

DEVELOPMENT OF WEB INFORMATION TECHNOLOGY OF  
FACULTY OF INDUSTRIAL EDUCATION IN  
KING MONGKUT'S INSTITUTE OF TECHNOLOGY LADKRABANG  
การพัฒนาการใช้เทคโนโลยีสารสนเทศ คณะครุศาสตร์อุตสาหกรรม  
สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง

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### บทคัดย่อ

คณะครุศาสตร์อุตสาหกรรม สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบังในประเทศไทยมีจุดมุ่งหมายเพื่อสร้างความรู้ให้ผู้สำเร็จการศึกษา สามารถที่จะบรรลุความเป็นเลิศทางวิชาการที่มีคุณภาพสูง ผ่านระบบเทคโนโลยีสารสนเทศ ในการพัฒนากระบวนการเรียนรู้ จำเป็นต้องมีการบูรณาการกับระบบเทคโนโลยีสารสนเทศเพื่อเพิ่มศักยภาพให้กับนักศึกษาและผู้ใช้ ซึ่งวัตถุประสงค์ของงานวิจัยนี้คือ 1) เพื่อให้ความรู้ด้านเทคโนโลยีสารสนเทศกับนักศึกษาซึ่งเป็นผู้ใช้งาน 2) เพื่อพัฒนาระบบเทคโนโลยีสารสนเทศโดยใช้ CMS (Joomla) และ Moodle (e-Learning) 3) เพื่อประเมินความพึงพอใจของผู้ใช้ที่มีต่อระบบเทคโนโลยีสารสนเทศ กลุ่มตัวอย่างที่ใช้ในการทดลองของการวิจัยนี้ รวมถึงคณะกรรมการบริหาร อาจารย์ นักศึกษาระดับปริญญาตรี นักศึกษาระดับบัณฑิตศึกษา ในคณะครุศาสตร์อุตสาหกรรม สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง จำนวน 341 คน เก็บรวบรวมข้อมูลโดยใช้แบบสอบถาม ผลที่ได้มาวิเคราะห์โดยโปรแกรม SPSS สถิติที่ใช้ค่าเฉลี่ยและค่าเบี่ยงเบนมาตรฐาน ผลการวิจัยแสดงให้เห็นว่าผลการประเมิน ด้านคุณภาพการผลิตสื่ออยู่ในระดับสูงและด้านความพึงพอใจของผู้ใช้ในระดับสูง

**คำสำคัญ:** สารสนเทศ เว็บสารสนเทศ การพัฒนา การพัฒนาเทคโนโลยีสารสนเทศ

### Abstract

The Faculty of Industrial Education, King Mongkut's Institute of Technology Ladkrabang in Thailand aims to create knowledge for graduate students to achieve academic excellence through the high quality of information technology system. The development of learning process requires the integration with information technology system in order to enhance the highest value of users. The purposes of this research were to: 1) to educate students, as end users, about information technology 2) to develop the information technology system by using CMS: Joomla: and Moodle (e-Learning) 3) to evaluate the users' satisfaction towards the information technology system. The experimental samples of this research which consisted of 341 persons included Board of directors, Lecturers, Undergraduate students, Graduate students in the Faculty of Industrial Education, King Mongkut's Institute of Technology Ladkrabang. The data were collected by using the questionnaire. The result were analyzed by SPSS (Statistic Package for the Social Sciences). The used statistics included percentage, mean, and standard deviation. The result of the research indicates that the quality of Web information technology was at high level and the users' satisfaction was at high level.

**Keywords:** Information; Web Information; Development; Development Information Technology;

## 1. INTRODUCTION

The Faculty of Industrial Education is an organization in King Mongkut's Institute of Technology Ladkrabang. This faculty envisions itself to be a learning organization with an emphasis on professional excellence of Science & Technology in Thailand and it is determined to produce socially and ethically responsible graduates. Moreover, the undergraduates and graduates are in high quality with the breadth and depth of knowledge and professional skills, and social responsibility and ethical mind that prepare them for a productive life in an ever-changing world.

To serve the nation by providing scientific and humanistic knowledge, it is important to comply with the mission to envision itself to develop learning process by integrating it with information technology system in order to enhance the highest value to users. A researcher is interested in factors influencing the use of information technology so that a high potential of information systems can be developed by using CMS: Joomla, Moodle (e-Learning).

## 2. OBJECTIVES

The objectives of this research were

1. to educate students, as end users, about information technology in Faculty of Industrial Education, King Mongkut's Institute of Technology Ladkrabang,
2. to develop information technology system to be an extremely high quality system by using CMS: Joomla [1], Moodle (e-Learning)
3. to evaluate end-users' satisfaction [2] towards Information Technology System.

