International Journal of Cyber and IT Service Management (IJCITSM) p-ISSN: 2797-1325
Vol. 3 No. 1 April 2023 e-ISSN: 2808-554X

Learning Effectiveness Using The Ilearning System (Computer Systems Studies Kampus Merdeka Belajar Kampus Merdeka (MBKM) University Of Raharja)

Ageng Setiani Rafika[1], Ridho Firdaus[2], Hendra Kusumah[3], Padeli[4], Euis Sitinur Aisyah[5]
University of Raharja – Indonesia[1,2,3,4,5]
e-mail: agengsetianirafika@raharja.info[1], ridho.firdaus@raharja.info[2], hendra.kusumah@raharja.info[3], padeli@raharja.info[4], euis@raharja.info[5]

Author Notification
April 2023
Final Revised
April 2023
Published
April 2023

To cite this document:
Rafika, A.S., Firdaus, R., Kusumah, H., Padeli, & Aisyah, E.S. (2023). Web-Based Product Marketing Information System Design at Definier Store. *International Journal of Cyber and IT Service Management (IJCITSM)*, 3(1), 12-19. Retrieved from https://iiast-journal.org/ijcitsm/index.php/IJCITSM/article/view/95

Abstract

This study aims to make the learning system more modern and can attract students' interest in learning. The learning system that is meant by computer and smartphone-based, students can learn easily and more efficiently. Of course, this research will be useful in the Computer Systems study program at Raharja University. With the iDu 2.0, the learning system in the Computer Systems study program will become even more efficient. Because there will be many more up to date features that will increase student interest in learning. This research model uses a research and development approach. Data collection techniques used are interviews, observation, questionnaires, and skills tests. To analyze the data used technical SWOT analysis. The results of this study explain that a learning system that develops and can increase students' interest in learning, Uses useful technology. Computers are very useful learning media in the present and the future, which of course computers must continue to grow.

Keywords: Intelligent Learning (iLearning), Technology , Mobile Learning, SWOT.

1. Introduction

Intelligent Learning (iLearning) is part of the Intelligent Campus (iCampus) initiative initiated by the Etisalat British Telecom Innovation Center (EBTIC). iLearning is one of the pillars of a six-pillar system known as Intelligent Campus (iCampus). The six pillars of iCampus, consisting of iLearning, iGovernance, iGreen, iHealth, iSocial, and iManagement, provide a framework to enrich student learning[1]. The Intelligent Learning Platform is a collection of tools designed to enrich the learning experience for students. iLearning technologies include real-time distance learning, on-demand course delivery and evaluation, interactive lectures and online materials, customized course programs, analysis of student learning paths, and push/pull eInfo for learning and success. It directly affects students' abilities through intelligence means. eBooks and other eResources .

2. Research Method

This method is carried out with a systematic approach, starting from the system requirements stage and then moving to the analysis, design, coding, testing/verification, and maintenance stages. The steps that are passed must be completed one by one (cannot jump to the next stage) and run sequentially, therefore it is called a waterfall.

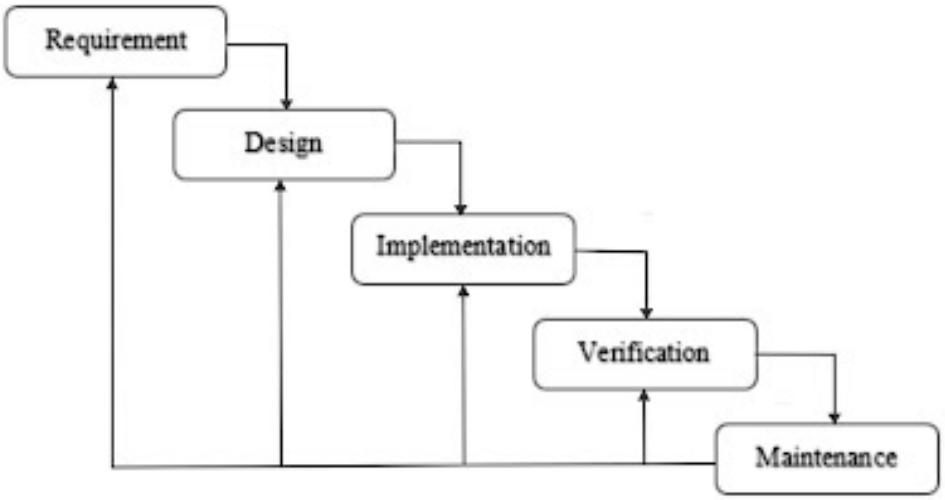

Figure 1. Waterfall Method

Ian Sommerville explains that there are five stages in the Waterfall Method, namely Requirements Analysis and Definition, System and Software Design, Implementation and Unit Testing, Integration and System Testing, and Operations and Maintenance.

