

A Comparative Performance Analysis of PHP MVC Frameworks: Laravel, Symfony, CodeIgniter, and Yii

Student Details:

Name: Corey Black

Banner ID: B01651145

Programme: BSc (Hons) Web and Mobile Development

Supervisor: Dr Pablo Salva Garcia

Moderator: Mr Sajjad Bagheri

Project Aim

To evaluate and compare the performance, scalability, and developer experience of major PHP MVC frameworks – Laravel, Symfony, CodeIgniter, and Yii – through benchmarking and qualitative analysis.

Objectives

1. Develop equivalent CRUD-based web applications in each framework.
2. Conduct performance benchmarking using Apache JMeter and Locust.
3. Compare results for response time, throughput, and memory usage.
4. Analyse qualitative factors such as ease of setup and developer experience.
5. Present findings in a report and visual presentation.

Methods and Tools

PHP 8.x, MySQL, Apache/Nginx, JMeter, Locust, VS Code, GitHub, and data visualisation tools.

Resources Required

Local or virtual testing environment (Docker or XAMPP) with PHP and MySQL support.

Ethical Considerations

No human participants are required/involved. All benchmarking will occur on non-production environments.

Proposed Marking Scheme

Literature Review & Research – 15%

Application Development – 25%

Benchmarking & Testing – 25%

Analysis & Evaluation – 20%

Report & Presentation – 15%

Signatures

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Supervisor: _____

Moderator: _____