## 3. CONCEPTUAL FRAMEWORK

The researcher has developed the website by using principal of Royce (1970) [3]. In general, an SDLC methodology [4] follows the following steps: 1. Requirements specification 2. Design 3. Construction 4. Integration 5. Testing and debugging 6. Installation 7. Maintenance.

The researcher has applied the open source system [5] that was Content Management System (CMS) by using Joomla [6] version 3.3.6 as a tool in creating and developing web page to provide knowledge to end users.

## 4. METHODOLOGY

### 1. Research Instruments:

The instruments used for this research were checklist and 5-point Likert [7] scale (1 = strongly disagree, 5 = strongly agree) questionnaire which was divided into 2 parts. Part 1) Board of Directors, Lecturers and Undergraduate students, Graduate students with the background knowledge of information system. The questionnaire was to fill checklist and questions to ask the specific information of responders such as their background and experience. Part 2) The questionnaires were intentionally rated the option towards users' satisfaction towards Information Technology System.

### 2. Data Collection

To validate the information, the researcher used more structured and systematic process by collecting specific information from questionnaires [8]. The researcher had given out questionnaires to sampling groups of 341 persons who are Board of directors, Lecturers, Undergraduate students, Graduate students. All 341 questionnaires were returned, examined and checked for the completeness.

