INTEGRATED STUDENT ACTIVITIES MANAGEMENT SYSTEM (PROPOSAL & CALENDAR GENERATION MODULE)

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ABSTRACT

The activity execution at university level is different compared to the secondary and primary level. University is a place where student are taught to be an independent person especially in making a decision. All the co-curricular activities in the university will be handled by student. However, all the co-curricular activities are controlled by Student Affairs Department. Thus, all the activities that student want to execute have to be endorsed by the Student Affairs Department permission. There are a few rules that permit student to execute the activity. Students, who want to make an activity, first have to make paperwork to propose their activity to the Student Affairs Department. Nevertheless, only students which their club registered under Student Affair Department can write activity proposals. All the paperwork must follow the guideline from the Student Guide Book. Any proposal which does not follow the guideline will be rejected. The problem that students face is on how to make sure that they follow all the guidelines and fulfill all the required instructions. When a proposal has been created, students have to meet their club advisor and Sport & Recreation Committee to get their signature, comment and approval before it can be sent to Student Affairs Department. There is also a problem where student have to postpone their activity at the last minutes because of the clashes of activity with others activities. These problems can be solved if there is a system that enable to standardize the format of the proposal and also can provide the information on the availability of date to reserve the activity time.

ABSTRAK

Perlaksanaan aktiviti-aktiviti di peringkat universiti adalah jauh berbeza jika dibandingkan ketika di peringkat sekolah menengah atau pun sekolah rendah. Universiti adalah tempat dimana pelajar diasuh untuk berdikari terutamanya dalam memutuskan sesuatu perkara. Segala aktiviti ko-kurikulum di peringkat universiti dikendalikan oleh pelajar. Bagaimanapun segala aktiviti ko-kurikulum tersebut di pantau oleh pihak Hal Ehwal Pelajar. Oleh itu segala aktiviti yang ingin dilaksanakan haruslah mendapat kebenaran daripada pihak terbabit. Terdapat beberapa peraturan yang membenarkan pelajar membuat aktiviti. Pelajar yang ingin membuat atau mencadangkan membuat sesuatu aktiviti haruslah terlebih dahulu membuat kertas kerja. Walau bagaimanapun hanya pelajar yang menganggotai mana-mana kelab yang telah didaftarkan di bawah Pejabat Hal Ehwal Pelajar sahaja dibenarkan melaksanakan aktiviti. Selain daripada itu, kertas kerja mereka tidak akan diluluskan. Kertas kerja yang dihasilkan haruslah mematuhi atau merujuk kepada Buku Panduan Pelajar bagi Panduan Menulis Kertas Kerja. Kertas kerja yang tidak megikut format yang telah ditetapkan tidak akan diluluskan aktivitinya. Masalah yang dihadapi pelajar ketika membuat kertas kerja adalah menyediakan format yang memenuhi dan mematuhi peraturan yang telah ditetapkan. Kertas kerja yang telah siap dibuat terlebih dahulu harus mendapatkan tanda tangan, komen dan kebenaran daripada penasihat kelab dan juga Exco Sukan dan Rekreasi. Terdapat juga masalah dimana aktiviti terpaksa dibatalkan pada saat-saat terakhir apabila terdapat pertindihan jadual dengan aktiviti lain. Oleh itu masalah seperti ini dapat diatasi sekiranya terdapat satu sistem yang menetapkan format bagi kertas kerja dan juga sistem yang dapat memberitahu pelajar tarikh – tarikh yang yang boleh membuat aktiviti.

