

# Online Donation Information System with Payment Gateway

Adjie Krisnandy<sup>1</sup>, Nurajijah<sup>2</sup>

<sup>1,2</sup>Information System, Universitas Nusa Mandiri, Indonesia

<sup>1</sup>saintadjie@gmail.com, <sup>2</sup>nurajijah.nja@nusamandiri.ac.id

## Abstract

*The COVID-19 pandemic has had a significant impact on various aspects of social life. There is no exception in the aspect of religious activities in the process of receiving donations or raising funds which are still carried out manually by mosque officials. This is quite irrelevant to the current conditions that require to maintain health protocols in every activity. This study aims to design an Online Donation Information System with a Payment Gateway as an appropriate solution in accommodating the entire process of receiving donations and raising funds at mosques through electronic media. The method used is the scrum system development method with several stages such as product backlog, sprints, scrum meetings, and demos.*

**Keywords:** Online Donation Information System, Payment Gateway, Scrum

## 1. Introduction

The coronavirus (Covid-19) pandemic in Indonesia has made it difficult for people to move around in their daily lives, this has caused people to have to innovate to respond to this. Limited community interaction due to health protocols makes it difficult for people to interact directly [1]. This also has an impact on religious activities, especially for Muslims such as the distance in the prayer rows, the limitations of worshipers entering the mosque and other religious activities, so this also affects the operation of the Muslim house of worship. Al-Hijrah Mosque was established around 2013 at Sentra Mulia Building, Jl. H. R. Rasuna Said No. Kav X-6, 8, RT.16/RW.4, Kuningan, Setiabudi District, South Jakarta City, Special Capital Region of Jakarta, has many positive activities and programs that run smoothly every year. The previous research that has been made by Anggi, et al [2], Jajang, et al [3] and Gunawan, et al [4] has represented the problems and the need for a solution in terms of online-based fundraising, especially during the Covid-19 condition. like now. So, based on the previous research, the condition of the Al-Hijrah Mosque in receiving donations or fundraising manually by Al-Hijrah Mosque officers does not meet the health protocol and certainly requires a solution that is similar and linear to previous research.

In the description of the background, identification of problems that occur in the mechanism of donation or fundraising at the Al-Hijrah Mosque, among others, donors must come to Al-Hijrah Mosque, so that donors cannot make donations or fundraising anywhere and anytime, must maintain health protocols when donors and officers meet each other due to the ongoing Covid-19 outbreak, and donors do not know of ongoing activities or programs if the donor is not actively asking the Al-Hijrah Mosque staff.

Based on the identification of the problems that have been researched, this study found that there are quite fundamental problems to be addressed immediately, while these problems include aspects of the influence of the relevance of the Covid-19 pandemic condition on the fundraising process at Al-Hijrah Mosque and aspects of solutions that can be provided to meet the needs of the process. fundraising at the Al-Hijrah Mosque during the Covid-19 pandemic so that it can run optimally.

This study focuses on the intent and purpose of providing tangible results to the ease with which the Al-Hijrah Mosque can provide information and socialize on activities or

programs that require donations or fundraising and provide convenience for donors in receiving information on activities or programs that require donations or fundraising on Al-Hijrah Mosque so you can donate anywhere and anytime..

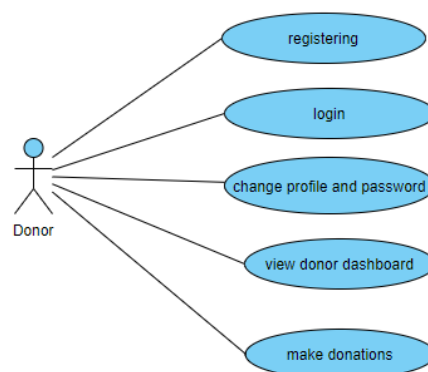


**Figure 1.** Scrum model stages

## 2. Research Methodology

This research uses agile software development methods [5] and uses the scrum model with the following stages (figure 1):

