



Continuing Education Program
Center for Computing and Information
Technology
Faculty of Engineering
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ISAS (Information Search and Analysis Skill)

“Framework Code Igniter Version 3”

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Preface

First, Let us give praise to Allah S.W.T who give guidance to us untill we can complete our ISAS entitled “Framework Code Igniter Version 3”. As author write this article, author get a lot of support from various parties. Among others are :

1. Our parents, who always help in the form of spirit and material.
2. Dr. Aries Subiantoro, M.Sc as director of CCIT Faculty of Engineering, University of Indonesia.
3. Bayu Citra Nur Aulia S.T, M.T as our faculty who have provided guidance and support and referrals to us so that we can finish ISAS.
4. Our friends who always give the information that they know, exchange ideas and give encouragement to us in writing this article.

Author know that the results of this article is far from perfect and there are still many shortcomings, author hope readers will give comments and suggestions in building this article in order to become better. We hope this article can be useful for those who read or hear, especially for CCIT students of the Faculty of Engineering UI.

Our ISAS titled “Framework Code Igniter Version 3” is Introduction of Framework from PHP Programming Language, with this framework we can easily make website more secure and quickly. We hope with this ISAS people will understand about introduction of Code Igniter Framework.

Depok, September 2016

Author

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CHAPTER 1

INTRODUCTION

I.1 Background

Web application development growing with current technology development. Before mobile application development being a trend, web application development is one of the programming trend. The cause is before mobile application development founded, all of data are stored online via internet. The data which stored in internet will be displayed at the front end of website. But due to rapid technological changes, a lot of people trying to found something better to solve old problem. Every developer trying to develop programming language that can be a general programming language. The purpose is to make one programming language that can be accessed by every people in this world and can be developed by all of developer.

In 1995, *Rasmus Lerdorf* created PHP programming language. At that years, PHP programming language still based on C programming. The purpose of this invent is to process data from web forms. PHP published as open source programming language, its mean every people can develop and using PHP without cost. The more technology develops, PHP also developed by a lot of developer. One of company that develop PHP is *Zend*. Zend develops PHP to be cleaner, neater, and faster. PHP created as web programming language, along with the technology development. PHP native is not secure and very slow for programmer when making a website. That's the reason why developer create programming framework to make developer works more easy and the security of web better than PHP native.

CodeIgniter is one of PHP Framework. Code Igniter created by EllisLab. The purpose of this invent is to make developer easy and faster when create a website. Code Igniter is framework based on MVC (Model View Controller). With Code Igniter, Developer can develop a website quickly and safer rather than using normal PHP. Today, Code Igniter used by a lot of developer in the whole world. Especially in Indonesia, Code Igniter is one of top programming language that used by a lot of developer to develop a website.

Because PHP and Code Igniter is free to use without cost. A lot of developer and student programmer like to use them to develop any website. The purpose is to study about architecture of CodeIgniter.

1.2 Writing Objective

The purpose of this ISAS are :

1. Definition of programming language.
2. Definition of PHP programming language.
3. Definition of Framework Code Igniter.
4. How to setup the Code Igniter.
5. How to setup the Model View Controller (MVC).

1.3 Problem Domain

Accordance with the title of ISAS "Framework Code Igniter Version 3" We will discuss about :

1. How to setup the Code Igniter
2. How to setup Model View Controller to displays the program.

1.4 Writing Methodology

The method which used in this ISAS is the method of browsing from internet, reading journal online, and make a survey in problem domain.

1.5 Writing Framework

The paper was written by systematic as follows :

CHAPTER I : INTRODUCTION

1.1 Background

Discusses the web application development, PHP programming language history, and Code Igniter framework history.

1.2 Writing Objective

The purpose of this article is to understand about PHP, Code Igniter, MVC and simple steps to build website with Code Igniter.

1.3 Problem Domain

Mention several points about how to use Code Igniter , there are the first setup before using Code Igniter, after first setup the paper describe about using Model View Controller (MVC) programming style, and the paper describe how to build simple website with Code Igniter.

1.4 Methodology Writing

To get data which needed, this paper use the method of observing or direct observation techniques, author reads famous repository online journal such as Science Direct.

