



# DESIGN AND IMPLEMENT LARAVEL FRAMEWORK BASED WEBSITE FOR NATIONAL ELEMENTARY SCHOOL 1 TEGALPINGEN USING AGILE METHOD

Vito Raditya Fauzan<sup>1</sup>, M. Alfian Maulana Al-Azhar<sup>2</sup>, Nisrina Eka Salsabila<sup>3</sup>

<sup>1,2,3</sup>Faculty of Informatics, Institut Teknologi Telkom Purwokerto

Jl. DI Panjaitan No.128, Karangreja, Purwokerto Kidul, Kec. Purwokerto Sel., Kabupaten Banyumas, Jawa Tengah, 53147, Indonesia

E-mail: 19104063@ittelkom-pwt.ac.id

## ARTICLE INFO

### Article history:

Received: Jul 27, 2022

Revised: Aug 10, 2022

Accepted: Aug 28, 2022

### Keywords:

Website, SDN, Laravel, Agile.

## ABSTRACT

The need for information is important for agencies such as schools that need media and information facilities to provide for the teachers, students, parents, and the public. However, there are still many problems because the media used to convey the information is still limited and does not cover all people who need it. The website that is built can display information that usually exists on the school website, namely profiles, vision and mission, news, and others. In addition, this website can also display data such as student and teacher directories. Student and teacher data will be briefly displayed on the website using tables so that the layout of the directory is neat. The website will have features such as a guest book, comments on the news content section so that there is interaction between the user and the system. With this website, schools can convey information widely. Furthermore, this website also provides news about new student admissions, so that the general public if anyone wants to register a child or sibling can view the information on the school's website, with the aim of making it easier for prospective applicants. Therefore, we want to design a dynamic website for the National Elementary School 1 Tegalpingen which can later be used as a medium for publishing all information related to the school. With this website, it is hoped that it will increase the public's interest to study at the National Elementary School 1 Tegalpingen.

Copyright © 2022 Jurnal Mantik.  
All rights reserved.

## 1. Introduction

Education is a very important factor to ensure the survival of the nation, because education improves and develops the quality of human resources. Along with the development of information and communication technology (ICT), schools in Indonesia are experiencing developments in information system management. The developers began to build a School Information System (Sisko) to facilitate the management and management of schools to be more effective and efficient. School information needs are very important for parents, especially those who have children who want to enter primary school. School information is always obtained through other people or come directly to school [1].

The growth of data technology in the world of learning has begun to show significant changes. Change occurs in every educational process, at this time distance and time are not a problem in the transfer of knowledge (R. N. Anwar, 2021), because there are many digital platforms that facilitate it. The arrival of the web as a medium for disseminating relevant and effective data today. The web is a method for showing oneself on the Internet (Heny, 2016). The efficacy of web websites can be studied from different perspectives (Chiew & Salim, 2003). The school website is a website that shares details of school implementation over several years and successively builds a progress narrative and delivers the success of school performance for both educators and students [2].

At this time information is growing so fast and now that is becoming a trend in the community is the culture of information and social network search using internet media, and one of the important components



in the internet world is the website, framework is a set of functions, classes, and rules. Unlike libraries that are for a specific purpose only, the framework is comprehensive in regulating how we build applications. Framework allows us to build applications more quickly because as a developer we will focus more on the subject matter [3].

Laravel is an MVC web development framework that aims to enhance software quality by lowering development and maintenance expenses and boosting work efficiency through a clean and functional syntax that may save a significant amount of time during implementation. Because Laravel requires PHP versions 5.3 and above, it is a framework with an up-to-date PHP version. Laravel is a PHP framework that emphasizes design simplicity and flexibility [4].

The relevance of a school website goes beyond just providing access to the world of education and the most up-to-date information about education, particularly in Indonesia. However, it may also offer the school a good impression and professionalism. The government has mandated that every school have a website, even whether it is free or unpaid. The existence of a school website indicates that it has contributed to the development of a Global Indonesia in terms of education. Websites are utilized as a medium to replace manual operations and devote a significant amount of time to computerized activities [5].

