

Digital Economy Creative System Using Laravel Based Responsive Web at Rumah Terang Ministries Production House

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Abstract

Rumah Terang Ministries is a creative economy production house that focuses on digital multimedia such as flat design, motion, films, movies and podcast content. This production house has been running and growing in its marketing media. The production house has target development and general market than before with Christian spiritual content. This is what makes Rumah Terang Ministries turn into a more general production house and requires digital marketing. The use of the website is seen as a solution as well as a system to bridge between content creators and consumer. Object oriented programming based websites are considered capable of handling the needs of this Laravel based digital production house. Technically, the website that was built was using the Models Views Controller (MVC) concept based on the Laravel version 9 backend framework. The database system was developed using MariaDB 10.4.24 PHP 8.1.4, frontend using CSS Bootstrap version 5.2. The system that was built has a specific purpose as a media partner for creative economy digital product capable of broadcasting, branding, delivering consumers by map, as well as media engagement between production houses and consumers. Furthermore, every ongoing project has a professional work base and has a good engagement framework. Web media can also be accessed by customers in various places to that it is easier for customers to make deals with the production house.

Keywords : Rumah Terang Ministries; Object-Oriented Programming; MVC; CSS Bootstrap.

Abstrak

Rumah Terang Ministries adalah sebuah rumah produksi ekonomi kreatif yang berfokus pada multimedia digital seperti desain datar, animasi, film, dan konten podcast. Rumah produksi ini telah berjalan dan berkembang dalam media pemasarannya. Rumah produksi ini memiliki target pengembangan dan pasar yang lebih umum dibanding sebelumnya dengan konten spiritual Kristen. Hal ini membuat Rumah Terang Ministries bertransformasi menjadi rumah produksi yang lebih umum dan membutuhkan pemasaran digital. Penggunaan situs web dipandang sebagai solusi sekaligus sistem untuk menjembatani antara kreator konten dan konsumen. Situs web berbasis pemrograman berorientasi objek dianggap mampu menangani kebutuhan rumah produksi digital berbasis Laravel ini. Secara teknis, situs web yang dibangun menggunakan konsep *Model-View-Controller (MVC)* dengan kerangka kerja backend Laravel versi 9. Sistem basis data dikembangkan menggunakan MariaDB 10.4.24 dan PHP 8.1.4, serta antarmuka frontend menggunakan CSS Bootstrap versi 5.2. Sistem yang dibangun memiliki tujuan khusus sebagai mitra media untuk produk digital ekonomi kreatif yang mampu melakukan penyiaran, branding, pengiriman konsumen melalui peta, serta membangun keterlibatan media antara rumah produksi dan konsumen. Selain itu, setiap proyek yang berjalan memiliki dasar kerja profesional dan kerangka kerja keterlibatan yang baik. Media berbasis web ini juga dapat diakses oleh pelanggan di berbagai tempat sehingga memudahkan pelanggan dalam membuat kesepakatan dengan rumah produksi.

Kata kunci : Rumah Terang Ministries; Object-Oriented Programming; MVC; CSS Bootstrap.

1. Introduction

Information and communication technology has become essential in Indonesia, influencing organizational management and enabling business growth through effective technology use (Manuaba 2019), (Prasetya, Suharjito, and Pratama 2021). In the creative economy, proper management is critical, especially for production houses like Rumah Terang Ministries, which specializes in digital multimedia

services such as graphic design, motion graphics, films, short movies, and podcasts. Initially focused on Christian spiritual events, Rumah Terang Ministries aims to broaden its customer base beyond this niche (Hidayati 2020). This research designs a responsive website as a digital marketing tool to enhance broadcasting, branding, and customer interaction (Kristiyanto and Schmidt 2024). The website uses the Model-View-Controller (MVC) architecture, dividing the application into Model, View, and Controller

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layers, facilitating code reusability and simplifying development (Kristiyanto and Shepard 2024). Laravel is chosen for its minimal configuration and maintainability, supporting expanded market reach and improved communication.