Requirement Analysis

Before developing software, developers need to understand the information needs of users for their software. This method of gathering information is available in a variety of ways, including discussion, observation, surveys, and interviews. Then process and analyze the information obtained to obtain complete data or information about the specifications of user requirements for the software it develops.

System and Software Design

The requirements specification information from the requirements analysis phase is then analyzed in this phase and implemented in the development design. Engineering design is designed to give you a complete picture of what you need to do. This phase also helps developers prepare hardware requirements to create the overall software system architecture built.

Implementation and Unit Testing

The implementation phase and the unit test phase are programming phases. Software development is divided into smaller modules which will be put together in the next step. In addition, the functionality of the created module is also checked and checked during this phase to determine if the module meets the desired criteria.

Integration and System Testing

All units or modules developed and tested during the implementation phase are integrated throughout the system. After the integration process is complete, further system inspections and tests are carried out to identify potential system failures and errors.

Operation and Maintenance

In the final stage of the waterfall model, the finished software is operated and maintained by the user. By providing services, developers can fix previously undetected bugs. Maintenance includes troubleshooting, improving the implementation of the system unit, and upgrading and adjusting the system as needed.

Internet

The internet is one system that is in demand by all people who make someone addicted and there are also benefits from the internet, namely making students interested in learning, because with the internet all information is very easy to find. And some games from the Internet make students more interested in gadgets without caring about ongoing learning activities. It has been proven that if lecturers teach, few students pay attention, but many students are more interested in their gadgets, so when lecturers give assignments, not a few students are left behind. in receiving information. This is in accordance with a sense of boredom, because the learning process is still going on conventionally, namely by entering the class the lecturer explains and gives assignments and then collects them making the learning atmosphere feel monotonous or boring.

iLearning

Every problem there will be a solution, such as Raharja University which found a solution to the problem, Raharja University has created an innovative and very efficient learning system using iDu (iLearning Education), iMe (iLearning Media) and Rinfo. But learning using This method is still minimal, student interest is low, because there is still a face-to-face learning process when the lecture takes place where it is considered less motivating for students[2]. According to a study conducted by Untung Rahardja, Khanna Tiara, and Ray Indra Taufik Wijaya, 2014, Rinfo is the official email used by Dikti Raharja as a medium of communication as well as a tool in the learning process that allows sending and receiving emails from outside[3]. Conducted by Ary Budi Warsito, 2014. Rinfo is a Gmail service that uses the Google platform that is provided exclusively by Dikti Raharja for Personal Raharja[4]. According to Untung Rahardja, Indri Handayani, and Rizki Afri Liani Firmansyah, 2016, Rinfo is a communication medium as well as a supporting tool in the learning process at Raharja Education College[5]. From some of the meanings of Rinfo above, the author concludes that Rinfo is an email service using the Google platform which is provided exclusively by Raharja College for Personal Raharja[6]. According to a study conducted by Untung Rahardja, Muhammad Yusup and Qurotul Aini, 2014 iDu or iLearning Education is an online learning media to support traditional learning. iDu (iLearning Education) is one of the Ten Pillars of iLearning utilizing ICT developed by Raharja College Online using a Cloud-hosted Learning Management System (LMS) without the need to install or download to make it easier for the campus and students to carry out lectures. According to Untung Rahardja, Sudaryono and Irwan Nurdin, in their 2014 study, mentioning iMe (iLearning Media) is the official blogging portal dedicated to Raharja Pribadi, and every Raharja Pribadi will get a subdomain as a documentary medium for all forms of Tridharma activities. These problems can be used as a solution to increase student interest in learning by combining some of the elements above. One of them is by applying gamification to the iLearning method of learning. Thus students' interest in learning can grow slowly [7].

