The objective of this study were to 1) develop the registration system for the computer laboratory 3111, the Office of General Education and Electronic Learning Innovation 2) evaluate the satisfaction in system performance of the computer laboratory registration system 3111. The system development conducted by using process of System Development Life Cycle (SDLC) which is developed in the form of a web application and constructed using PHP and Java programming language to connect to the MYSQL database. The testing results of the computer lab registration system 3111 Office of General Education and Electronic Learning Innovation conducted by using 100 trials consisting of 100 students, evaluating the satisfaction of the computer lab registration system 3111 with the system performance. The results of the satisfaction evaluation of the registration system for the computer laboratory 3111 found that the users are satisfied with the overall system performance at the highest level with an average (x̅) of = 4.96 and the standard deviation (S.D.) is 0.15.

Keywords: Computer Lab, Registration System, System Development Life Cycle
Introduction

The Office of General Education and Electronic Learning Innovation is an organization responsible for the teaching and learning of general education courses of Suan Sunandha Rajabhat University. The office has the main mission to organize the teaching and learning of general education at the bachelor degree level in the regular program, research and development of electronic learning innovation, and service computer lab 3111. Students can contact to use the service at building 31, floor 1 on official days and times which supervised by Deputy Director of Research and Development, Learning Management Innovation in which Suan Sunandha Rajabhat University has a total of 5,992 students (data as of November 7, 2019 at 4:00 pm).

At present, the registration for the use of the computer lab 3111 of the Office of General Education and Electronic Learning Innovation, use the registration method by using the register form for the use of the computer lab. Students must fill in the required fields in the form including name, surname, student code, study field, access time and time to quit using which must be individually registered. As well at the end of the day, the supervisor of the computer laboratory 3111 must gather the information and prepare a summary report of student use by using the Microsoft Office computer program to report the administrators of the Office of General Education and Innovation of Electronic Learning. When a lot of students are enrolled in the Computer Laboratory 3111, it will cause delays, complications in registration, waste of data collection time, waste of natural resources due to the use of a lot of paper and ink.

From the above reasons, the researcher therefore interested in study the registration information for using computer labs 3111 Office of General Education and Electronic Learning Innovation. In the preliminary study, there was a conclusion that if the registration system is developed by applying management and technology knowledge for helping to develop the registration system for computer laboratories. 3111 Office of General Education and Electronic Learning Innovation. This is also to create a systematic standard practice and the data is stored in the form of a database, which can display the data stored in the database conveniently, quickly and accurately. It will support those involved in the operation, supervision and service of computer laboratories 3111 of the Office of General Education and Electronic Learning Innovation to be able to operate efficiently.

Literature review

Study guidelines

For the development of the registration system for the computer laboratory 3111 Office of General Education and Electronic Learning Innovation, the tools used in system development are divided into 2 parts, which are hardware and software. The part of hardware must have good computer performance by using the Windows 10 (64 bit) operating system, and the software uses Xampp for simulating personal computers to operate as web servers. As well use MySql program as a database, and use PHP to write system operation commands.

Xampp is an Apache web server that simulates a web server to test scripts or websites on the developer's machine without requiring an internet connection and at no cost. Users can easily install it for use by installing the Xampp program, which comes with the popular PHP
language and web application development language. MySQL and Apache databases will act as a web server. It also comes with OpenSSL, phpMyadmin, a database management system developed by PHP, to connect to the database. It can support MySQL and SQLite database applications in the form of Zip, tar, 7z or exe. Currently, the Xampp program is licensed under the GNU General Public License.

MySQL is a database management system developed by the company, MySQL AB. The system is responsible for storing data and supports SQL commands as a tool for data collection. That must be used with other integrated tools or programs in order to get a system that supports the needs of users for example, working with a web server to provide service to the server-side script language such as php, asp.net or JSP, etc. or working with an application program such as Visual Basic, Internet, Java or C sharp, etc. The program is designed to be able to work on a variety of operating systems and is an open source database system that has the most using.

PHP is a server-side scripting language in which the copyright is open source. The language used for creating websites and output in HTML form with the foundation of the command structure from C language, Java language and Pearl language. PHP language is easy to learn which the main goal of this language is to allow website developers to write interactive web pages quickly.

Java programming language is an object oriented programming which developed by James Gosling and other engineers at Sun Microsystems. Java was developed in 1991 as part of the Green Project and was publicized in 1995. This language is intended to be used in place of C Plus (C ++). The additional format is similar to the Objective-C. Originally, this language was called Oak, which was named after the oak near the office of James Gosling, but there were copyright issues. Therefore changed to the name "Java" which is the name of coffee instead.

Microsoft Windows is an operating system which was developed by Microsoft. Released in 1985 (the first version of Windows was 1985) and dominated the popularity of the personal computer market for more than 90% of applications worldwide, currently is Windows 10.

Research procedure

The development of the computer laboratory registration system 3111 Office of General Education and Electronic Learning Innovation is a newly development information system and is a development research which study, analyze, design and develop a registration system for the computer laboratory 3111 Office of General Education and Electronic Learning Innovation, in order to be used for managing computer lab registration information.