2. Related Work

Kristiyanto and Suhartono (2020) developed a dynamic web application for ornamental plant marketing using the Waterfall methodology and an MVC-based PHP framework, enhanced by Bootstrap for responsiveness, supporting SMEs in the creative sector (Sunardi and Suharjito 2019), (Aipina and Witriyono 2022). Kristiyanto and Shepard (2024) proposed migrating from monolithic architecture to MVC-based microservices, improving scalability and database consistency, applicable to Laravel systems like Rumah Terang Ministries. Black box testing confirmed system reliability (Kristiyanto and Shepard 2024), (Supriyono 2020). Ambriani,dkk (2020) highlighted Laravel's modularity, routing, and security, enabling efficient development aligned with Rumah Terang Ministries' use of Laravel 9 (Ambriani and Nurhidayat 2020). Sunardi and Suharjito (2019) compared Laravel and Slim frameworks, noting Laravel's suitability for large projects and Slim's efficiency for smaller ones, emphasizing framework choice based on project scale (Sunardi and Suharjito 2019), (Ariyanto et al. 2024). Thesing et al. (2021) analyzed Waterfall and Agile methodologies, suggesting a hybrid approach to balance stability and flexibility in web development. This study underscores modern web frameworks' role in advancing digital platforms within the creative economy (Thesing, Feldmann, and Burchardt 2021).

3. Methodology

3.1 Collecting Data and System Development Method

Preparation for this study involved gathering data through observation to evaluate requirements and outcomes (Xu et al. 2020). Additional detailed information was obtained by interviewing the department head. These data formed the basis for determining the content of the responsive website for Rumah Terang Ministries. The System Development Life Cycle (SDLC) framework guided the website's development, applying the Waterfall model (Pargaonkar 2023), (Ilham Tri Maulana 2022). This model follows a linear, sequential process, moving through distinct stages one after another (Thesing et al. 2021). Suitability of this approach lies in its allowance for detecting and correcting errors or deficiencies before advancing to the next phase. Five key phases comprise the development: requirement analysis, system design, implementation, testing, and operation and maintenance (Kristiyanto, Ananda, and Saintika 2023), (Prasetya et al. 2021). This structured

method facilitated organized progress and ensured quality control throughout the responsive website's creation.

3.2 Model View Controller (MVC) Framework

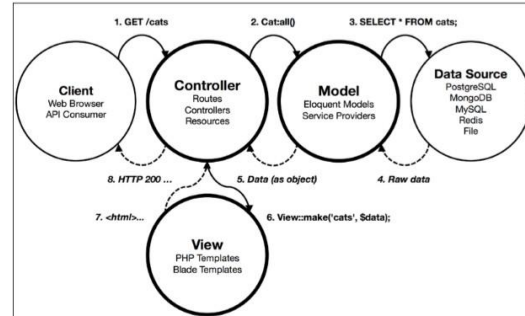


Figure 1. MVC Pattern Diagram

Model-View-Controller (MVC) is a widely adopted architectural pattern in web development (Sunardi and Suharjito 2019). Introduced by Trygve Reenskaug in 1970 within Smalltalk at Xerox PARC, MVC predates the web era (Hidayati 2020). It separates applications into Model, View, and Controller layers (Kristiyanto et al. 2023). The Model handles data and business logic through eloquent models and service providers. The View manages data presentation, often as HTML, using Laravel 9's Blade templating engine for reusable layouts and clear separation of logic (Sunardi and Suharjito 2019), (Apriliando 2021). Blade compiles directives into PHP code. The Controller processes input, updates the Model, and selects the View, improving modularity, maintainability, and scalability in modern web frameworks..

Table 1. Blade Syntax and Equivalent Parsed PHP Code

Sintaks PHP Standar	Blade
<?php echo \$var;?>	{!! \$var !!}
<?php echo htmlentities(\$var);?>	{{ \$var }}
<?php if (\$cond): ?>...<?php endif; ?>	@if (\$cond) ... @endif
<?php foreach(\$values as \$value):?> ... <?php endforeach;?>	@foreach(\$values as \$value) ... @endforeach
<?php while(true):?> ... <?php endwhile;?>	@while(true) ... @endwhile

4. Result and Discussion

4.1 Requirement Analysis

Based on the results of interviews and observations at Rumah Terang Ministries Production House, the results of the needs analysis are as follows :

1. Admin are able to recapitulates incoming order data to sort the project creation process.

2. Admin are able to manage service data that will be offered.
3. Admin are able to confirm incoming customer request.
4. Admin is responsible for scheduling the request project.
5. Customers are able to see what services are offered.
6. Customers are able to see the status of the request is being worked on or has been completed.
7. Customers are able to cancel their orders as long as the project has not been processed.
8. Admin able to update the status of orders from customers.
9. Customers are able to see the projects that have been done by the production house.
10. Customers able to order service with the concept they have.