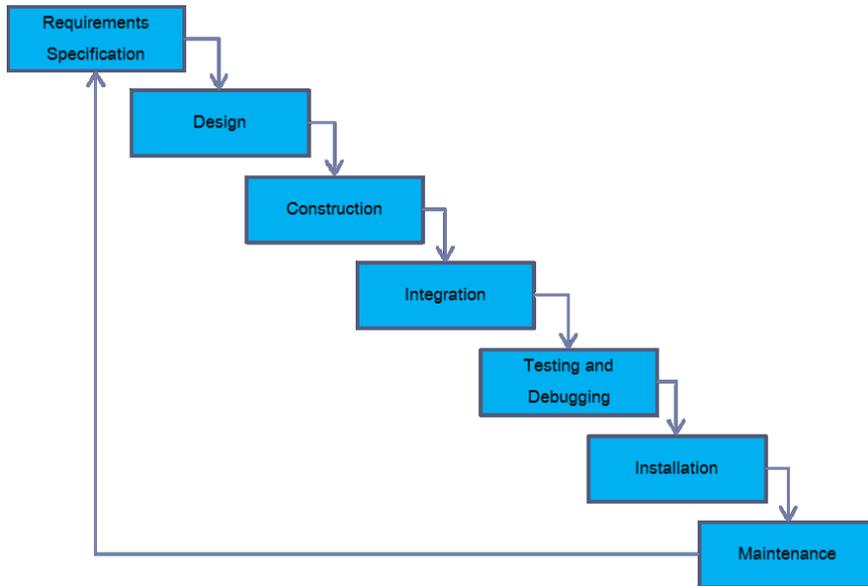


FIGURE 1: SDLC Model

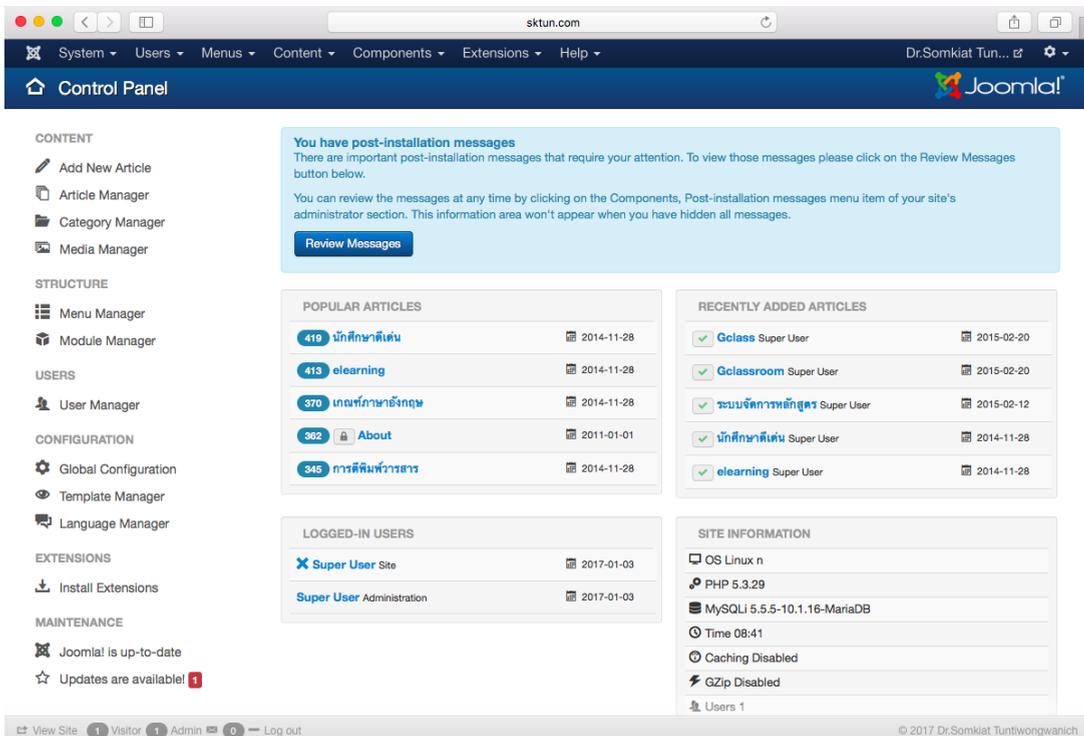


FIGURE 2: System Administrator of Joomla Open Source

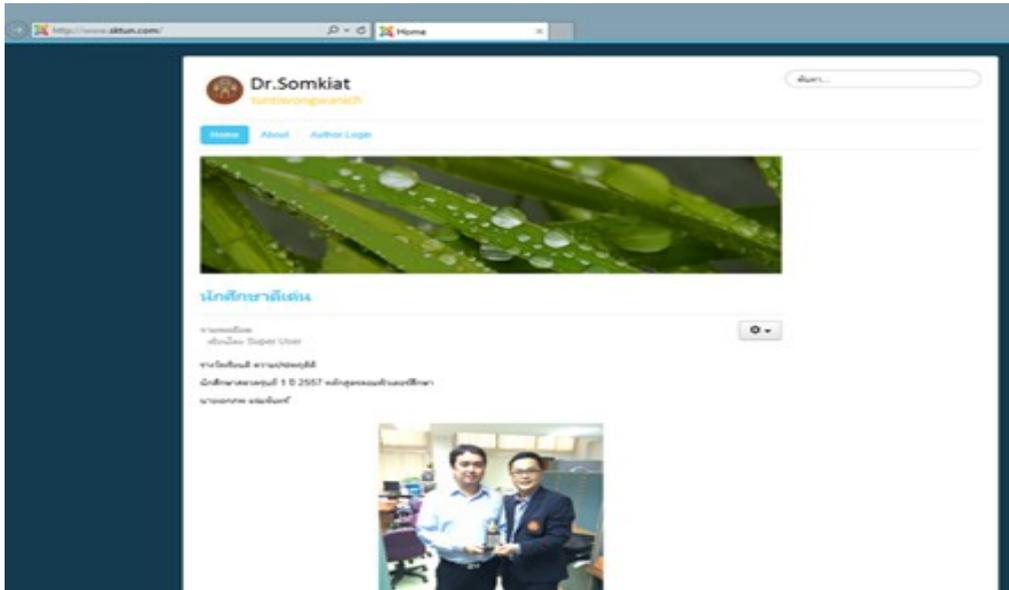


FIGURE 3: Main page of Web Information Technology

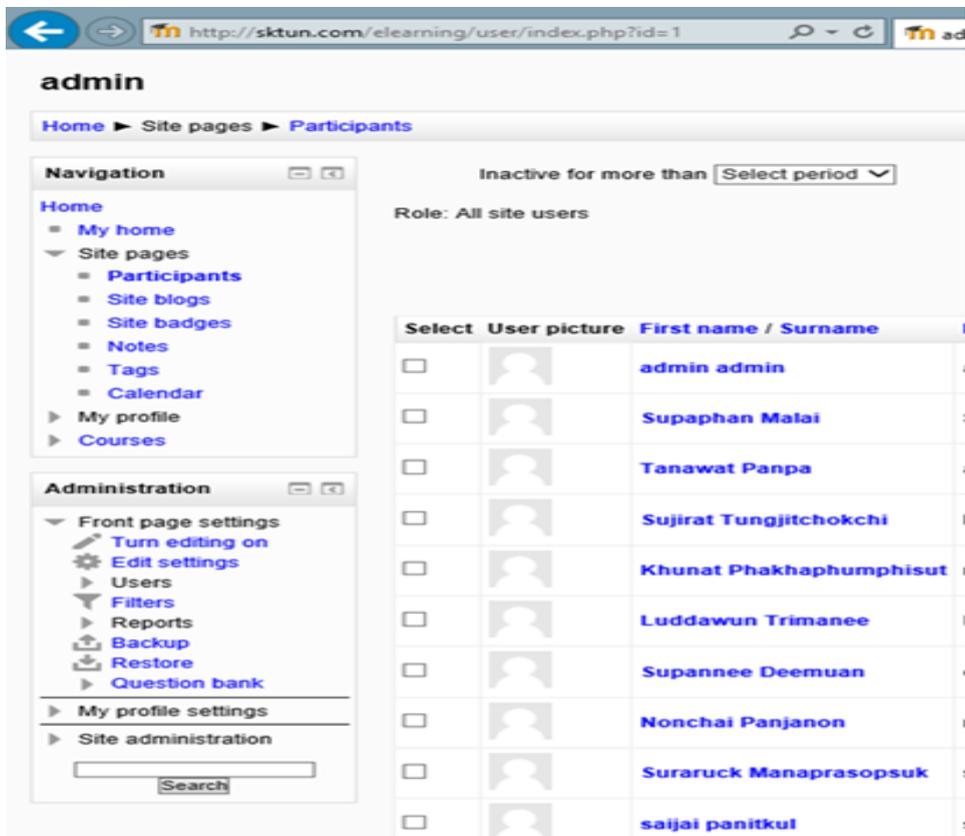


FIGURE 4: System Administrator of Joomla Open Source

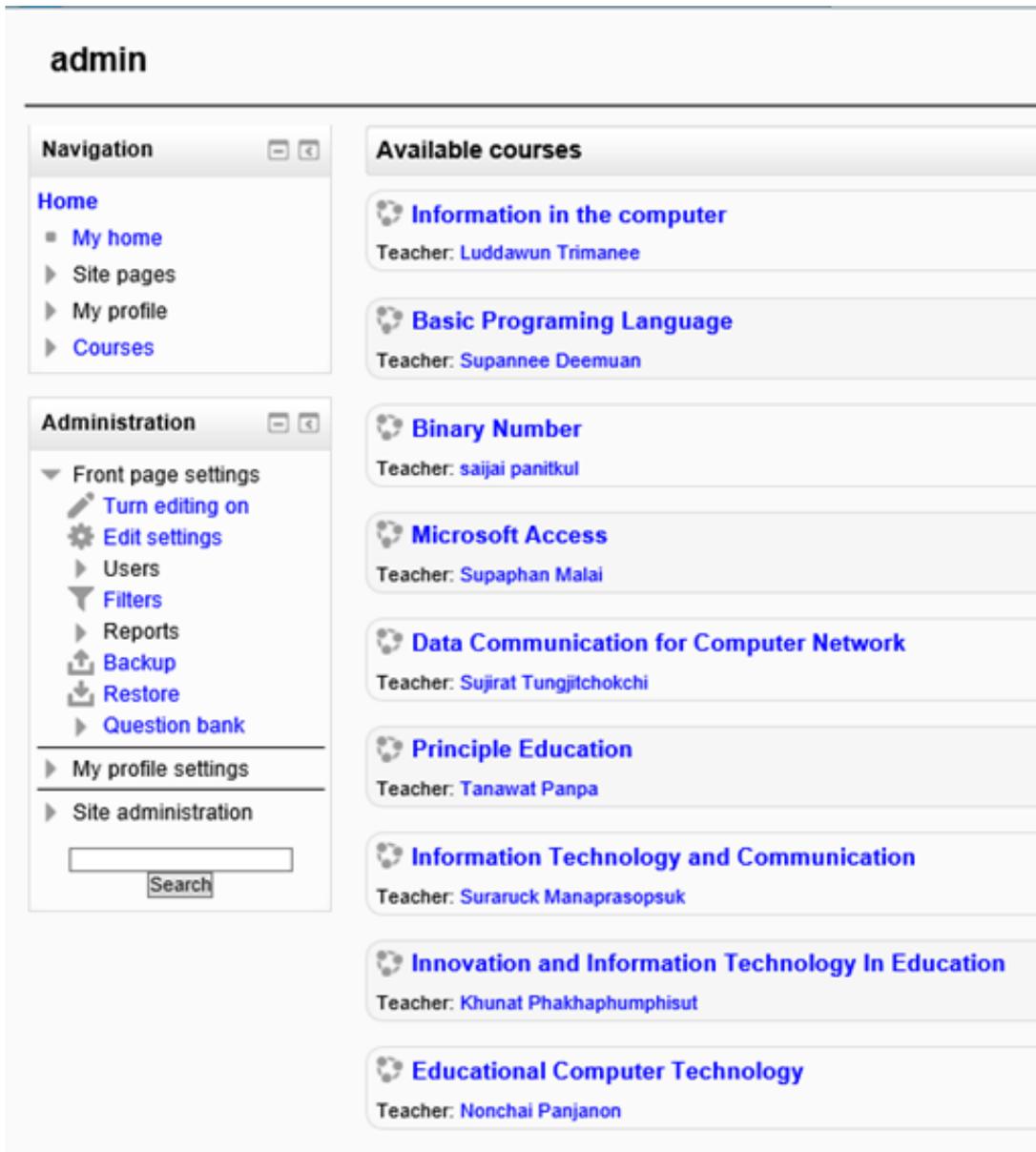


FIGURE 5: Main page of e-Learning system admin

### 3. Data Analysis

The collected data from questionnaire were checked for the score and were analyzed by SPSS. The statistic method used were percentage, mean, and standard deviation [9].

## 5. RESULTS

### 1. Quality of Website

1.1 Quality of producing techniques, the principle, the objective and purpose of website were in line with the policy, vision, and mission of the Faculty of Industrial Education of King Mongkut's Institute of Technology Ladkrabang. The researcher used five criteria; accuracy, authority, currency, objectivity and coverage, they were at the high levels.

1.2 Satisfaction evaluation, attitude of users to the computer systems that users employ in the context of their environments were at the high levels. It can be concluded that information systems and computer-based systems are desirable.

**TABLE 1:** Research results of the quality of producing techniques.

Variables	$\bar{x}$	S.D.
Fonts		
1. Readable and clear font size	4.20	0.40
2. Beautiful font format	4.40	0.49
3. Appropriate color of font and space	4.40	0.49
