Meeting:title

Organiser:LIM G WEI

Secretary:LIM G WEI2

Date:13 Jun 2013

Time:09:10 pm

Venue:venue

Attendance
Present:LIM G WEI,admin
LIM G WEI2,secretary
Absent :

1.Introduction

2.title 1

2.1.title

ee

2.1.1.keypoint 1
2.1.2.keypoint 2
2.1.3.keypoint 3

Action taken: take first action

Taken by: LIM G WEI

2.2.gg

123

2.2.1.keypoint 1

Action taken: second action

Taken by: LIM G WEI

3.title 2

3.1.gg

kgjhk

Group Assignment
Semester 2 / Year 2021

COURSE : SOFTWARE DESIGN
COURSE CODE : BTSE2133
DEPARTMENT : COMPUTER SCIENCE
LECTURER : ONG TEONG JOO

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Batch No. : BoSE20-C

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Introduction

Our team have been requested to create a system to host the new web portal of the Faculty of Engineering and Information Technology. Instead of creating a series of HTML5 pages, our team is tasked with hosting the contents via a Content Management System (CMS).We have develop a CMS web portal with completed function and analysis relevant information to form a documentation report. Report content will include all information based the CMS web portal.

CMS is a content management system. It is a type of software that allow users to create and manage “content” with the purpose of creating something useful, mostly used for website. Applying CMS doesn’t require technical experience like programming knowledge. By using CMS system, user can easily edit content from anywhere without relying on programmers to keep the website up to date.

CMS is suitable for online education purpose. It satisfy the basic need of information activities and offer the possibility of implementing new methods communication between the community of education related department.

The system scalability is excellent and allowed to continuous development to adapt future cogitation of education need. In this CMS development, we will implement and utilize new network technologies and ensure that user will quality system dependence.

System Requirements

User friendliness

In order to have the CMS work for audience as well as employees, the system is required to be user friendly. A system that has a simplified layout with easy to understand control or search options makes it ideal to adapt and take ownership at individual levels, increasing efficiency and productivity.

Customization

This goes without saying that a CMS that allows flexibility in the way content or even delivery applications are presented or retrieved, will be more desirable than other. As a result, flexibility and customization makes any CMS stand out.

Security

As the technology world is growing, cyber-crime has become a serious threat. Malicious codes and scripts, unauthorized access, data integrity violations are some of the common cyber-crime methods which any CMS need to be protected from. A robust security has now become a necessity to keep those cyber attack at bay.

Comprehensive Search

Website needs to have a comprehensive search mechanism. If a user is looking for a specific solution, and platform gives it to them easily without browsing the entire site, user might drive more traffic.Search has to be in-depth, fast and hassle-free to use.

Analytic

A CMS that has built-in analytic engine helps content creators, brand managers, sales and marketing teams in knowing visitor trends. This gives them the opportunity to improvise and optimize digital marketing and content strategies according to user behavior.

Powerful publishing tools

Publishing tools are the core of any CMS, it could be represented a content is the backbone of audience interaction. A comprehensive system will adapt to any type of content that user wish to publish. A long article or a news snippet, default layout or customized landing pages will integrated into a publication workflow.

Multi-platform integration

This has become a must-have feature nowadays. Every organization would want to grow and take their product/ service on multiple plat forms. It can be another site or multiple screen experience like mobile devices, tablets, virtual reality etc. A system capable of handling all these from one place is desirable rather than have a separate CMS for each of them which will consume more time, money and energy.

Quick rollback option with Versioning

Sometime action of unwanted perform by user like update, edit or save something in accident will happened, that makes almost everyone want to roll back to the last saved state, relieving themselves from the stress of going all over again. Earlier versioning was once an enterprise-level tool, but now more and more CMS is applying this feature.

Similar Content Management System and Different Feature

There are many types of CMS, and the most common CMS are WordPress, Joomla and Drupal. And this part will also compare and screen these 3 CMS.

Each of these 3 types of CMS has its own characteristics:

	WordPress	**Joomla**	**Drupal**
Cost	Free	Free	Free
Usage	311,682	26,474	31,216
Free themes	More than 4,000	More than 1,000	More than 2,000
Free plugins	More than 45,000	More than 7,000	More than 34,000
Advantages	Customizable, easy to use, plenty of learning resources, excellent community and support	Easy to learn, powerful portal site that can be used for social networks, seamless integration of updates, and more built-in options	More advanced technology, websites generally perform better, and enterprise-level security
Disadvantages	Requires main visual customization code, update may cause plug-in issues	Modules are difficult to maintain, CMS in the middle ground (not as easy as WordPress, not as advanced as Drupal)	Users need basic knowledge of HTML, PHP and other web development languages

-By 2017 years

Among the 3 CMS, WordPress is the most user-selected. WordPress is considered to be the most suitable platform for beginners. You don't need to be a senior coder to learn how to use WordPress. Even beginners can easily use it. Unlike on Drupal and Joomla, creating new posts and pages on WordPress is easy. In addition, the maintenance cost of WordPress is low. Even if you run a self-hosted WordPress site, you will find it cheaper to run than Joomla and Drupal. However, the scalability and security of WordPress is also lower than that of Drupal and Joomla.

The function of Drupal is almost the most powerful among these 3 CMS. Not only speed, scalability, extension and stability, but also strong security. But its maintenance cost is quite expensive. In addition, due to the need to master a certain programming language, the difficulty of learning is also quite high.

Joomla has the most gorgeous appearance among these 3 CMS, which is very powerful and the most suitable choice for web designers. However, a certain amount of performance is required to load, otherwise there will be slow problems, and there will be a certain amount of overhead for the budget. The learning difficulty is more difficult than WordPress, but also simpler than Drupal, which belongs to the middle level.

Design & Architecture Documentations

Admin Use Case Diagram

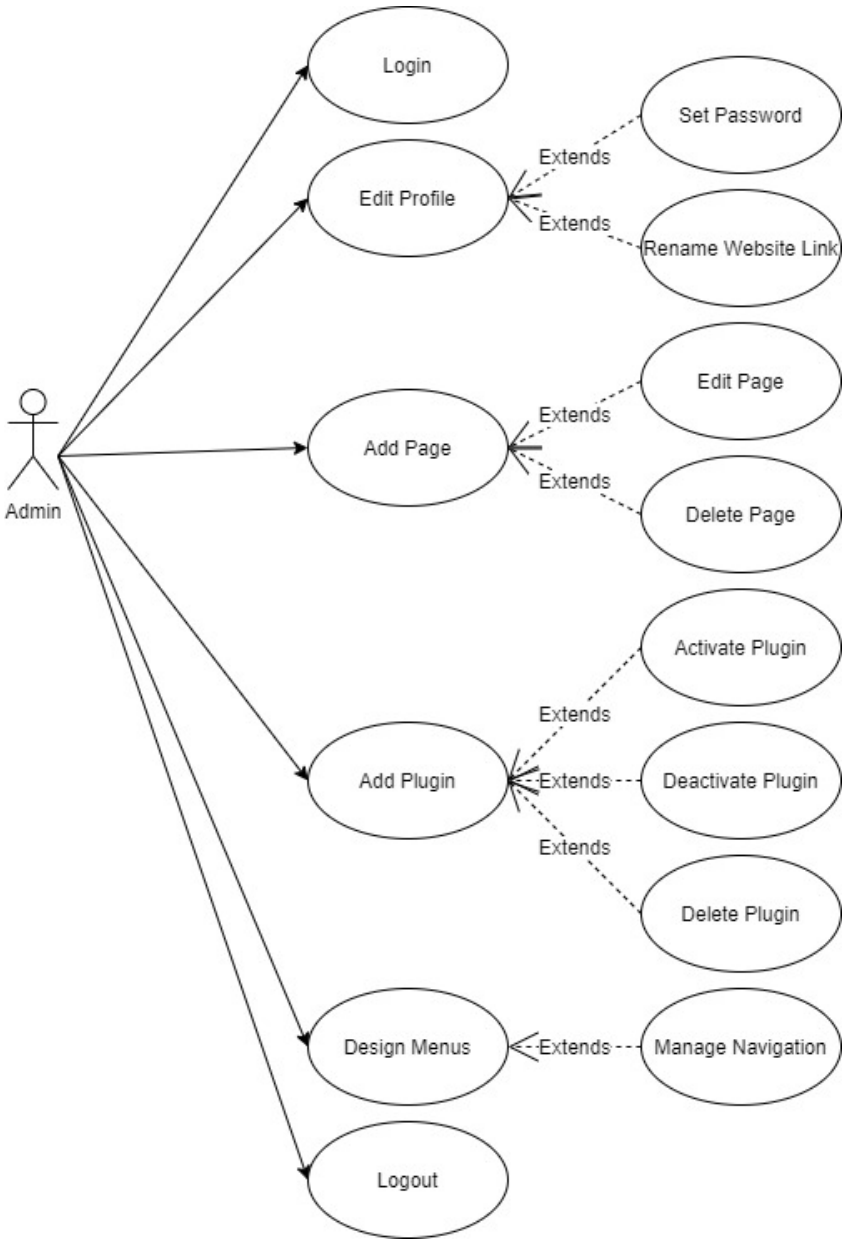

Figure1: Admin use case Diagram

The Admin management system can mainly include the following functions: login, logout, change of dynamic information (change password, change user's link to access the FEIT website) and user interface addition, modification, deletion, etc.

