

## **PELESIR: DIGITAL PLATFORM WITH A COMBINATION OF FRAMEWORKS TO INTRODUCE TOURISM IN SOUTHERN OF WEST JAVA, INDONESIA**

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### **Abstract**

This study aims to offer a tourism solution amidst the global pandemic of COVID-19 as well as to introduce a variety of tourism choices located in southern part of West Java province, Indonesia through a digital platform. The digital platform is created using a combination of Laravel and CodeIgniter frameworks which is later called Velniter. A development method utilizing a prototype model SDLC (System Development Life Cycle) consisting of basic need identification, early prototype development, prototype review, and prototype evaluation was employed. This study is able to create a digital platform namely "Pelesir" using such a method. Users of the platform are able to enjoy a variety of tourism types in southern West Java virtually. They are also given information about a tourism destination they are visiting such as gifts, location coordinates, location routes integrated with Google Maps, and brief descriptions. The use of Velniter framework which is a combination of Lravel and CodeIgniter is able to give easier access to develop such a digital platform and provide good security.

Keywords: Combination of framework, Digital platform, Southern of West Java, Tourism.

## 1. Introduction

Wide and massive development of digital platforms is affected by a variety of programming languages and frameworks used [1], particularly on web-based platforms featuring PHP codes. Each of the languages and frameworks come with strengths and weaknesses. However, some of the most popular and commonly used PHP frameworks are Laravel and CodeIgniter [2-4]. Based on Google trends, both of the frameworks are better in comparison with the other PHP types [5].

Either Laravel or CodeIgniter has its own advantages and disadvantages. It is known that CodeIgniter is object-oriented while Laravel is object relational. This indicates that CodeIgniter focuses on objects yet Laravel comprises the combination of object-oriented and relational database [6, 7]. In terms of authentication, CodeIgniter does not provide class authentication feature while Laravel does. In addition, CodeIgniter does not have unit testing where Laravel does [2, 8]. The nature of CodeIgniter framework is object-oriented event-driven meaning that it is based on a certain event. In the meantime, the Laravel is component-oriented which means that it combines available components to become a running program. It is also believed that CodeIgniter is easier to understand by beginners yet Laravel is more difficult as it contains more features which might be not easy to understand by beginner programmers. Thus, Laravel is more compatible for experienced programmers [9, 10].

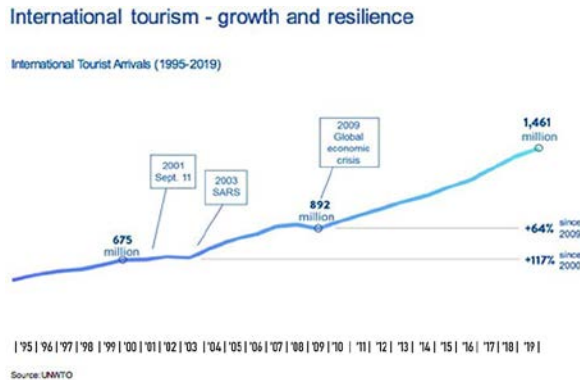
In this study, we tried to combine both Laravel and CodeIgniter frameworks in order to create a digital platform to introduce a variety of tourism types in southern West Java, Indonesia. Such a combination is intended to acquire advantages and reduce disadvantages of both the frameworks. We named such a combined framework "Velniter" [11].

Natural and cultural heritage of Indonesia is such a huge potential, including one located in West Java, Indonesia. These two types of potential, with good management, are a capital of tourism development [12, 13]. Southern part of West Java has such tourism potential as mountains, jungle, sea, beaches, rivers, and also culture [14]. It is commonly known that one of the pillars of national development is tourism as economic growth in Indonesia and other South East Asian and Asian countries is obtained through tourism [15]. Literature also shows that tourism is able to create various business opportunities, provide job vacancies, encourage income equity, improve income levels, and enhance national economic growth through tax [16, 17]. The number of tourists coming to Indonesia keeps increasing; for instance, in December 2019, there were 1,377,067 international tourists coming to Indonesia through different gates all over the country [18]. Based on tourists' country origins, the highest-visiting tourist countries to Indonesia in order are Malaysia, Singapore, China, Australia, and Timor Leste [18]. Another literature concludes that tourism sector gives stimulus to other sectors such as production, transportation, expedition, and supports health programs, cultural facility projects, and environmental preservation [19].