Computer System

Computer System (SK) is a collection of computer devices that are interconnected and interact with each other to carry out data processing, so that it can produce the information expected by its users. The devices contained in the Computer System include Hardware , Software , and Brainware.

SWOT

Fredi Rangkuti explains that SWOT analysis is the systematic identification of various factors to formulate company strategy. This analysis is based on a logic that can maximize strengths and opportunities, but simultaneously minimize weaknesses (weakness) and threats (threats)[8]. According to Untung Rahardja, et al in the journal NJCA (2018), SWOT analysis is a method of strategically planning research with the aim of evaluating 4 (four) things, namely strengths, weaknesses, opportunities, and threats (threats). Then, identification of internal and external factors that support the achievements of the research is carried out, and the analysis forms the acronym SWOT

Table 1. SWOT

Strengths	*Weakness*
1. Raharja University has been based on information technology 2. Using Magic Key or email Rinfo 3. iDu is an effective, efficient, and flexible online learning media	1. The level of information delivery to students who are not up to date regarding campus academic activities 2. Must be connected to the internet network 3. The utilization rate of iDu is still not optimal
Opportunity	*Threat*
1. iDu is used as a learning medium for iLearning at Raharja University 2. Make it easier for students to do lecture assignments anywhere and anytime 3. Implementing interesting and fun learning.	1. There is a system update that results in system maintenance so that it can interfere with the iLearning learning process 2. Technological developments that are increasingly rapidly 3. Areas and environments that are not covered by networking

The above problems can be a solution on how to increase student motivation in the learning process. The goal of students to gain knowledge or to add insight is of course according to what students want or are interested in. However, due to the declining interest and motivation of students to learn, the main goal of higher education is slowly disappearing. Therefore, gamification elements or game elements are applied to the lecture system at Raharja University, where additional elements are aimed at increasing interest in learning and student enthusiasm in lectures and doing assignments[9]. Playing video games is one of the problems students face today and making mistakes is reversible. This freedom to fail will allow students to experiment without fear and increase student engagement.

3. Findings

1. Raharja University has been based on information technology
2. Using Magic Key or email Rinfo
3. iDu is an effective, efficient, and flexible online learning media
4. Make it easier for students to do lecture assignments anywhere and anytime

5. Implementing an interesting and fun learning

3.1 Problem

1. The level of information delivery to students who are not up to date regarding campus academic activities
2. Must be connected to the internet network
3. The utilization rate of iDu is still not optimal
4. There is a system update that results in system maintenance so that it can interfere with the iLearning learning process
5. Technological developments that are increasingly rapidly
6. Areas and environments that are not covered by networking

3.2 Research Implementation

Interface implementation

Interfaces are implemented by creating interfaces on each side. Each page is created from a PHP file with the PHP extension. You can then call and change it. There is a relationship between the user and the system.

Admin Interface Implementation

Lecturers and students will be asked to enter a username and password or use Rinfo to access the main menu. When you are logged in as administrator, the main screen will be displayed[10]. These appear in direct links to platforms where students and faculty members can communicate storage or processing of system data[11]. The information is displayed on the dashboard. If you are logged in as an administrator, you can use various menu options. It's on this main admin page. Where is the instructor page? Various management buttons are available. Previously, Add, Edit, Delete are examples of processes. Extinguish the fire. You can view the instructor data editing page here. The view in which the administrator modifies faculty data can be edited on the faculty data page. The system is associated with a number which is an NIP. Username, password, address, phone number, (access), (gender). Added faculty data is an advertisement that administrators invite faculty and students to test the created program, allowing authors to verify that the product meets user requirements and is functioning properly.

Maintenance (maintenance)

This process is the final stage of the waterfall technique. This phase can be thought of as the program use period and the maintenance and repair period. Software maintenance and repair, and further development, are very important when using software, as there may still be deficiencies or the addition of new features that may be required. The author's last stage in developing this software is the maintenance procedure. At this point, the author will work to further develop the software created, fix defects found later in the software, and improve the quality of the software created. The process of adding faculty data by adding up the faculty data used by the faculty to access the system. This phase can be thought of as the program use period and the maintenance and repair period. Software maintenance and repair, and further development, are very important when using software, as there may still be deficiencies or the addition of new features that may be required. The author's last stage in developing this software is the maintenance procedure. At this point, the author will work to further develop the software created, fix defects found later in the software, and improve the quality of the software created. Add Student Information is a screen where the administrator completes adding student information by entering the information that the student will use to login to the system. We will also add some background information and information about the students. The grades form page shows companies and administrators can add grades. Value-added business ads that complete the process of

adding student grade data by the administrator assigning grades to each student's code[12].