Class Diagram

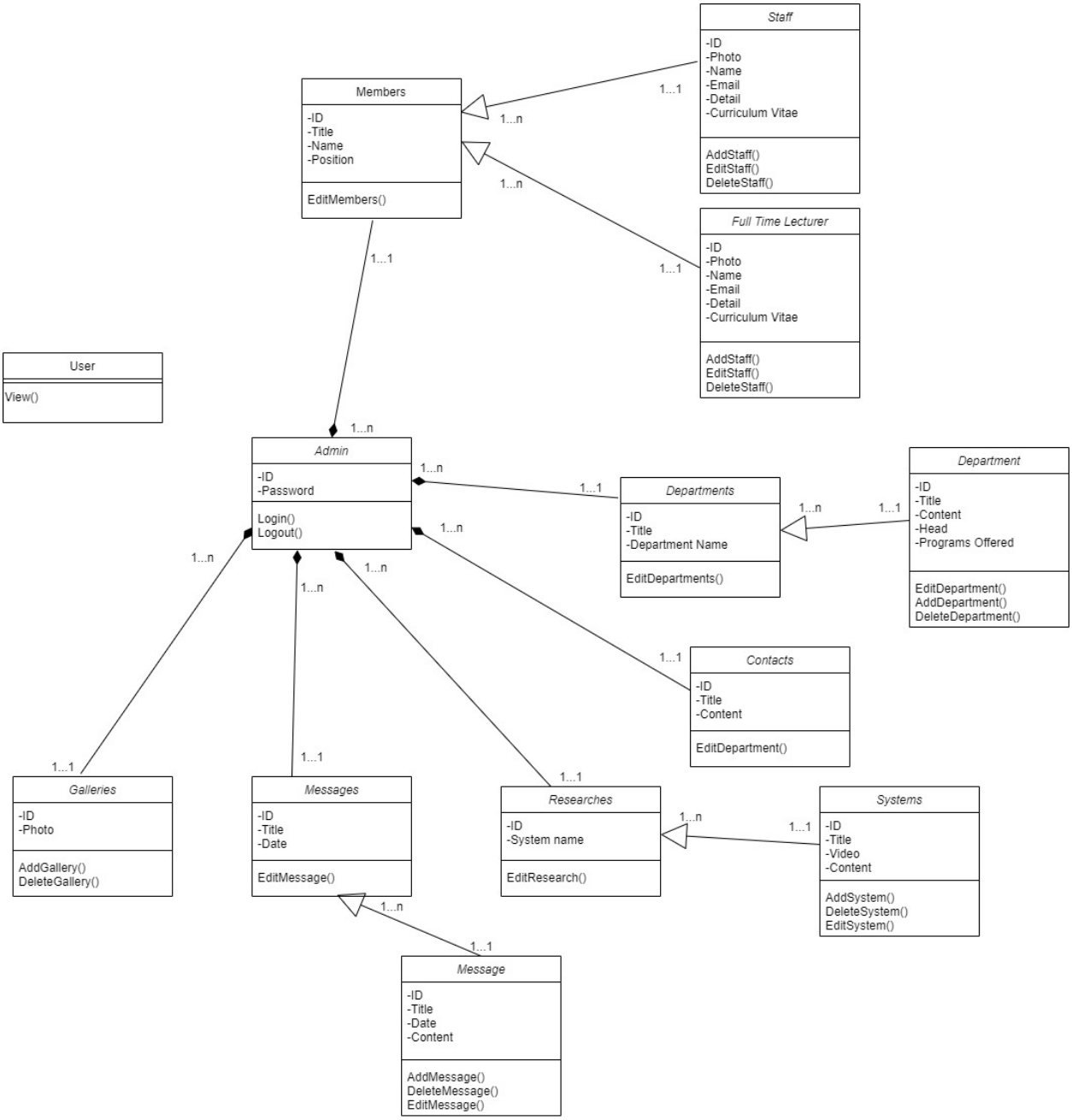

Figure2: Class Diagram

Each class plays its own role and is important. Admin is the center of everything. Without Admin, you cannot manage this website. Admin is connected by Members, Departments, Messages, Galleries, Researches, Contacts, they are all superclasses. Some of them have their own subclasses, such as Members. Members have 2 subclasses, Full Time Lecturer and Staff. That is to say, the

Member class has many people, some of them are Full Time Lecturer, and some are Staff. In addition, there is a relationship when Class is connected, such as Admin and Members. Admin manages many Member lists, and many Member lists are managed by Admin. Members have many Full Time Lecturers, and Full Time Lecturer can only be Members.

Components Diagram

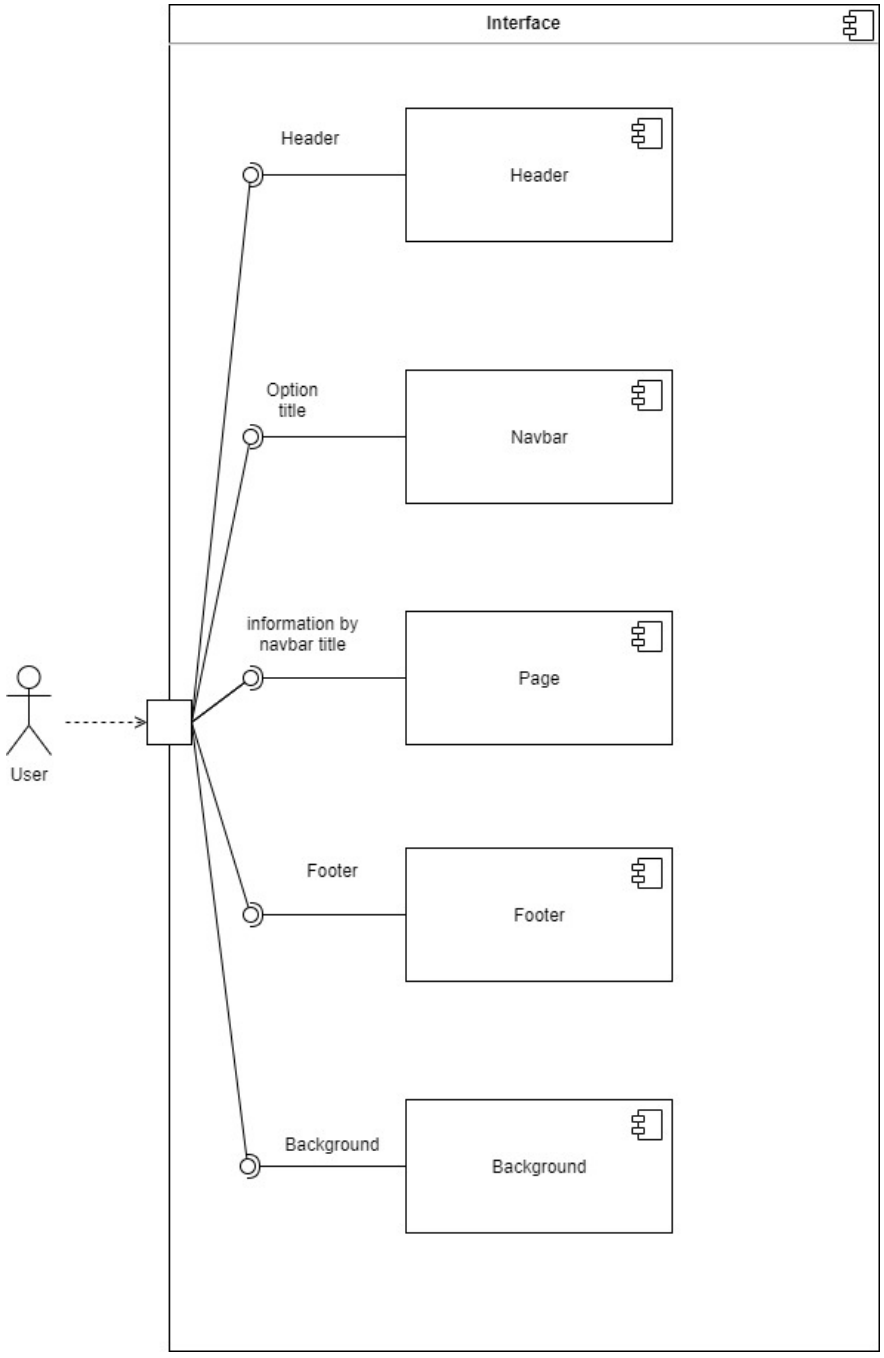

Figure3: Components Diagram

The interface that the user sees, if the components are split, it is mainly divided into five.

