

INTERACTIVE CAMPUS e-PLATFORM AND DATABASE

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This Report Is Submitted in Partial Fulfilment of Requirements for The Bachelor Degree
of Electronic Engineering (Telecommunication Electronics)

Faculty of Electronics and Computer Engineering

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ABSTRAK

Interaktif Kampus e-Platform dan Database yang merupakan iklan e-platform diklasifikasikan dirancang dan dikembangkan, termasuk otentikasi, situs admin dan website bentuk barang. Dalam rangka mengembangkan sebuah situs web, beberapa bahasa pemrograman yang berbeda diperlukan untuk melakukan berbagai jenis fungsi untuk sebuah situs web. Dalam proyek ini, bahasa pemrograman yang terlibat adalah Ruby dan Rails, HyperText Markup Language (HTML), JavaScript (JS), Cascading Style Sheets (CSS), dan Structured Query Language (SQL). Ruby on Rails merupakan framework pengembangan web yang menyediakan struktur standar untuk layanan web, database dan halaman web. Kemudian, HTML dan CSS adalah bahasa yang digunakan untuk membuat website seperti membangun website dan styling. SQL adalah bahasa pemrograman untuk mengelola data. Selanjutnya, JavaScript adalah bahasa pemrograman yang membuat fungsi dan halaman web interaktif menjadi lebih cerdas. Ini termasuk perpustakaan jQuery. jQuery adalah cross-platform JavaScript untuk melintasi perpustakaan dokumen, menghidupkan dan efek untuk pengembangan web yang cepat. Dengan demikian, hasil yang diperoleh untuk e-platform akan dianalisa lebih lanjut, dibandingkan dan dibincangkan.

ABSTRACT

Interactive Campus e-Platform and Database which is a classified advertising e-platform is designed and developed, included authentication, admin site and item form of the website. In order to develop a website, few of the different programming languages are needed to perform a different kind of function for a website. In this project, the programming languages that involved are Ruby and Rails, HyperText Markup Language (HTML), JavaScript (JS), Cascading Style Sheets (CSS), and Structured Query Language (SQL). Ruby on Rails is a web development framework which provides default structures for a web service, database and webpage. Then, HTML and CSS are the languages that use to create a website such as building and styling the website. SQL is a programming language for managing data. Next, JavaScript is a programming language that makes the functionality and interactively web page which become smarter. It includes a jQuery library. jQuery is cross-platform of JavaScript library for document traversing, animating and effect for rapid web development. Thus, results obtained for this e-platform will be further analyzed, compared and discussed.

LIST OF ABBREVIATION

RoR	-	Ruby on Rails
HTML	-	HyperText Markup Language
CSS	-	Cascading Style Sheets
JS	-	JavaScript
SQL	-	Structured Query Language
MVC	-	Modal-View-Controller
DRY	-	Don' Repeat Yourself
CoC	-	Convention over Configuration
CRUD	-	Create, Read, Update and Delete
ORM	-	Object-Relational Mapping
RML	-	Report Markup Language
XML	-	Extensible Markup Language
RHTML	-	HTML mixed with Ruby
RXML	-	Rails and XML
RPC	-	Remote Procedure Call
SOAP	-	Simple Object Access Protocol
HTTP	-	HyperText Transfer Protocol
REST	-	Representational State Transfer
W3C	-	World Wide Web
RDBMS	-	Relational Database Management Systems
IDE	-	Integrated Development
SASS	-	Syntactically Awesome Style Sheets
ERB	-	Embedded Ruby
URL	-	Uniform Resource Locator
SMTP	-	Simple Mail Transfer Protocol

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TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
	INTERACTIVE CAMPUS e-PLATFORM AND DATABASE	I
	DECLARATION	III
	ACKNOWLEDGEMENT	V
	ABSTRACT	VI
	ABSTRAK	VII
	TABLE OF CONTENTS	VIII
	LIST OF TABLES	X
	LIST OF FIGURES	XI
	LIST OF ABBREVIATION	XIV
	LIST OF APPENDICES	XV
I	INTRODUCTION	
	1.1 PROJECT OVERVIEW	1
	1.2 PROBLEM STATEMENT	1
	1.3 OBJECTIVES	2
	1.4 SCORE OF PROJECT	2
	1.5 PROJECT METHODOLOGY	2
	1.6 REPORT OUTLINE	3
II	LITERATURE REVIEW	
	2.1 PROGRAMMING LANGUAGES	4
	2.1.1 Ruby on Rails, RoR	4
	2.1.2 HyperText Markup Language, HTML	9
	2.1.3 JavaScript, JS	10
	2.1.4 Cascading Style Sheets, CSS	11
	2.1.5 Structured Query Language, SQL	13
	2.2 CODE EDITOR	14
	2.2.1 Atom	14
	2.3 COMPARISON OF SIMILAR WEBSITE	15
	2.4 SUMMARY	17