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LIST OF ABBREVIATIONS

ISAM	-	Integrated Student Activities Management System
KUKTEM	-	University College of Engineering & Technology Malaysia
NIU	-	Northen Illinois University
NIEeS	-	National Institute for Environmental eScience
JSP	-	Java Server Pages
ASP	-	Active Server Pages
HTML	-	Hypertext Markup Language
XML	-	Extension Markup Language
DHTML	-	Dynamic Hypertext Markup Language
OLTP	-	Online Transaction Processing
RAD	-	Rapid Application Development
SDLC	-	Software Development Life Cycle

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CHAPTER 1

INTRODUCTION

1.1 Introduction to Integrated Student Activities Management System (Proposal & Calendar Generation Module)

The purpose of this report is to introduce Integrated Student Activities Management System for Proposal & Calendar Generation Module. Integrated Student Activities Management System (ISAM) is a web based application system. The system will be developed and applied in the Student Affairs Department in University College of Engineering & Technology Malaysia (KUKTEM) that is responsible to manage all the activities proposed by students. This system will be integrated with KUKTEM IMS system. Thus, it will use KUKTEM's server as its database platform. This system will take over the conventional system from manual to electronic system. Integrated Student Activities Management system can make standardization for the proposal written by student. Student only have to follow the flow of the system during create a new activity proposal. All the data inserted by student will be saved in the database. Therefore, it will eliminate the problem of losing and redundancy of data. Besides that, the system will help the Student Affairs Representative to categorize types of activities propose by student. In addition, this system will auto generate reference number for each new activity proposal. Integrated Student Activities Management System can give a suggestion on the availability of date for student to make an activity by using calendar generation module. Integrated Student Activities Management system will have five main users as shown in Table 1.1.

Table 1.1: User of the system and their responsible

Position	Description
Student	User of the system who will use this system to generate a new activity proposal.
Club advisor	User of the system who will give a comment and approval for the activity proposal.
Sports & Recreation Committee	User of the system who will give a comment on the activity proposal.
Student Affairs Representative	User of the system who will give a comment and suggestion to Dean of Student Affairs Department about the activity proposal.
Dean of Student Affairs Department	Owner of the system who will give an approval for the activity proposal.

1.2 Objective

(i) To develop a prototype of a computerize student activity proposal application.

(ii) To produce facilities in the system where the facilities mentioned are as follows:

(a) Student can choose date to carry out the activities.

(b) Student can view the available date to make an activity.

1.3 Scope

Integrated Student Activities Management System (Proposal & Calendar Generation Module) is a web based application. This application uses Java Server Pages (JSP) as a programming language. This system interacts with the database through

Oracle 9i. The scope of the project is to design the interface for Integrated Student Activities Management System (Proposal & Calendar Generation Module) prototype. Besides that, the scope of the project is also to provide a standard form for student to create a new activity proposal using proposal generation module. Student has to insert all required data and save it to the database. The calendar generation module provides and allows the student to choose the available date for them to make an activity. This module helps to avoid from clashes in date activities, venue of activities and also to avoid from clashes in nature of activities. In addition calendar generation module also help the Student Affairs Department staff to view which one of the activities must be to priorities to proceed.

1.4 Problem Statement

In the manual system, student have to meet the club advisor and Sports & Recreation Committee to get an approval and comment for the activity proposal before the activity proposal can be submit to the Student Affairs Representative. The Student Affairs Representative have to put his comment before submit the proposal to the Dean of Student Affairs Department to get the final approval. Moreover, students have to use a calculator to calculate the budget estimation for activity and sometime there is always happened miscalculation. The activities have to be postponed because of clashes in date activities, venue of activities or nature of activities. Students get to know when the available date to make an activity. The new system should be able to help student in getting a comment and approval. Besides that, the new system also can help student to view and reserve the availability of date to make an activity.

CHAPTER 2

LITERATURE REVIEW

2.1 Student Activities Management System in KUKTEM

Nowadays, Student Affairs Department in University College of Engineering & Technology Malaysia (KUKTEM) uses the manual system in managing students' activities. This system is responsible in managing student activity proposed by student. Student Affairs Department is responsible to manage the activity proposal proposed by student in registered club. For the time being there are many kinds of activity handled by Student Affairs Department. Each of the activity has its own categories.

