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PETRONAS

UTP Exchange Student Program System (Outbound)

By

Mohd Izwan Izzuddin Ramlan

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Bandar Seri Iskandar,

31750 Tronoh

Perak Darul Ridzuan.

CERTIFICATION OF APPROVAL

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Approved by,

(Aliza Sarlan)

UNIVERSITI TEKNOLOGI PETRONAS

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September 2014

CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the reference and acknowledgements, and that the original work contained herein has not been undertaken or done by unspecified sources or persons.

(MOHD IZWAN IZZUDDIN RAMLAN)

ABSTRACT

UTP Student Exchange Program is one of the programs that is offered in the university level to the student in gaining extra knowledge and experience of other environment and culture. Other than that it can enhance the relationship between Universiti Teknologi Petronas (UTP) with other higher education both domestic and international. In UTP, Center for Student Internship, Mobility and Adjunct Lectureship (CSIMAL) is the body responsible for making sure that this program is run smoothly and efficiently.

UTP Student Exchange Program System (SEPS) is a web based system that focus on the outbound application which enable student from UTP to apply for student exchange program at their fingertips.

Currently, all the application processes and data collection of student applying for student exchange program are done manually. However, it is seen as very time consuming and has high risk of human error.

Therefore, this is a perfect aim at analyzing and improving exchange program business process in conducting the exchange program by providing a centralized platform for the staff to help them improved on the current business process and work productivity on the exchange program.

Utilizing the Rapid Application Development (RAD) as the main methodology for this project will be the main focus of implementation for the development of the Student Exchange Program System (SEPS)

The system will help in processing application of student that wish to go to the exchange program and it will also help the staff in storing student application in a more efficient way. Other than it will also help the body to communicate with the student in any arising matter regarding student exchange program.

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CHAPTER 1

PROJECT BACKGROUND

1.0 Project Background

Universiti Teknologi PETRONAS (UTP) has dedicated themselves in accomplishing its vision to produce a well-rounded graduates which consist of developing not just from its academic and technical side but also the student ability in social, thinking and behaviour skills that will help the student to adopt to the working industry, social environment, different culture and religion but also in real life situation.

With the vision in line, UTP has provide opportunity for its student to undergo an exchange program with other university locally as well as internationally. Student will be attached to the Universities of their choice for a full semester. Currently, UTP Student Exchange Program offer three opportunities which are (i) Full Semester Exchange Program, (ii) Research Attachment Program and (iii) Summer Program.

The organization responsible for conducting and arranging the student exchange program lies with the Centre for Student Internship, Mobility and Adjunct Lectureship (CSIMAL) where it helps ensuring the success of the exchange program both inbound and outbound. They basically act as medium communication between the students, academic department and also the participative universities for the exchange program.

As of today, no automation system are none exist in the organization in making sure the process are run smoothly. Thus the current manual system done by the organization can lead to risk of time consuming and human error. Related to this, an effective platform is need in making the output of the program is reachable as well as establishing credential to support effectiveness to the exchange program.

1.1 Problem Statement

In this section, author will take on various problem face by the organization in their workflow process as outline.

1.1.1 Problem Identification

- **Manual Application Process**

At this current moment CSIMAL uses manual application as the main medium for student to apply for application. Student have to go to CSIMAL office to get the form and submit the form with all the document need along with it. CSIMAL will manually check all the application form and go thoroughly each form to if the student meet the university requirement to undergo the exchange program. For student applying for exchange program they have to pass several criteria such as Cumulative Grade Point Average (CGPA), Curriculum Activities, Preliminary Interview and Student Sponsors. Manually cross checking this information can be very time consuming.

- **Impractical Application Monitoring**

CSIMAL is currently using excel file format to keep track of student application process. Problem arise where the application consist of many stages of processing from submission, interview, shortlist of candidates, sponsors and Visa and travel arrangement. Other than that, student also has to notify CSIMAL manually if they are any changes in their application so that CSIMAL can update the student placement status.

- Limited Communication Platform

Due to the unavailability of a proper platform for CSIMAL to communicate to the student regarding Exchange Program matter for the student and the university. The constraint in communicating information and getting proper information is a concern as there are no platform and medium for the university and students to address their issues where at this moment both rely on email and telephone. CSIMAL announcement, student application and schedule for preliminary interview are some of the issues that has been arise.

- Poor Data Management

The problem in keeping a manual data is that its tendency to be less protective as there are no backup data if that one data is lost and also security measure as anyone can just take and look at the record at any time they want.

1.2 Objectives

- To analyse the current Business Process of CSIMAL in conducting UTP Exchange Program which can be automated and improved
- To design and develop a web based system for UTP Student Exchange Program

1.3 Scope of Study

1. Analyse the Business Process of CSIMAL in conducting UTP Exchange Program
- The research project will look upon the current process and method use by CSIMAL in UTP Exchange Student Program and propose a more effective and efficient business process to enhance the output productivity of the business.

2. Develop a prototype

A prototype system called 'UTP Exchange Student System' will be developed based on the current practice and demand of CSIMAL business process in conducting the exchange student program.

CHAPTER 2

LITERATURE REVIEW

2.0 Literature Review

Consist of summary of literature studies along the research of the final year project where it will focus on research paper regarding student exchange program, distance learning, web based system, the internet and previous and current internship web based system used in the academic industry and other organization. Other than that, research will also look at the business process and how it can be improved the organization operation and increase productivity among its users.

2.1 Student Exchange Program

Exchange Program in the higher institution has become a common thing that a student can undergo in order to finish their diploma, degree and even master in order to graduate in their studies. Student are place in a different university where they are expose and experience into different environment, culture, tradition, history and also technical side. Students can also put their knowledge and experience that they have learnt in UTP to put into use and also share in with their host university that they have been placed upon. Student Exchange Program can go to as long as two weeks or even a whole semester which is around six months depending on the type of exchange programs and also the criteria that has been set by the university.

In an article published by stated that over 100,500 slots are available and spread in technical field, vocational field and skill training across 27 polytechnics and 323 public training institutes and an excess of 580,800 students are taking their undergraduate studies and postgraduate studies at both public and private institutions of higher learning in Malaysia (Star, 2010).

Furthermore, it stated that the rise of intake also need an enhance access to quality education in order to raise the standards of education in Malaysia. Looking at this point of view student exchange program that has been introduced by the higher institution can be seen as a great method in raising the quality of our graduate.

As suggested by, student exchange program involve party from secondary school or university institution at one of their institution's partner. The program can go either the international level but also locally depending on the institution's partner and student choice of the program. Other than, they also stated that from different context of creating relationship between the Universities involves in terms of academic and improvement of the quality of the higher education in terms of a full semester study application or laboratory and research work (Volsi, Parenti, and Recca, 2009)

Furthermore, student program so that the it can helped enhanced not just the student but also the universities itself in terms of knowledge sharing from terms of experience, skills characteristic, history, culture, tradition and knowledge so that it can be a valuable asset to prepare and engaged themselves on behalf of the industry, students and university.

2.2 Distance Learning and Monitoring

In this day of age, technology has rapidly grow to make sure that the human society can benefit and increase our daily tasks. It is no question that technology has influence in how we do our daily activities from doing grocery and paying our bills. The education industry has also seen changes as technology has define how lecturers and students uses technology to communicate and interact on studying method and studying materials. This statement is supported thru distance learning where it can be very effective tool in instruction material and with the increase usage of technologies the growing importance of distance learning can be ignore (Bogdanovic, 2012)

The acquisition of knowledge and skills through mediated information and instruction, encompassing all technologies and other forms of learning at a distance. From this definition clearly emphasis technology as a form for distance learning where the knowledge management in gathering all the information so that all the information and instruction can be acquired to the specify target and users. Other than that, it talks as how technology is uses as medium to obtain the desire information as the desired information is collected from separated and different sources and with the assistance of technology has helped in forming the information for learning at the distance. This

is a clear help as students that are interested in doing exchange student programs face problem in applying and getting the much information needed by them in the tips of their finger hands (Bogdanovic, 2012).

This has created the barrier of communication between the student, lecturers and CSIMAL as it is harder for the student to obtain information regarding their exchange program thus creating a lack of monitoring and knowledge about the current event of the exchange programs and the students that are interested and also that has applied for it, in the definition of distance learning as the barriers of face to face contact between student and teachers are demolished as student are now able to student as their choice with the help of technological element (Bates, 2008).

In creating and producing quality graduate the success of distance learning is a big factor as a good communication medium need to be establish between the students and teachers in order to produce and achieve the same output and goal. So educational institutes needs to understand and focus on the distance learning and create a proper interaction medium in order for information and knowledge can be transfer easily between two parties and any time.

With the increase popularity and usage of the World Wide Web (WWW) it has become the main sources for spreading information and knowledge sharing (Liu, Ng, and Lim , 2005). The monstrous development of the WWW technologies has made the usage of internet to a different level compare of its recent years. With the education industry have and must take advantages in migrated their work to web based application in tackling the issues of distance learning and provide better services to the students, users and all stakeholders involve.

2.3 Uses of Technology

In the increase of usage of computers and smartphone in our life has seen a rise in way human communicate with each other whether using short message service, email, social media and video calling. This shown that there are no lack of communication tool that can be used to implement distance learning between student and teachers.