1.5 Writing Framework

This paper Writing Framework consists of four Chapter, the first chapter is introduction which tells the background, writing objective, several problem domain, methodology writing and writing framework of this paper.

Chapter II Basic of Theory

In chapter II, paper written several sub chapter. The first sub chapter is to tell about briefly description about programming language. The second sub chapter is to tell about PHP Programming Language. The third sub chapter is to tell about Code Igniter Programming Language. The fourth sub chapter is to tell about architecture technology of Code Igniter Framework.

Chapter III Problem Analysis

Analyzing and solve the problem that contained in problem domain.

Chapter IV Conclusion and Suggestion

Conclude and suggest related to this paper.

CHAPTER II

BASIC OF THEORY

II.1 Programming Language : Briefly Description

Programming language is collection of code program languages to create applications and leads to highly entangled and unmaintainable code. Programming language using logic to build the application and data storage in an application to save the data. [1]

II.2 Definition of PHP Programming Language

PHP programming language is a combine of HTML code with server side programming languages to create dynamic web pages. PHP can be save at hosting and the hosting can be accessed via domain name. Programmer choose PHP because easiness of PHP and it's free. [1]

II.3 Definition of Framework CodeIgniter

CodeIgniter is one of PHP programming language framework. The main aim why developer using framework is because with framework developer can finish their web application faster than using PHP native. CodeIgniter using MVC pattern, MVC is one of application design patterns that usually used by developer to make the works faster. Rather than using PHP native, Developer can use CodeIgniter to finish their work faster than not use any framework. The MVC design pattern is such a good fit for web application development because they combine several technologies usually split into a set of layers. Also, MVC specific behavior could be to send specific views to different types of user-agents. [1]

CHAPTER III

PROBLEM ANALYSIS

III.1 MVC Pattern of CodeIgniter

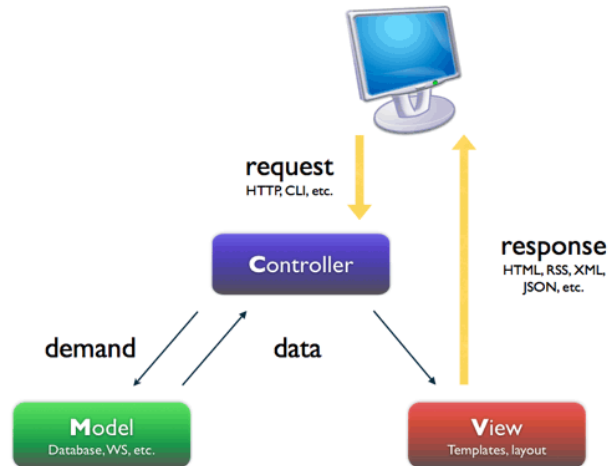


Figure 3.0 MVC Pattern

Source: <http://stackoverflow.com/questions/5966905/which-mvc-diagram-is-correct-web-app>

The MVC design pattern is good for web application because they split the database function, the function code and display separately and structured. With separated folder, the function is neater and doesn't look cluttered rather using manual function. Rather than include the file into the code like PHP Native usually do. The function separated with three folder, there are: [1]

1. Model

Model is the part of the CodeIgniter system that manages all query related to data. Model usually used to code the query of CRUD (Create Read Update Delete) from database. The Model is responsible of all query database application.

2. View

View is the part of CodeIgniter system that display the web. View used to display the template that created by Developer. It also display the code of query. As example we want to display product of today. Result of the code can be seen at View folder.

3. Controller

Controller is the part of CodeIgniter system that manage all of logical function related to Model and View. Controller being a bridge between Model and View, because Controller has a function to manage the code which show the result of logical function. Controller also be a place to process the algorithm to show the result at the view folder.

