Design of a donation crowdfunding website using PHP and MySQL

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ABSTRACT

The advancement of Internet technology has given rise to various digital innovations, including crowdfunding platforms that facilitate online fundraising. The Klik Amal website was developed as a medium for donations, fundraising, and sedekah subuh (pre-dawn alms) in an efficient manner to encourage public participation and social awareness. This website was built using the PHP programming language and a MySQL database, supported by XAMPP and Visual Studio Code on Windows 11 operating system. The system is equipped with three main features and is integrated with Midtrans payment services, which support QRIS, e-wallets, and Virtual Accounts. The SDLC waterfall model was used for development, covering analysis, design, implementation, testing, and maintenance. The development results show that the Klik Amal website is user-friendly, responsive, and easily accessible. This system is expected to serve as a practical and beneficial digital medium for sharing kindness among users. The Klik Amal website has been hosted at the link *https://klikamal.my.id/*

Keywords: Klik Amal, Crowdfunding, Donation, Alms, Website.

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RESEARCH & PUBLISHING

1. INTRODUCTION

The development of Internet technology has enabled its use in various aspects of life, including social fundraising. Advances in information technology have changed the way people donate and help each other. One form of innovation that has emerged from this progress is the crowdfunding platform, a website that facilitates interaction between fundraisers and the general public.

According to Attamimi and Riston (2020), the web is a collection of interconnected pages related to various file types. Technology also plays an important role in increasing the effectiveness of website use, making it easier for the public to access services provided by government institutions. The presence of crowdfunding platforms is expected to encourage public participation in realizing various social projects and provide a positive impact by making it easier to donate and help others.

Klik Amal is a crowdfunding-based website designed to act as an intermediary for good deeds between donors and those in need. This website was created so that people can easily make donations, raise funds, and carry out *sedekah subuh* (pre-dawn alms) quickly and efficiently. The Klik Amal website strengthens the spirit of mutual cooperation and social concern among its users. Therefore, technological development has a positive impact because people can continue to give alms despite their busy routines.

As explained in the background above, the author developed a crowdfunding-based website called Klik Amal, which is used for donations, fundraising, and *sedekah subuh,* using the PHP programming language and MySQL database. This study aims to design and build a charity website called Klik Amal using PHP and MySQL to make it easier for the public to donate, perform *sedekah subuh*, and conduct online fundraising, as well as foster the spirit of sharing sustenance anytime and anywhere. As a form of evaluation, various tests were carried out, including black-box testing, trials on various browsers and devices, and user testing using the Customer Satisfaction Index (CSI) method to assess the level of satisfaction in terms of the interface, features, and ease-of-use.

2. LITERATURE REVIEW

2.1 Klik Amal

Klik Amal is a donation website platform that makes it easy for people to share kindness. Through Klik Amal, users can make various types of donations, such as *sedekah subuh* (pre-dawn alms), and create their own fundraising campaigns.

2.2 Charity (*Sedekah*)

Sedekah is defined as a spontaneous and voluntary gift given to others without time re=strictions or financial limits. It is carried out to demonstrate one's faith and seek recognition from God with the hope of obtaining His approval and divine reward (Firdaus, 2017).

2.3 Website

A website is a collection of pages containing digital content and data in the form of text, images, animations, audio, video, or a combination of these, which can be accessed and viewed by people worldwide via an Internet connection (Sari et al., 2021).

2.4 SDLC

The process of developing or improving a system using an approach based on methods and models that have been successfully applied in previous projects and grounded in established best practices is known as the System Development Life Cycle (SDLC). By following the SDLC steps from the beginning,

it becomes possible to build an information system systematically and in an organized manner (Suharni et al., 2022).

2.5 PHP

According to Pratama et al (2021), the PHP programming language is one of the most widely used languages for building and developing websites and can be combined with HTML in the development process, as follows: PHP is a server-side language, where the PHP code is a script that runs on the server computer (Siregar et al., 2021).

2.6 MySQL

MySQL is an open-source database management software that is available to the public. MySQL can be easily used by anyone. SQL is the fundamental concept for data operations, primarily used for data entry and retrieval, enabling data operations to be performed easily and automatically.

2.7 CSS

According to Nurfhadilah (2022), CSS is a method for presenting content with a specific layout on web pages. CSS is used to adjust the appearance, look, and feel of web pages. The "cascading style" feature of CSS supports multiple languages and indicates that each formatted element will automatically follow its own style.

2.8 Visual Studio Code

Visual Studio Code is a lightweight yet powerful code editor designed for software development. Developed by Microsoft, it can be used on various operating systems such as Windows, Linux, and macOS. Visual Studio Code provides features such as syntax highlighting, debugging, Git integration, and extension support, which allow users to add functionality for various programming languages, such as Python, Java, and PHP.

2.9 XAMPP

XAMPP is a software package that includes several tools required to facilitate web development. By installing XAMPP, users no longer need to manually install and configure the Apache, PHP, and MySQL servers, as XAMPP handles these tasks automatically. This program is open-source and compatible with several operating systems, including macOS, Linux, and Windows. Its main features as a local server (localhost) include the Apache HTTP Server service, the MySQL database management system, and support for PHP and Perl (Erwina, Siregar, & Munandar, 2021).