4.2 Designing System

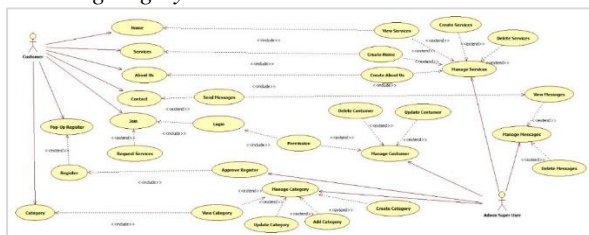


Figure 2. Use Case Diagram of Responsive Web

Figure 2 shows that the responsive web at the production house has 2 main actors who can run the system, namely the admin from the production house and the customer. Customer is everyone who visits the website and people who take advantage of the service. Admin is a crew in charge of serving customers to take advantage of services from Rumah Terang Ministries Production House. There are four boundaries in the system administrator, all of which have the consequence of forming a form on the back end website. Administrator dan customer are connected through a flow of events called include, where the data flow can come from the two actors.

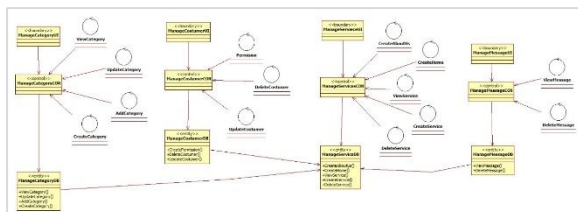


Figure 3. Class Diagram of System Administrator

Class diagram created from Use case boundary, figure 3 shows there are three boundaries that are implemented into controller and entity. Furthermore, class diagrams also describe systems ranging from the

front end or back end to programming languages and entities in the database systems. Flow of events data flows from one diagram to another through primary keys, foreign keys and manipulation operations. extending from the use case diagram leading to the boundary is depicted using the iconic stereotype.

4.3 System Design Implementation

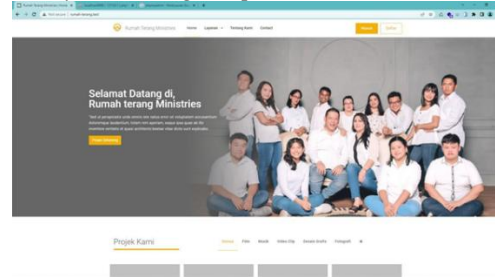


Figure 4. Homepage

Figure 4 displays the homepage, accessible only after logging in with a registered account. New customers must register by clicking the register button, which directs them to the registration page. Users are required to enter their name, username, email, and password. After submission, the system validates the entered data. If valid, users are redirected to the login page. The following syntax is used to perform data validation.

```
<?php
namespace App\Http\Controllers;

use Illuminate\Http\Request;
use Illuminate\Support\Facades\Auth;

class LoginController extends Controller
{
    public function authenticate(Request $request)
    {
        $credentials = $request->validate([
            'email' => 'required|email:dns',
            'password' => 'required',
        ]);

        if (Auth::attempt($credentials)) {
            $request->session()->regenerate();
            return redirect()->intended('/');
        }

        return back()->with('LoginError', 'Login failed!');
        dd('berhasil_login!');
    }

    public function logout(Request $request)
    {
        Auth::logout();
        $request->session()->invalidate();
        $request->session()->regenerateToken();
        return redirect('/');
    }
}
```

```
$request->session()->invalidate();
$request->session()->regenerateToken();
return redirect('/');
}

public function login()
{
    $this->session()->flash('success',
'Registration success!!');
    return redirect('/');
```

The validation process in Laravel verifies if the registered email exists in the database and checks the correctness of the user's input format. If validation fails, the system notifies the user of incorrect data. Upon successful login, customers can freely access the website. The homepage features a Call to Action that encourages users to engage upon arrival. It also displays a portfolio of completed projects, summaries of services offered, information about the production house, and details of collaborations with partners, providing a comprehensive overview for visitors.