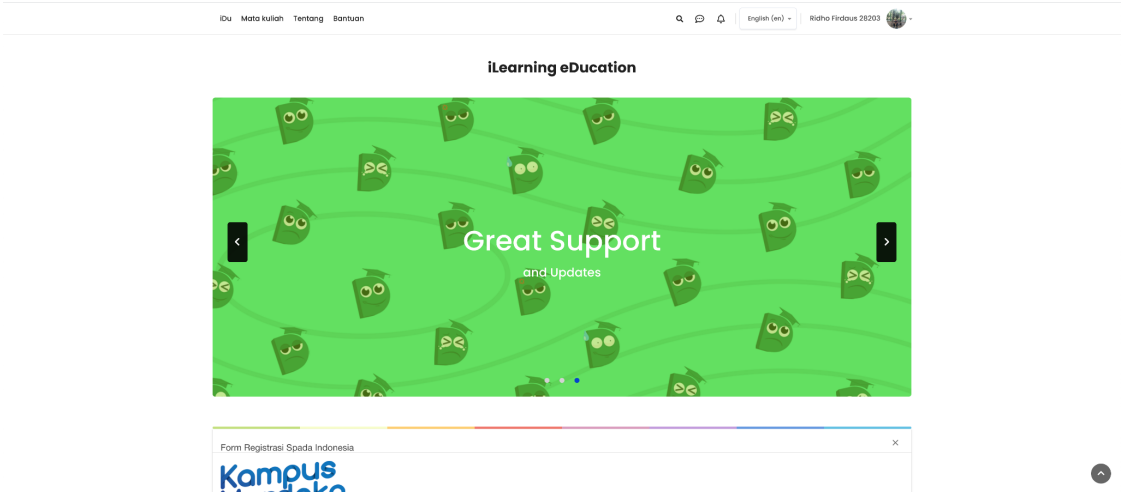

Figure 2. iDu 2.0 home menu

Dashboard Page

The first step is to login as an instructor before accessing the instructor dashboard page. The instructor login looks the same as the administrator login. When the registration process is complete, the dashboard page will open with various menus. The instructor completes the process of entering student score data on the score entry page. The Grades Form page is a page that displays the evaluation and teacher tables. Information about the list of activities will be displayed on the page .