4. appropriate layout text on each frame	4.20	0.40
5. Accuracy of the text as the main language	4.20	0.40
Image		
6. Proper image size	3.80	0.75
7. Color and clarity of the images used	4.60	0.49
8. The images used to convey meaning appropriately	4.40	0.49
9. Balance of the placement of each image frame	4.40	0.49
10. Adequate amount of the picture	4.00	0.63
Animation		
11. Proper animation size	4.20	0.40
12. Color and clarity of the animation used	4.00	0.63
13. The animation used to convey meaning appropriately	4.80	0.40
14. Balance of the placement of each animation frame	4.20	0.40
15. Adequate amount of the animation	3.40	0.49
Audio		
16. Regular sound pressure level	4.40	0.49
17. Volume of the music	4.40	0.49
18. Clarity of sound	4.20	0.40
19. Accuracy of sound by language	3.80	0.40
Interactive		
20. Provide an opportunity for students to interact with lessons	4.20	0.40
21. Lesson navigation is simple and convenient	4.20	0.40
22. Appropriate links within the content	4.20	0.40
23. Appropriate links between each lesson	4.00	0.00
24. Appropriate information and return reinforcement	4.00	0.63
25. Interactive lesson Standard	4.20	0.40
Others		
26. Design monitor	4.00	0.63
27. Attractive and appealing screen design	4.80	0.40
28. Mix of media messages, Still images, animation and audio lessons	3.80	0.75
Total	4.19	0.47

**TABLE 2:** Research results of the satisfaction for using the system.

Variables	$\bar{X}$	S.D.
1. Completeness of the information in the system	4.40	0.49