III	METHODOLOGY	
	3.1 WEB PROGRAMMING	20
	3.2 SUMMARY	21
IV	RESULTS	
	4.1 PROJECT ACHIEVEMENT	22
	4.2 MAIN PAGE	22
	4.2.1 Layout	23
	4.2.2 Ruby on Rails	23
	4.2.3 CSS	27
	4.3 WEB AUTHENTICATION	29
	4.3.1 Layout	29
	4.3.2 Ruby on Rails	35
	4.3.3 Database	43
	4.4 ITEM FORM	43
	4.4.1 Layout	43
	4.4.2 Ruby on Rails	46
	4.4.3 Database	52
	4.4.4 CSS	53
	4.5 ADMIN SITE	55
	4.5.1 Layout	55
	4.5.2 Ruby on Rails	58
	4.6 SUMMARY	59
V	CONCLUSION	
	5.1 FUTURE WORK	60
	REFERENCES	61
	APPENDICES	63

LIST OF TABLES

NO	TITLE	PAGE
2.1	Comparison similar website in Malaysia	16

LIST OF FIGURES

FIGURE	TITLE	PAGE
2.1	Model-View-Controller architecture which include the sub frameworks operation [5]	6
2.2	Basic HTML template	10
2.3	Basic HTML template with JavaScript	11
2.4	Basic HTML template with JavaScript and CSS	12
2.5	Basic template as shown in web browser	12
2.6	Highlight feature, file system browser and multiple tap features of Atom	15
2.7	Find and replace features of Atom	15
3.1	Operation flow chart of the Interactive Campus e-Platform and Database	19
4.1	Website logo design of Interactive Campus e-Platform and Database	22
4.2	Layout of main webpage	23
4.3	Index template file	24
4.4	Application template file (1)	25
4.5	Application template file (2)	26
4.6	Controller of main webpage	27
4.7	Rails routing file of website	27
4.8	CSS code for main page	28
4.9	CSS code for application template file	28
4.10	Sign up form	29
4.11	Start MailCatcher SMPT server	30
4.12	Alert message for account activation	30
4.13	Conformation email sends to MailCatcher	30
4.14	Alert message after email confirmed	31
4.15	Alert message after user login	31
4.16	Login before post an advertisement	31
4.17	Resend confirmation instructions page	32
4.18	Alert message for resend confirmation email	32
4.19	User request to reset password	33
4.20	MainCatcher to reset password	33
4.21	Reset Password Page	34

4.22	User sign in after changed password	34
4.23	Resend unlock instructions page	34
4.24	Alert message after logout	35
4.25	Action view – Sign up (1)	35
4.26	Action view – Sign up (2)	36
4.27	Edit user profile webpage	36
4.28	Edit template file for user profile (1)	37
4.29	Edit template file for user profile (2)	38
4.30	Links for authentication pages	38
4.31	Partial file of links for authentication pages	39
4.32	Resend confirmation instruction template file	39
4.33	Mail content for confirmation instructions	40
4.34	Mail content for reset password instructions	40
4.35	Mail content for unlock instructions	40
4.36	Forgot password action view	41
4.37	Resend unlock instruction action view	41
4.38	Login action view	42
4.39	Action Model of user	42
4.40	User data	43
4.41	Item form	44
4.42	Item dropdown table	45
4.43	Faculty dropdown table	45
4.44	After submit the item form	45
4.45	Items list of user	46
4.46	Post controller	47
4.47	Post model	47
4.48	New template file of item form	48
4.49	Partial file of item form (1)	48
4.50	Partial file of item form (2)	49
4.51	Partial file of item form (3)	50
4.52	Error message deliver to user	50
4.53	Edit template file for item post	51
4.54	Show template file for posted item	51
4.55	Index template file for item list	52
4.56	Item post database	53
4.57	CSS code for item list	54
4.58	CSS code for scaffolds element	55
4.59	Item posts in admin site	56
4.60	Item details	56
4.61	Main Categories in admin site	57
4.62	Subcategories in admin site	57

4.63	Detail of item	58
4.64	Admin user list in admin site	58

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SASS	-	Syntactically Awesome Style Sheets
ERB	-	Embedded Ruby
URL	-	Uniform Resource Locator
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LIST OF APPENDIXES

APPENDIX	TITLE	PAGE
A	Interactive Campus e-Platform and Database	63

CHAPTER I

INTRODUCTION

1.1 Project overview

After graduation, students will have a lot of household items to bring back home such as furniture, electrical appliances, reference books, cars and motorcycles. If they are unable to bring these things back, they had to give or sell it. Therefore, Interactive Campus e-Platform and Database will be developed for student that helps to sell their second-hand items. It also provides property category for students to find house or room to rent or sale.