Student who want to propose the activity have to make a proposal. The content of the proposal should refer in the Student Guide Book. After finish makes a proposal, student has to meet their club advisor to get a comment and approval. The activity cannot be proceed if club advisor reject the proposal but can be proceed if additional information need to be added or dropped. After getting the approval from club advisor, the student has to get a comment from Sports & Recreation Committee who in charge on student activity. After having approved and commented by both club advisor and Sports & Recreation Committee, the proposal will be submitted to the Dean of Student Affairs Department for the final approval. In the Student Affairs Department there is a staff responsible in managing student activity. The staff will make a review and evaluate the activity proposal before making a comment on the proposal to the Dean of Student Affairs Department. If the proposal is approved then staff will print out the approval

letter and notify student to take the approval letter in the Student Affairs Department. In the other hand, if the proposal is rejected then staff will notify student by sending a memo to the student.

The advantages of using the manual system are this system trains students on how to work in a group. Making a manual proposal is important especially when student enter the working environment. Besides that, it also trains students to be more discipline and organized.

Nevertheless, this manual system also has its own disadvantages such as spend much time in making an activity proposal and during get an approval and comment from club advisor and Sport & Recreation Committee. Figure 2.1 is the flow of system for the current system.

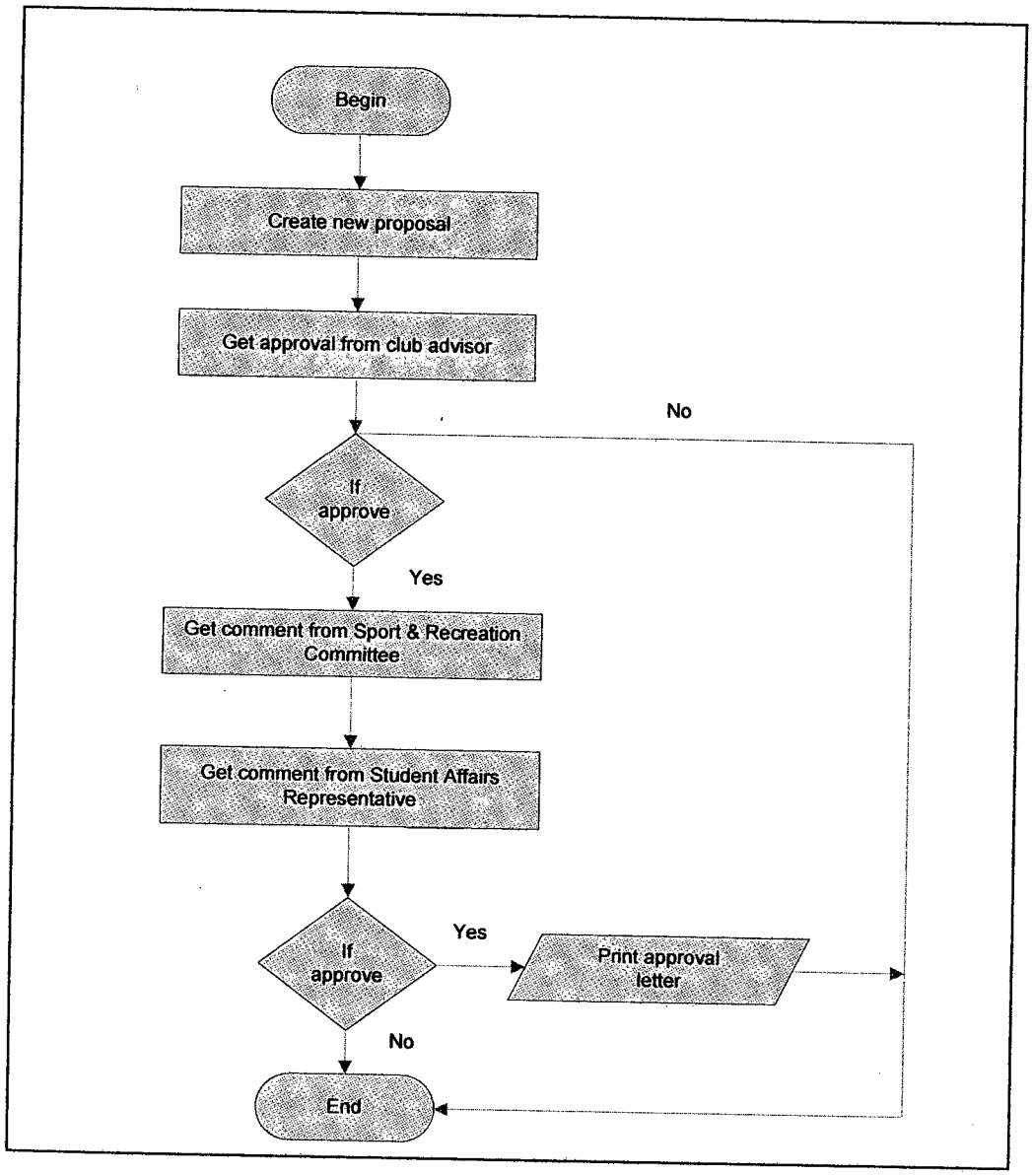


Figure 2.1: Flow chart for the current system.

2.2 Current Student Activities Management System in market

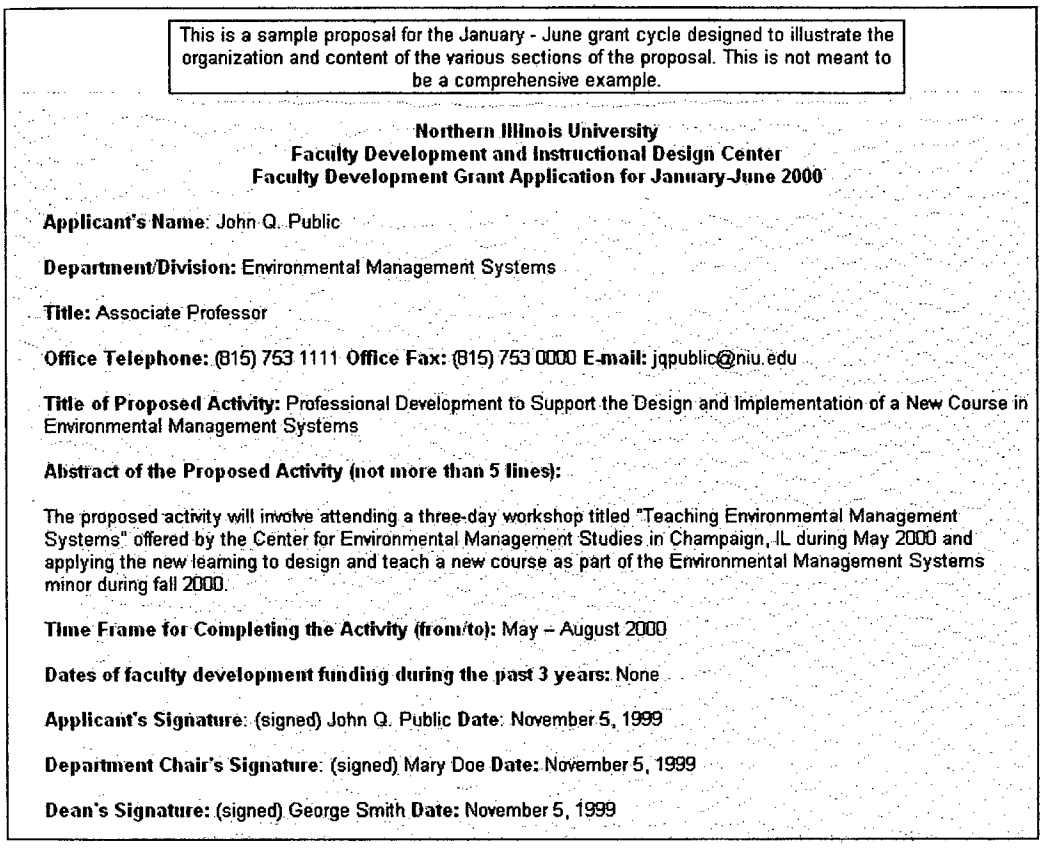
Format in writing a proposal is very important part in order to make sure the activity can be approved by the top management. In a wider perspective, the tidiness in writing a proposal will represent student's discipline. Thus, one of the criteria to attract the attention of top management to approve the proposal is the format and proposal tidiness. There are two examples of the current system in the market. The first example is current system in Northern Illinois University (NIU) and the second example is current system in National Institute for Environmental eScience (NIEeS).