2.3.1 Internet

Internet has become one of the revolution of modern technology that have enabled sharing of knowledge for all over the world and with the internet has enables to introduce learning in virtual distance form (Brdicka, 2013). The growth of internet cannot be denied as it has driven the increase of new technology, system and business to help in humans in any way possible. The number of users on the World Wide Web increases every day, its use in different areas is also growing rapidly where we can see changes and upgrade to the web in every second of the clock. Thus the education industry must take advantages to implement and ensure the distance learning issues and give better service to the students and teachers to increase the productivity. (Winkler, 2014.)

2.3.2 Database Management System

A database management system (DBMS) is the software that allows a computer to perform database function of storing, retrieving, adding, deleting, and modifying data. Database management system (DBMS) has replaced the file system data management by having a group of data that can be stored and shared by multiple application programs and users synchronously (Wikipedia-the free encyclopaedia, 2014). Structure query language (SQL) is the language used by DBMS to isolate the data to different location, data redundancy and provided ad hoc enquiry capability. SQL can be defined as a universal non-procedural language that used to retrieve and manipulate data in database system efficiently and easily without having to write sophisticated computer program (Wikipedia-the free encyclopaedia, 2014). Other than that, it help provide logical and physical data independence, where any changes made in the structure of data or program application will not affect with each other. Besides that, it can also implement the relational model of tables and relationship where prioritizing on the relational database model order to proceed with system with the usage of Relational database management system (RDMS)

The advantages of having a database system is that data can be more secured and low tendency to be corrupted, the feature of DBMS is to ensure of database authorized

access and recovery data during system failures. Where we compared to a manual database, a computerized data Compared to a manual database, a computerized database is more flexible, compact, and faster. It reduces the probability of inconsistent data and also time saving.

2.4 Web Based System

A web based system is define by Eid (2008) as web site that acts as a multi sources or single source for all information on a specific domain it offers the user a broad array of information, arranged in a way that is most convenient for the user to access. Here web portal can be a medium point for the students and teachers to retrieve and store various information and resources. Where stated a web based or automated system can help provide a more efficient in any data processing especially for a system that involves a lot of data collection and retrievals. (Azrul & Izmafaizal, 2014)

Basically it can help with the current exchange student process activities such as registering process, update on student register and spread information to student regarding the exchange student programs. It can help it achieving maximise productivity and output for the student and CSIMAL with a real time access with current and consistent information as long as it meets with the stakeholder requirement and expectation.

With this information, the research project will use the same approach to create the web based system based on the requirement and expectation of the stakeholders involve in this system and meet with the current business process of CSIMAL.

2.5 Existing System for Exchange Student Programs

The current research will follow the strategy and footsteps of other universities and higher education that has implement web based system for the student exchange programs. Basically the web based system will allows users to apply for the exchange program, update on any application process and also view related information regarding the exchange student program.

Thus, we will look into some of the feature and differences of web based system that has been implemented by education institution.

| No | Institution | Description |
|----|---|---|
| 1 | Universiti Teknologi PETRONAS E- Learning | <ul style="list-style-type: none">- Implemented a web based system for student with a goal to help ease lecturers and students to share information, data and knowledge regarding the subject.- Enable the student to upload assignment and project for submission. |
| 2. | Oregon Abroad | <ul style="list-style-type: none">- The university list down all the available exchange program that is available at the universities where it consist of almost 20 different universities and student are able to categorized section depending on their needs and demand- It shares on Frequent Asked Question (FAQ) on how their exchange program works for such as universities involved, the duration, requirements and tuition fees. |

| | | |
|----|---|--|
| 3. | University of Carolina Exchange Program | <ul style="list-style-type: none"> - The system allow students to see all available exchange program at their website and apply within their interest. It follow the same distinct features as Oregon Abroad. |
| 4 | University of Waterloo | <ul style="list-style-type: none"> - The universities exchange program system focus more on knowledge based in communication and sharing any information on exchange programs matters. - If the student is intrested in applying for the programs the can contact the university administration to ask furthers more on requirement matters. - Student can download the application forms and need to submit it to the administration office. |

2.6 Business Process

In the last decades, business now faces a big challenges for effective management due to the rapid development of technologies as business process is essential in how business will run their organization and also satisfying all their stakeholders. In order for organization to stay competitive in the market, technology has provide new products and services with this organization has set the trend in triggering development in enterprise development to give better services and product in order to keep and strengthen competitive advantages in the market (Lodhi, K'oppen & Saake, 2011). With this in mind, developing products and services must also meet up with the customers and users demand to help organization in developing a proper system to deliver within the time frame work and resource (Bloch, 2012). From the definition of business process we can truly understand that business process is about collection

of related, organized exercises or errands that deliver a particular service or item (serve a specific objective) for a specific client or clients (Wikipedia, 2014)

There are 3 types of processes like business process management (BPM), business process reengineering (BPR), or business process improvement (BPI). This business process differ from another depending in the scope of their management techniques that they want to create in the organization. (Lodhi, Koppen & Saake, 2011)

The definition of business processes in the context of business process reengineering as a business process for collection of activities that takes one or more kinds of input and creates an output that is of value to the customer. From the definitions concentrate on outlining business forms with inputs and included articles, consequently yields could be produced for potential clients. Business procedure reengineering are because of a focused and nature's domain, where existing techniques are no more powerful. Consequently, methodologies must be upgraded from the scratch to address the requests of clients (Hammer & Champy, n.d)

In the perspective of business process improvement (BPI), are defines business processes in as a business process consists of a group of logically related tasks that use the resources of the organization to provide defined results in support of the organization's objectives. In this definition, focus on fulfilling the organization goals and objectives by using the resources available in the organization. The important of improving the organization product and services by utilizing the resource and structure of task in the organization. In Business Process Improvement, the goals are defines specifically in order to achieved the business process improvement such as cost reduction, quality management and emphasis of speed then these process are turn on process of step by step action in order to achieve the goals. Thus, improving of the current business process in more dynamic features (Lodhi, Koppen & Saake, 2011)

It is mention the key features in any business process are (i) predictable and definable inputs, (ii) a linear, logical sequence or flow, (iii) a set of clearable definable task or activities, (iv) a predictable and desired outcome or results.

CHAPTER 3

METHODOLOGY

3.0 Methodology

This chapter will explain on the research methodology that has been chosen to conduct this project.

3.1 Research Methodology

The project will focus on UTP current situation and process of its student exchange program. In order to understand more on this, it is crucial to access information from various sources such as articles, research paper, books, journal and other related publication. Other than that, conducting observation, experience and interview with the CSIMAL, students and lecturer about their experience in coordinating the current exchange program and situation arise.

Figure 1 below summarizes the research methodology:

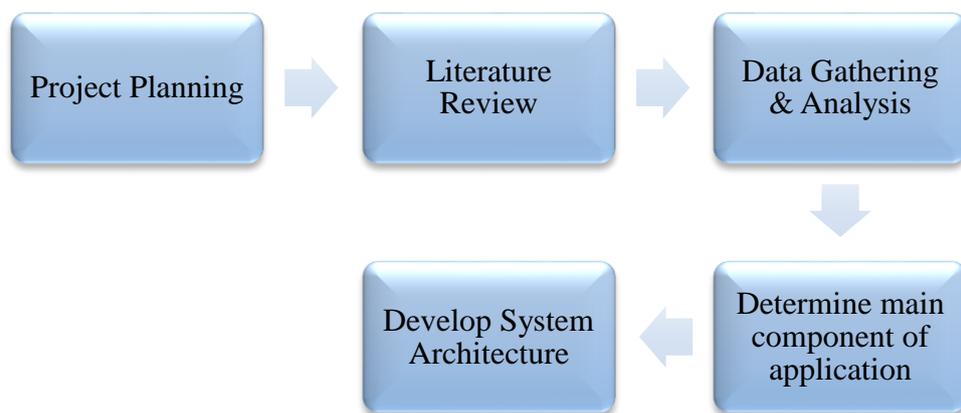


Figure 1: Research Methodology

3.2 Development Methodology

Methodology is a method that is used in developing the project. It is a guideline for completing a project. The main method that is going to be used for this project is the Rapid Application Development (RAD) structure which consist of four phase which are Analysis, Prototyping, Testing, System Implementation. This methodology is chosen is due to the author experience and the development concept underpins many kinds of software development methodologies. These methodologies form the framework for planning and controlling the creation of an information system: This development is currently employed throughout industry.