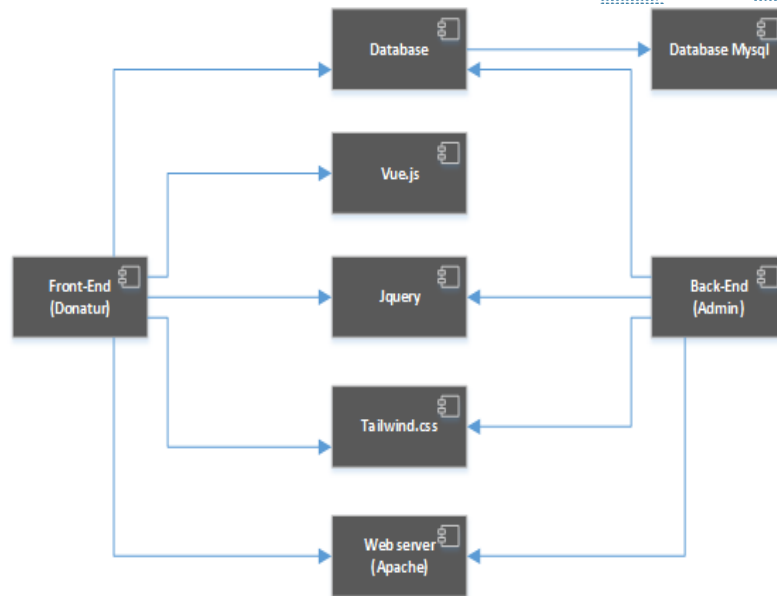
- Product backlog, determine the features that will be built on the online donation information system that will be created and then compiled into a product backlog based on the analysis of system requirements;
- Sprints, a time frame that has the longest duration of four weeks to develop a product to be made based on the product backlog;
- Scrum Meeting, is a meeting that discusses the progress of ongoing or completed sprints; and
- Demos, displaying application features that have been done and then evaluated by the user whether they are in accordance with the product backlog.



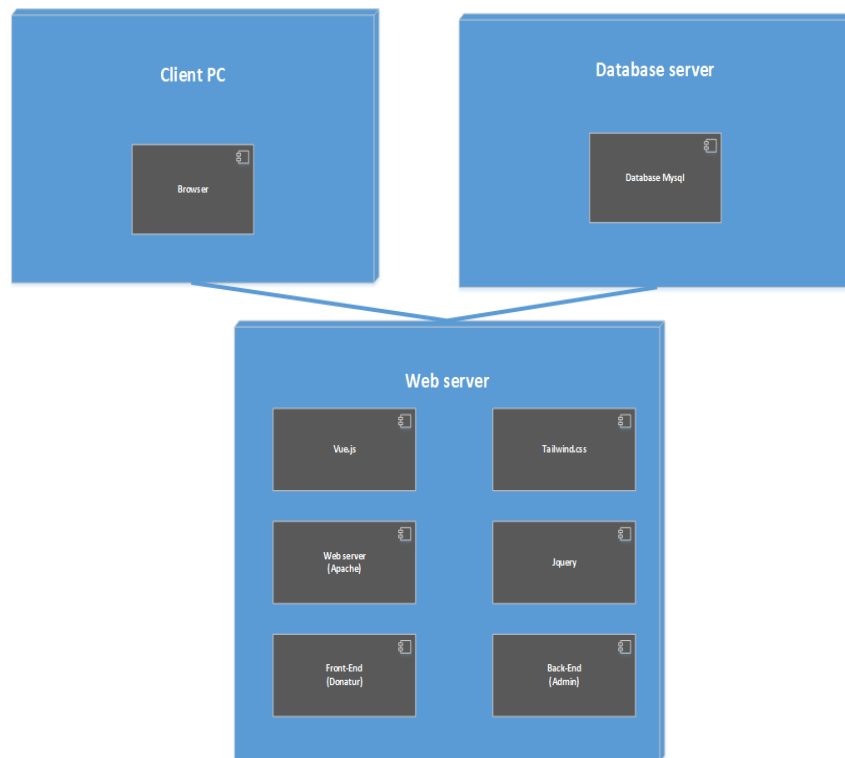
**Figure 2.** Usecase Diagram

## 3. Result and Discussion

This study discusses donations or online fundraising at mosques. As there are two roles or access rights in this application, namely Admin and Donor. Admin is someone who manages website content and has its own page. An admin is able to display some information which includes several activities, such as displaying the admin dashboard, adding, changing and deleting category data, adding, changing and deleting campaign data, displaying donor data, displaying donation data, changing profiles, passwords and activating two factor authentication, as well as add, modify and delete slider data. Meanwhile, a donor is someone who accesses the frontend page. A donor is able to display some information, including registering an account, logging in to an account, changing profiles and passwords, viewing the donor dashboard, and making donations. This is explained by the use case diagram [6] in Figure 2.