III.2 CodeIgniter Controller Scope

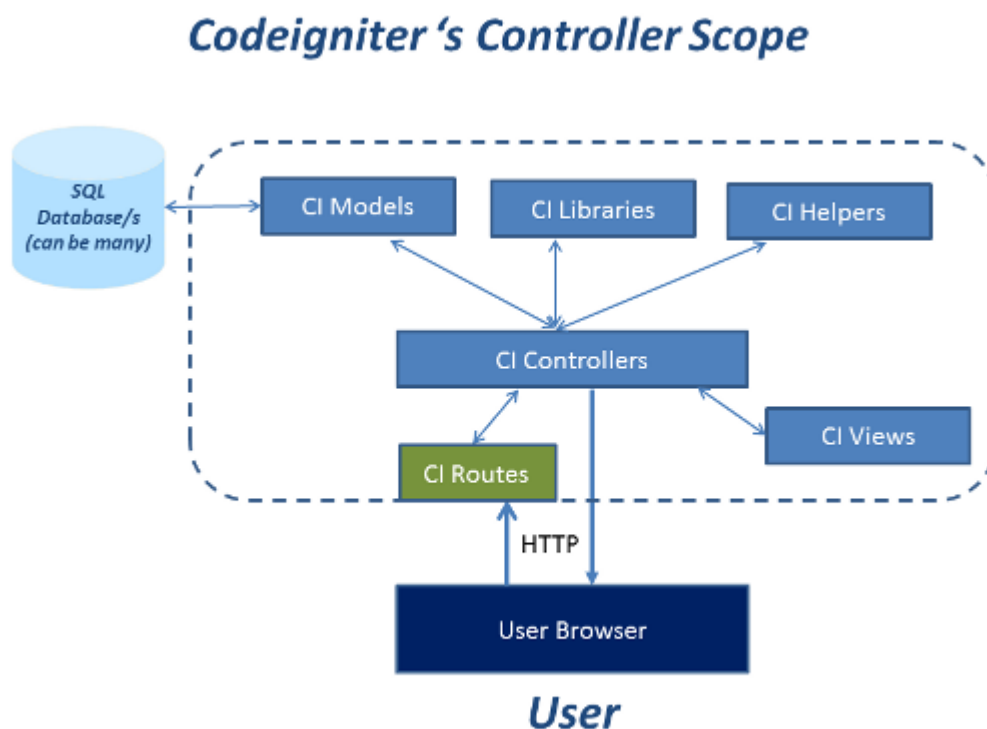


Figure 3.1 CodeIgniter's Controller Scope

Source : www.packtub.com

Code Igniter has a complex building. That's the reason why the security level in the CodeIgniter is better than using PHP Native. MVC Pattern connected with each other like the picture above. It show the Controller are the main processor of the program because Controller is the main function that display all of logical function. Without Controller, any libraries, model, and views can't be shown to the user. Several relationship will be describe below.

1. Model – SQL Database

Model as the query function will call data appropriate the query code. As example, if the code are display the data. The database will bring the query request, that's data.

2. Controller – Libraries

Controller as the logical function need libraries to make the program better. As example if we want use one template to some of template to make the program easy to code, we can using template library to make the template. The function of libraries is same like common libraries, to make developer easier when making the program with the help of library.

3. Controller – Helper

Helper is a logical function that used by developer to make the code to use in some of views file. We can change the format date from 12//12/2016 into Tuesday, December 12 2016 with helper file. The objective is to be a template of code and developer can call it when needed. The perspective are same like Object Oriented Programming.

4. Controller – Routes – User Browser

Routes has a function as a bridge between the logical and user browser. Its mean the logical function that displayed to the user will going through a bridge called Routes. Routes also being a link of HTTP in user browser.

More complex about the architecture is when user want to see the web, they will input the address, after user input it will call the routes to check are the link is available at the controller. Controller will check the libraries and helper which needed in the view. Controller will call the libraries and helper, and also the model to get the data. Model will check data from query code that called by controller and return the data to the controller, after that the data will be displayed to the user via routes.

CHAPTER IV

CONCLUSION AND SUGGESTUION

IV.1 Conclusion

CodeIgniter is one of PHP Framework which used by Developer for making web application. CodeIgniter using MVC Pattern that let developer work faster and easier. With MVC Pattern, the level security are better rather than using PHP Native.

IV.2 Suggestion

1. Choosing framework to making application is better than choose native method because faster and easier.
2. Choosing framework will make the security of program better rather than using native method.
3. MVC Pattern is good for programming because a lot of framework using MVC with their own style, its mean if people understand using MVC at CodeIgniter, they can easily code in other programming language.

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