Header, Footer, Background and Navbar are the four unchanged components, while Page is dynamic. Suppose that when the Navbar button is clicked, Page will switch pages according to the conditions.

Deployment Diagram

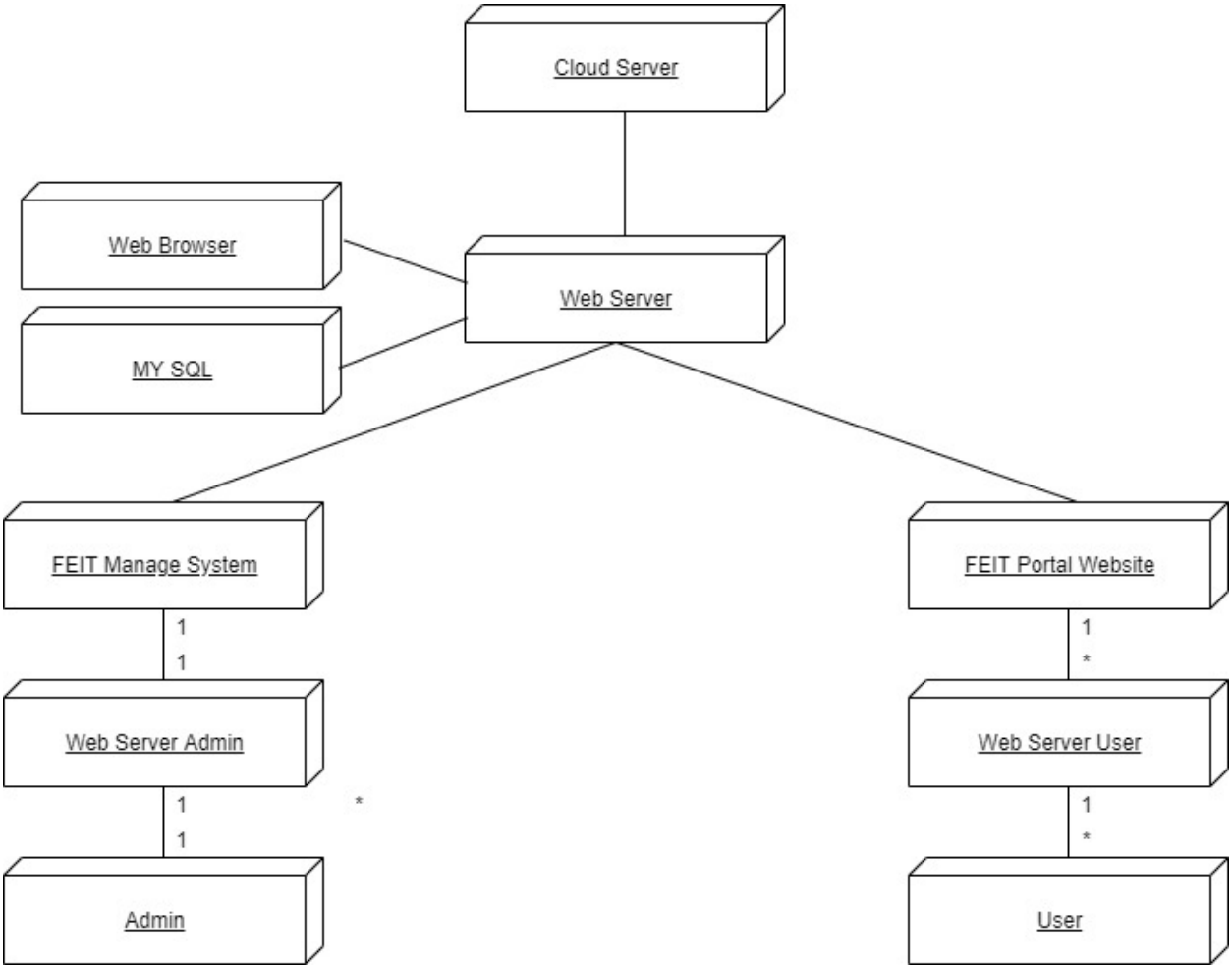

Figure4: Deployment Diagram

The user and the administrator play two different roles. The administrator can manage (make changes) the system, and users can access the FEIT website, so they are separate, and the websites they log in to are also different in the system. Since they are developed using WordPress, they are all stored in the cloud.

