

Lecture Notes in Electrical Engineering 315

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Editors

Advanced Computer and Communication Engineering Technology

Proceedings of the 1st International
Conference on Communication and
Computer Engineering

 Springer

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<http://www.springer.com/978-3-319-07673-7>

Advanced Computer and Communication Engineering
Technology

Proceedings of the 1st International Conference on
Communication and Computer Engineering

Sulaiman, H.A.; Othman, M.A.; Othman, M.F.I.; Rahim, Y.A.;
Pee, N.C. (Eds.)

2015, XX, 1090 p. 517 illus., Hardcover

ISBN: 978-3-319-07673-7

Chapter 40

An Empirical Study of the Evolution of PHP MVC Framework

Rashidah F. Olanrewaju, Thouhedul Islam and N. Ali

Abstract Commercial, social and educational importance of web technology has tremendously increased research activities in web programming/scripting. Several methods for writing PHP codes such as Object Oriented Programming (OOP), Procedural PHP coding and Model View Controller (MVC) pattern have been proposed. Model View Controller (MVC) which is one of the most powerful method for developing PHP application has many variant such Laravel, Symfony, CodeIgniter, CakePHP etc. However, selection of best MVC framework among the variants is of concern to the programmers as well as project managers, especially when managing big applications. Hence, performance evaluation criterions are required. This paper discusses the MVC based most famous PHP frameworks, evaluate their performance and it was found that Laravel outperforms other MVC framework, hence Laravel is proposed as the most suitable PHP framework for future web technology.

Keywords MVC · Laravel · PHP framework · CakePHP · CodeIgniter · Symfony

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40.1 Introduction

The rapid development of internet for web based application indicates a higher demand of reliability, scalability, security and maintainability of coding methodology. PHP, a scripting tool for web that enable dynamic interactive web development such intuitive, compiled fast, cross platform, open source, flexibility as well as required minimal setup [1]. This became one of the important web development language thus, PHP is one of the most powerful programming language in the web world. Several developers choose to deploy application based on PHP putting all the issues such as data access, business logic, and data representation layer together [2]. This in turn create development problems especially for big projects. To solve this problem, MVC design pattern brings an effective ways to separate code in layers from each other based on each layer activities.

MVC design pattern is a proven effective way to develop application such as CakePHP, CodeIgniter, Laravel, Symfony. The main methods of MVC to spilt an application into separate layer that can work separately and produce same result. The advantage of using MVC pattern are:

- Standard, consistency and predictability
- Software components or building-blocks so that developers can share and reuse code [3]
- A model or standard architecture that allows easy visualization of how the entire system works [4]
- Reusable and thoroughly tested code in the libraries, classes and functions [5].
- Well-structured code using architectural pattern [6].
- Security, interoperability and Maintenance.

Although MVC based framework (CakePHP, Laravel, CodeIgniter) has number of advantages [7], however, selecting of best PHP framework is still a concern. This is because all of the framework does not cover all aspect of web applications. This study evaluate most famous PHP frameworks based on MVC design model and it performance as well as proposed the best efficient PHP MVC framework for future web development.

40.2 Materials and Methods

The operation of Model View Controller (MVC) method is to spilt or separate the different parts of code into layers such as view, data access, controlling user's requests and forward request to relevant layers [8].

The MVC pattern's title is a collation of three core parts: Model, View, and Controller. A visual representation of a complete and correct MVC pattern looks like the following in Fig. 40.1.

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Advanced Computer and Communication Engineering Technology
Lecture Notes in Electrical Engineering Volume 315, 2015, pp 399-410
Date: 02 Nov 2014

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Keywords MVC · Laravel · PHP framework · CakePHP · CodeIgniter · Symfony

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H.A. Sulaiman et al. (eds.), *Advanced Computer and Communication Engineering Technology*, Lecture Notes in Electrical Engineering 315, DOI 10.1007/978-3-319-07674-4_40

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R.F. Olanrewaju et al.

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Editors

Advanced Computer and Communication Engineering Technology

Proceedings of the 1st International
Conference on Communication and
Computer Engineering

 Springer

Chapter Metrics

Citations



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About this Chapter

Title
An Empirical Study of the Evolution of PHP MVC Framework

Book Title
Advanced Computer and Communication Engineering Technology

Book Subtitle
Proceedings of the 1st International Conference on Communication and Computer Engineering

Book Part
Part II

Pages
pp 399-410

Copyright
2015

DOI
10.1007/978-3-319-07674-4_40

Print ISBN
978-3-319-07673-7

Online ISBN
978-3-319-07674-4

Series Title
Lecture Notes in Electrical Engineering

Series Volume
315

Series ISSN
1876-1100

Publisher
Springer International Publishing

Copyright Holder
Springer International Publishing Switzerland

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