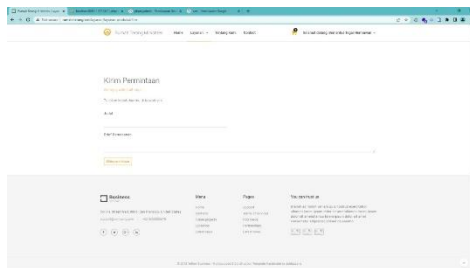


Figure 5. User Engagement Page

The service page is depicted in figure 6. Customers in service page can place an order for the services. The customer can include the title along with the project details according to the concept that the customer has. If data entry is complete, the user will be redirected to the cart page. The cart page shows a list of services that have been ordered by the user. The user can still edit the request if the status is "not yet processed". If the request has been processed by the admin, user can no longer make data changes or cancel of service orders.

4.4 System Testing

System test stage, in the responsive web at Rumah Terang Ministries Production House has been implemented. The assessment of the website using black box method to test the functionality of the system. The following are the results of testing using the black box method as shown in the tables 1 and 2.

Table 2. Add Function Testing Service Request Data

No	Scenario Condition	Expected Result	Received Result	Conclusion
1	The service request data form is filled following the provisions	Data saved in database	Data successfully saved to database	Success

2	Some attributes are not filled in the service request form	A warning appears on the text field that is not field	"Silahkan masukkan data anda" warning appears in the text	Success
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Table 3. Service Ordering Function Testing

No	Scenario Condition	Expected Result	Received Result	Conclusion
1	The email and password is filled following existing data	Display home page and list services	Display home page and list services	Success
2	The email and password is filled randomly	Data not found warning appears	A "Identifikasi email dan password tidak ditemukan" warning appears	Success
3	Service request is filled then click button send	Data has been successfully stored and displayed in the shopping cart	Data has been successfully stored and displayed in the shopping cart	Success
4	Service request is not filled then click button send	A data can not send and warning appears	A warning appears "Silahkan masukkan data dan detail pesanan anda"	Success

Based on table 1, the service request function succeeded in saving the form data to the database. Validation function serves as a reminder to the user to fill in the data correctly, rather it can continue to expected page. Based on the table 2, user can go to the home page and can see the list of service if the user enter email and password recorded in the database. Booking the service is done by filling in the title data and the order details if left blank, a warning will appear to fill in the data.

4.5 Operation and Maintenance

The responsive website development for Rumah Terang Ministries Production House utilized key tools across hardware, display, software, and web hosting. Hardware included a notebook model N15_17RF with BIOS 1.05.02 and 16 GB RAM. The display system featured an Intel® Core™ i7-6700HQ processor at 2.60 GHz, 2 GB video memory, 8 GB shared memory, and a Generic PnP Monitor at 1920 x 1080 resolution. Software comprised Windows 11 Pro, Apache server, MySQL database, Laravel 9 framework, Bootstrap 5.2 UI, and Google Chrome browser. The website was hosted with 2 GB storage, unlimited bandwidth, and MySQL support, ensuring reliable user access.

5. Conclusion

The digital creative economy could be applied to Rumah Terang Ministries Production House using an object oriented website based on the Laravel framework, furthermore the existence of Laravel-based website has responsive and dynamic capabilities, so that every content can be accessed using various digital devices. Based on the capabilities of the website, there is also the use of the Rumah Terang Ministries website. Its usefulness is the ability of the website as a medium of engagement for customers.