The benefits of using this methodology is that it can help reduce the time due where at this current moment the project is due approximately less than five months, which is consider very short. This method can also improve the quality of requirement and specifications provided to developers

Other than that, this method can allow developer to made changes and modification during the development phase if there is any changes needed to be made and also author have the ability to recheck other phase of the project development. This is very crucial as it can give a vicious monitoring process of each phase upon completing the project. Basically this methodology will be divided into four main phase such as below:

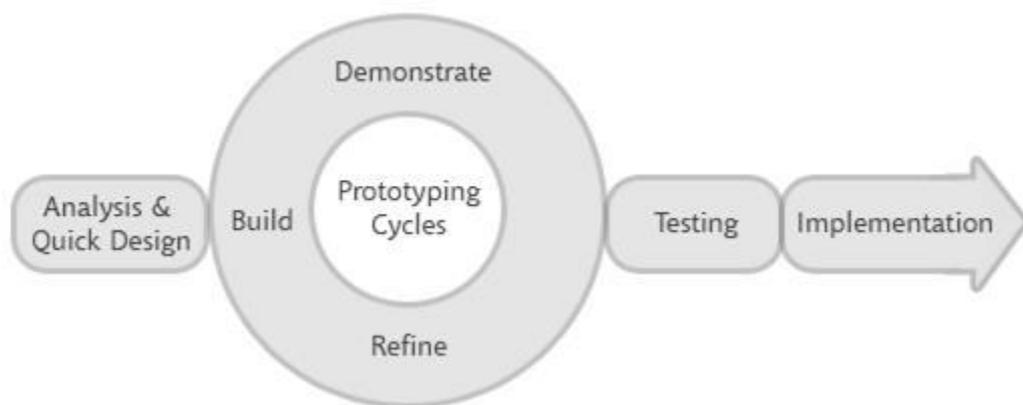


Figure 2: Rapid Application Development (RAD) structure

- Analysis and Quick Design Phase
- Prototyping Cycles (Building, Refining, and Demonstrating process)

- Testing Phase
- Implementation Phase

3.3 System Architecture

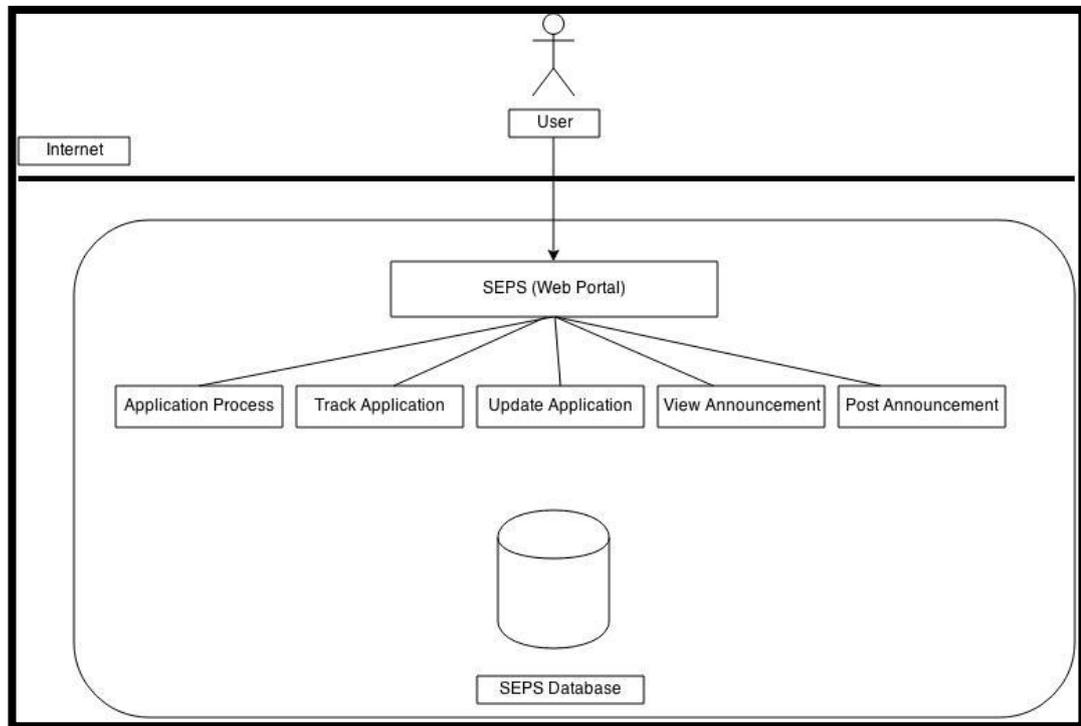


Figure 3: System Architecture

3.4 Development Tools

In this part, the tool used has been separated into two main parts which are hardware and software

- **Hardware**

The hardware use to develop this project are

- i) Server.
- ii) Computers.
- iii) Internet Connection.
- iv) Printer.

- **Software**

The software used to develop this project are

- i) Adobe Dreamweaver CS4 & Notepad
- ii) XAMMP v3.1
- iii) Adobe Photoshop CS5

3.5 Gantt Chart

| PROJECT KEY MILESTONE/WEEK | FYP 1 | | | | | | | | | | FYP2 | | | | | | | | | | | | | | |
|---|-------|---|---|---|---|---|---|---|---|---|------|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | |
| Identifying & Planning of Project -Problem Statement -Create Work Plan | x | | | | | | | | | | | | | | | | | | | | | | | | |
| Analysis of Project -Determine knowledge & Resource of system -Collect information - Requirement Analysis | | | | | | | | | | | | | | | | | | | | | | | | | |
| Analysis of Project -Determine function/non-functional of system -Verify changes and prioritize requirement | | | | | | | | | | | | | | | | | | | | | | | | | |
| Interim Report & Proposal Defense | | | | | | | | | | | | | | | | | | | | | | | | | |
| Layout Design -Interface -System input & Output | | | | | | | | | | | | | | | | | | | | | | | | | |
| Programming -Source Code | | | | | | | | | | | | | | | | | | | | | | | | | |
| Database Design -Data Management | | | | | | | | | | | | | | | | | | | | | | | | | |

4.1 Requirement Gathering Results

This chapter will discuss on the results and finding that have been obtained in the project development

4.1.1 Document Analysis

The document that have been analysis mainly focus on the technical documentation of the business process that CSIMAL has been using and how they delivers the student exchange program. It is for the author to have a better understanding about the how CSIMAL conduct their business operation and also to identify and eliminate any unnecessary manual forms and migrate it to a system based application.

The study on the documentation concludes on the step and process CSIMAL has to undergone if a student is applying for the exchange program and how to fulfill the system features. Furthermore, the study of the exchange program process shows that there are some process that are able to be turn into a web based forms. Below show the summarize document of student applying for an exchange program (outbound).

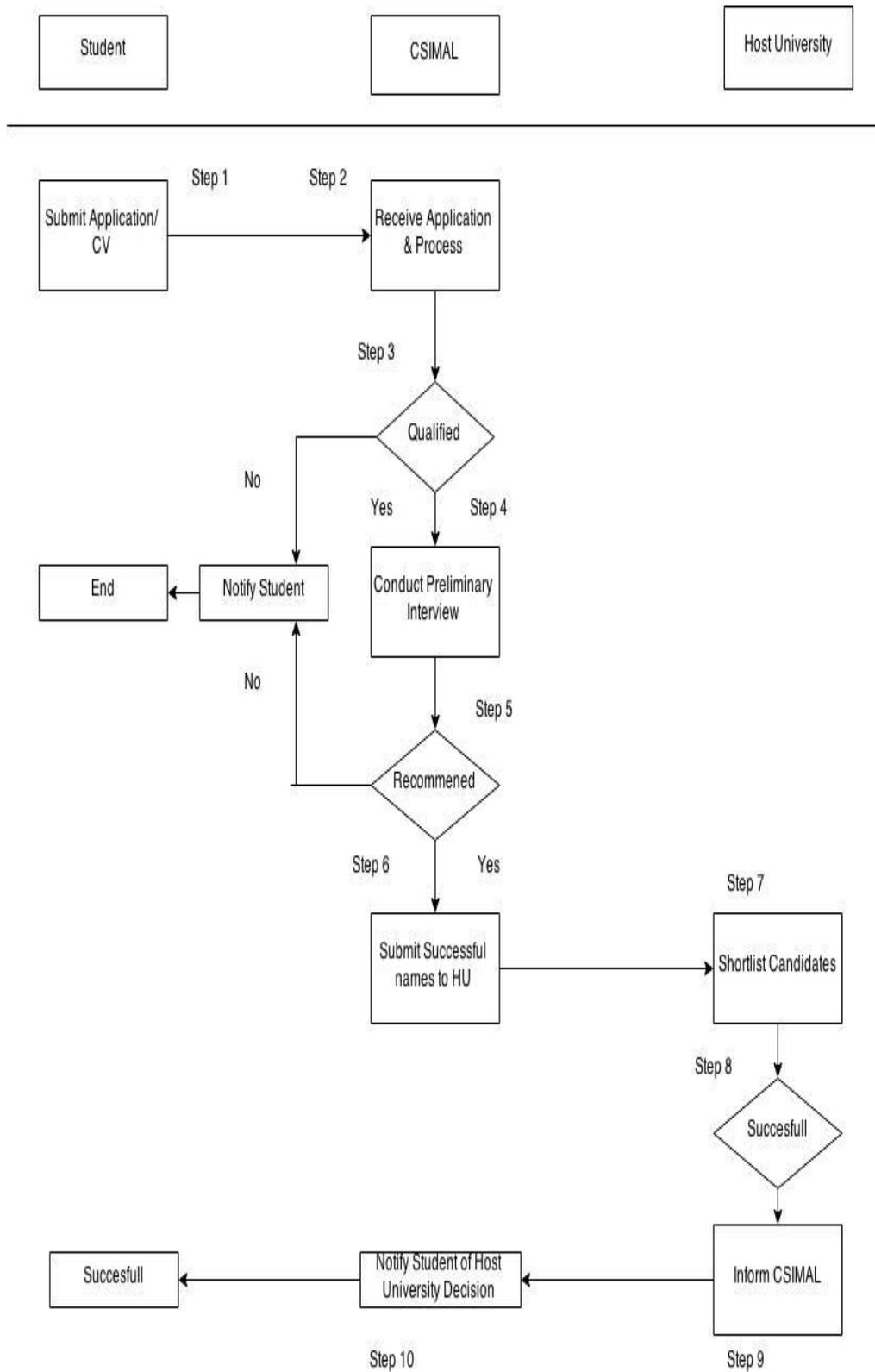


Figure 4: CSIMAL Current Process Workflow

4.1.2 Interview

From the research that have been conducted, found that CSIMAL staff and student agreed that some of the process can be automated to ensure smooth application process. With the implementation of the system it can help ease their work and also save time.