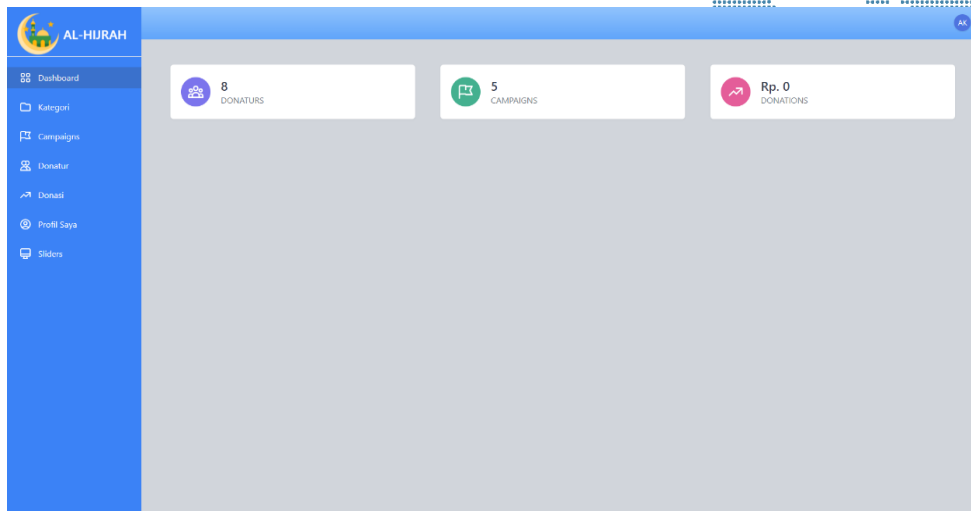


**Figure 3.** Component Diagram

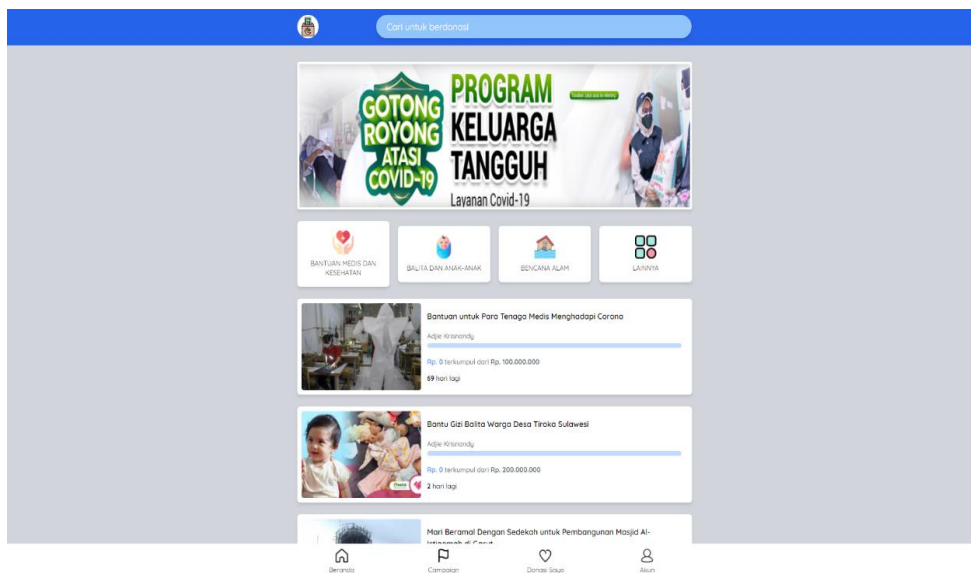


**Figure 4.** Deployment Diagram

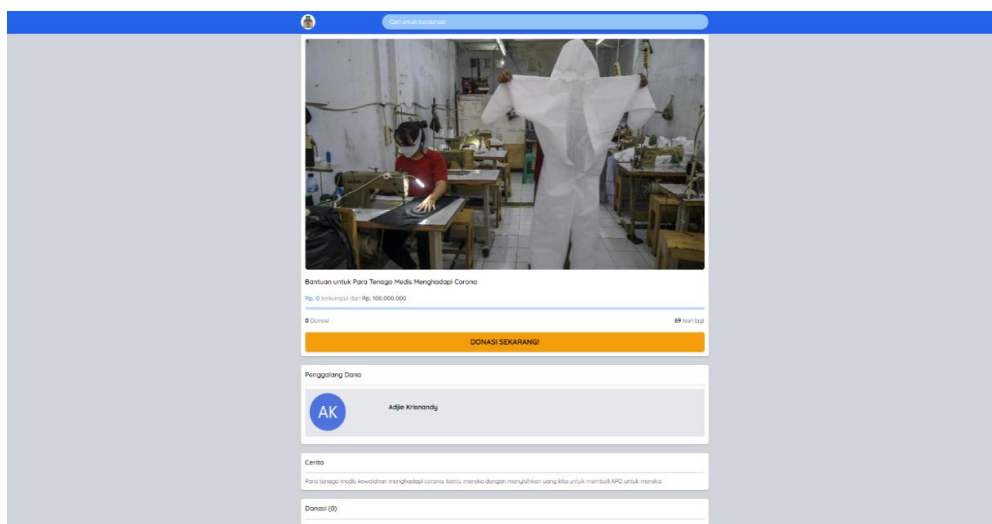
Component diagram is a diagram that describes the software or software used in designing a system. Component Diagrams can be used to implement software or software from one or more classes [7]. The online donation information system is designed using the Vue.js framework, JQuery, Tailwind.css, Mysql database, and the apache web server (Figure 3). Deployment diagram is a diagram that describes the physical architecture of a software or software and hardware or hardware used in the process of designing a system [8]. The deployment diagram for the online donation information system can be seen in Figure 4.



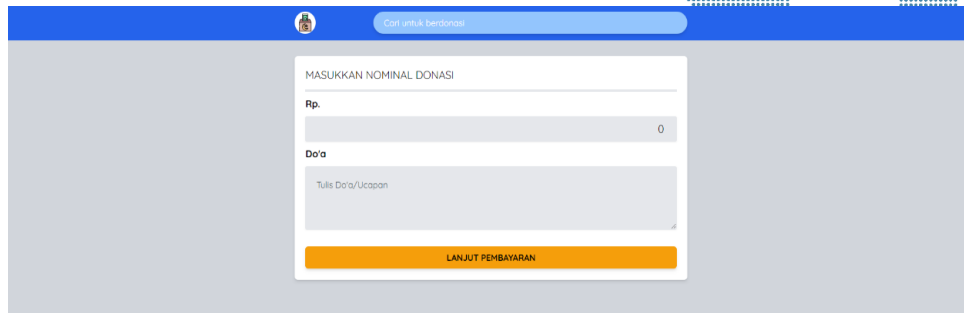
**Figure 5. Admin Dashboard Page**



**Figure 6. Donor Home Page**



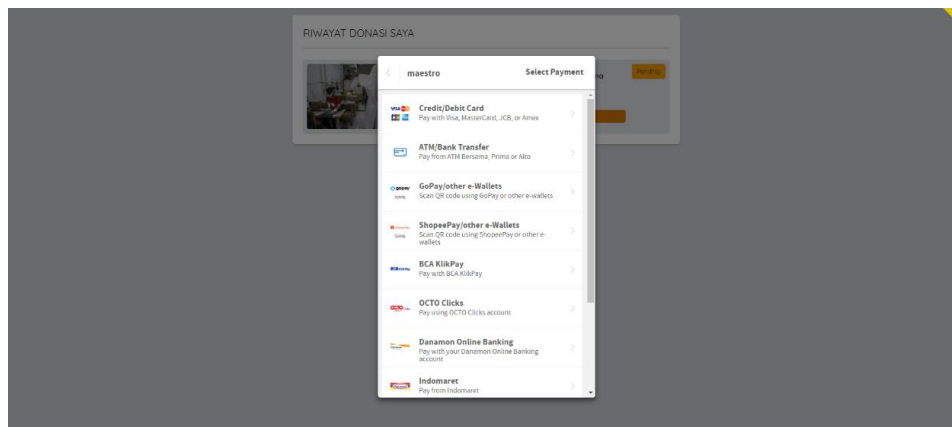
**Figure 7. Detail Campaign Page**



**Figure 8. Donation Page**

Admin can login to the system and access the admin dashboard page in Figure 5 which contains menu categories, campaigns, donors, donations, and sliders. Admin can process data according to the menu.

Donors must first register an account on the online donation information system and then log in. Then the home page will appear as Figure 6. On that page there are several menus that can be accessed by donors such as the home menu, campaigns, donations, and accounts or profiles. The campaign menu contains detailed campaign data that can be donated, the campaign detail page can be seen in Figure 7. If you select the Donation menu, a donation page will appear as in Figure 8 which contains the nominal donation and greeting. Payment of donations using a payment gateway, there are several options that make it easier for donors to make donations, the page for choosing a payment method can be seen in Figure 9.