Starting in late 2019, the world was faced by a global health issue caused by COVID-19 pandemic. World Health Organization (WHO) declared that it was a pandemic on 11 March 2020 [20, 21]. There have been massive impacts of the pandemic as the number of patients infected by the virus keeps increasing. COVID-19 also creates new rules in daily lives namely health protocols which consist of physical distancing, mask wearing, and hand washing. Such conditions also occur

in Indonesia as the government huge-scaled social distancing (PSBB) to reduce the widespread infection of the virus. Both state and private institutions then implement limitations of works such as work from home and educational institutions also implement school from home [22]. Consequently, this condition also impacts people’s activities as their mobility is getting limited and even stopped. Several activities which used to be easy to do turn out to be only done in private. Another big impact also occurs in the economic sector as the need fulfilment focuses no longer of tertiary needs, yet more on primary and secondary needs.

Policies on lockdown and PSBB also affect the movement of both humans and non-humans. Business sectors depending on international, national, and regional streams of humans and non-humans are facing a big challenge. Transportation industry, especially ones providing interprovincial services should also be limited and even stopped temporarily. The Indonesian government also gradually closes several routes and banned commercial airplanes to take passengers. The same rules apply to sea transportation as well. These types of banning really impact tourism destinations [23]. In addition, the people are also encouraged to not travel. In March 2020, UNWTO announced that all the tourism chains will be impacted by COVID-19 [24]. Around 80% of the tourism small and medium enterprises (SMEs) with millions of professions are affected by the virus. UNWTO even revised the international tourism growth prospect into -1% to 3% with financial loss approximately ranging from \$ 30 billion to \$ 50 billion. International tourists were predicted to reach its growth by 3% to 4% pre-pandemic. Countries in Asia Pacific were predicted to have the worst impacts, with the decreasing number of tourists by 9% to 12% [25]. Within the same month, UNWTO also evaluated the impacts of the virus to the international tourism. It was acquired that international tourism has developed since 1995 and even survived the SARS in 2003 and global economic crisis in 2009, indicated by the increasing number of tourists reaching 1.461 million people as presented in Fig. 1 [24].

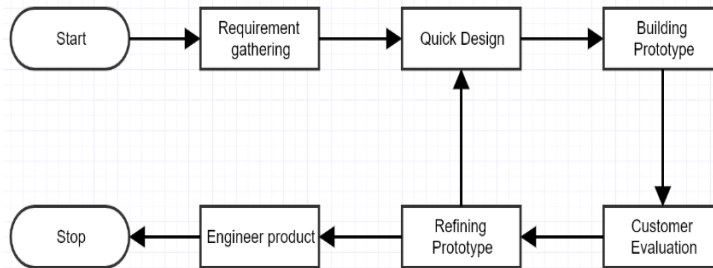


**Fig. 1. International tourism-growth and resilience.**

The main objective of this study is to provide an alternative solution in order to solve problems of tourism, particularly southern West Java. Furthermore, this study also introduces a variety of tourism choices in the site through technology. This study specifically tries to develop a digital platform combining various frameworks aiming to introduce southern West Java tourism.

## 2. Development Method and Data

Development of the digital platform in this study used prototype model SDLC (System Development Life Cycle) [26]. The stages of development comprise basic need identification, early prototype development, prototype review, and prototype revision and evaluation (Fig. 2).



**Fig. 2. Stages of prototype model SDLC.**

The framework used in this study is a combination of Lavarel and CodeIgniter frameworks which we named Velniter [11]. This combined framework has been published on Github at the following link <https://github.com/Velniter/velniter-framework>.

This study was initially started with data collection of southern West Java. The data consisted of situations, pictures, 360° videos, and coordinate locations. All the data were then made into digital database. The digital platform was also made in three languages including Indonesian, English, and Sundanese. The platform design was then built through coding using the Velniter platform. Coordinate integration with the Google maps API was also carried out. Finally, we named the digital platform “Pelesir” which translates into travel.

## 3. Results and Discussion

Data of situations, pictures, 360° videos, and coordinate locations were acquired in the early stage of the study. There were 87 tourism destinations located in the site consisting of beach and sea tourism, jungle tourism, waterfall tourism, river tourism, and cultural tourism. One of the most popular destinations in southern West Java is Pelabuhan Ratu beach. The beach is named after a south beach queen named Ratu Kidul. People in the neighbourhood believe that the queen is the master of the beach. In the meantime, the waves in the beach are quite challenging so that surfers often go there. Another popular, even the most popular, destination is Green Canyon (Fig. 3). The beauty of Green Canyon can be enjoyed by riding a boat or swimming. All the initial data were translated into three languages (Indonesian, English, and Sundanese) and make into digital database.