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References

- Aipina, Desma, and Harry Witriyono. 2022. "Pemanfaatan Framework Laravel Dan Framework Bootstrap Pada Pembangunan Aplikasi Penjualan Hijab Berbasis Web." *Jurnal Media Infotama* 18(1):2022. doi: 10.37676/jmi.v18i1.1836.
- Ambriani, Dinni, and Andi Iwan Nurhidayat. 2020. "Rancang Bangun Repository Publikasi Ilmiah Dosen Berbasis Web Menggunakan Framework Laravel." *Jurnal Manajemen Informatika* 10(01):58–66.
- Apriliando, Agri. 2021. "Implementasi Framework Laravel Pada Rancang Bangun Website IAKN Palangka Raya Dengan Metode Prototype." *Jurnal Sains Komputer Dan Teknologi Informasi* 3(2):87–96. doi: 10.33084/jsakti.v3i2.2238.
- Ariyanto, Yuri, Mochamad Farhan, Fitrahtur Rachmad, and Dwi Puspitasari. 2024. "Issue 2 Year 2024 Pages 66-73 Jurnal Manajemen Teknologi Dan Informatika." *Matrix: Jurnal Manajemen Teknologi Dan Informatika* 14(2):66–73. doi: 10.31940/matrix.v14i2.66-73.
- Hidayati, Nur. 2020. "Using the Model View Controller (Mvc) Method in Medicament Sales Information System Design." *Jurnal Riset Informatika* 2(3):107–14. doi: 10.34288/jri.v2i3.138.
- Ilham Tri Maulana. 2022. "Penerapan Metode Sdlc (System Development Life Cycle) Waterfall Pada E-Commerce Smartphone." *Jurnal Ilmiah Sistem Informasi Dan Ilmu Komputer* 2(2):1–6. doi: 10.55606/juisik.v2i2.162.
- Kristiyanto, Daniel Yeri, Ridho Ananda, and Yudha Saintika. 2023. "Rancang Bangun Web Responsif Untuk Mendukung Petani Tanaman Hias: Studi Kasus Paguyuban Tanaman Hias Sekarsari Dan Magersari." *MEANS (Media Informasi Analisa Dan Sistem)* 8(2):150–56. doi: 10.54367/means.v8i2.2990.
- Kristiyanto, Daniel Yeri, and Andreas Schmidt. 2024. "Performance Evaluation of Monolithic Architectural Design in Online Ornamental Plant Sales Platform." *2024 3rd International Conference on Creative Communication and Innovative Technology (ICCIT)* 1–8. doi: 10.1109/ICCIT62134.2024.10701232.
- Kristiyanto, Daniel Yeri, and Anjani Shepard. 2024. "Comprehensive Framework for Transitioning Monolithic to Microservices in MVC Context." 0–6. doi: 10.1109/ICCIT62134.2024.10701144.
- Manuaba, Ida Bagus Kerthyayana. 2019. "Combination of Test-Driven Development and Behavior-Driven Development for Improving Backend Testing Performance." *Procedia Computer Science* 157:79–86. doi: 10.1016/j.procs.2019.08.144.
- Pargaonkar, Shravan. 2023. "A Comprehensive Research Analysis of Software Development Life Cycle (SDLC) Agile & Waterfall Model Advantages, Disadvantages, and Application Suitability in Software Quality Engineering." *International Journal of Scientific and Research Publications* 13(8):120–24. doi: 10.29322/ijsrp.13.08.2023.p14015.
- Prasetya, Kresna Dwi, Suharjito, and Devriady Pratama. 2021. "Effectiveness Analysis of Distributed Scrum Model Compared to Waterfall Approach in Third-Party Application Development." *Procedia Computer Science* 179(2019):103–11. doi: 10.1016/j.procs.2020.12.014.
- Sunardi, Andri, and Suharjito. 2019. "MVC Architecture: A Comparative Study between Laravel Framework and Slim Framework in Freelancer Project Monitoring System Web Based." *Procedia Computer Science* 157:134–41. doi: 10.1016/j.procs.2019.08.150.
- Supriyono. 2020. "Software Testing with the Approach of Blackbox Testing on the Academic Information System." *International Journal of Information System & Technology* 3(36):227–35. doi: 10.30645/ijstech.v3i2.54.
- Thesing, Theo, Carsten Feldmann, and Martin Burchardt. 2021. "Agile versus Waterfall Project Management: Decision Model for Selecting the Appropriate Approach to a Project." *Procedia Computer Science* 181:746–56. doi: 10.1016/j.procs.2021.01.227.
- Xu, Chuan, Joffroy Beauquier, Janna Burman, Shay Kuten, and Thomas Nowak. 2020. "Data Collection in Population Protocols with Non-Uniformly Random Scheduler." *Theoretical Computer Science* 806:516–30. doi: 10.1016/j.tcs.2019.08.029.