The interview has been targeted to the CSIMAL staff and also UTP students. The objective of the interview is to find out the opinion and expectation of the system potential users and also understand better the business process of CSIMAL in conducting the student exchange program for the purpose of improving and eliminating steps and process involve in it in order to improve the effectiveness and efficiency, and also identify problem faces by the staff and student.

The interview session has been conducted with the CSIMAL Manager and executives where two different interview session where conducted. Below is the summary report of each interview session that has been conducted.

Date : 9th July 2014 Interviewer: Mohd Izwan Izzuddin Ramlan

Person Interviewed: i) Mr. Azrul Hasyimi B Zabidi, Manager, CSIMAL, UTP
ii) Mohd Izmafaimal B Abd Manaf, Executive, CSIMAL, UTP
iii) Remmi Arfizri B Abdullah, Executive, CSIMAL, UTP

Purpose of Interview:

- Identify Current Business Process of Student Exchange Program
- Identify the major problems encountered in their application process
- Determine purpose and function of the System

Summary of Interview

- Automation of the Student Exchange Program is prioritize and also follow the current process and steps.
- The major problems face by CSIMAL is the manual application process and proper method in storing all the application form. Currently, monitoring application is completely manual method from student application and cross reference of each application. Basically there is no systematic process to monitor all student application
- CSIMAL wants a proper web pages for the usage of both the CSIMAL staff and UTP student that they can use together to stored and integrated information from each other.
- Other than that, they want the system to be able to share data and knowledge regarding CSIMAL and their Student Exchange Program such as eligibility and the universities involve.

4.2 Functional Requirement

The functional requirement of the system will be directly working with the CSIMAL business process. Below are the list of function of the Student Exchange Program System

1. Student Application.
 - a) Student can apply for the Exchange Program and register themselves in the system
 - b) Student can also check their eligibility status to undergo the program
 - c) Staff can post any information regarding the program to share with the applicants and future applicants.

2. Track Application Process
 - a) Staff can view the student application and update on any changes made by the student in the application.
 - b) Staff can approve student status on their application form.

3. Update and Retrieve Database
 - a) Staff can update the database
 - b) Staff can clear content in the database
 - c) Staff can retrieve information in the database
 - d) Staff are able to change the personal particular and password

4. Report generate.
 - a) Staff can generate and print report from the data stored in the system and database.

4.3 Non Functional Requirement

A non-functional requirement refers to the behavioural properties that must have by a system. A non-functional requirement gives an impact towards design phase decisions. It is categorized as below.

1. Operational

- a) The physical and technical environments in which the system will operate.
- b) The system must be able to operate with amount of users

2. Performance

- a) The speed, capacity, and reliability of a system.
- b) Must be available 24/7
- c) Accessible via internet by all users inside and outside UTP.

3. Security

- a) The authorization of a system. Where only staff has access and update the database
- b) Student can only update their on application
- c) All information and results must be kept in a confidential manner.

4. Cultural and Political

- a) Cultural, political factors and legal requirements that affect the system. Where the current business process of CSIMAL cannot be changed
- b) The system must be able to adapt to the user requirements and needs.

4.4 Diagram

Follow are the system diagram which model on the system requirement. The diagram that has been chosen for this project are (i) Use Case Diagram (ii) Activity Diagram (iii) Class Diagram (iv) Sequence Diagram