This project will be developed an e-platform for campus that supports go green concept and brings convenient to students. It is a good way to promote green lifestyle and help to reduce environmental pollution. It also acts as a media to let students go into action for the green lifestyle so that it can increase the awareness of environment issues. Other than that, it also saves time, reduces cost and brings convenient to students. Therefore, this Interactive Campus e-Platform and Database is eco-friendly and user-friendly web to students.

This project will include programming languages such as Ruby on Rails (RoR), Hyper Text Markup Language (HTML), Cascading Style Sheets (CSS), Structured Query Language (SQL), JavaScript (JS), and jQuery for development.

1.2 Problem statement

Nowadays, one of the popular and important media is advertising by internet platform other than newspaper, television, and advertisement board [1]. However, to

promote an advertisement is costly for a student. In this project, an Interactive e-Platform and Database on Campus will be developed and it is free to access for students.

1.3 Objectives

1. To develop an Interactive e-Platform and Database on Campus.
2. To create an attractive, user-friendly online platform for users to find items easily.

1.4 Score of project

This project will include few programming languages is used such as Ruby on Rails, HTML, CSS, SQL, JavaScript and jQuery. Ruby on Rails is a web development framework which providing default structures for a web service, database and webpage. Then, HTML and CSS are the languages that use to create an awesome website such as building and styling the website. SQL is a programming language for managing data. It will be used to store information that uploaded by the users. Whenever users want to view ads, it will retrieve advertisement information from this database. Next, JavaScript is a programming language that makes a functionality and interactively web page which become smarter. It includes a jQuery library. jQuery is cross-platform of JavaScript library for document traversing, animating and effect for rapid web development.

1.5 Project methodology

At first, the Interactive Campus e-Platform and Database will be developing the website by using Ruby on Rails which provide part of the default structures for a web service, database and web page. Then, by using HTML and CSS to design the layout and styling for the web page to attract the interest of people. Next, JavaScript is used to improve the function and interactive of the e-platform. After that, follow by SQL programming language, the database of the website is manage data by it. Validate, test and fixed the problems of the e-platform if there is any. Lastly, validate and test result and fixed the problems of the e-platform if there is any.

1.6 Report outline

This project thesis consists of 5 chapters which are organized as follows:

Chapter 1 presents the background, objective and problem statement of the proposed technique. The scope of work of this project also presented followed by the outline of the thesis.

Chapter 2 gives some overview of Ruby programming language and web application framework - Rails. It also explains about Ruby on Rails, HTML, CSS, SQL and JavaScript. Besides that, it will present the web development. Moreover, this chapter also explains the comparison between few platforms that similar with this project, such as Lelong.my and Mudah.my.

Chapter 3 presents the methodology of the proposed Interactive Campus e-Platform and Database. Then, the chosen methodology will be justified and described. The proposed Interactive Campus e-Platform and Database use few programming languages to create and develop the website.

Chapter 4 presents the results for the proposed Interactive Campus e-Platform and Database. Next, the implementation of the proposed system is discussed. The system design, database design and interface design will be shown. Then, the development and deployment are discussed. This includes chosen programming languages, chosen libraries, chosen database management system and chosen operating system. The advantages of the Interactive Campus e-Platform and Database are discussed and compared with another platform. Besides that, the requirements validation of this project is discussed in this chapter.

Chapter 5 concludes the thesis by summarizing the project outcome and presents possible future works for this project.

Next, a technical paper will be shown in Appendices part.

CHAPTER II

LITERATURE REVIEW

2.1 Programming languages

In order to create a website, few of the different programming languages are needed to perform a different kind of function for a website. In this project, the programming languages that involved are Ruby and Rails, HyperText Makeup Language (HTML), JavaScript (JS), Cascading Style Sheets (CSS), and Structured Query Language (SQL). The overview and usage of these few programming languages will be discussed.

First, Ruby on Rails is a web development framework which providing default structures for a web service, database and webpage. Then, HTML and CSS are the languages that use to create an awesome website such as building and styling the website. Besides, JavaScript is a programming language that makes a functionality and interactively web page which become smarter. Next, SQL is a programming language for managing data. It will be used to store information that uploaded by the users. Whenever users want to view ads, it will retrieve advertisement information from the database.

2.1.1 Ruby on Rails, RoR

A popular web application framework built on top of Ruby and an object oriented scripting language – Ruby on Rails [2]. One of the most popular Model-View-Controller (MVC) architecture of Web application framework – Rails. It provides much efficient Web application development based on its several principles. The principles are Don't Repeat Yourself (DRY) and Convention over Configuration (CoC). Ruby programming language is written for all frameworks and applications. This web application framework