

Digital Entrepreneurship Based E-Learning Implementation With Cooperative Learning Method

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Abstract

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This study aims to build an e-learning based on digital entrepreneurship as a student learning application using the cooperative learning method. This cooperative learning method is used because the focus of this learning application is the assignment of students in groups, while the digital entrepreneurship-based learning model is used so that students can take advantage of the assignments given for entrepreneurship with the applications they make. In this case students will be given assignments in groups and carry out group discussions online. The problem that has occurred so far is that the assignments that have been given to students are just assignments without any continuation of these assignments. The system to be built is a digital entrepreneurship-based learning application, namely an application regarding student assignments with the web method using the PHP programming language, and using the MYSQL database and the Cooperative Learning method. The system design method uses the waterfall model with a system design tool, namely the Unified Modeling Language (UML). The results of the research are in the form of learning media that can facilitate and assist lecturers and students in carrying out the learning process online

Keywords: Digital Entrepreneur, Cooperative Learning, Waterfall, UML, PHP.

INTRODUCTION

The application of technology in the form of web and mobile applications has been used in making educational applications. For this reason, the government is required to be more responsive in order to be able to adapt technology to the needs of people who are always updating [1]. In this case the use of digital applications in learning has been influenced by technological advances [2]. Along with the times, the ability to master digital technology is needed. [3]. Digital technology reflects the quality of education in Indonesia, so there are differences in the quality of education in

various regions of Indonesia. This digital revolution has changed the role of all players in the learning arena. Learning in the 21st century must be able to improve student skills such as scientific reasoning, leadership, communication and entrepreneurship, so that students do not only focus on learning outcomes [4]. The rapid development of technology has brought innovations that can play an important role in education, in this case technological advances touch various aspects of individual life [5]. A world entrepreneurship expert stated that entrepreneurship is the engine of world economic power. For this reason, the source of economic strength in countries

around the world is to create entrepreneurs in the current technological era, thus the formation of entrepreneurial character in the educational process must be a concern in order to achieve excellence in 21st century competition.

The Digital Entrepreneurship learning model for the millennial generation, was developed to suit the learning needs of the 21st century which has experienced changes in the concept of learning based on digital technology and mastery of entrepreneurial skills as a solution to facing the challenges of 21st century competition. The Digital Entrepreneurship Model has learning principles that move from developing community needs in the real world to solve social problems. The innovative side of the Digital Entrepreneurship learning model is the element of Digital Entrepreneurship or entrepreneurial activities using electronic (digital) means in the learning process with new literacy during the 4.0 industrial revolution period which is currently the 21st century learning frame.

The learning process is defined as a systematic process, because it consists of several interrelated elements, namely educators, students, teaching materials and the environment which are interconnected to achieve learning objectives [6]. Learning is a cognitive process of acquiring knowledge, and technology is part of the learning process. It can be interpreted that technology is used like other tools in the educational process [7]. Many new types of learning are mostly deeper understanding of the discipline combined with emotional intelligence, critical thinking, and creativity [8].

Students need to improve the system in the teaching and learning process by providing resources and activities that benefit students through the use of technology [9]. To achieve effective learning objectives, learning tools are used which are arranged and adapted to the learning model used by the teacher [10].

The learning model is a pattern that is always used as a guide in classroom learning and tutorials for university lecturers. The learning model must refer to the approach to be used, including learning objectives, environment and classroom management [11].

Adequate learning technology infrastructure and facilities in an area have better quality education compared to areas that do not have adequate supporting facilities in the use of technology. Knowledge is obtained not only in the classroom, but can be obtained anywhere as long as there are digital technology devices [12].

The purpose of this study is to apply a digital entrepreneurship-based learning model for students with a cooperative learning model in tertiary institutions, to create an entrepreneurial 21st century generation in the Information Systems Design Analysis (APSI) course. The digital entrepreneurship learning model is a design of learning steps that refer to project-based learning and product-based learning. This media was developed with learning steps that direct students to have the ability to become entrepreneurs in the digital era by applying new literacy skills 4.0.

For this reason, creativity is needed in building an entrepreneur. In this case creativity must be stimulated in active students to try, seek information, interpret knowledge from problems in the surrounding environment [13]. The main reason for developing an entrepreneurship learning model in the digital era based on new literacy in the 4.0 industrial revolution era is emerging.

RESEARCH METHODS

The learning media application development method used in this study is the waterfall model with the Unified Modeling Language (UML) as a system design tool because this system is object-oriented. The waterfall model is often also

called the linear sequential model or the classic life cycle.

The waterfall model provides a sequential software life-flow approach starting from the analysis, design, coding, testing, and support stages. The stages of the waterfall model software development method can be seen in Figure 1.

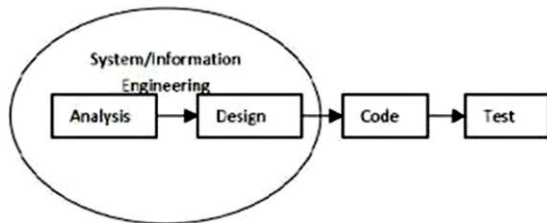


Figure 1. Waterfall Model

The stages of the waterfall model can be explained as follows:

1. Analysis of software requirements. In the software requirements analysis stage, the authors carried out 2 stages, namely: At the system requirements analysis stage, the authors conducted a system requirements analysis to build learning applications, namely regarding the methods used. For the system design method, UML is used and for the learning method, it requires online student and lecturer discussion media. For this reason, the cooperative learning method is used as a student learning medium. Analyze user needs. In this stage data collection is carried out by means of observation, interviews, and literature studies, namely the learning system that is needed by students in carrying out the learning process.