2.2.1 Case Study in Northern Illinois University (NIU)

Northern Illinois University (NIU) still implementing the manual system in manages student activity proposals. The activity proposals proposed by student still have to write in a paper and have to get signature from Dean of Student Affairs Department. For the time being the formats for writing the activity proposal used by Northern Illinois University are not really clear and standard. From the example of proposal create by Faculty Development and Instructional Design Center of Northern Illinois University shown in Figure 2.2 and in the Appendix F, all the information about the activity must be write in a paper. The budget estimation for the activity must use a calculator to calculate the budget. This is very time consuming because there is a possibility to have a mistake in calculation and student have to make a calculation again. Besides that, the tentative program changed to schedule of the project in order to save paper usage. Therefore, the participant or top management cannot view and clear about the activity for the program. In this situation the possibility for student to resend a proposal to the top management is higher. As state before the criteria to get an approval easily from top management is format and tidiness.

Besides that, Northern Illinois University has its own calendar system. The calendar system used by Northern Illinois University is integrated with others web based

system base on the title of the project name. By using the calendar system user of the system can view the activity that had been approved by Dean of Student Affairs Department or had been executed by student.



This is a sample proposal for the January - June grant cycle designed to illustrate the organization and content of the various sections of the proposal. This is not meant to be a comprehensive example.

Northern Illinois University
Faculty Development and Instructional Design Center
Faculty Development Grant Application for January-June 2000

Applicant's Name: John Q. Public

Department/Division: Environmental Management Systems

Title: Associate Professor

Office Telephone: (815) 753 1111 **Office Fax:** (815) 753 0000 **E-mail:** jqpublic@niu.edu

Title of Proposed Activity: Professional Development to Support the Design and Implementation of a New Course in Environmental Management Systems

Abstract of the Proposed Activity (not more than 5 lines):

The proposed activity will involve attending a three-day workshop titled "Teaching Environmental Management Systems" offered by the Center for Environmental Management Studies in Champaign, IL during May 2000 and applying the new learning to design and teach a new course as part of the Environmental Management Systems minor during fall 2000.

Time Frame for Completing the Activity (from/to): May – August 2000

Dates of faculty development funding during the past 3 years: None

Applicant's Signature: (signed) John Q. Public **Date**: November 5, 1999

Department Chair's Signature: (signed) Mary Doe **Date:** November 5, 1999

Dean's Signature: (signed) George Smith **Date:** November 5, 1999

Figure 2.2: Example proposal from Northern Illinois University

2.2.2 Case Study in National Institute for Environmental eScience (NIEeS)

National Institute for Environment eScience provides electronic form to propose a training activity as shown in Figure 2.3 . Users of NIEeS's system have to complete all section and any optional part will be indicated. NIEeS's system generates a web page containing the detail about the information that had been submitted and should bookmark the information for the future reference. NIEeS's system will send a

conformation email. Besides that, user of the system who proposes for activity training does not need to make detailed financial proposals. It is because it will be handled by the NIEeS's system. However, NIEeS' system does not provide calendar for user of the system view the activity that will be executed by NIEeS.