- app
  - for security library, email, and user data
  - for controllers
  - for models
  - views
- public
  - for saving such files as pictures, javascripts, and css in assets folder
- vendor
  - the core system of Velniter framework



**Fig. 3. Green Canyon, Pangandaran.**

The Pelesir prototype had been made with the following code structure:

Figure 4 shows the controller code of Pelesir. Meanwhile, Fig. 5 presents the models code and Fig. 6 shows library code used of data input security. The use of such a framework for programmers aims to ease things up in creating a digital platform. The codes presented in Figs. 4 to 6 are simple so that Velniter is compatible for beginners. The developed digital platform appears to be made by Laravel yet the simplicity is equal to the level of CodeIgniter. In terms of security, Velniter has the combined strengths of both frameworks. In terms of speed, the platform has that of both the frameworks as well. However, as Velniter is new, it is such a fresh framework ready for further development.

```

1 <?php
2 namespace App\Controllers;
3 use App\Core\Controller;
4 use App\Libraries>Email;
5 use App\Libraries\Upload;
6 use App\Libraries\Pagination;
7 use App\Models\Faqs;
8
9 Class Home extends Controller
10 {
11     public function index()
12     {
13         $data['app_name'] = 'Welcome';
14
15         view('home', $data);
16     }
17
18     /**
19      * Query builder
20      * ORM database example
21      */
22
23     public function orm()
24     {
25         $model = new Faqs;
26         $exe = $model->select('*')->limit(1)->get();
27         $all = $model->all();
28         var_dump($exe);
29     }
30
31     public function upload_view()
32     {
33         view('test_upload');
34     }
35

```

**Fig. 4. Controller code.**

```

1 <?php
2
3 namespace App\Models;
4
5 use App\Core\Model;
6
7 class M_user extends Model
8 {
9     /**
10      * Example store data
11      */
12     public function add()
13     {
14         parent::store('table', [
15             'test' => 'st',
16             'test' => 'ts',
17         ]);
18     }
19
20     /**
21      * Example update data
22      */
23     public function update()
24     {
25         parent::update(['id' => 1], 'table', [
26             'test' => 'st',
27             'test' => 'ts',
28         ]);
29     }
30
31     /**
32      * Example delete data
33      */
34
35