Admin Activity Diagram

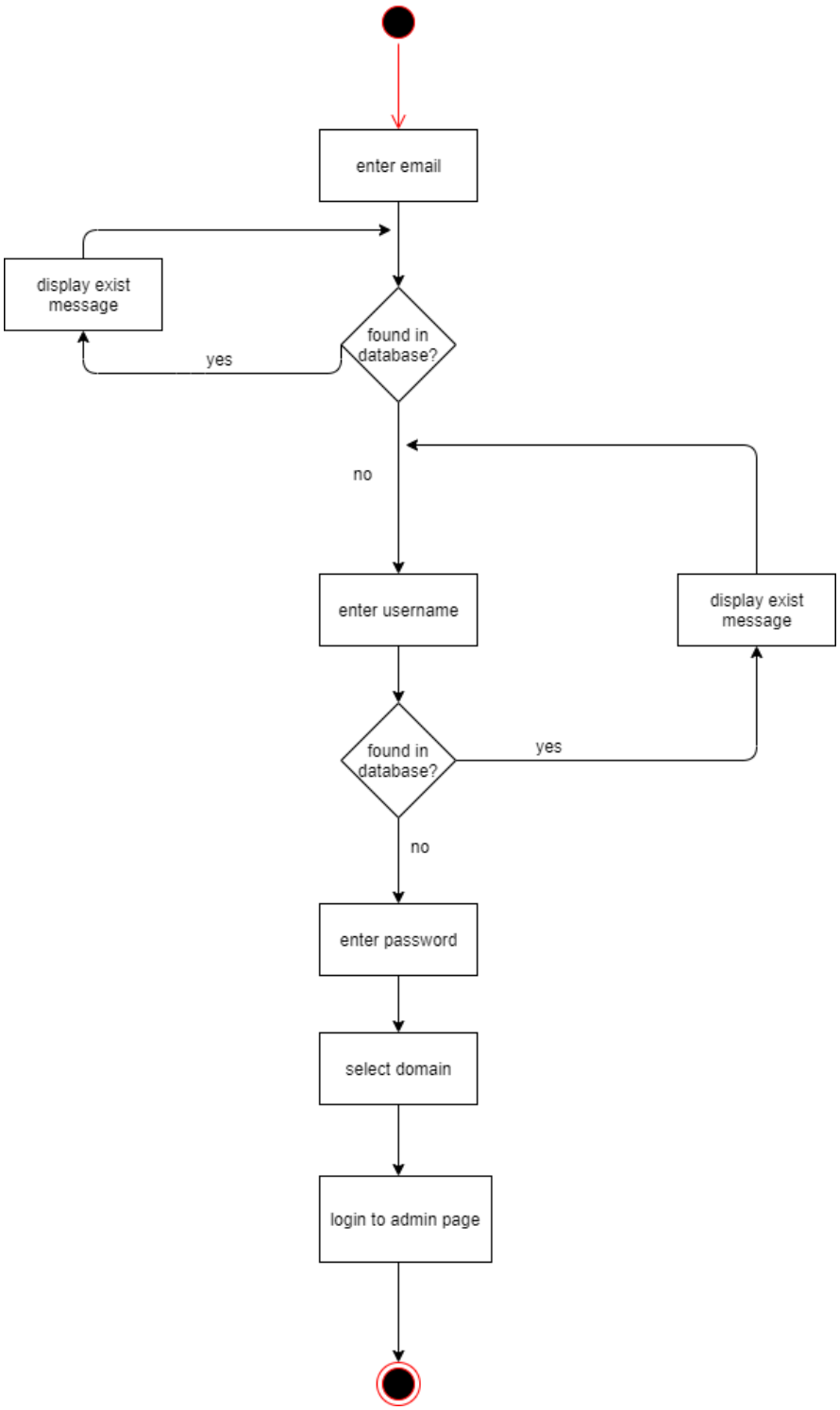

Figure5: Register WordPress Activity Diagram

Admin can register to use the system

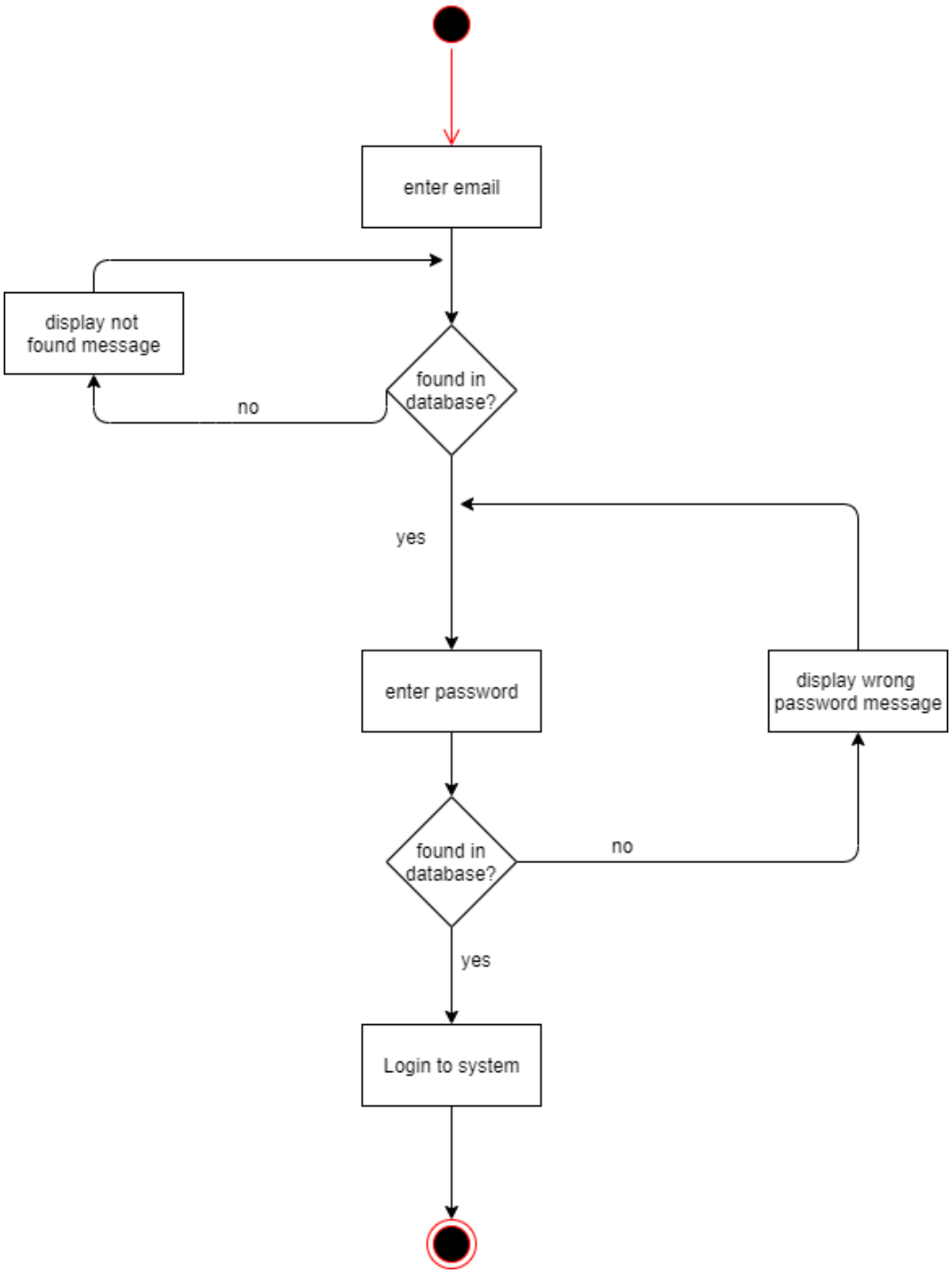

Figure6: Login WordPress Activity Diagram

Admin can login the system, after login can enter into system for controlling the page. All the pages can be access after login operation is successfully done.

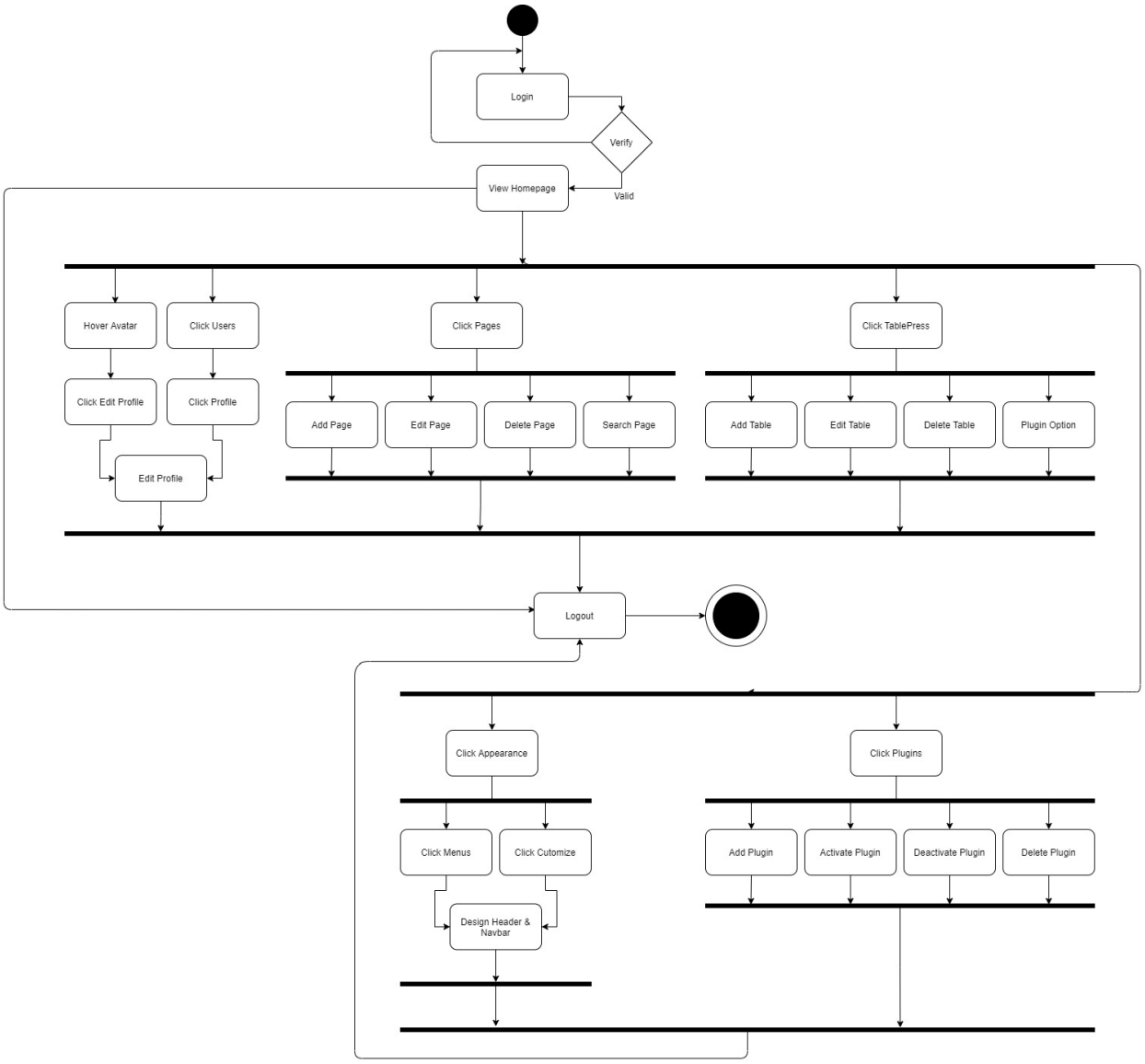

Figure7: Main Process WordPress Activity Diagram

This figure shows the activities that Admin can perform. According to the needs of the Use Case, after logging in, the Admin can click the button on the interface to go to the designated place and perform a series of activities.

Admin can click on Users, and then click on Profile (or point the mouse at the profile picture, the profile button will pop up, click Edit Profile) to modify personal information. Admin can modify the password, email, name, and link of the user to visit the website here.

Click Pages to create a new page here. In addition, you can also select the previous page to modify or delete it. These pages are all pages that users can visit.

Click TablePress, you can add a table, or select the previous one to modify or delete. In addition, it is allowed to insert plugin, select format.

Click Appearance, Cutomize can arrange the Header, Footer and Navbar of the website. In Menus, we can easily insert our finished pages for the Navbar buttons. When we click on the Navbar's button, we can jump to the corresponding page.

Plugins, here, Admin can install plugin, and execute activate, deactivate or delete. Patches can debug our theme and format.