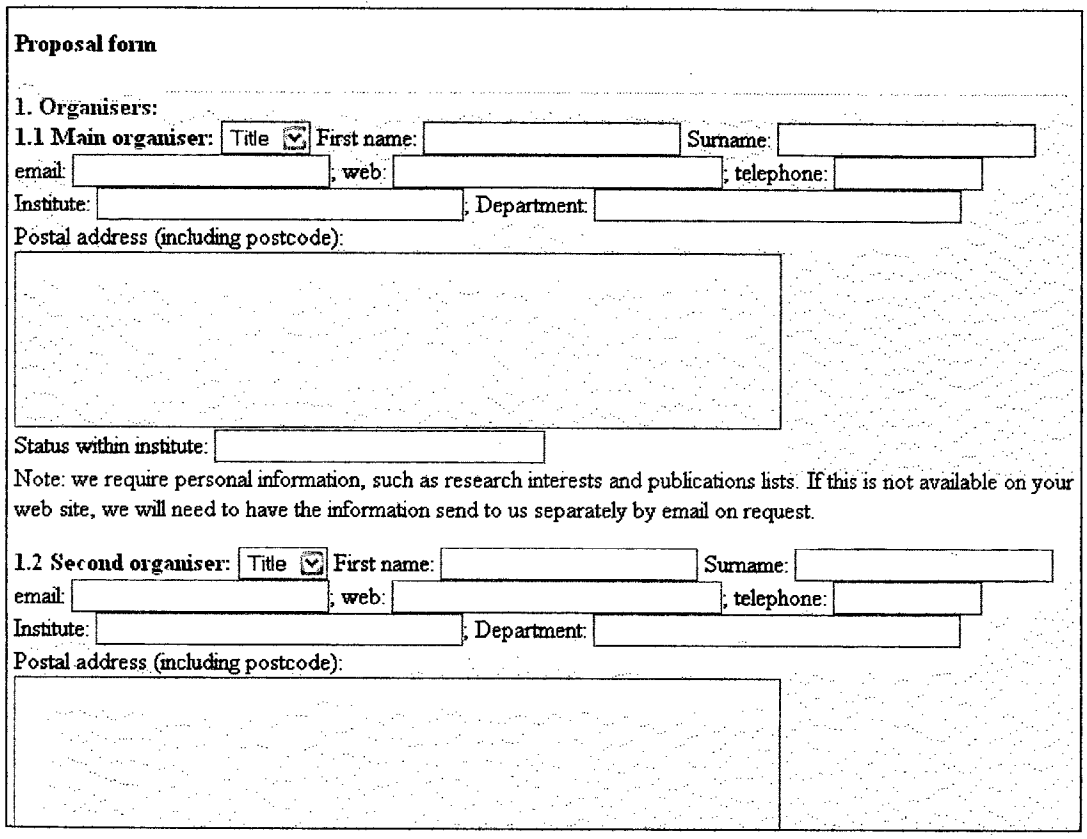


Figure 2.3: Example of NIEeS's system to generate activity training proposal

2.3 Integrated Student Activities Management (Proposal & Calendar Generation Module)

Integrated system is an automated system which all the functional modules share a common database [1]. The Integrated Student Activities System (Proposal & Calendar

Generation Module) is a system that will integrate with KUKTEM IMS system. Thus, it will use KUKTEM's server as its database platform.

Automation provides expected and also consistent performance [2] and an integrated system is better in several ways to one which is not integrated [1]. One of the advantages of integrated is opportunities for errors are reduced when records are entered only once, and changes are automatically propagated throughout the system. For example the student information already exists in KUKTEM's server, so need not to enter or create information for student. All the information about student can be retrieve from KUKTEM's database. Besides that, this system is hoped to eliminate time during make a proposal. This system can be access in every where unless there is an internet connection.