4.4.1 Use Case Diagram

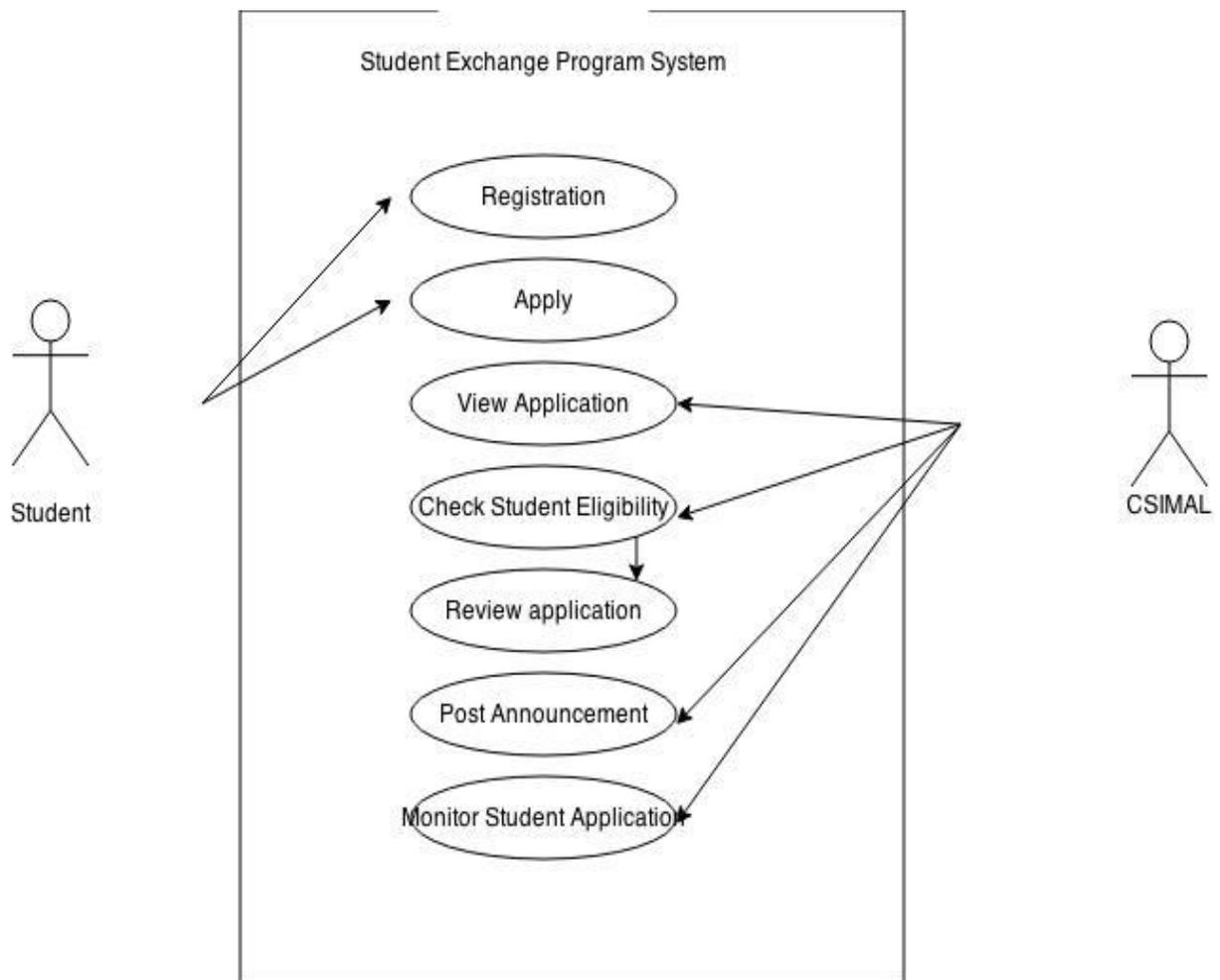


Figure 5: SEPS Use Case Diagram

4.4.2 Activity Diagram

1) Student

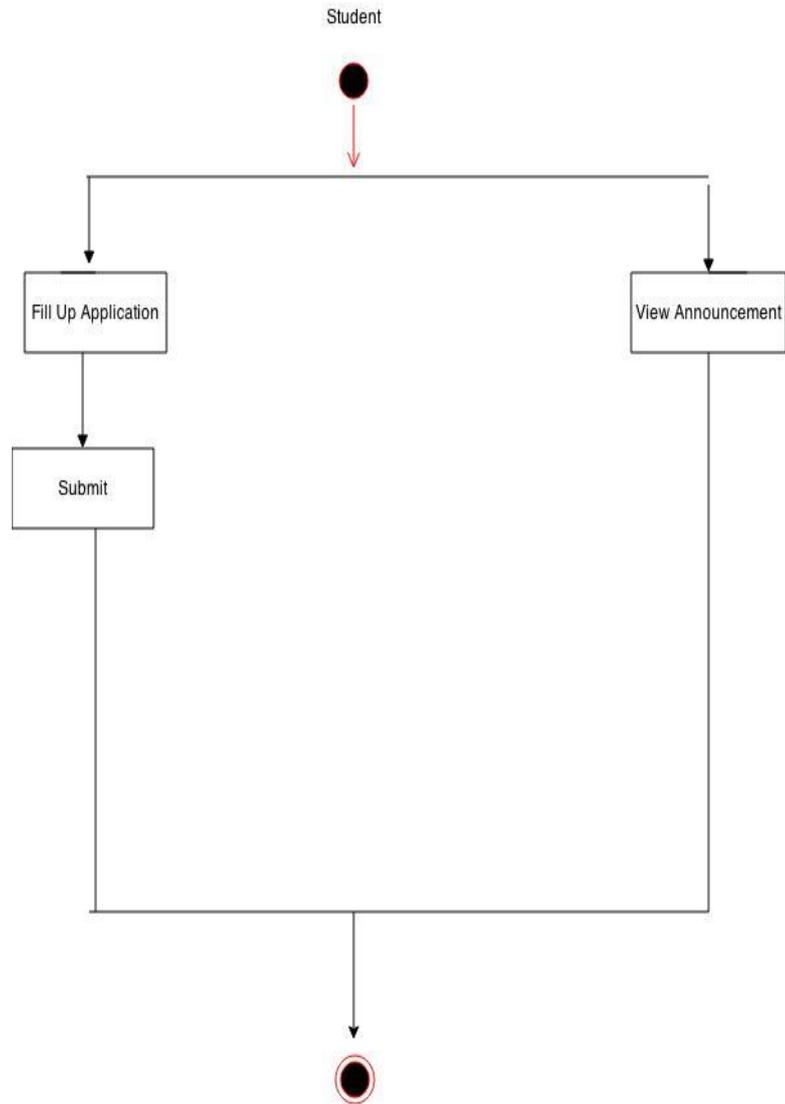


Figure 6: SEPS Activity Diagram- Student

2) Staff

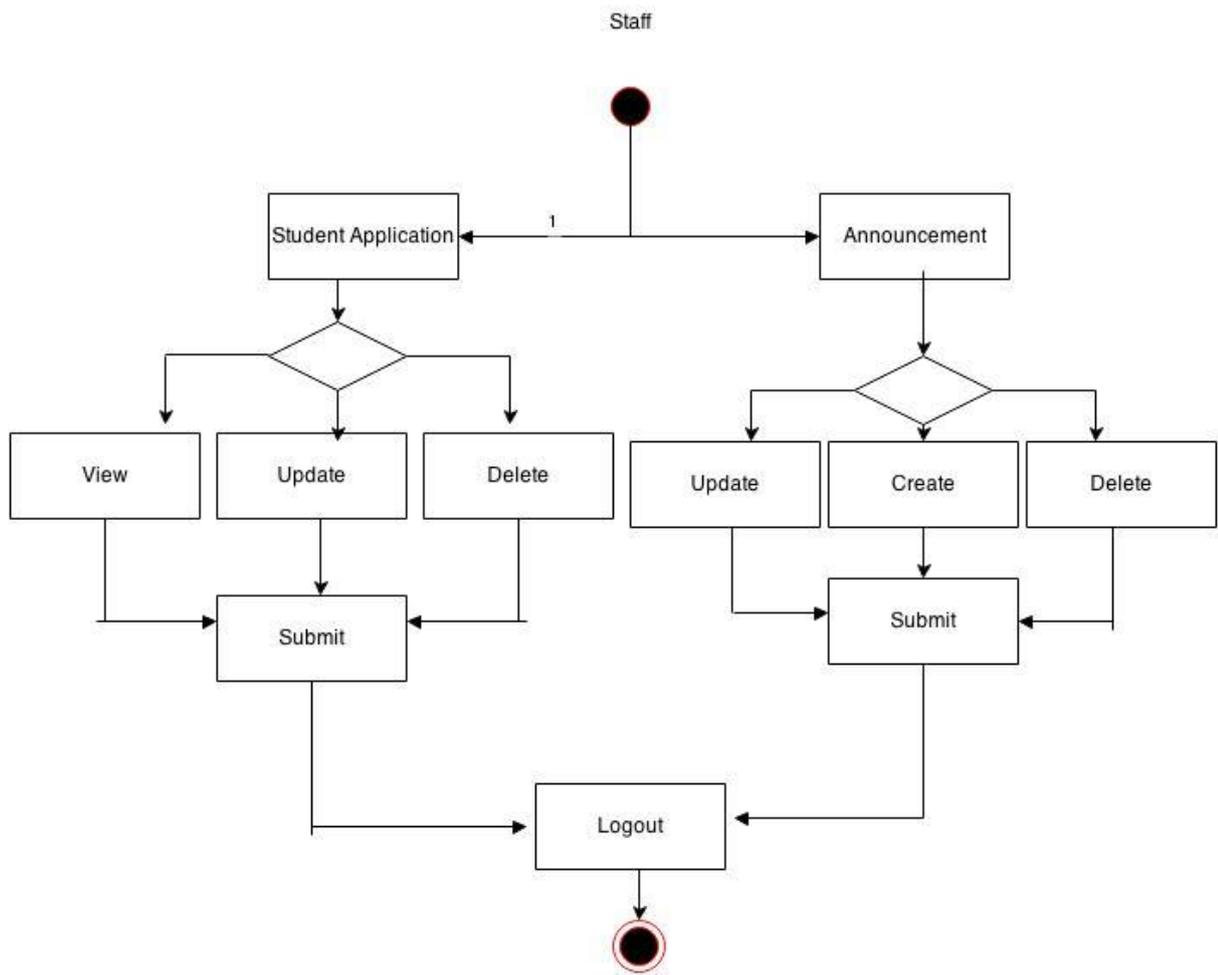


Figure 7: SEPS Activity Diagram- Staff

4.4.3 Sequence Diagram

1) Application Process

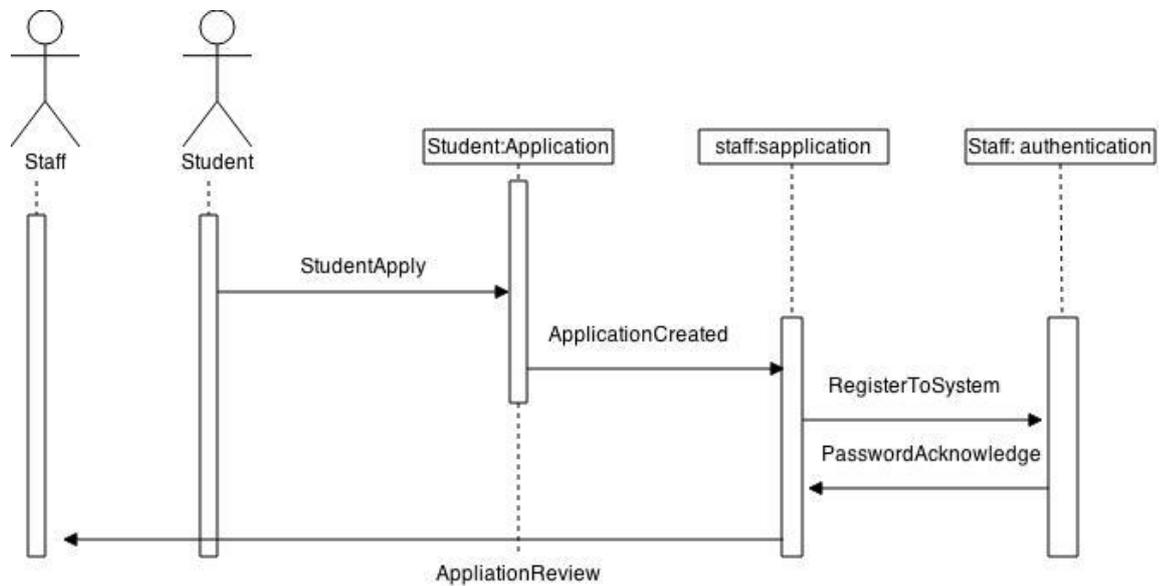


Figure 8: SEPS Sequence Diagram- Application Process

2) Update and Retrieve data

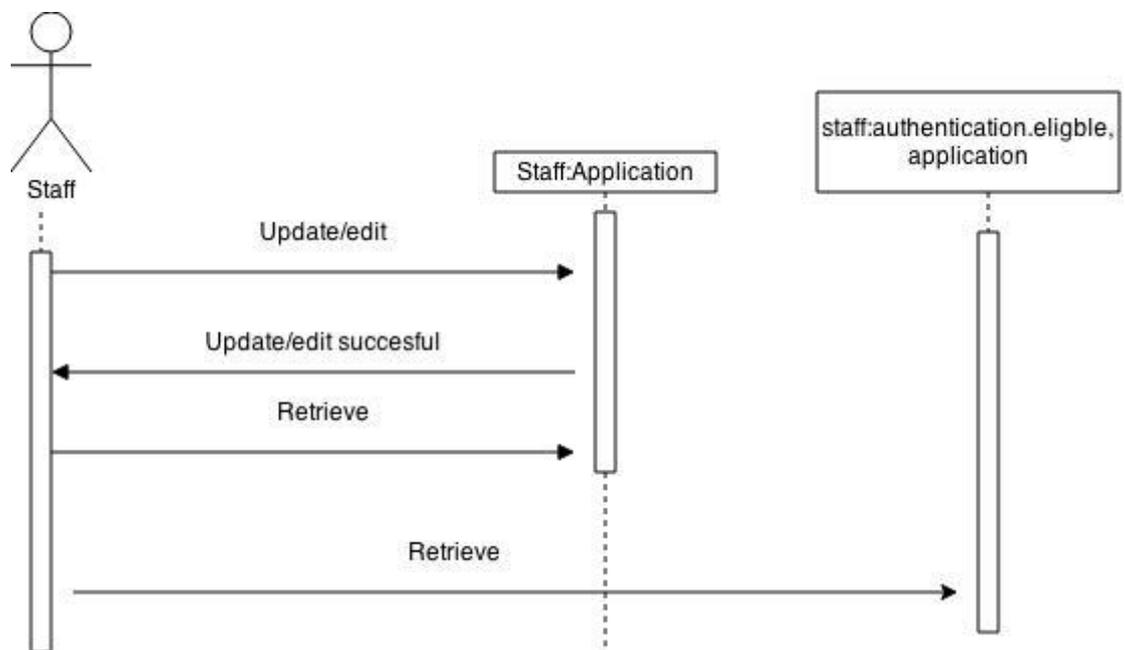


Figure 9: SEPS Sequence Diagram- Update & Retrieve Data

3) Post Announcement

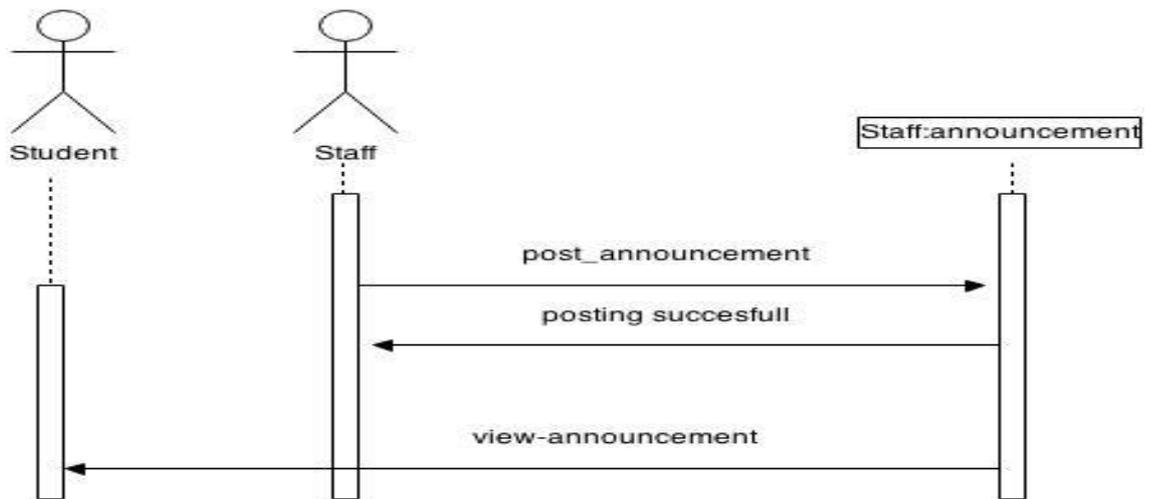


Figure 10: SEPS Sequence Diagram- Post Announcement

1.4.1 Class Diagram

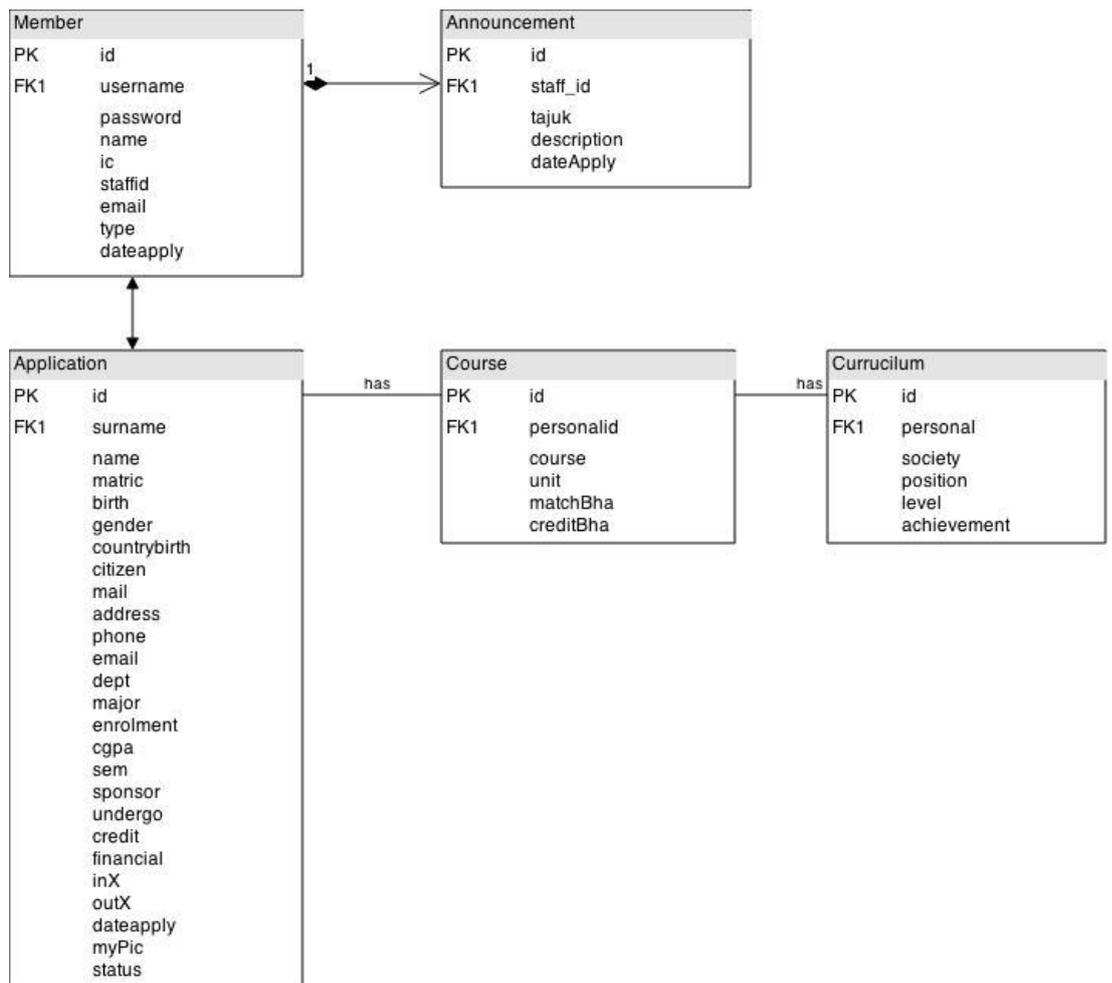


Figure 11: SEPS Class Diagram

4.5 System Design

4.5.1 Main Index Portal (Home Page)

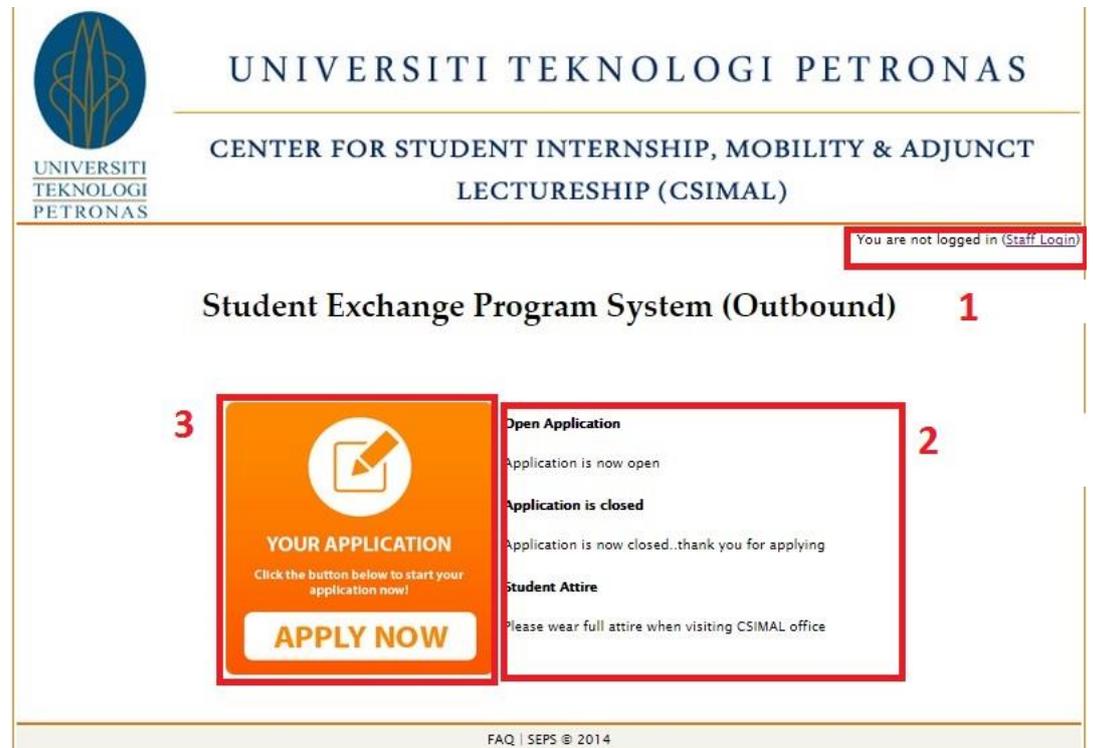


Figure 12: Main Index Portal

The main index portal is the centralized access for all user to connect the exchange program system. Follow are the generic function for the main index portal:

1. Staff Login

Staff login will enable authorized staff user to access to the staff main home page.

2. Announcement and Upcoming Event

The post announcement is where CSIMAL will post any upcoming event regarding any exchange program matter where it will act the medium communication between CSIMAL and the student. CSIMAL staff will be the responsibilities party to post an announcement.

3. Application for Student Exchange Program

This is where student will be directed to the application page for and apply for the student exchange program.

4.5.2 Student Application Form

HOME

Student Exchange Program System (Outbound)



**STUDY ABROAD/EXCHANGE PROGRAM
APPLICATION FORM**



UNIVERSITI
TEKNOLOGI
PETRONAS

Choose File No file chosen

Instructions

1. Applicant is in 2nd/3rd Year of study (in Engineering or Technology).
2. Latest CGPA of 2.00/4.00.
3. Write clearly using BLOCK LETTERS and tick boxes where appropriate.
4. We cannot consider your application if it is incorrect, incomplete or unreadable.