User Use Case Diagram

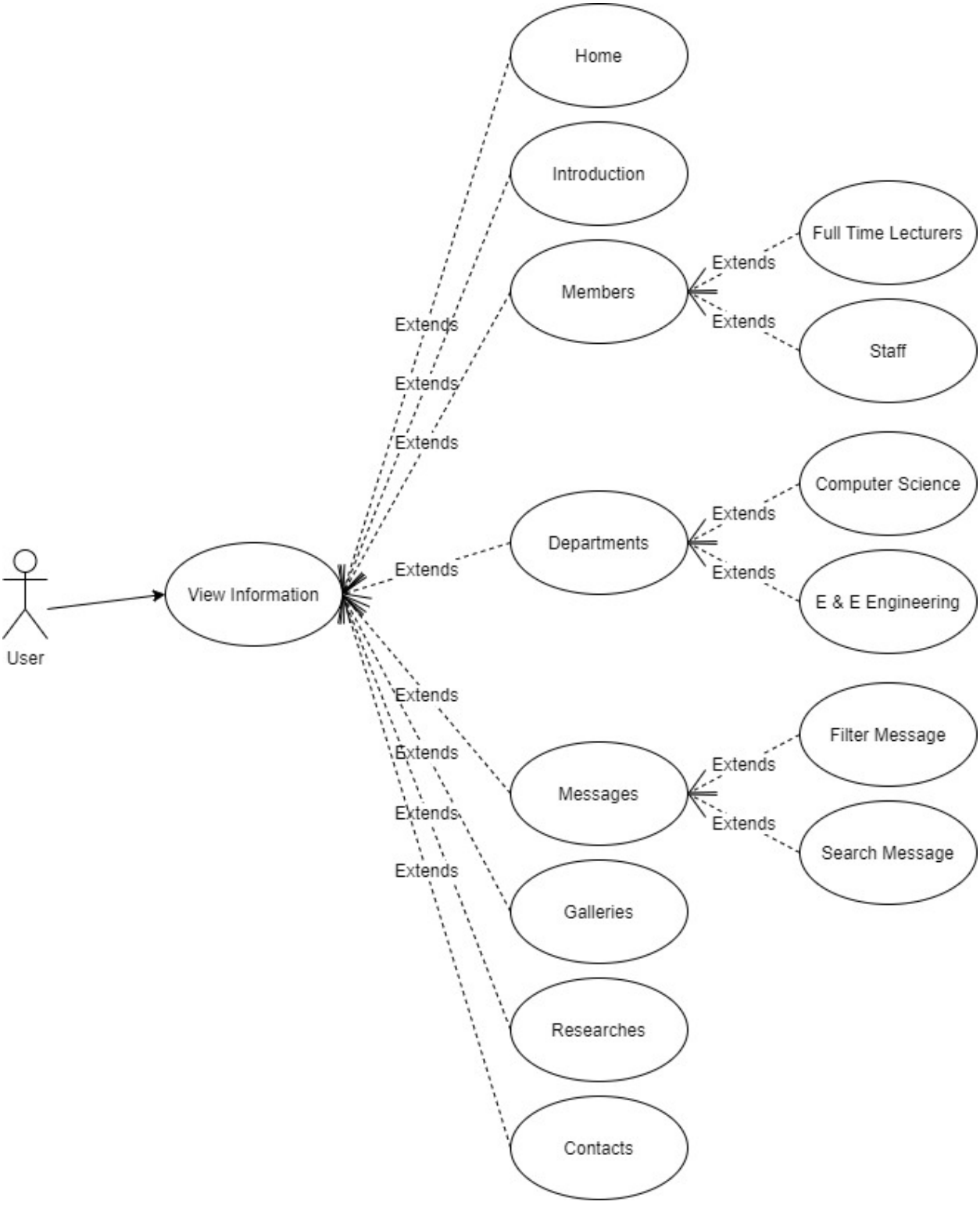

Figure8: User Use Case Diagram

The user's system requirement is to be able to view information when visiting the website. When you click the button in the navigation bar, you can jump to the corresponding page. Currently, the navigation bar has buttons such as Home, Introduction, Members, Departments, Messages, Galleries, Researches, Contacts, etc. Home is the home page, and Departments are custom links, and currently have Computer Science and Electrical & Electronics Engineering. In each page, they all have their own information.