The website that is built can display information that usually exists on the school website, namely profiles, vision and mission, news, and others. In addition, this website can also display data in the form of a directory of students and teachers. Student and teacher data will be briefly displayed on the website using tables so that the directory layout is neat. The website will have features such as a guest book, comments on the news content section so that interaction occurs between users and the system. With this website, schools can convey information widely [6].

The idea is to make things simpler for potential candidates. Following that, prospective students can visit the school of their choice to learn more. As a result, the author wishes to create a dynamic website for SDN 1 Tegalpingen that may subsequently be utilized as a means to post all school-related information. It is believed that by creating this website, more people would become aware of SDN 1 Tegalpingen, hence increasing public interest in studying at SDN 1 Tegalpingen. advantages in education, particularly in enabling and enhancing educational performance, boosting educational effectiveness and productivity, being more adaptable, and facilitating educational delivery [7].

## 2. Methods

The website is designed and built using the Laravel framework of the programming language PHP. Laravel Framework contains many pre-made components from third party developers and pre-structured source code directory to ease the website development process [8]. Laravel has been use by many developers to develop their website because of compact and elegant structure, uses less memory usage so it's faster and more efficient process time, more features than other framework, and still suitable for large-scale application [9]. Laravel also has easy entry level and wide documentation to welcome new programmers [10].

The development process uses Agile methodology and Kanban framework of Agile. Agile began to become popular because the development team after using Agile methods reported better software results, improved collaboration, and satisfactory reviews even in a calm and pleasant environment for the development team [11]. According to statistics gathered by Zippia, up to 88% international companies from year 2002 chooses agile methodology and companies who adopted agile methodology has an average 60% growth in revenue and profits [12]. Agile methodology also used by a lot of research due to its rise and sustained growth [13].

## 3. Results and Discussions

Based on the discussion and analysis, the result of this study is the website of National Elementary School 1 Tegalpingen. In this discussion, the author conducted a trial of the National Elementary School 1 Tegalpingen website using the scenario testing that has been carried out, to find out whether the website is running as desired. The following are the results of the development of the National Elementary School 1 Tegalpingen website.

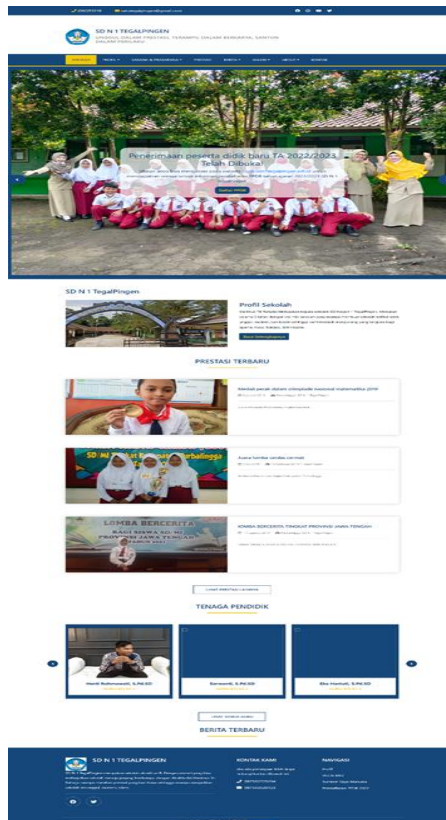
The research resulted with a website for the National Elementary School 1 Tegalpingen. In these discussions, we ran demonstration of the website to make sure the website runs without problems and as intended. Features developed on the website for users are: Home feature, Profile feature, Facilities and



infrastructure feature, Achievement feature, News feature, Gallery feature, About feature, Contact feature. Features used as admins are: Login and register features, Features to edit views for users to see Features to delete views for users to see Features to add views for users to see.

