E-Learning based on WBLP versus E-Learning Based On WBIS

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Keywords:

E-learning
WBLP
WBIS
Moodle
Joomla

ABSTRACT

Today, e-learning is the world trendsetter education in developing web-based educational systems. There are two types web-based educational systems on e-learning. Those are e-learning based on WBLP (Web Based Learning Package) and e-learning based on WBIS (Web Based Information System). The purpose of this research study is to determine the difference between e-learning based on WBLP and e-learning based on WBIS. E-learning based on WBLP is a web based e-learning which is developed using Learning Management System and already packed in a software learning package with several features such as moodle and joomla. E-learning based on WBIS is a web based e-learning which is designed through prototyping (analysis requirement, design system, design entity relationship diagram, database schema), programming, testing and maintenance. In conclusion, knowing the difference between WBLP and WBIS will enable e-learning developer to choose the suitable web based learning for the implementation. Therefore, choosing the right web based learning is a strategy to improve the competitiveness of learning in higher education, to improve online learning systems among learners, and to increase public knowledge in research and education through e-learning.

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1. INTRODUCTION

Since the rapid growth of information technology, the development of internet has increased dramatically and many countries in the world have made efforts to improve their internet services. The number of internet users increases globally everyday, specially students [1]. They used internet to search more information to complete their tasks. Consequently, the use of internet and its user-friendly interface the World Wide Web (WWW) have an impact of education [2]. By utilizing this technology, it has provided an opportunity to change the system from the conventional way of learning to the form of digital electronics. Digital electronics using web technologies for learners are known as electronic learning or e-learning.

E-learning makes information on learning delivered quickly and accurately as well as facilitating and supporting activities to promote the effectiveness and efficiency of anytime, anywhere learning [3]. It is also can be a strategy to improve the competitiveness of learning in college along with the development of internet technology. Eventually, it will improved knowledge among students through learning effectiveness by utilizing e-learning and supporting the development of knowledge in the research and education community [4].

By using web technologies, it is possible for developers to develop e-learning Web Based Learning Package (WBLP) or Web Based Information System (WBIS). However, many people are still confused of the difference between WBLP and WBIS. The main purpose of this research is to know the difference between WBLP and WBIS.

2. RESEARCH METHOD

The difference between e-learning based on WBLP and e-learning based on WBIS is measured using SDLC [5],[6]. SDLC (System Development Life Cycle) describe phases used by system developers to deliver information systems, as shown in table 1.

Table 1. Systems development life cycle activities

Committing Phases	Convincing Stages		
	Technical	Contextual	Situational
Analysis	Survey project scope and feasibility	Study the current system	Define the end-user's requirements
Design	Select a feasible solution from candidate solution	Design the new system	Acquire computer hardware and software
Implementation	Construct the new system	Deliver the new system	Maintain and improve the system

1. Analysis. Analysis phase define differences the end-user's requirements on WBLP and WBIS.
2. Design. Design phase require hardware and software specification to support design system implementation on WBLP and WBIS, such as database design and user interface design.
3. Implementation. Implementation phase deliver system to meets end-user's requirement on WBLP and WBIS using software development.

3. RESULTS AND ANALYSIS

a. E-learning Based On WBLP

E-learning Based On WBLP is a e-learning software package that is ready to be used, such as Moodle and Joomla. Using e-learning software package such as Moodle and Joomla does not require any programming skills. Developing e-learning using Moodle and Joomla is already provided in online tutorial (Table 2). So, in a short time developers can develop e-learning without having to master the techniques of web design and database design.

Table 2. Online Tutorial E-learning Based On WBLP

Moodle	Joomla
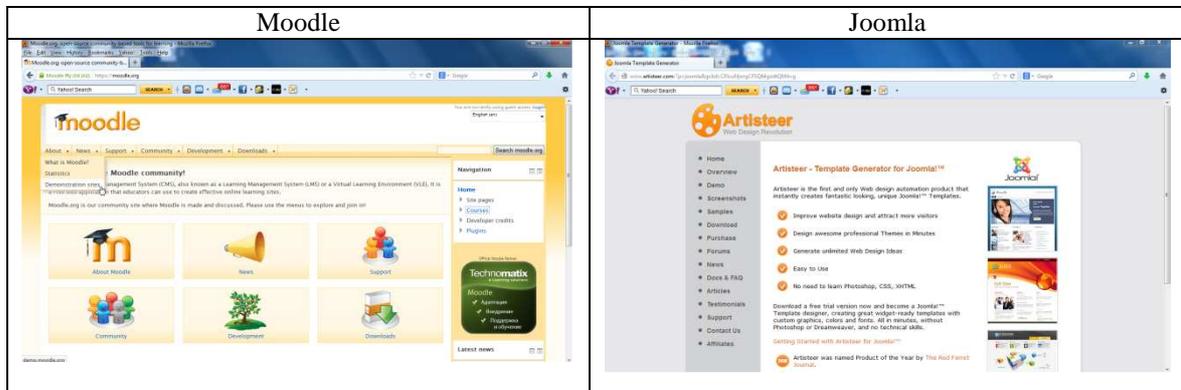
3.2. E-learning Based On WBIS