User Activity Diagram

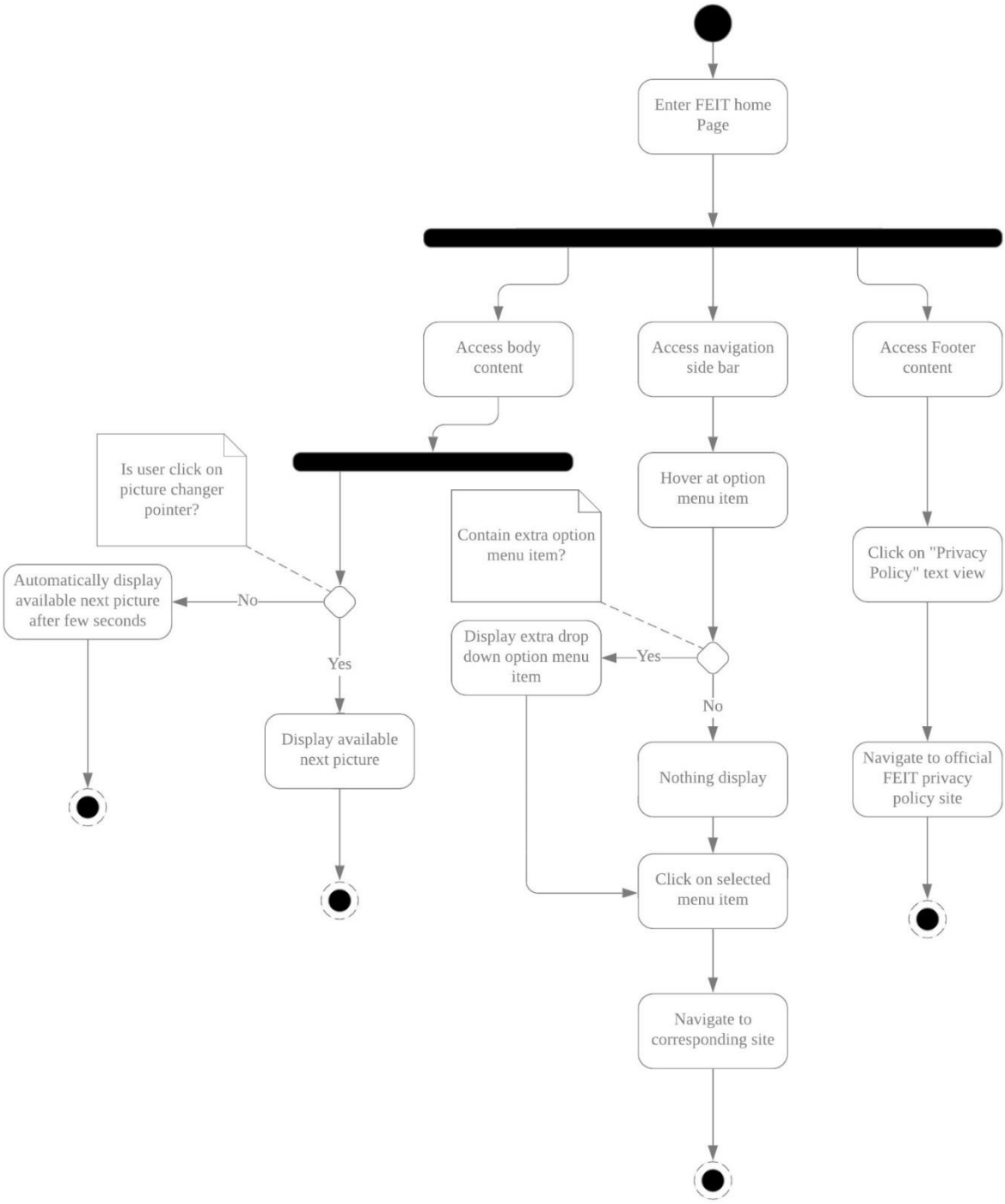

Figure9: Home Activity

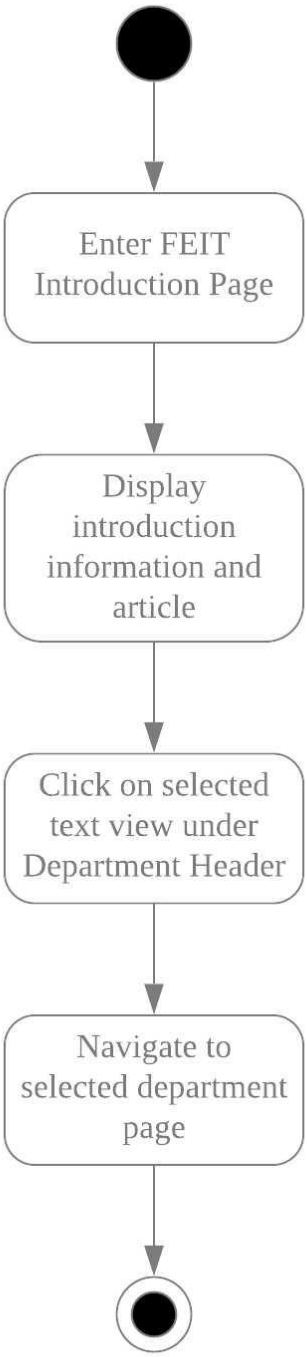

Figure10: Display FEIT Introduction Activity

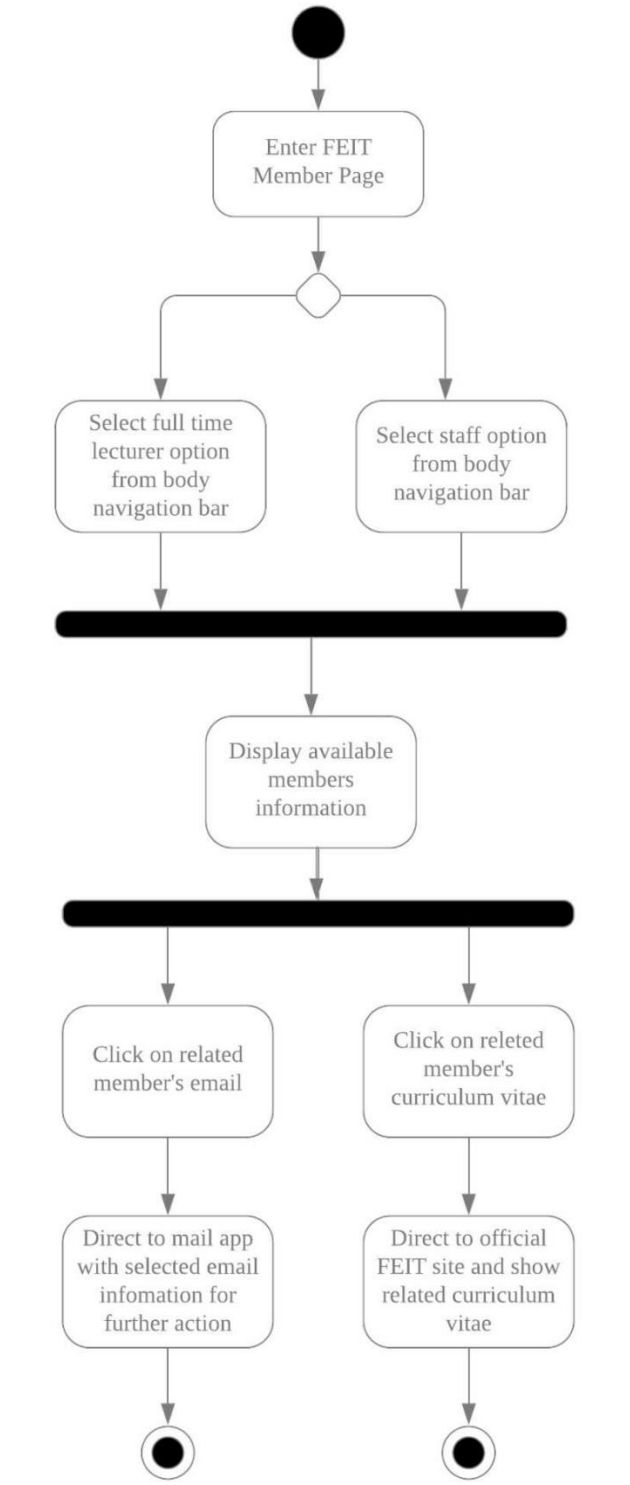

Figure11: Display FEIT Members Activity

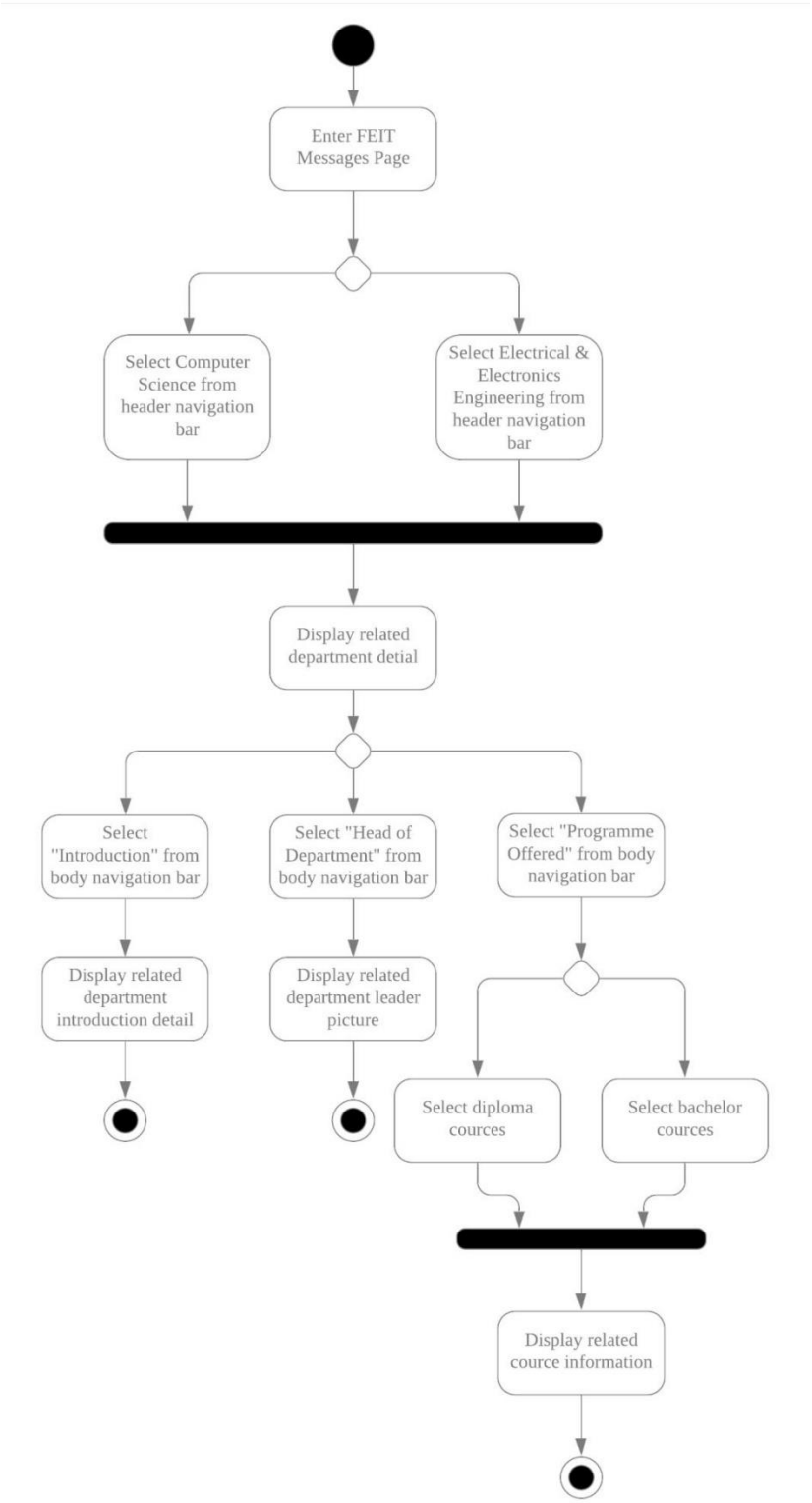

Figure12: Display FEIT Departments Activity

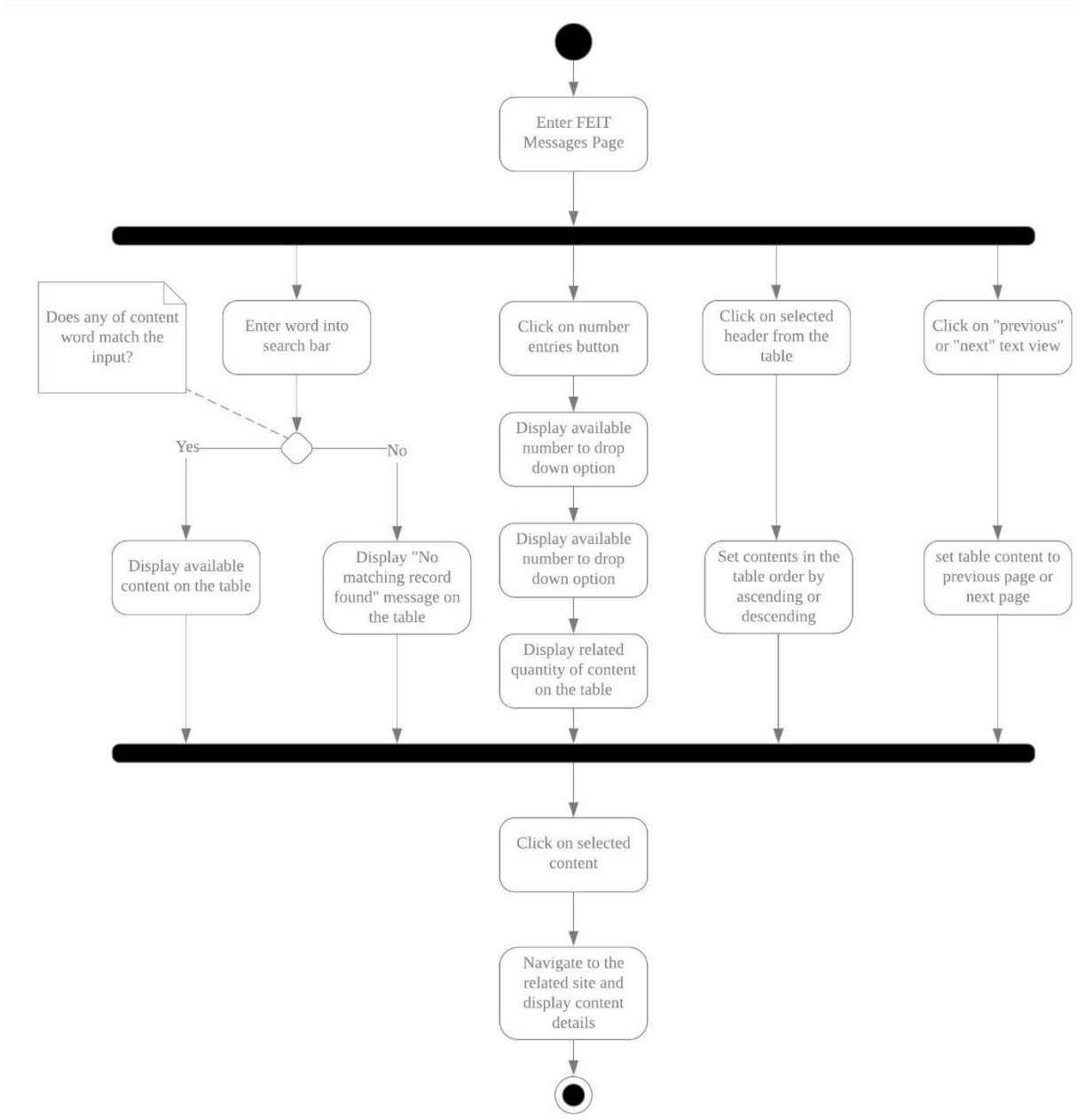

Figure13: Display FEIT Messages Activity

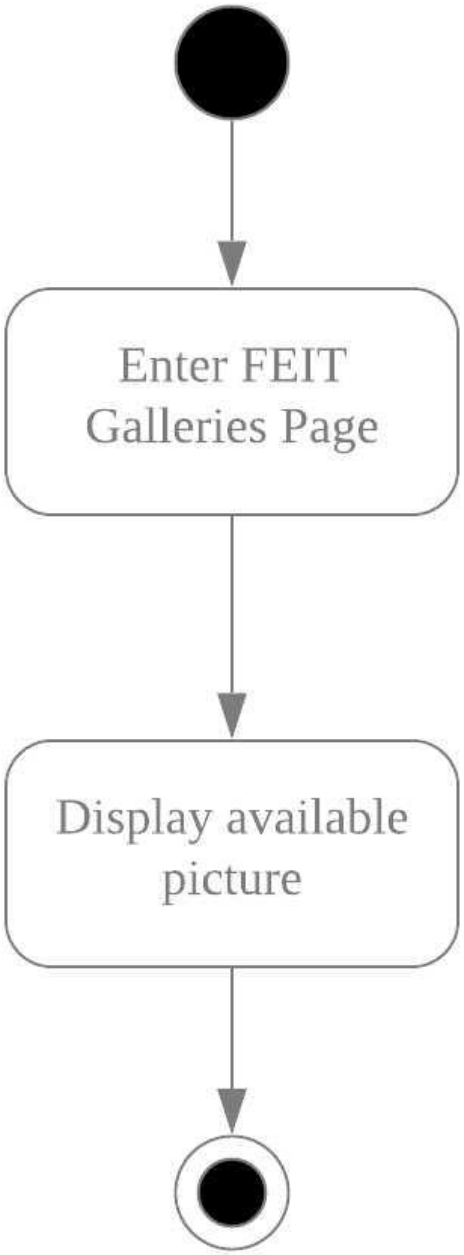

Figure14: Display FEIT Galleries Activity

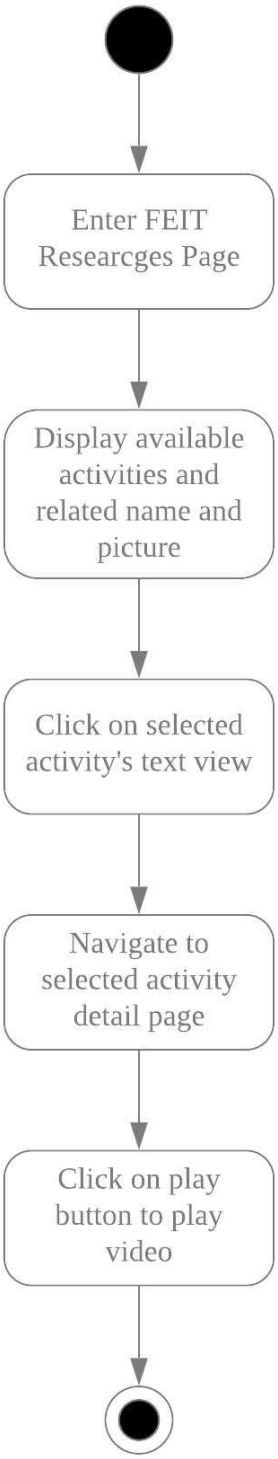