### 3.1 Reguler User's Homepage

The user can see the home page as seen in the Image. 1. Users can interact with the navigation bar, such as profile menu, facilities&infrastructure, achievements, gallery, news, about, and contact. And users can scroll down to see what is on the home page, starting from Student Admissions, History, Achievements, Educators, and Contacts



Figures 1. Regular user homepage

### 3.2 School's Profile Page

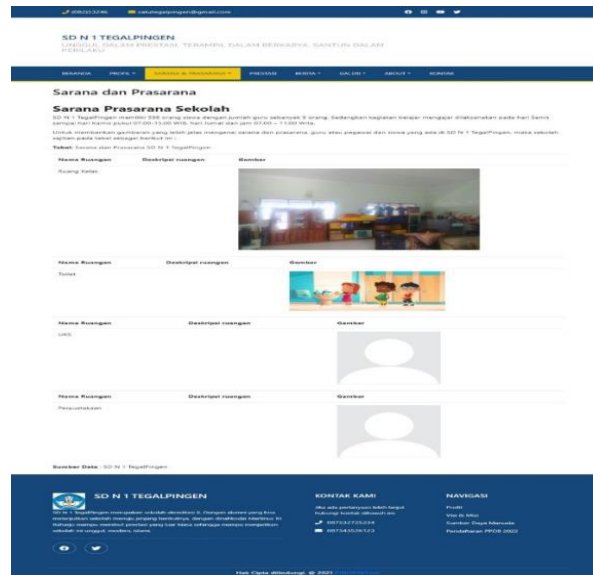
On the profile menu on the homepage, it shows a list of pages each contains about the schools profile information. These pages are the history of the school, Vision & Mission of the school, and info of educators as well as the school's staff page.



Figures 2. Profile menu

### 3.3 School's Infrastructure Page

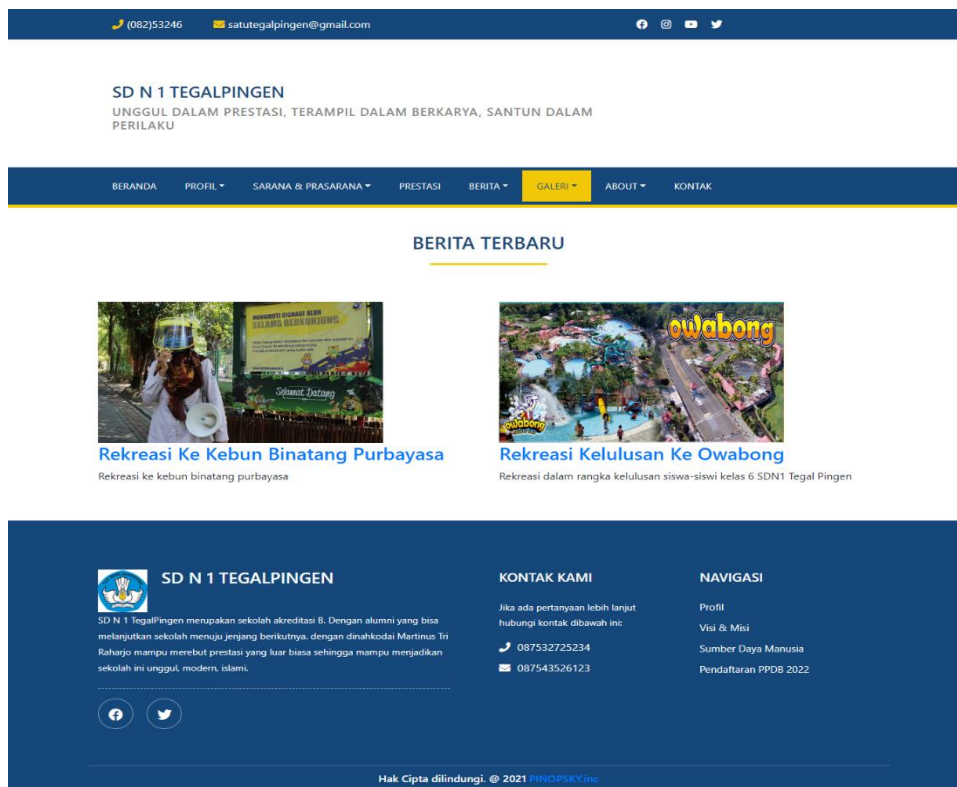
On the Facilities & Infrastructure menu, contains list of pages for users could get details about the facilities in the school of National Elementary School 1 Tegalpingen. Here users can map everything facilities & infrastructure in the school.