2.10 JavaScript

According to Hamas and Imadudin (2019), JavaScript is a script-based programming language used to make web page displays more interactive and user friendly. This language is widely used in the development of Internet-based technologies and can run on various browsers such as Internet Explorer, Mozilla Firefox, Netscape, and Opera.

2.11 UML

The Unified Modeling Language (UML) is a modeling language used as a standard for system modeling with object-oriented methodologies. The UML was standardized by the Object Management Group (OMG). In 1994, Rumbaugh and Booch popularized UML. UML was initially used as a system modeling tool at IBM and i-Logix in 1996 (Hamas & Imaduddin, 2019).

2.12 Navigation Structure

The navigation structure is the design of the workflow in a program that shows the relationships between various pages and areas within a website. Its function is to organize and manage the elements involved in website development in a structured and systematic manner. According to Suharni et al. (2022), there are four basic forms of navigation structures that are often applied in website design.

2.13 Draw.io

Draw.io is a web-based service used to design various types of diagrams. Accessing this service only requires a web browser and a stable Internet connection. Draw.io is also integrated with Google Drive, allowing users to save and share files in various formats such as JPG, PNG, SVG, and XML. As an open-source software, Draw.io offers high flexibility, so users do not need to install applications locally (Suharyanto, 2022).

2.14 Figma

Figma is a cloud-based design and prototyping application that supports collaboration on digital projects. This application allows users to work in teams and collaborate in real time from different locations. Figma is compatible with operating systems such as Windows, Mac OS, and Linux (Haris & Fatmasari, 2020).

2.15 Midtrans

Midtrans is a payment gateway developed by GoTo Financial to facilitate online payments. Midtrans is widely used by businesses that require online transaction services. It supports various payment methods in business payment flows, such as GoPay, QRIS, bank transfers, and others (Nurfadhilah et al., 2017).

2.16 Web Hosting

Hosting is a service that stores websites and web applications. With hosting services, websites or web applications can be stored online and made accessible through various devices such as laptops, mobile phones, and tablets.

2.17 Black-Box Testing

According to Pratama et al. (2023), black-box testing includes various methods, such as comparison, robustness, behavior, performance, and endurance testing.

2.18 User Testing

User testing is a process in system evaluation that aims to directly understand users' experiences with system features, interface appearance, and ease of use. According to Andini and Utamajaya (2023), the Customer Satisfaction Index (CSI) is used to determine the level of customer satisfaction with service performance by examining the importance of the service attributes.

3. METHOD

This study uses the System Development Life Cycle (SDLC) method with a sequential development model, namely, the waterfall model. It begins with analysis, design, coding, testing, and maintenance, as follows:

3.1 Requirements Analysis

In the first stage, the needs of both users and the system are identified. Users can register, log in, create fundraising programs, donate, and perform *Sedekah Subuh*. The system was integrated with the Midtrans payment gateway to process payments. Admins can manage donation programs, fundraising campaigns, and *Sedekah Subuh*. Every transaction is recorded and displayed in the notifications.

3.2 System Design

In the second stage, the system was designed based on the identified requirements. The design includes creating a database schema, such as tables for users, notifications, donation programs, and payments. In addition, the website interface was designed and the navigation structure was arranged. At this stage, UML diagrams are created, including use case, activity, and class diagrams.

3.3 Implementation

The third stage is the implementation of the system design, where coding is conducted based on the previously prepared design. All system features and functions began to be built at this stage using Visual Studio Code, the PHP programming language, and XAMPP as the localhost environment. The database was managed using phpMyAdmin on MySQL.

3.4 Testing

After implementation is completed, testing is conducted to ensure that all features on the website work according to the requirements and are free from errors or bugs. Testing was conducted through browser, device, black-box, and user testing using questionnaires.

3.5 Maintenance

The final stage is maintenance, which involves performing upkeep and updates to maintain system performance and adjust the system to new requirements that may arise after deployment. The following is Figure 1. which shows the implementation of the waterfall model.
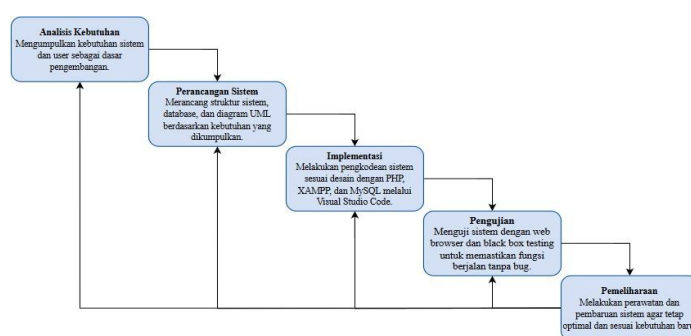

Figure 1. Implementation of the Waterfall Model

4. RESULT AND DISCUSSION

4.1 Design

The design process of the Klik Amal website began with arranging the navigation structure, which serves as a guide for the system workflow. Subsequently, the system design was developed using the

Unified Modeling Language (UML) approach, which includes three types of diagrams: use case, activity, and class diagrams. The Use Case Diagram is used to describe the interactions between users, both end-users and admins, and the system. The Activity Diagram is used to visualize the sequence of activities that occur within the system, whereas the Class Diagram shows the relationships between the system components. After this stage, the design process continued with the creation of the database structure and website interface design.