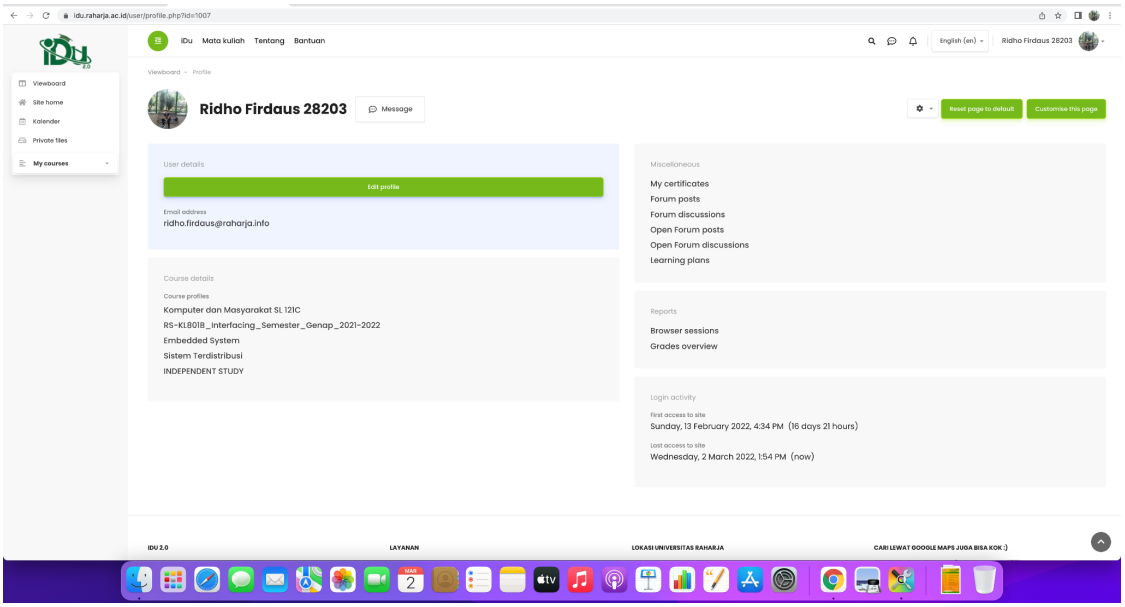

Figure 3. Student Profile Menu

Student Dashboard Page

When you are logged in as a student, you will see the main view. Student login information and student climbing information are displayed on the student dashboard page. On the left side of the page, there are various menu options. The Student Dashboard page is a page that displays information for students who first register for PM. The grades page shows all grade information and grade tables that students have collected from instructors and companies. Where is the student activity information displayed on the activity page during teaching activities? And each step has its own buttons, such as Go Back, Add Activity, Details, and Wipe. Students complete the process of adding student learning activity data to the activity table on the add activity page[13]. Activity dates and activity data are entered by students. file page that displays information from the student file files[14].

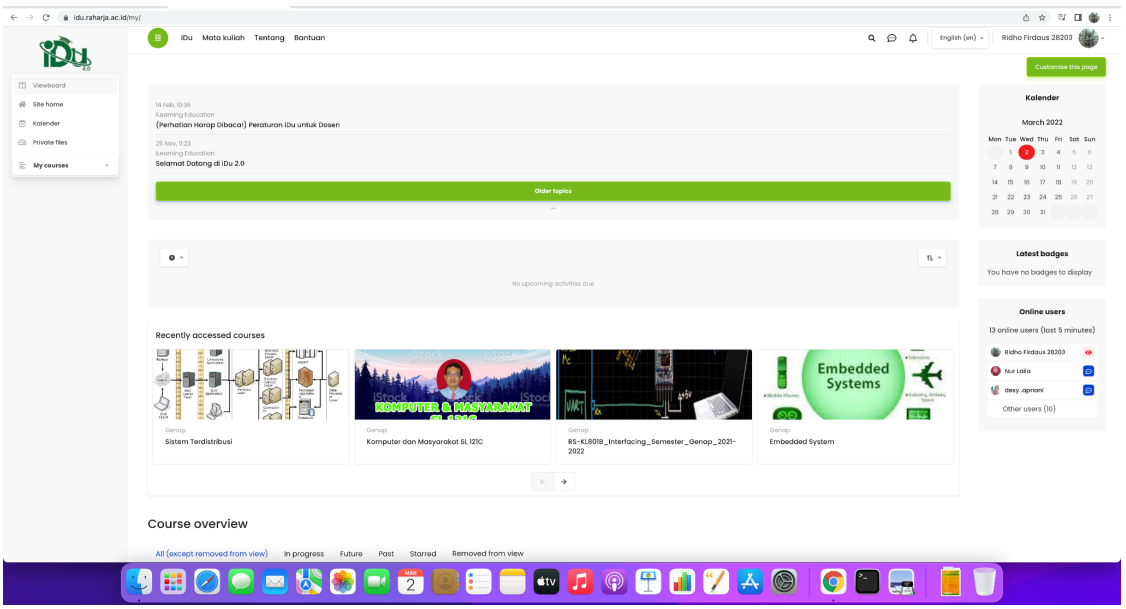

Figure 4. Viewboard iDu 2.0

4. Conclusion

The success of e-learning is supported by the greatest interaction between educators and students, between students and various institutions, between students and other students, and the existence of active learning patterns in these interactions. If learning is web-based, you'll need student activity centers, group interactions, management support systems, material enhancements, exams, and online materials. About Information Technology; The Internet supports a complete revision of previously valid learning concepts. Information technology and telecommunications that are cheap and easy to remove the constraints of space and time that have been limiting the world of education. As a corollary, students can take their learning materials anywhere, regardless of space or time. Students can easily learn and be creative with professionals and subject matter experts. Learning materials can be easily carried to various parts of the world, wherever students study. These opportunities still face challenges in terms of costs, readiness of IT infrastructure, society, and regulations that support the sustainability of e-learning.

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