enter the e-learning website to share information about the courses.
    *   User Online is a menu that is used by students to do conversations and consultations with lecturers that can be done with video calls, chats and also students can see the presentation displayed by the lecturer.
    *   Course Information menu is used to provide information about the presentation schedule of courses to be taught, to download materials subject to be taught, and to follow and implement the course, quiz, exercises and exams that are organized by the lecturers in accordance schedule.
    *   Registration and User Login is a menu that is used by students to log in, so they can enter the e-Learning website. And if the students do not yet have accounts, then they need to register in advance in accordance with the terms and conditions imposed by the college.

2. For Lecturers

- Forum is a menu that is used as a means of interaction among users who enter the e-learning website to share information about the courses.
- User Online is a menu used by lecturers to conduct a conversation or consultation with the students can be done with video call, chat and lecturers can also show the presentation materials to students.
- Course Info menu is used to set a schedule of presentations by lecturers, to upload material subject to be taught, as well as making course, quiz, and exam which will be followed by students.
- Registration and User Login is a menu that is used for lecturers to log in, so they can enter the e-Learning website. And if the lecturers do not yet have accounts, then they need to register in advance in accordance with the terms and conditions imposed by the college.

3) Design System

E-Learning applications with video call, chat and presentation view web-based media with CodeIgniter framework is a media that is applied to make easy the teaching and learning activities that prioritizes flexibility and also makes the learning activities more efficient and effective. This app is one of the supporting medium of learning in order to improve the quality of education, especially distance education. This application provides many advantages such as saving time teaching and learning, reducing travel costs, save on the overall cost of education (infrastructure, equipment, and books), able to reach a wider geographic area, and train students more independent in getting science. Some of the facilities contained in this application include video call with lecturers, chat with lecturers, watch a presentation of lecturers and do the tasks, quiz and exam given by the lecturers.

This application is created using programming technology web-based media with CodeIgniter framework. In the manufacture and testing of these applications, hardware specifications and software that will be used are as listed below.

1. Hardware

Hardware specifications used to build this system include:
a. Processor Intel(R) Core i3
b. Memory (1GB DDR3 SDRAM)
c. Hard disk 320 GB
d. VGA NVDIA 1 GB

2. Software

Specifications of the software used are:
a. Windows 7 as basic operating system
b. Dreamweaver 6 as editor
c. Xampp as database and web server
d. CodeIgniter (CI) as web-based framework

RESULTS AND DISCUSSION

The implementation stage is the stage in which the realization of the whole analysis, where design is being presented into a real product.

Interface implementation

Interface implementation provides exposure to any display application built. Information Systems Applications menu :

1. Manage User Access Rights Menu
2. Manage Data Forum
3. Manage Data Comments / Thread
4. Manage Data Exam
5. Chatting Menu

Here are the result displays of e-Learning Applications with video call, chat and presentation view media web- based with framework CodeIgniter:

1. Display User Login (User Authentication)
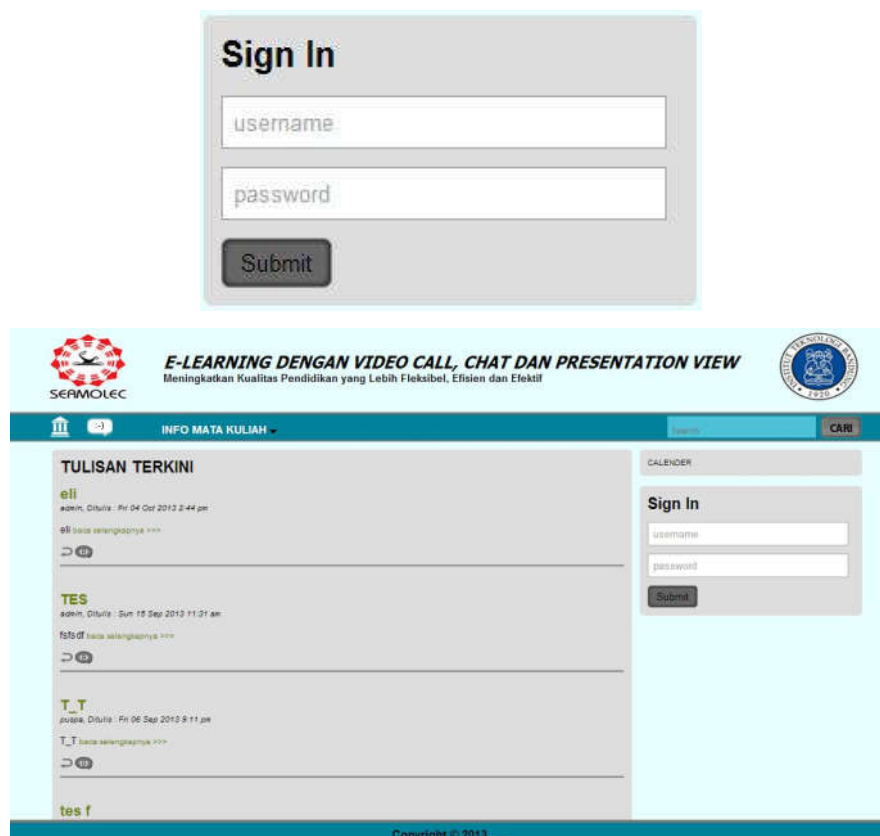
Figure 5. Display User Login

2. Page Views Administrator

Figure 6. Display Administrator Page

3. Page Views Lecturers

Figure 7. Display Lecturers Page

4. Page Views Students

Figure 8. Display Students Page

The stage of software testing and application of e-learning system is done with several stages starting from the introduction of applications, experimental application and testing applications that are tailored to the testing procedures with respect to the input of the test then the expected output and the end of the evaluation criteria, the results obtained from testing until the conclusion.

Software evaluation conducted in accordance with the results of the testing phase, software and e-Learning application has been running in a website platform and can be used to help all parties concerned and is in conformity with the objectives of this research.

CONCLUSION

Based on observations during the process of designing, implementing, and testing software, there are several conclusions that can be drawn, among others:

1. E-Learning applications with video call, chat and presentation view with a web-based media CodeIgniter framework will facilitate the learning process for e-Learning with video call, chat and presentation view the web media.

2. Students will be easier to use e-Learning Applications with video call, chat and presentation view the CodeIgniter framework-based web media which has an attractive interface, and user friendly.

3. E-Learning applications with video call, chat and presentation view the CodeIgniter framework-based web media can be used by everyone who needs e-learning applications.

From the above conclusion, there are some suggestions that may help and overcome the shortcomings of the system. The application needs to be notified to all teachers and students, so that e-Learning Applications with video call, chat and presentation-view media web-based with framework CodeIgniter can known and used by all parties involved.

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