Figure15: Display FEIT Researches Activity

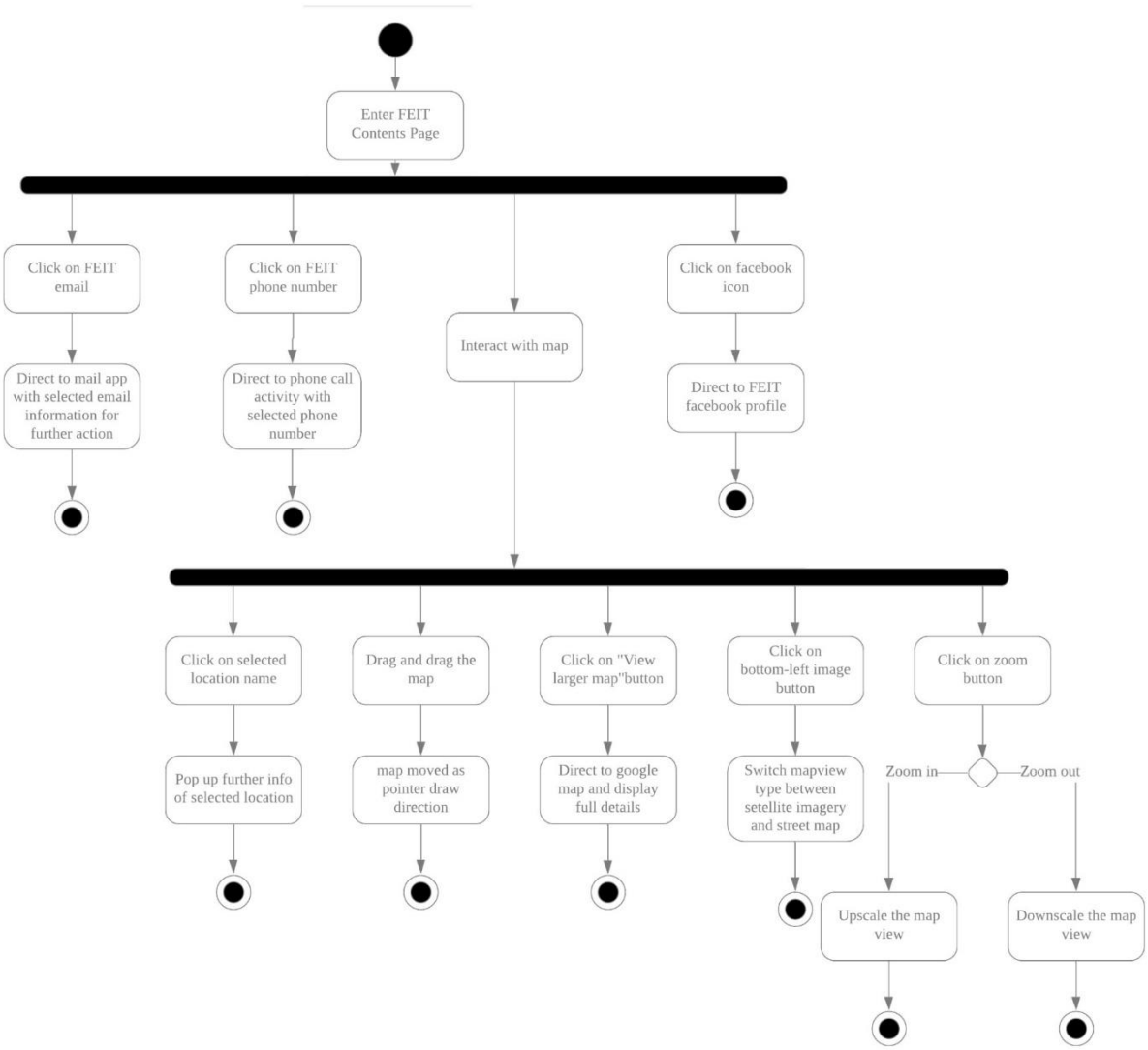

Figure16: Display FEIT Contacts Activity

The above are all Activity diagrams of FEIT. A website made using CMS. User uses the activity diagram of this website. When users visit this website, they can see the FEIT network composed of Header, Content, and Footer. The Header has a row of navigation bars, click the button of the navigation bar to enter the related page. Content will display the information content of the first closed page. Footer is the bottom of the FEIT network.