```

Fig. 5. Models code.

```

1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1">
6
7     <title>GLD FRAMEWORK PSK 4</title>
8
9     <!-- Fonts -->
10    <link href="https://fonts.googleapis.com/css2?family=Roboto:wght@400;500;700&display=swap" rel="stylesheet">
11
12    <!-- Styles -->
13    <style>
14    /* normalize.css v8.0.1 | MIT License | github.com/necolas/normalize.css */
15    html{line-height:1.15;
16    ;-webkit-text-size-adjust:100%;body{margin:0;background-color:transparent}[hidden]{display:none}h1{font-family:sans-serif;font-size:1.5em;margin:0}h2{font-family:sans-serif;font-size:1.2em;margin:0}h3{font-family:sans-serif;font-size:1em;margin:0}h4{font-family:sans-serif;font-size:1em;margin:0}h5{font-family:sans-serif;font-size:1em;margin:0}h6{font-family:sans-serif;font-size:1em;margin:0}p{font-family:sans-serif;margin:0}small{font-size:0.8em;margin:0}b{font-weight:bolder}i{font-style:italic}u{text-decoration:underline}code{font-family:monospace;font-size:1em}pre{font-family:monospace;font-size:1em}hr{border:0.5px solid black}img{vertical-align:middle}table{border-collapse:collapse}tbody tr td{border-collapse:collapse}thead tr th{border-collapse:collapse}tfoot tr th{border-collapse:collapse}caption{border-collapse:collapse}table border="1" style="width:100%; border-collapse: collapse; text-align: center;">
17    </style>
18
19    </head>
20
21    <body>
22
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```

Fig. 6. Library code for data input security.

Users are able to operate the digital platform through smartphones or other gadgets utilizing the internet. They can also travel virtually to destinations located in southern West Java as they are provided with 360° videos in every destination (Fig. 7). Moreover, they obtain information about the destinations such as brief description of the destinations, giftshops, and any other locations integrated with Google Maps enabling them to find the routes to reach their desired destinations. Some of the other displays of the platform are presented in Figs. 8 and 9.



Tourism is one of the human needs to fulfil. In this context, humans serve as consumers as discussed in a book entitled Consumer Behaviour in Travel and Tourism [27]. Maslow's hierarchy of needs give simplified understanding of human needs as tourism is believed to fulfil humans' needs of recognition [28]. In relation to this, the developed platform is an alternative to fulfil this kind of need as users can virtually enjoy travel and tourism, particularly in the areas of southern West Java.

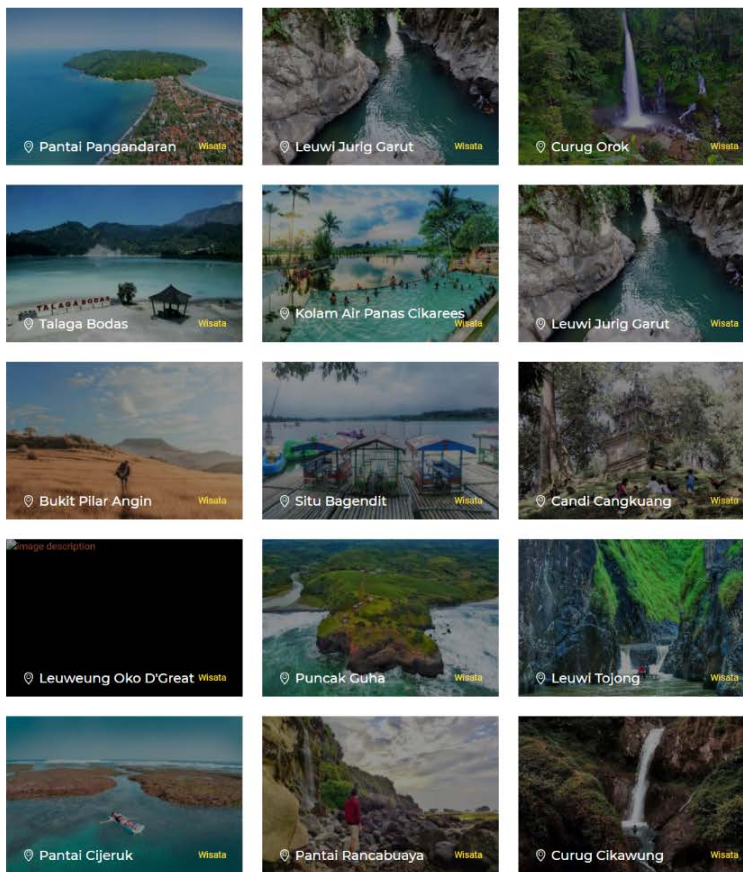



Fig. 7. 360° videos in every destination.

Pelesir
BERANDA **WISATA** SOUVENIR CLEH OLEH
INA ENG Sunda

Video 360 Pantai Pangandaran di Masa Pandemi




### Wisata Pangandaran ~~~

[SITE MAPS](#)