**Figure 9. Payment Select Page**

**Tabel 1. Test Result**

No	Testing Scenario	Text Case	Expected results	Test result	Conclusion
1	Did not fill in the input form	Rp : (empty) Prayer : (blank)	The system gives error notification	As expected	Valid
2	Fill in the donation amount less than Rp. 10,000	Rp : 9000 Prayer : (blank)	The system gives error notification	As expected	Valid
3	Fill in the donation amount more or equal to Rp. 10,000	Rp : 10000 Prayer : (blank)	The system will give a success notification and redirect to my donation	As expected	Valid



The donation form was tested with three scenarios in table 1 using black box testing[9]. If the nominal is left blank, the system will send an error notification, if the nominal input is less than ten thousand rupiah, the system will send an error notification, and if the nominal is filled in ten thousand rupiah, the system will send a success notification and display my donation page.

#### 4. Conclusion

The ultimate goal of this research is the realization of a platform or platform that can be used by the public in terms of conducting donation transactions and fundraising in a structured and automated manner to the mosque. The design of this website can make it easier for donors to make donations anywhere and anytime, especially during the current Covid-19 pandemic which creates limited mobility. In addition, the existence of this website can also provide convenience for mosque officials in managing and facilitating ongoing donation activities. Thus, digital transformation from manual to automatic mechanism can be realized well in the donation and fundraising process at the mosque. Thus, it is hoped that this website or website-based online donation system can be developed to be even better in the future.

#### References

- [1] S. Yazid and L. L. D. Jovita, "Dampak Pandemi Terhadap Mobilitas Manusia di Asia Tenggara," *Jurnal Ilmiah Hubungan Internasional*, vol. Edisi Khusus, pp. 75–83, 2020.
- [2] A. Mardiyono, A. A. Suhandana, and R. Vidyasari, "Integrasi QRIS pada Aplikasi Donasi Elektronik Berbasis Web di Masa Pandemi Covid-19," *Jurnal Teknologi Informatika & Komputer*, vol. 7, no. 1, pp. 146–155, 2021.
- [3] J. Romansyah, A. Mulyani, and D. Kurniadi, "Rancang Bangun Sistem Informasi Penggalangan Dana Sosial Panti Asuhan Berbasis Web," *Jurnal Algoritma*, vol. 16, no. 2, pp. 158–165, 2019.
- [4] G. P. Utama, I. Imelda, and B. H. Prasetyo, "Peningkatan Akses Informasi Online Donasi Masyarakat Masjid Jami Al-Ikhwan saat Pandemi Covid-19," *Jurnal Pengabdian Kepada Masyarakat TEKNO*, vol. 1, no. 2, pp. 32–37, 2020.
- [5] S. Al-Saqqa, S. Sawalha, and H. AbdelNabi, "Agile Software Development: Methodologies and Trends," *International Journal of Interactive Mobile Technologies*, 2020.
- [6] A. Husain, A. H. A. Prastian, and A. Ramadhan, "Perancangan Sistem Absensi Online Menggunakan Android Guna Mempercepat Proses Kehadiran Karyawan Pada PT. Sintech Berkah Abadi," *Technomedia Journal*, vol. 2, no. 1, pp. 105–116, 2017.
- [7] I. Safitri and A. Mulyani, "Syifaul Jinan Aplikasi Pembelajaran Ilmu Tajwid Berbasis Android," *J. Inf. Syst. Applied, Manag. Account. Res.*, vol. 5, no. 4, pp. 960–974, 2021, [Online]. Available: <http://journal.stmikjayakarta.ac.id/index.php/jisamar/article/view/579/385>.
- [8] Tumini and M. Fitria, "Penerapan Metode Scrum Pada E-Learning Stmik Cikarang Menggunakanphp Dan Mysql," *J. Inform.*, vol. 6, no. 1, pp. 12–16, 2021, [Online]. Available: <https://www.fasaintek.panca-sakti.ac.id/index.php/simantik/article/view/112/108>.
- [9] S. N. Zaman, N. Merlina and Nurajijah, "Sistem Informasi Keluhan Pelanggan Berbasis Website," *Evolusi: Jurnal Sains dan Manajemen.*, vol. 9, no. 1, pp. 36–45 2021.