2. The system is up-to-date	3.80	0.75
3. The suitability of the format used in the system	4.60	0.49
4. The reliability of the information in the system	4.40	0.49
5. Easy to use system	4.00	0.00
6. The system is attractive	4.00	0.63
7. The system has a variety of information.	4.60	0.49
8. The usefulness of system	4.80	0.40
Total	4.33	0.47

## 6. DISCUSSIONS

1. The results indicated that quality of website was at high level because the researcher employed conceptual framework of SDLC model. Moreover, Web Information was applied with quality control from 3 specialists of website. Evaluation of specialists founded that quality of producing techniques was at the high level ( $\bar{X} = 4.19$ ). It can be explained that Animation variable; Appropriate of the animation used to convey meaning and Audio variable; attractive and appealing screen design were at the highest level at ( $\bar{X} = 4.80$ ). The users' satisfaction towards the system was at the high level ( $\bar{X} = 4.33$ ). The usefulness of system was at the highest level ( $\bar{X} = 4.80$ ).

2. From the study of information technology using of users, system development by using CMS: Joomla, Moodle (e-Learning) and evaluation of satisfaction of users ,the researcher founded that end users were able to reach all of information if they used high quality hardware ,and software that enabled every end user can be reach to access information system everywhere.

## ACKNOWLEDGEMENT

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