Figures 3. Facilities & Infrastructures Page

### 3.4 School's Gallery Page

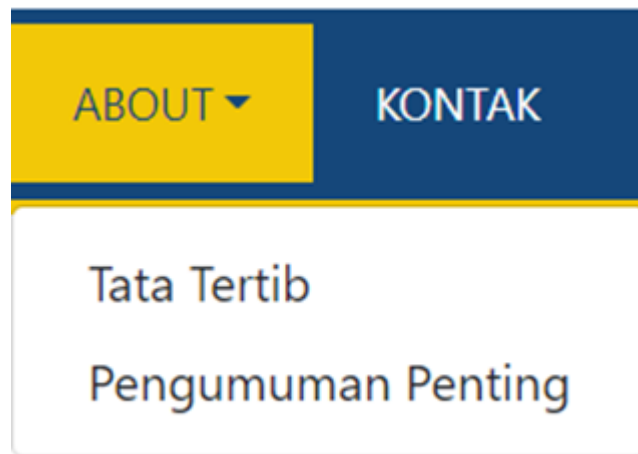
On the Gallery page users can see about the activities at National Elementary School 1 Tegalpingen, Here it can be seen that the gallery is an activity that has been completed so that it is published in this gallery.



Figures 4. Gallery Page

### 3.5 School's About Page

On the about page users can see the Code of Conduct and Important Announcements page. In this case, it can display information where users can read the rules and announcements in this school.



Figures 5. About Menu

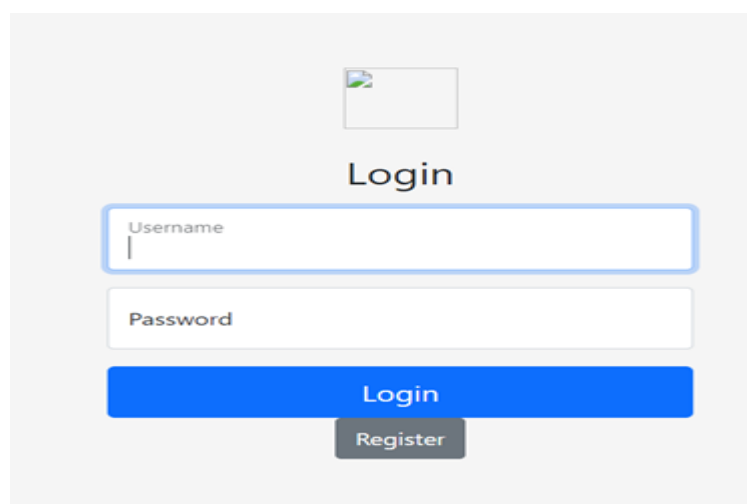
For the Contacts page, the contact itself is available at the very bottom of each page menu.



Figures 6. Contacts Footer

### 3.6 Admin User's Register & Login Page

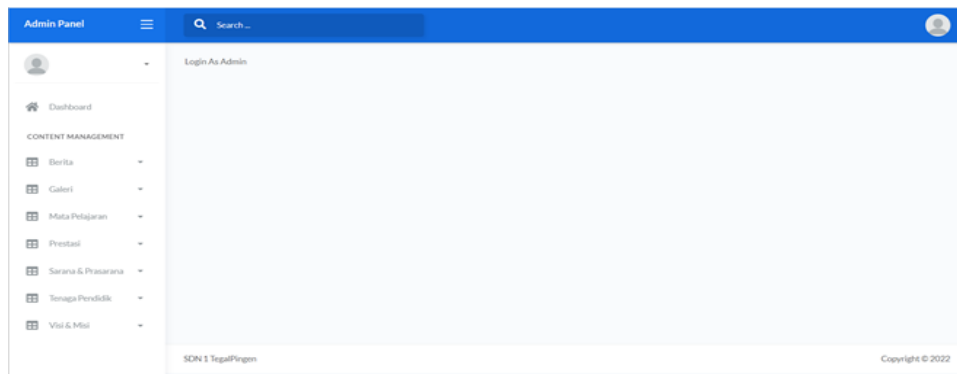
On the admin menu, admins can do Login & Register. As in The Picture 7