2. Design/design. In the design phase, the authors design thirteen files in a database to build this e-learning application.

3. Generating Program Code

Designs must be translated into software programs. The result of this stage is an e-learning application program that is in accordance with the design that was made at the design stage.

4. Testing (Test)

Testing of the application of this learning model has been carried out by experts. This is done to minimize errors (errors) and ensure that the resulting output is as desired.

RESULT

Global design can also make it easy for users to learn and use the applications produced by the system. This study uses the basic concept of SDLC system development with the waterfall model and is illustrated with a system design tool in the form of modeling used, namely the Unified Modeling Language (UML) which includes Use Case Diagrams, Sequence Diagrams and Class Diagrams.

1. Use Case Diagrams

Use case diagrams explain the benefits of an application when viewed from the point of view of people who are outside the system (actors).

This diagram besides showing the functionality of a system or class, also explains how the system integrates with the outside world. The student use case diagram shows a sequence of interactions between students and the system.

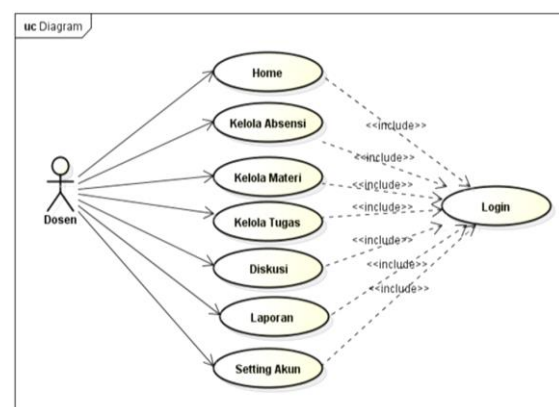


Figure 2. Use Case

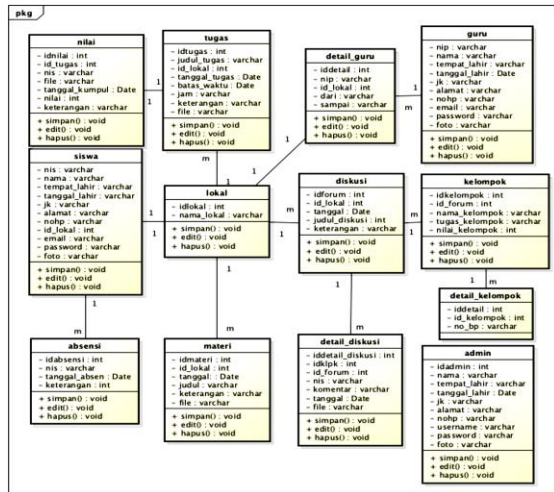


Figure 3. Class Diagram

This discussion stage is the stage for finding out what problems must be solved using a more efficient learning process at UPI YPTK Padang. The proposed problem solving is:

- Learning media designed for online learning processes to carry out teaching and learning processes can be carried out at any time using the system.
- Designed learning media will make it easier for lecturers to carry out learning activities and assign assignments
- The learning media designed can be accessed by admins, lecturers and students
- Reports produced by learning media that will be designed are student data reports and grade data.

Testing the learning process using digital entrepreneur-based learning media is carried out using the cooperative learning method. This stage contains a series of function tests and buttons on the system. The success rate of testing is measured by the fulfillment of system requirements and scenario specifications. The test module can be seen in Table 1.

| System description | | System testing procedure | System test results |
|---|---|---|--|
| Before | After implementing the proposed system | | |
| The learning process still uses a conventional system and | The learning process using this online system increases the | Students and lecturers conduct trials of the features | The learning process can be carried out online |

| | | | |
|--|---|---|--|
| there is no information system that supports the online learning process | performance of lecturers and the quality of learning received by students | available on their respective pages | |
| The provision of teaching materials and assignments is still done manually or face to face | Students and lecturers can input material and assignments in the available features | Enter materials and assignments in the provided | Ease of students , lecturers in providing materials and assignments remotely |

Table 1. Testing Models

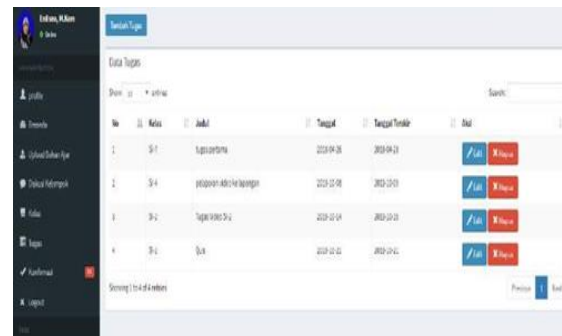


Figure 4. Display Of Program

CONCLUSION

The result of this research is a media learning that is applied to students in Per-teacher College. This model has been implemented in the Information Systems Design Analysis (APSI) course, Faculty of Computer Science at Putra Indonesia University YPTK Padang. Media _ This digital entrepreneurship -based learning can increase student motivation to be creative in becoming an entrepreneur with an application that he built himself. This shows that digital entrepreneurship learning media is effectively used for the millennial generation in higher education . It is recommended that there be development of other learning media applications to support the teaching and learning process in tertiary institutions.

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