Content displays a lot of information, in addition to the information displayed in the navigation bar, it also contains more page information. For example, Message and Researches on the navigation bar, you can view more content by clicking the links displayed on them. Members and

Departments are different from Message and Researches in that they switch information on the current page by clicking the button of the table. In addition, you can click to view the teacher's resume in Members and download it. Finally, the Contacts information displays a map, can view the school location, and the Facebook button can enter the school's Facebook page. Footer also showed a link to the school's official website by clicking on it.

Architecture

Figure17: Architecture

The programming language used by WordPress is PHP, which means that WordPress is a blog platform developed in PHP. Users can set up their own websites on servers that support PHP and MySQL databases. You can also use WordPress as a content management system (CMS).

WordPress is a personal blog system and gradually evolved into a content management system software. It is developed using PHP language and MySQL database. Users can use their own blogs on servers that support PHP and MySQL databases.

WordPress has many free templates developed by third parties, and the installation method is simple and easy to use. But to make a template of your own, you need to have a certain degree of professional knowledge. For example, you must at least understand an application of HTML code, CSS, PHP and other related knowledge under the standard universal markup language.

Design Plan

We develop according to the activity diagram. Header and Footer are common to all our pages, and almost all (Home, Introduction, Members, Departments, Messages, Galleries, Researches, Contacts) pages are installed on the navigation bar of the Header. Home is the homepage, which also contains simple Introduction and Departments. Departments has 2 pages (all relevant departments, currently Computer Science and Electrical & Electronics Engineering). Members record all faculty and staff information, Galleries is the activity picture, Researches puts works, Messages has a lot of outside information, Contacts locates the school and the contact information of the school. After formulating all the pages, place the pages on the navigation bar of the Header through Menus. Themes can optimize the design of the page. Finally, we need tables (such as Messages) in some places, and we may need plugins to select the presentation method.

Conclusion

This report describes what CMS is and how to choose CMS. In addition, a website was developed using CMS. We used the website of Southern University College's School of Computer Science as a sample for development. This report also contains UML diagrams to aid development. In fact, it is not difficult to develop with WordPress, because WordPress will automatically help us solve everything. We are like playing puzzles and building blocks to synthesize little by little. And the way WordPress is visual, not code.

The real difficulty of WordPress is to make Plugins by yourself, and this is where we programmers should learn and yearn for.

In short, the purpose of this development is to learn how to use CMS to develop a website, and we also understand the competitiveness of the industry.

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Wong Li Qi B200263C BoSE20-C

Question 1 – 15 marks

A production system maintains a set of rules about the characteristics of fruits as follows:

Rule 1:	IF	Shape = long AND Colour = green OR yellow
	THEN	Fruit = banana
Rule 2:	IF	Shape = round OR oblong AND Diameter > 4 inches
	THEN	Fruitclass = vine
Rule 3:	IF	Shape = round AND Diameter < 4 inches
	THEN	Fruitclass = tree
Rule 4:	IF	Seedcount = 1
	THEN	Seedclass = stonefruit
Rule 5:	IF	Seedcount > 1
	THEN	Seedclass = multiple
Rule 6:	IF	Fruitclass = vine AND Colour = green
	THEN	Fruit = watermelon
Rule 7:	IF	Fruitclass = vine AND Surface = smooth AND Colour = yellow
	THEN	Fruit = honeydew
Rule 8:	IF	Fruitclass = vine AND Surface = rough AND Colour = tan
	THEN	Fruit = cantaloupe
Rule 9:	IF	Fruitclass = tree AND Colour = orange AND Seedclass = stonefruit
	THEN	Fruit = apricot
Rule 10:	IF	Fruitclass = tree AND Colour = orange AND Seedclass = multiple
	THEN	Fruit = orange
Rule 11:	IF	Fruitclass = tree AND Colour = red AND Seedclass = stonefruit
	THEN	Fruit = cherry

Rule 12: IF Fruitclass = tree AND
Colour = orange AND
Seedclass = stonefruit
THEN Fruit = peach

Rule 13: IF Fruitclass = tree AND
Colour = red OR yellow OR green AND
Seedclass = multiple
THEN Fruit = apple

Rule 14: IF Fruitclass = tree AND
Colour = purple AND
Seedclass = stonefruit
THEN Fruit = plum

i) Use ***FORWARD CHAINING*** to describe the production system table including its working memory, conflict set and rule fired to establish a fruit. Initial data given is :

Shape = round
Diameter > 4 inches
Surface = smooth
Colour = yellow

Terminate when the final value for Fruit in the working memory. [6 marks]

Iteration #	Working memory	Conflict set	Rule fired
0	Shape = round	2,3	Halt
1	Diameter>4 inches	2	2
2	Fruitclass = vine	6,7,8	Halt
3	Surface = smooth	7	Halt
4	Color = yellow	7	7
5	Fruit = honeydew		Halt

ii) Given the fruit to search is apple, use ***BACKWARD CHAINING*** to describe the production system table including its working memory, conflict set and rule fired toestablish the initial data for this fruit.

State the initial facts required to establish that the fruit searched is an apple. [9 marks]

Iteration #	Working memory	Conflict set	Rule fired
0	Fruit = apple		Halt
	Seedclass = multiple	13	13
	Colour = red OR yellow OR green	11,13	Halt
	Fruitclass = tree	9,10,11,12,13,14	Halt
	Seedcount > 1	5	5
	Diameter < 4 inches	3	3
	Shape = round	2,3	Halt

The initial facts required to establish fruit to search is apple are:

Shape = round
Diameter < 4 inches
Seedcount > 1
Colour = Red or Yellow or Green

DATE: 7 SEPTEMBER 2021 (TUESDAY)

GROUP	TIME	SUBJECT	BATCH	STUDENT'S ID	NAME
1	4.00 PM - 4.20 PM	BGEN 1013	BoS21-B1	B210076B	Teo Kai Shen
			BoS21-B1	B210151B	Leong Jun Jie
			BoS21-B1	B210157B	Tan Shan Ke
			BoS21-B2	B210152B	Be Chi Yan
2	4.20 PM - 4.40 PM	UMPU 3023	BACC19-A2	B190069A	Wong Kwan Wah
			BACC20-A1	B200014A	Mervyn Thoo Jing Yi
			BBHR20-B1	B200121B	Wong Jia Xiong
			BBHR20-C2	B200247C	Chong Pie Woon
			BCS20-C1	B200139C	Lee Jia En
3	4.40 PM - 5.00 PM	UMPU 3023	BCS20-C1	B200185C	Seah Ni Jia
			BECE20-C2	B200301C	Ng Jia Yee
			BGC18-C1	B180145C	Chen Yan Qin
			BGC18-C1	B180273C	Margaret Tey Ye Ting
			BGC18-C1	B180301C	Chin Feng Ting Jamie
4	5.00 PM - 5.20 PM	UMPU 3023	BMC18-C1	B180196C	Lee Shiau Wei
			BMC18-C1	B180199C	Tan Huan Cai
			BMC18-C1	B180208C	Lim Chia Wen
			BMC19-C2	B190273C	Kum Gui Ping
			BMC19-C2	B190275C	Lim Ting Xuan
5	5.20 PM - 5.40 PM	UMPU 3023	BMC19-C2	B190283C	Tan Si Jie
			BMK20-B1	B200105B	Lee Ke Ting
			BoEE20-C2	B200254C	Teh Chun Kit
			BoEE20-C2	B200255C	Pang Yong Jian
			BoEE20-C2	B200256C	Lim Yi Cheng
6	5.40 PM - 6.00 PM	UMPU 3023	BoSE19-C2	B190232C	Siew Wei Chuen
			BoSE19-C2	B190272C	Justin Low Jin Wei
			BoSE19-C2	B190308C	Wong Juin Zheng
			BoSE20-B2	B200180B	Hun Zu Rong
			BoSE20-C2	B200186C	Tan Kian Seng

FLUENCY & COHERENCE (9%)	LEXICAL RESOURCES (9%)	GRAMMATICAL RANGE & ACCURACY (9%)	PRONUNCIATION (9%)	CONTENTS (14%)	TOTAL
					0
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