E-learning Based On WBIS is a e-learning based on information system. Developing e-learning based on information system should have knowledge in web design, design system, database design and programming skill. Knowledge in web design that is needed is to have skill on Photoshop, CSS, XHTML and others. While, knowledge in design system is on Data Flow Diagram (DFD), it is needed to show the "flow" of data through an information system, as shown in figures 1,2 and 3.
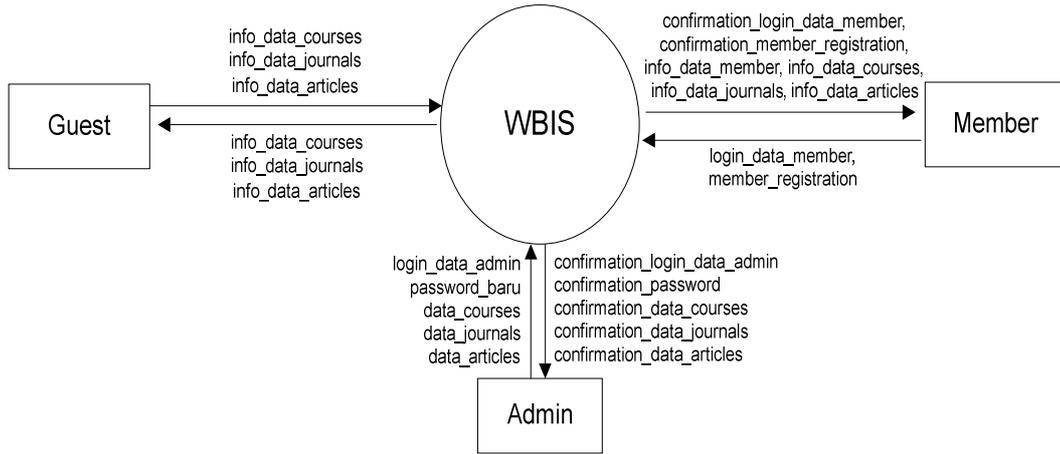
Figure 1. Context Diagram WBIS
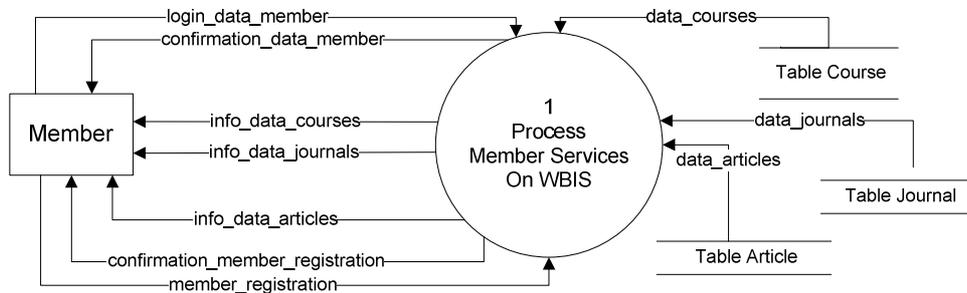
Figure 2. DFD Level 1 Member
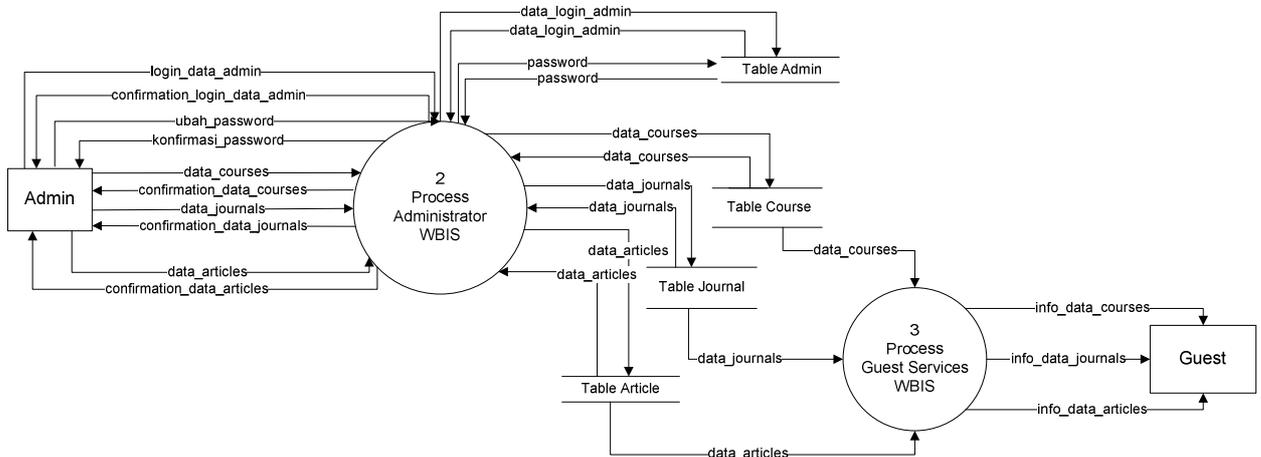
Figure 3. DFD Level 1 Guest and Administrator

Then, knowledge in database design that is needed is to have skill on designing Entity Relationship Diagram (ERD) and Database Schema as shown in table 3. Knowledge in programming skill is needed to support implementation dynamic web.