Lokasi Pangandaran Beach berada di Kabupaten Pangandaran Jawa Barat. Adalah Sebuah Kabupaten Baru dan Memiliki Destinasi Pantai Pangandaran Yang Memiliki Pantai Dengan Pasir Putih, Anda Bisa Lihat Sunset dan Sunrise di Pantai Ini, Banyak Acara Bagus Untuk Pantai Pangandaran Malam Hari dan Tentu rya Ada Banyak Hotel di Pangandaran Yang Bisa Anda Pesa, Dengan Harga Tiket Masuk Pantai Pangandaran Yang Terjangkau Bagi Wisatawan Maka Saat Ini Kabupaten Pangandaran Menjadi Destinasi Utama Wisatawan dari Bandung Sampai Pada Hari Ini, Anda Bingung Lokasi Pangandaran? Atau Pangandaran Daerah Mana? Silakan Simak di Artikel Ini Untuk Mendapat Petunjuk Agar Tidak Nyasar di Perjalanan.

Pantai Pangandaran merupakan sebuah objek wisata adalan kabupaten Pangandaran yang terletak disebelah tenggara Jawa Barat, tepatnya didesa penanjung, kecamatan Pangandaran, provinsi Jawa Barat. Pantai Pangandaran merupakan destinasi wisata yang menarik wisatawan domestik dan mancanegara yang menawarkan keelokan pasir pantai hitem dan putihnya. Ombak Pangandaran yang tenang dan pemandangan matahari terbenam yang spektakuler membuat pantai ini begitu menawan apalagi ketika sore hari.


Pangandaran dulunya dikenal sebagai kota nelayan kecil, dimana nelayan pergi dipagi hari dan pulang pada sore hari dengan membawa ikan ke tepian pantai. Kegiatan seperti ini masih bisa dilihat sampai saat ini bahkan kita juga bisa berpartisipasi dan merasakan sensasi menarik jaring ikan ke Pangandaran bersama warga sekitar. Pengalaman unik dan menarik ini hanya bisa didapatkan ketika anda menginjak pantai Pangandaran



Pangandaran Selatan




Sunset Pangandaran



Pangandaran Tengah

### Titik Lokasi Wisata ~~~



#### About Pelesir

Pelesir adalah website pariwisata nya Jawa barat yang memfasilitasi dan memandu para wisatawan untuk bisa menikmati perjalanan travelling nya

1-800-321-6543  
info@pelesir.com

#### Pelesir News

**Burayot Makanan Khas Carut**  
Burayot berasal dari bahasa Sunda yang berarti lue tersebut bentuknya menggarung.

14.01.2017

#### Top Destinations

- 📍 Pantai Pangandaran, Jawa Barat
- 📍 Leuwilur, Jawa Barat
- 📍 Curug Orok, Jawa Barat
- 📍 Talaga Bodas, Jawa Barat
- 📍 Kolam Air Panas Cikaroneus, Jawa Barat

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Fig. 8. Details of destinations.



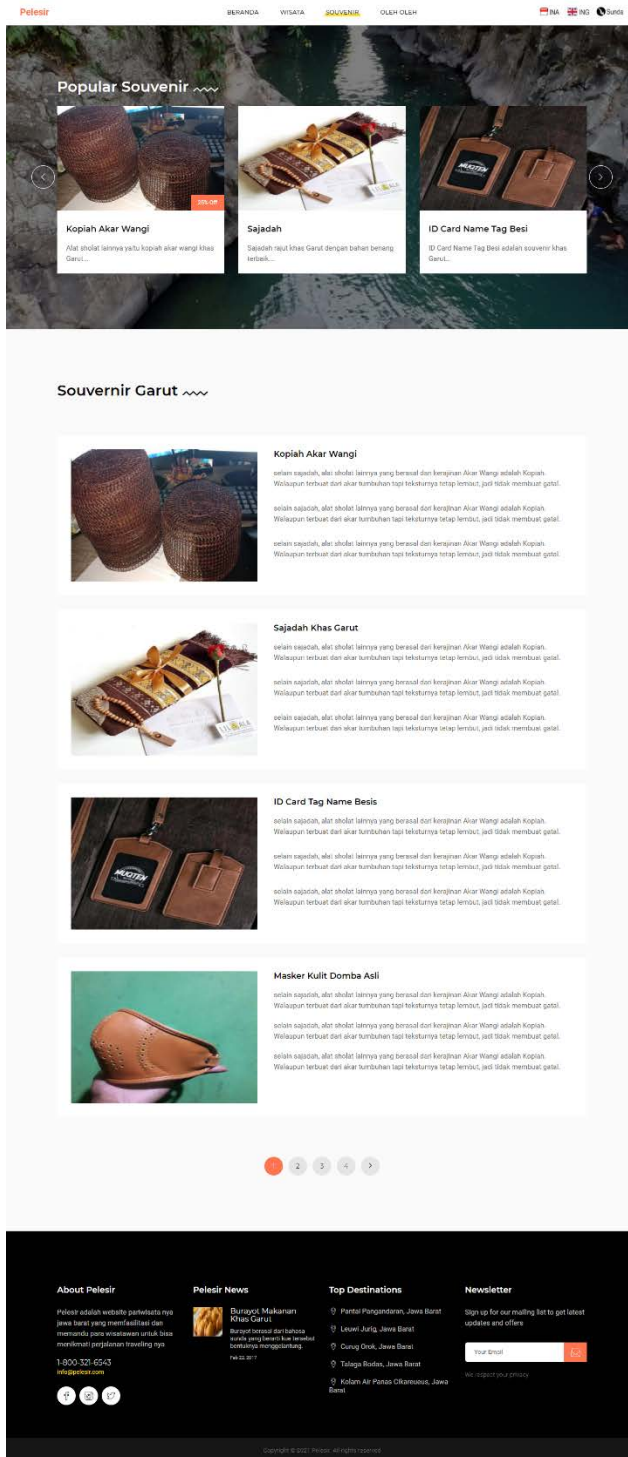


Fig. 9. Information of gifts.

#### 4. Conclusions

The primary objective of this study is to solve issues in tourism within the pandemic era as well as to introduce various types of tourism in southern West Java using a digital platform. While virtually enjoying tourism destination in the areas, users are also given valuable information about it. Such information includes giftshops, location coordinates, and routes integrated to Google maps. The developed platform, namely Velniter, has been proven to be both user-friendly and secure as it combines two previously developed frameworks namely Laravel and CodeIgniter.

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