Figures 7. Register & Login Page

### 3.7 Admin User’s Homepage

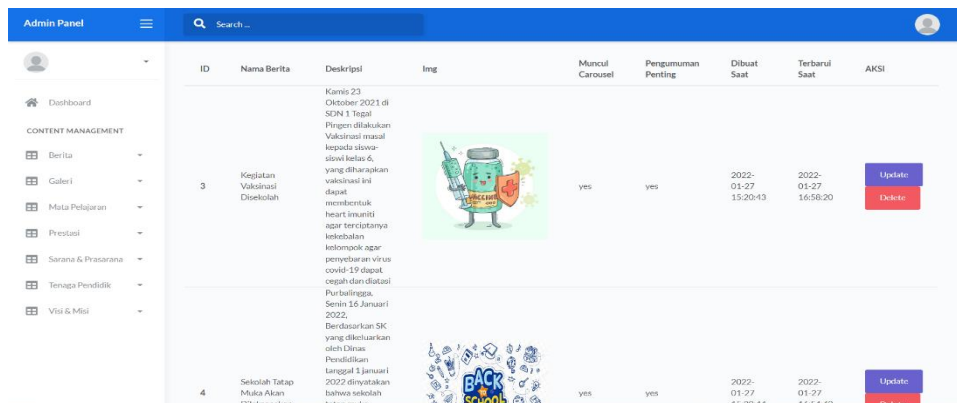
If an Admin has logged in, a Dashboard will appear. The menus contained on the dashboard page include News, Gallery, Subjects, Achievements, Facilities &Infrastructure, Educators, and Vision &Mission.



Figures 8. Admin’s Homepage

### 3.8 Admins User’s News Manipulation Page

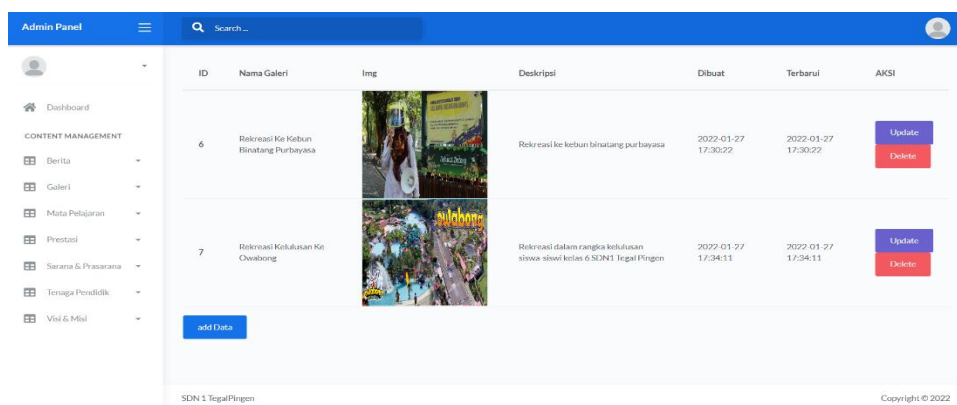
On the News menu, admins can see data of the school’s news in a table form. Admin can also add new news here as well as deleting them. News data that shows up here will also shows up for the regular user’s page.



Figures 9. News Manipulation Page

### 3.9 Admins User’s Gallery Manipulation Page

On the Gallery menu, admins can see data of the school’s galleries in a table form. Admin can also add new gallery here as well as deleting them. Galleries data that shows up here will also shows up for the regular user’s page.



Figures 10. Gallery Manipulation Page

### 3.10 Admins User's Class Subjects Manipulation Page

On the Subject menu, admins can see data of the school's general subjects in a table form. Admin can also add new gallery here as well as deleting them. Galleries data that shows up here will also shows up for the regular user's page.

ID	Nama Mata Pelajaran	Dibuat	Terbaru	Aksi
1	Bahasa Inggris	2022-01-20 12:49:48	2022-01-27 17:24:07	Update Delete
2	Bahasa Indonesia	2022-01-20 12:50:00	2022-01-27 17:24:23	Update Delete
3	Matematika	2022-01-20 12:50:20	2022-01-27 17:24:43	Update Delete
4	Pendidikan Kewarganegaraan (PKn)	2022-01-27 17:24:56	2022-01-27 17:40:51	Update Delete
5	Bahasa Jawa	2022-01-27 17:25:07	2022-01-27 17:25:07	Update Delete
6	Ilmu Pengetahuan Alam	2022-01-27 17:25:26	2022-01-27 17:25:50	Update Delete
7	Ilmu Pengetahuan Sosial	2022-01-27 17:25:51	2022-01-27 17:25:51	Update Delete

Figures 11. Class Subjects Manipulation Page

### 3.11 Admins User's School's Achievements Manipulation Page

On the Achievements menu, admins can see data of the school's achievements list in a table form. Admin can also add new achievement here as well as deleting them. Achievements data that shows up here will also shows up for the regular user's page.