1. PERSONAL DETAILS

Surname:

Given Name:

Matric No: IC No:

Date of Birth: Gender: M F O

Country of Birth: Citizenship:

Mailing Address:

Permanent Address:

Phone No: E-Mail:

2. ACADEMIC DETAILS

Name of Current Dept:

Proposed Specialization/Major:

Date of Enrollment:

Latest CGPA:

No of Semesters:

Sponsor:

Credit Hours Taken (Complete):

3. EXTRA-CURRICULAR ACTIVITIES

| Society/Club | Position Held | Level (Uni/State/National) | Achievement |
|--------------|---------------|----------------------------|-------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

4. FINANCIAL SUPPORT

I can undergo the Exchange Study Abroad Program on my own expenses.

I need Financial Support to undergo the Exchange Student Abroad Program.

5. PLACE OF STUDY - Please tick only ONE*

| | | |
|---|---|--|
| <input type="radio"/> TU Graz, Austria <input type="radio"/> Lehigh University, USA <input type="radio"/> Missouri S&T, USA <input type="radio"/> Eilfent University, Turkey <input type="radio"/> Upper Austria University of Applied Sciences <input type="radio"/> Meiji University, Japan <input type="radio"/> University of Bergen, Norway <input type="radio"/> RW Aachen, Germany <input type="radio"/> CGG Universities *Please refer to www.gobalnet.com | Student Exchange Program: (In Australia Only) | <input type="radio"/> UNSW <input type="radio"/> UA <input type="radio"/> UMalib <input type="radio"/> UQ |
|---|---|--|

6. PROPOSED STUDY- List of Courses to Enroll*

| Courses Title (at Host University) | Units | Equivalent Course (at Home University) | Credit Hours |
|------------------------------------|-------|--|--------------|
| | | | |
| | | | |
| | | | |
| | | | |

Symbol * is required

SUBMIT YOUR APPLICATION

FAQ | SEP © 2014

Figure 13: Student Application Form

The student application form is where student can apply to go for the exchange program system by simply entering all their personal particular that is required. Other than, student will also need to upload their picture before submitting the application form to CSIMAL. After application is successful student will return back to the main index portal.

4.5.3 Staff Main Portal

UNIVERSITI TEKNOLOGI PETRONAS
CENTER FOR STUDENT INTERNSHIP, MOBILITY & ADJUNCT LECTURESHIP (CSIMAL)

Welcome Staff (**D01111** - **NABIL AHMAD**) [Logout Here](#)

Student Exchange Program System (Outbound)

2 Search By Matrix No

3 [PROFILE](#) [INSERT NEWS](#) 4

MANAGEMENT OF APPLICATION (4)

| MATRIX NO | NRIC | NAME | DATE | Status | |
|-----------|--------------|---|--------------|-------------------|---|
| 15451 | 890811125155 | Mohd Izwan Izzuddin Ramlan (izwanliza@gmail.com) | 7 2014/12/07 | Pending (approve) | 5 |
| 14395 | 920301125676 | Mohd Aqiqi B Ismail (aqiqi.ismail@gmail.com) | 2014/12/07 | Pending (approve) | 6 |
| 523523 | 23532 | qweqw (shuk_777@yahoo.com) | 2014/11/18 | Approved | |
| ABC1234 | 880966544431 | Ahmad Albab (shuk_777@yahoo.com) | 2014/11/18 | Approved | 8 |

Figure 14: Staff Main Portal

The staff main portal will be the access point for CSIMAL staff where it contain all information regarding the Student Exchange Program System where it is only accessible by the staff that has been authorized. Follow are the personalized function that can be accessed by CSIMAL staff:

1. Logout for Student Exchange Program System

The logout function is located at the top of the web portal where when the staff has finished all the work they can logout from the system for security reason.

2. Search Button

The search button is for the staff to search for any particular student that has apply for the exchange program where this will ease the staff in locating student application without scrolling for it.

3. Profile

Staff can update particular matter regarding their staff profile from their username and password.

UNIVERSITI TEKNOLOGI PETRONAS
CENTER FOR STUDENT INTERNSHIP, MOBILITY & ADJUNCT LECTURESHIP (CSIMAL)

Welcome Staff (D01111 – NABIL AHMAD) (Logout Here)

Student Exchange Program System (Outbound)

[UPDATE PROFILE](#) | [BACK](#)

Staff ID : D01111
NRIC : 687447887654
Name : NABIL AHMAD
Email : nabil@gmail.com
Username : user1
Password : *****

FAQ | SEPS © 2014

Figure 15: Staff Update

4. Insert News

Insert news function is where staff can create, update and delete any matters regarding the announcement post in the system.

Welcome Staff (D01111 – NABIL AHMAD) (Logout Here)

Student Exchange Program System (Outbound)

[MANAGEMENT NEWS](#) | [BACK](#)

Staff ID : D01111
Tajuk :
Description :

NEWS (3)

| STAFF ID | TAJUK | DESCRIPTION | |
|----------|--------------------|---|--|
| D01111 | Application Open | Application for exchange program is now open. | |
| D01111 | Application Closed | Application for exchange program is now closed. Thank You | |
| D01111 | Formal Attire | Please wear formal attire when visiting the CSIMAL office | |

FAQ | SEPS © 2014

Figure 16: Insert Post and Announcement

5. Delete Function

Staff are able to delete application that has bent sent by the student.

6. View/Edit Student Application Form

View and edit button is where staff can view application form that has been sent by student. Staff are to view the student application whether the meet the requirement to go for an exchange program. Staff are able to also able edit student application if any changes need to make to the application. Other than that, staff are able to generate and print the application form for processing purpose.

[HOME](#)

Student Exchange Program System (Outbound)



STUDY ABROAD/EXCHANGE PROGRAM

APPLICATION FORM



Instructions

1. Applicant is In 2nd/3rd Year of study (In Engineering or Technology).
2. Latest CGPA of 8.00/4.00.
3. Write clearly using BLOCK LETTERS and tick boxes where appropriate.
4. We cannot consider your application if it is incorrect, incomplete or unreadable.

1. PERSONAL DETAILS

| | | | |
|---------------------------|--|---------------------|--------------------|
| Surname: | Ramin | | |
| Civilian Name: | Mohd Iwan Izzuddin Ramin | IC No: | 89081105155 |
| Matric No: | 15451 | Gender: | Male |
| Date of Birth: | 11/08/1999 | Citizenship: | Malaysia |
| Country of Birth: | Malaysia | | |
| Mailing Address: | Lot 62, Lorong Seladang 1, Taman Sri Gaya, 88300, Kota Kinabalu, Sabah | | |
| Permanent Address: | Lot 62, Lorong Seladang 1, Taman Sri Gaya, 88300, Kota Kinabalu, Sabah | | |
| Phone No: | 0158811539 | E-Mail: | iwanitza@gmail.com |

2. ACADEMIC DETAILS

| | |
|---------------------------------------|----------------------|
| Name of Current Dept: | CG |
| Proposed Specialisation/Major: | Knowledge Management |
| Date of Enrolment: | 2011 |
| Latest CGPA: | 8.12 |
| No of Semester: | 8 |
| Sponsor: | JPA |
| Credit Hours Taken (Complete): | 100 |

3. EXTRA-CURRICULAR ACTIVITIES

| Society/ Club | Position Hold | Level (Uni, State, National) | Achievement |
|---------------|---------------|------------------------------|-------------|
| Football | Striker | Uni | Champion |

4. FINANCIAL SUPPORT

I can undergo the Exchange/ Study Abroad Program on my own expenses.

I need Financial Support to undergo the Exchange/ Student Abroad Program.

5. PLACE OF STUDY – Please tick only ONE *

| | |
|--|---|
| Student Exchange Program: <input type="checkbox"/> or <input checked="" type="checkbox"/> Other *Please refer to www.globata2.com | Student Exchange Program (In Australia Only): <input type="checkbox"/> or <input checked="" type="checkbox"/> Other |
|--|---|

6. PROPOSED STUDY– List of Courses to Enroll *

| Course Title (at Host University) | Units | Equivalent Course (at Home University) | Credit Hours |
|-----------------------------------|-------|--|--------------|
| Knowledge Managemnt | 1 | Knowledge Management | 3 |
| Marketing | 1 | Marketing | 3 |
| Finance | 1 | Finance | 3 |
| Economic | 1 | Economic | 3 |

Symbol * is required

EXIT APPLICATION

PRINT

FAQ | SEPS © 2014

Figure 17: Edit and View Student Application

7. Approved Button

Staff can update the student on their application status for the exchange program.

8. Date

New application for the exchange program by the student will automatically go to the most top where it will organize from the most recent application to recent application.

4.5.3 Admin Main Portal

The admin portal is a personalized accessed for staff where it contains information about the users of the system. Admin are able to create new users, update and delete user from the system.

UNIVERSITI TEKNOLOGI PETRONAS
CENTER FOR STUDENT INTERNSHIP, MOBILITY & ADJUNCT LECTURESHIP (CSIMAL)

Welcome Admin ([Logout Here](#))

Student Exchange Program System (Outbound)

1 Search By Staff ID

MANAGEMENT OF STAFF (2)

| STAFF ID | NRIC | NAME (Email) | USERNAME | DATE | |
|----------|--------------|-------------------------------------|----------|------------|--|
| D01111 | 687447887654 | NABIL AHMAD (nabil@petronas.com) | user1 | 2014/12/07 | |
| D15451 | 878809123456 | Mohd Izwan (wan@petronas.com) | Izwan | 2014/12/07 | |

2

3

FAQ | SEPS © 2014

Figure 18: Admin Portal

1. Admin are able to search for staff user inside the system
2. Admin are able to create new users in the system.
3. Admin are able to delete and update staff user in the system.