In the development of the registration system for the use of computer laboratories, the researcher has divided the research process into 7 steps according to the Systems Development Life Cycle (SDLC) that Opas Iamsiriwong (2003: 62) stated as follows.

1. Problem Recognition
2. Feasibility Study
3. System Analysis
4. System Design
5. Build or develop (Development)
6. Implementation and Testing
7. Maintenance

Figure 1 The stage of the Systems Development Life Cycle (SDLC)

Methodology

The methodology in this research was defined as follows.

1. The population used in this research were students of Suan Sunandha Rajabhat University, a total of 5,992 students (data as of November 7, 2019 at 4:00 pm). The sample group in this study was a method of sampling or selecting users by selecting purposive sampling of 100 people.

2. Data collection of this research, the researcher has procedures for obtaining the complete information by take a participation of real stakeholders in order for sustainability in the development of the registration system for computer laboratories by collecting data for use in the system analysis process with details as follows.

   1) Study relevant documents
   2) In-depth interviews with those involved in the enrollment of additional subjects
   3) Questionnaire has been processed for verify the accuracy and precision of the questionnaire with 3 experts, namely (1) Registration system specialist, Suan Sunandha Rajabhat University (2) Specialist in information systems analysis and design (3) Data management management specialist, in which the researchers adjusted the questionnaire as recommended by the experts.

   4. Data Analysis, the research evaluation form has been completely collected from the research participants. It will be analyzed for content using statistical principles and to summarize the results of the satisfaction evaluation on the efficiency of the computer lab registration system by using arithmetic mean and standard deviation.

   5. Evaluation of system usage by using research tools, which are questionnaires for evaluating and improving the efficiency of the registration system for computer labs 3111 that was developed after allowing the user to use the system.

   6. The research areas were Computer Laboratory 3111 Office of General Education and Electronic Learning Innovation Suan Sunandha Rajabhat University.
Conclusions

Results and discussions
System development results
The results of developing the computer laboratory registration system 3111 for the room registration system Computer Operations 3111

System test results
As for satisfaction evaluation on the efficiency of the developed system for the trial of the room registration system Computer Laboratory 3111 Office of General Education and Electronic Learning Innovation on the efficiency of the developed system, the analysis results are as follows.

Table 1 - Evaluation results of satisfaction with the efficiency of the developed system from the trial of the room registration system Computer Laboratory 3111 Office of General Education and Electronic Learning Innovation

<table>
<thead>
<tr>
<th>Evaluation items</th>
<th>Satisfaction on system performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>1. The ability of the program to meet the needs of use.</td>
<td>4.90</td>
</tr>
<tr>
<td>2. The program can work according to the procedure.</td>
<td>4.95</td>
</tr>
<tr>
<td>3. The program features are easy to use.</td>
<td>5.00</td>
</tr>
<tr>
<td>4. The program is effective as the user wants.</td>
<td>4.93</td>
</tr>
<tr>
<td>5. The program has data security.</td>
<td>5.00</td>
</tr>
<tr>
<td>Overall Satisfaction on system performance</td>
<td>4.96</td>
</tr>
</tbody>
</table>

From Table 1, the evaluation results show that the testers were satisfied with the system performance. With a total average value of 4.96 and a standard deviation of 0.15 which shows that the trial users are satisfied with the system performance at the highest level. When analyzed in each area, the results were as follows.

Conclusion
1. The highest average point is that the aspect of the program is easy to use and the program has data security, with the same average of 5.00, at the highest level.
2. The issue with the lowest mean is the ability of the program to meet the needs of users with the average of 4.90, but still at the highest level as well. As for the issues, the program can work according to the steps with an average of 4.95 and the program issues as effective as the users want, with an average of 4.93, both of which are considered at the highest level like other issues.

In this regard, satisfaction with the overall system performance has an average of 4.96. Therefore, it can be concluded that the registration system for computer laboratories 3111, the Office of General Education and Electronic Learning Innovation, can help people with as
for the supervision and service of computer labs, 3111 Office of General Education and Electronic Learning Innovation was correct truly meets the needs as well as convenient to browse the information that needs to be used immediately.

**Discussion**
As a result of the research, the development of the system for registering to use the computer laboratory 3111 Office of General Education and Electronic Learning Innovation, there are interesting issues to be discussed as follows.
1. There should be a good system analysis and design in particularly, the development of a user interface that is attractive and easy to use will help the system to be more usable.
2. Trial and evaluation of the efficiency of the System of Registration System for Computer Laboratory 3111 Office of General Education and Electronic Learning Innovation, in which the evaluation results are at the highest level meets the research objectives.
3. The system should be developed in the form of a mobile application so that the system can be used more conveniently and have various functions such as statistical reports etc.

**Acknowledgement**

The author would like to thank Suan Sunandha Rajabhat University that supports the participation in presenting research results at an international conference in Germany. The study of the development of an information system which is conducive to the teaching and learning of the learning resources of the Office of General Education and Electronic Learning Innovation. Suan Sunandha Rajabhat University, succeeded by being kindly received by Abhisit Rattanatraanurak who provides good advice and methods as well as helping review every step of the process.

**References**