ID	Nama Prestasi	Gambar	Deskripsi	Dibuat	Terbaru	Aksi
1	Juara II Lomba Cerita		Siswa Bernama berhasil memenangkan lomba bercerita tingkat Desa	2022-01-20 13:20:31	2022-01-27 18:05:33	Update Delete
2	Juara Lomba Cerdas Cermat		Siswa Bernama Berhasil Memenangkan Lomba Cerdas Cermat Tingkat Kabupaten	2022-01-20 13:20:54	2022-01-27 18:05:41	Update Delete
3	Juara I Lomba		Lomba tingkat desa	2022-01-20 13:21:25	2022-01-27 18:05:23	Update Delete

Figures 12. Achievements Manipulation Page

### 3.12 Admins User's School's Facility Manipulation Page

On the Facilities menu, admins can see data of the school's facilities list in a table form. Admin can also add new facility here as well as deleting them. Facilities data that shows up here will also shows up for the regular user's page.

Id	Ruangan	Gambar	Deskripsi	Dibuat Saat	Diubah Saat	Aksi
1	Ruang Kelas		Pada SDN 1 TegalPingen terdapat enam kelas yang terdiri dari berbagai fasilitas	2022-01-19 17:37:44	2022-01-27 14:34:54	Update Delete
2	Toilet		Toilet ini dibangun dari biaya Pembangunan Gedung Siswa Baru Tahun Ajaran 2014	2022-01-19 17:40:21	2022-01-27 18:13:34	Update Delete
5	UKS		Tempat orang sakit	2022-01-27 17:33:53	2022-01-27 17:33:53	Update Delete
6	Perpustakaan		Tempat buku	2022-01-27 17:36:04	2022-01-27 17:36:04	Update Delete

Figures 13. Infrastructure Manipulation Page

### 3.13 Admins User’s School Staff Manipulation Page

On the Staffs menu, admins can see data of the school’s staffs list in a table form. Admin can also add new staff here as well as deleting them. Staff’s data that shows up here will also shows up for the regular user’s page.

ID	Nama Guru/Karyawan	Img	Carousel	Role	Dibuat	Terbaru	Aksi
1	Martinus Tri Raharjo, S.Pd Sd		yes	Kepala Sekolah	2022-01-20 14:29:51	2022-01-27 17:18:53	Update Delete
2	Hesti Rohmawati, S.Pd.SD		yes	Guru	2022-01-20 14:30:47	2022-01-27 17:01:47	Update Delete
3	Sarwanti, S.Pd.SD		yes	Kepala Sekolah	2022-01-27 17:10:59	2022-01-27 17:20:09	Update Delete

Figures 14. School Staff Manipulation Page

### 3.14 Admins User’s School Vision & Mission Manipulation Page

On the Vision & Mission Admin’s page, admin can change the school’s old vision & mission. Admin could also add either new vision and or new mission of the school.

VISI						
NO	ID	Deskripsi	Dibuat	Terbaru	AKSI	
1	4	Unggul dalam Prestasi, terampil dalam berkarya, dan santun dalam perilaku	2022-01-20 15:06:17	2022-01-27 14:33:36	Update Delete	

MISI						
NO	ID	Deskripsi	Dibuat	Terbaru	AKSI	
1	5	Menggalang kerja sama dengan komite sekolah	2022-01-20 15:06:08	2022-01-27 14:34:55	Update Delete	
2	6	Melengkapi sarana dan prasarana.	2022-01-27 14:35:10	2022-01-27 14:35:10	Update Delete	
3	7	Meningkatkan profesionalisme tenaga pendidik.	2022-01-27 14:35:25	2022-01-27 14:35:25	Update Delete	

Figures 15. School Vision & Mission Manipulation Page

## 4. Conclusion

According to the result of the research, can be concluded that the website for National Elementary School 1 Tegalpingen is build using Laravel Framework, gives solution about able to give full information about the school to others, it is able to give latest news and activities of the school to others, and from Admin users are able to add all information of the school on the website that is are viewed by regular user.