Table 3. ERD and Database Schema

ERD	Database Schema
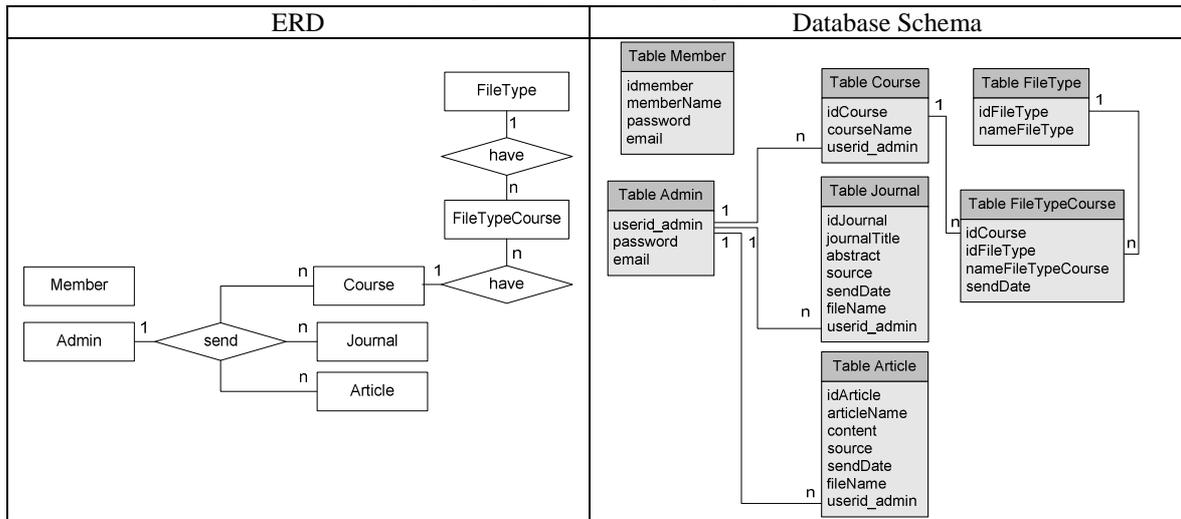
Although there are differences in designing E-learning Based on WBLP and E-learning Based On WBLP but both of them have similar output and purpose, that is providing a free web application that can be used by educators to create effective online learning sites (Table 4).

Table 4. WBLP versus WBIS

WBLP	WBIS
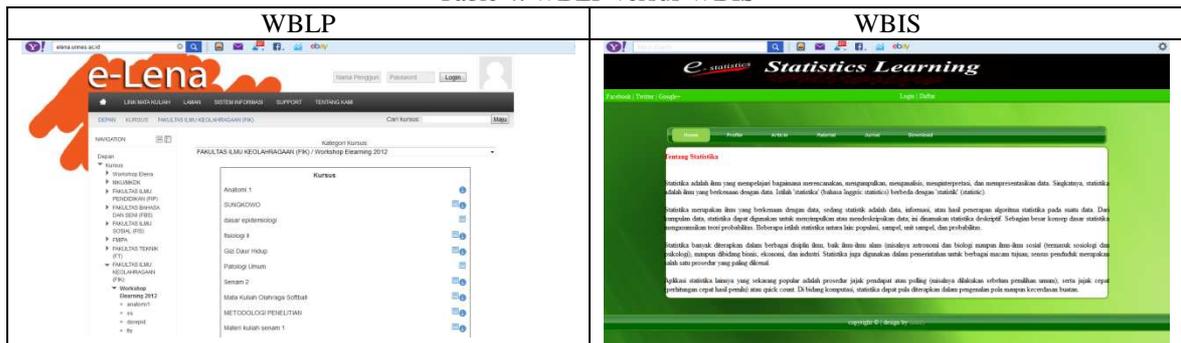
4. CONCLUSION

Based on results and analysis, the development of e-learning based on WBLP or e-learning based on has the same function that is to support the learning method based on web technology. E-learning developers on WBLP using software package such as Moodle or Joomla. So, developers are not required to have knowledge in design system and programming. E-learning developers on WBIS requires expertise ranging from requirements analysis, design system, implementation (include programming), testing, deployment to maintenance. Therefore, knowing the difference between WBLP and WBIS will enable e-learning developer to choose the suitable web based learning for the implementation.

ACKNOWLEDGEMENTS

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