4.6 Testing

In order to find and eliminate fault in the system, the fault removal strategy has been implemented in the system development. This test is basically to validate and verify (V&V) process to ensure that quality of the system is met during the development. The quality of the system can be defined whether the system fulfil all the functional or conditional requirement imposed in the system. Besides that, it is also to check and ensure that the system does not any unnecessary function intended in the system.

For the Student Exchange Program system, feature test was conducted for the system to test that the system execution of an operation or functionality of the system is functional between each function operation in system.

The following table will describe the test log that has been done for the system

| No | Type of Test | Purpose | Status |
|----|--------------------------------|---|--------|
| 1 | Functional of the system | To make sure that all the button and functional in the system is performing as intended | Passed |
| 2 | Data storing in the Database | To make sure that data that is inserted in the system is stored by the database | Passed |
| 3 | Data retrieval in the database | To make sure that data is able to be retrieve in the database upon being called | Passed |
| 4 | Empty input error handling | To make sure that the system will not process application if certain requirement is the system is not being fill or inserted. | Passed |

Table 1: System Test Log

CHAPTER 5

CONCLUSION

5.1 Conclusion

In this report, it focus on discussing toward the explaining the significant of the project which includes the introduction, problem statement, objectives and results and discussion. In the case of methodology of the project, Rapid Application Development has been chosen as the prime development method as it is suitable with the time frame and the author ability to execute the system. Analysing all the information and data has become the main agenda in this project which involve intensifies interview with the CSIMAL department and also the FYP supervisor to ensure smooth delivering of the system.

The Student Exchange Program System (SEPS) has meet its objectives by achieving all functional and non-functional requirement for the system. Hence, help improve on CSIMAL business process in conducting the student exchange program and solve the distance problem that has been arise in communicating with the student and also application process of the student.

The aim for the implementation of this project will be able to help both CSIMAL and the student in improving efficiency on the work process thus help decrease the time and effort done by them. At the same time, the system can become the centre for exchange program and also any matter concerning with CSIMAL.

5.1 Recommendations

There are still a lot of extensive research and analysis need to be done for the project from the reading materials and source code in order to get best output which involve both the documentation of the project and also the progress of the system development such as the system interfaces and database. Here is it is necessary for the authors to look up into comprehensive research and how the system should look like and how it is going to be implemented in UTP as well as meeting up with the standard that is has been set.

Followed are the recommendation that can be further added into the system:

1. Artificial Intelligence Function

Automated processing is consider a form of artificial intelligence function that can be added in the system. Where it can calculate and determine by itself the eligibility for the student applying for an exchange program. The system will be able to cross check between other departments on the status of the applicant whether the data inserted by student are correct.

2. Archive Function

This can be added in ensuring that all application is organize so that when new application is receive the old application will be stored in the archive for future references. Sorting out by month is one of the example archive that can be put into the system.

3. Sophisticated Notification Function

A more sophisticated notification function where at this moment staff can view the application only if they login into the system. Thus, if the there is a notification function via email staff will know straight away that a new application has been received into the system.

CHAPTER 6

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APPENDIX

Participant ID : _____

Date : __/__/_____

System Acceptance Test

Instruction: For each following statement, mark one box that best describes your reaction to the Student Exchange Program System (SEPS).

| | | Strongly Disagree | | | Strongly Agree | |
|----|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| No | | 1 | 2 | 3 | 4 | 5 |
| 1 | I thought layout of the system is well designed | <input type="checkbox"/> |
| 2 | I found this system friendly user | <input type="checkbox"/> |
| 3 | I thought this system was very easy to use | <input type="checkbox"/> |
| 4 | I think that I would need assistance to use this system | <input type="checkbox"/> |
| 5 | I found the function of the system is well integrated | <input type="checkbox"/> |
| 6 | I thought that the system is useful. | <input type="checkbox"/> |
| 7 | The system can assist and improve my task. | <input type="checkbox"/> |
| 8 | I would imagine that most people will learn to use this system very quickly | <input type="checkbox"/> |
| 9 | I feel very confident in using this system | <input type="checkbox"/> |
| 10 | I need training before I could use this system efficiently | <input type="checkbox"/> |

Please provide any comments about the system:

/

Summary

I thought layout of the system is well designed

| | | |
|---|-----------|-----|
| 1 | 0 | 0% |
| 2 | 0 | 0% |
| 3 | 1 | 3% |
| 4 | 7 | 23% |
| 5 | 22 | 73% |

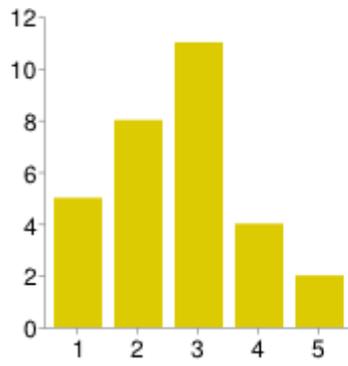
I found this system friendly user

| | | |
|---|-----------|-----|
| 1 | 0 | 0% |
| 2 | 0 | 0% |
| 3 | 0 | 0% |
| 4 | 16 | 53% |
| 5 | 14 | 47% |

I thought this system was very easy to use

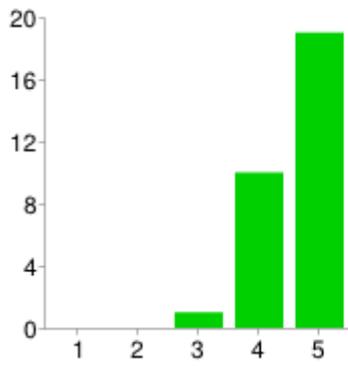
| | | |
|---|-----------|-----|
| 1 | 0 | 0% |
| 2 | 1 | 3% |
| 3 | 0 | 0% |
| 4 | 8 | 27% |
| 5 | 21 | 70% |

I think that I would need assistance to use this system



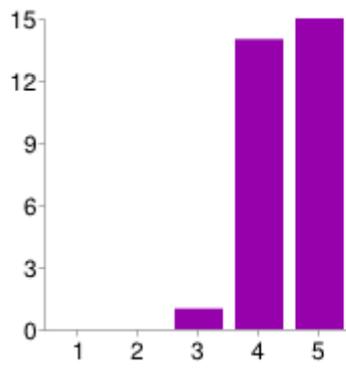
| | | |
|---|-----------|-----|
| 1 | 5 | 17% |
| 2 | 8 | 27% |
| 3 | 11 | 37% |
| 4 | 4 | 13% |
| 5 | 2 | 7% |

I found the function of the system is well integrated



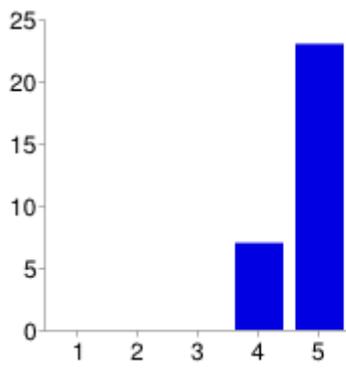
| | | |
|---|-----------|-----|
| 1 | 0 | 0% |
| 2 | 0 | 0% |
| 3 | 1 | 3% |
| 4 | 10 | 33% |
| 5 | 19 | 63% |

The system can assist and improve my task.



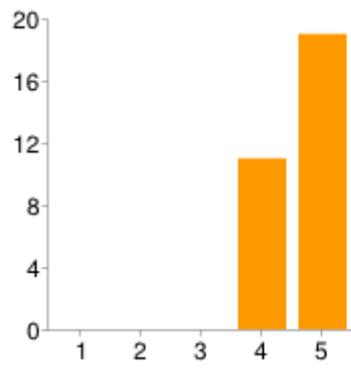
| | | |
|---|-----------|-----|
| 1 | 0 | 0% |
| 2 | 0 | 0% |
| 3 | 1 | 3% |
| 4 | 14 | 47% |
| 5 | 15 | 50% |

I would imagine that most people will learn to use this system very quickly



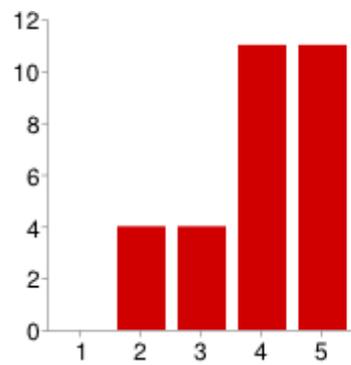
| | | |
|---|-----------|-----|
| 1 | 0 | 0% |
| 2 | 0 | 0% |
| 3 | 0 | 0% |
| 4 | 7 | 23% |
| 5 | 23 | 77% |

I feel very confident in using this system



| | | |
|---|-----------|-----|
| 1 | 0 | 0% |
| 2 | 0 | 0% |
| 3 | 0 | 0% |
| 4 | 11 | 37% |
| 5 | 19 | 63% |

I need training before I could use this system efficiently



| | | |
|---|-----------|-----|
| 1 | 0 | 0% |
| 2 | 4 | 13% |
| 3 | 4 | 13% |
| 4 | 11 | 37% |
| 5 | 11 | 37% |