## References

- [1] R. Anwar, A. Husna, A. Nurjanah, N. Setyarsi, M. Winggasari, and D. Rahmasiwi, “Pembuatan Website Sebagai Media Promosi Terpercaya SD Muhammadiyah 1 Padas,” *J. Pendidik. Tambusai*, vol. 5, no. 2, pp. 7–12, 2021, [Online]. Available: <https://jptam.org/index.php/jptam/article/view/1501/1365>.

- [2] K. Umami, R. Puspasari, and T. N. Sari, "PKM Pembangunan Aplikasi Informasi Sekolah Pada SD Swasta Alwasliyah 29 Berbasis Web," *Sindimas*, pp. 106–111, 2019.
- [3] D. Erinton, R. Negara, R. Sanjoyo, "Analisis Performansi Framework Codeigniter Dan Laravel Menggunakan Web Server Apache," *eProceedings Eng.*, vol. 4, no. 3, pp. 3565–3572, 2017, [Online]. Available: <http://libraryproceeding.telkomuniversity.ac.id/index.php/engineering/article/view/4965>.
- [4] F. Luthfi, "Penggunaan Framework Laravel dalam Rancang Bangun Modul Back-End Artikel Website Bisnisbisnis.ID," *JISKA (Jurnal Inform. Sunan Kalijaga)*, vol. 2, no. 1, pp. 34–41, 2017, doi: 10.14421/jiska.2017.21-05.
- [5] Y. I. Kurniawan, N. Chasanah, N. Nofiyati, and A. Z. Rakhman, "Peningkatan Literasi Media dan Pelatihan Pengelolaan Website Sekolah Di SMP Negeri 2 Kalimantan," *J. Pengabd. Masy. Indones.*, vol. 1, no. 1, pp. 1–6, 2021, doi: 10.52436/1.jpmi.3.
- [6] Riki Afriansyah, "Pembuatan Portal Website Sekolah Sma Negeri 1 Sungailiat Sebagai Media Informasi," *Din. J. Pengabd. Kpd. Masy.*, vol. 5, no. 1, pp. 154–160, 2020, doi: 10.31849/dinamisia.v5i1.4413.
- [7] M. Marijan and S. Nurajizah, "Perancangan Sistem Informasi Akademik Berbasis Web Pada Sd Islam Luqmanul Hakim Bekasi," *JURTEKSI (Jurnal Teknol. dan Sist. Informasi)*, vol. 6, no. 1, pp. 71–78, 2019, doi: 10.33330/jurteks.v6i1.399.
- [8] M. Stauffer, *Laravel: Up and Running A Framework for Building Modern PHP Apps*. 2019.
- [9] M. Laaziri, K. Benmoussa, S. Khouliji, and M. L. Kerkeb, "A Comparative study of PHP frameworks performance," *Procedia Manuf.*, vol. 32, pp. 864–871, 2019, doi: 10.1016/j.promfg.2019.02.295.
- [10] A. Sunardi and Suharjito, "MVC architecture: A comparative study between laravel framework and slim framework in freelancer project monitoring system web based," *Procedia Comput. Sci.*, vol. 157, pp. 134–141, 2019, doi: 10.1016/j.procs.2019.08.150.
- [11] A. Stellman and J. Greene, *Learning Agile*, 1st ed. Sebastopol, CA: O'Reilly Media, 2014.
- [12] J. Flynn, "16 Agile Statistics [2022]: What You Need To Know About Agile Project Management – Zippia," *Zippia*, 2022. <https://www.zippia.com/advice/agile-statistics/>.
- [13] R. Hoda, N. Salleh, and J. Grundy, "The Rise and Evolution of Agile Software Development," *IEEE Softw.*, vol. 35, no. 5, pp. 58–63, 2018, doi: 10.1109/MS.2018.290111318.