The Integrated Student Activities Management System (Proposal & Calendar Generation Module) is a management system that help student in making an activity proposal and get an approval and comment from club advisor and Sport & Recreation Committee. This system provides a standard form for student to make a paperwork and form to get a comment. Integrated Student Activities Management system helps students create an activity proposal in a few minutes. Integrated Student Activities Management System consists of two cores modules that are Proposal Generation module and Calendar Generation module.

The first core module is Proposal Generation module. This module is developed to help student to create a new activity proposal in electronic system. This module provides a standard form for student to fulfill. Proposal generation module will provide all the information that needs to be filled by the student during create a new activity proposal. In order to make the process of making the activity proposal more smoothly, this module provides the capability to calculate the budget estimation for the activity. Besides that, this module also provides an accurate column during make a tentative program for the activity. This module enables in getting an approval and a comment from club advisor and Sport & Recreation Committee. Club advisor will notify student

if the activity proposal is rejected. If the proposal is approved, club advisor will notify student and submit the proposal to the Student Affairs Department. Student Affairs Representative will review the proposal and give a comment before submit to the dean for last review and final approval. Dean will notify student either proposal is reject or approve and notify staff to print the approval letter.

The second core module is Calendar Generation module. This module is developed in order to provide to the students the date that available in each month. This module helps the Student Affairs Department staff to view and rearrange which activity can be prioritized. Besides that, this module also can view the activity that would be held in certain date.

The student will make a correction for their proposal but not the whole of activity proposal. Student will view back the activity proposal and make a correction on the certain parts that are required to repair. When student send it back to the Student Affairs Department this proposal will update automatically.

The flow of the Integrated Student Activities Management System (Proposal & Calendar Generation Module) is same as current system. The difference between electronic system and manual system is student do not have to meet the club advisor and Sport & Recreation Committee to get an approval and comment. All the process of submission will be done by the system.

The advantage of the Integrated Student Activities Management system is this system help in reduce time on making a proposal in term of calculate the budget estimation for the activity. In addition, this system will continue the process in getting the approval for activity proposal. Below are the comparison between propose system and current system as shown in Table 2.1.

Table 2.1: Comparison between proposes system and current system

	Propose system	Current system 1	Current system 2	Current system 3
Name of the system	Integrated Student Activities Management System	NUI system	NIEeS system	Student Activities Management System
Type of system	Web based	Web based	Web based	Manual
Generate proposal module	Web based	Manual	Web based	Manual
Calendar module	Web based	Web based	Manual	Manual
Originate	Local	International	International	Local
Price	Affordable	Expensive	Expensive	-

2.4 Software process

Software process is characterized as ad hoc and occasionally even chaotic. A few processes are defined, and success depends on individual effort.

2.4.1 Available Methodologies

The general methodologies are variations on a similar theme. It attempts to provide a clear definition of the problem and proposed solution, and involve the correct ability combine to deliver according to expectations. All system development models recognize four main phases of system development and deployment. Those are:

(i) Functional requirements or analysis

(ii) System design

(iii) System build

(iv) System maintenance

There are four types of system development lifecycle that had been defined. The models are:

(i) Staged or waterfall

The waterfall life cycle model divides the development process into a series of sequential steps that are requirements definition, preliminary design, detailed design and implementation. One of the basic aspects of the waterfall model is that each step is assumed to stand alone and must be completed 100% before moving to the next step. The waterfall approach is very structured and disciplined. Formal documentation and sign-off procedures enforce this disciplined approach. A phase is not considered completed until all documentation is done and approved. The biggest problems with this method occur because the subject matter experts are required to have perfect foresight. Once the system is specified, there is no easy method to modify the functionality.

(ii) Spiral

The spiral model uses concepts of prototyping and evolutionary system implementation to primarily identify and evaluate risk and cost. Using this model, before any work is started, a risk analysis and cost/benefit analysis are completed and evaluated. The spiral model's biggest advantage is in early detection of high-risk situations and the ability to make a go/no go decision at the end of each round. A major disadvantage to this approach is that risk analysis itself is very expensive and adds significantly to the overall delivery cost.