The navigation structure of the Klik Amal website was designed using a mixed model that combined hierarchical, linear, and nonlinear patterns. On the admin side, hierarchical navigation is used to divide the main access into the dashboard, donation data, fundraising data, *sedekah subuh* data, and logout options. A linear flow is applied to the process of monitoring and completing transactions in sequence, for example, when the admin reviews donation transactions, checks user details, and then marks the transaction as completed. See Figure 2
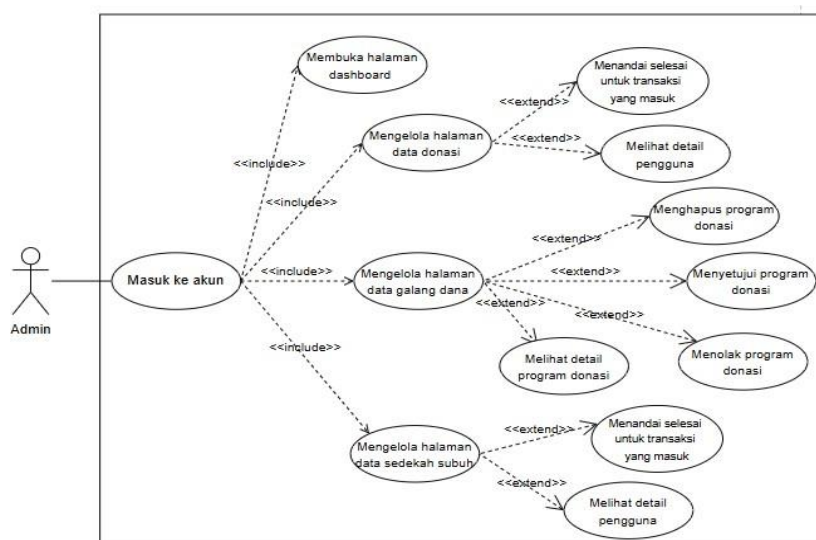

Figure 2. Use Case Diagram for Admin

In the admin Use Case Diagram, the admin acts as the main actor who must first log in before accessing the core system features, such as managing donation, fundraising, and *sedekah subuh* data. The *include* relationship represents mandatory activities, such as logging into the account as a prerequisite before managing data, whereas the *extend* relationship represents optional features, such as deleting a donation program, which are executed only when needed. See Figure 3
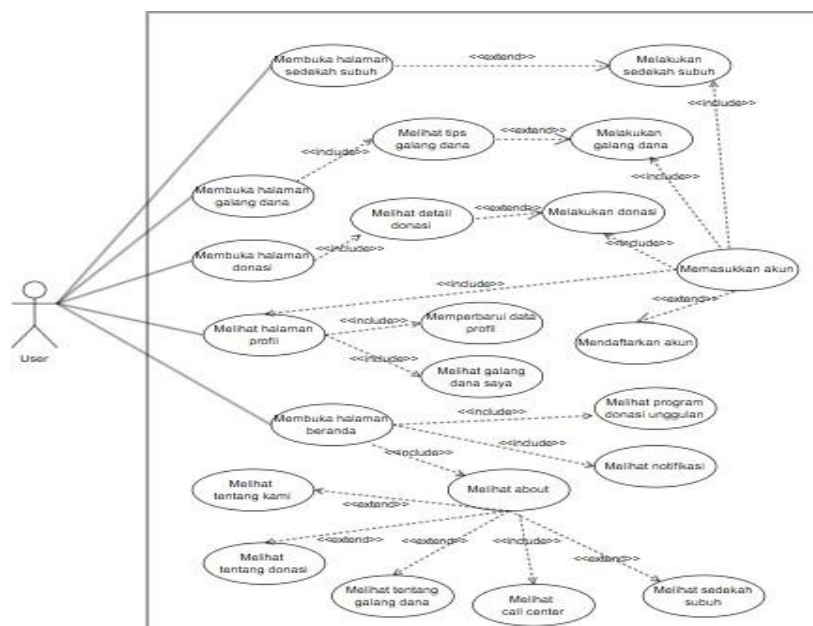
Figure 3. Use Case Diagram for User

On the user side, the main actor (user) can access donation, fundraising, *sedekah subuh*, and profile features after logging in or registering an account. These core features are linked to the login process through *include* relationships, while optional features, such as viewing donation details, fundraising tips, and the about menu, are modeled as *extensions*. The transaction processes (donation, fundraising, *sedekah subuh*) are designed in a linear flow, so that users follow sequential steps from selecting a program to making a payment, ensuring a clear and easy-to-understand process. An example of an activity diagram for the Home section function is shown in Figure 4.
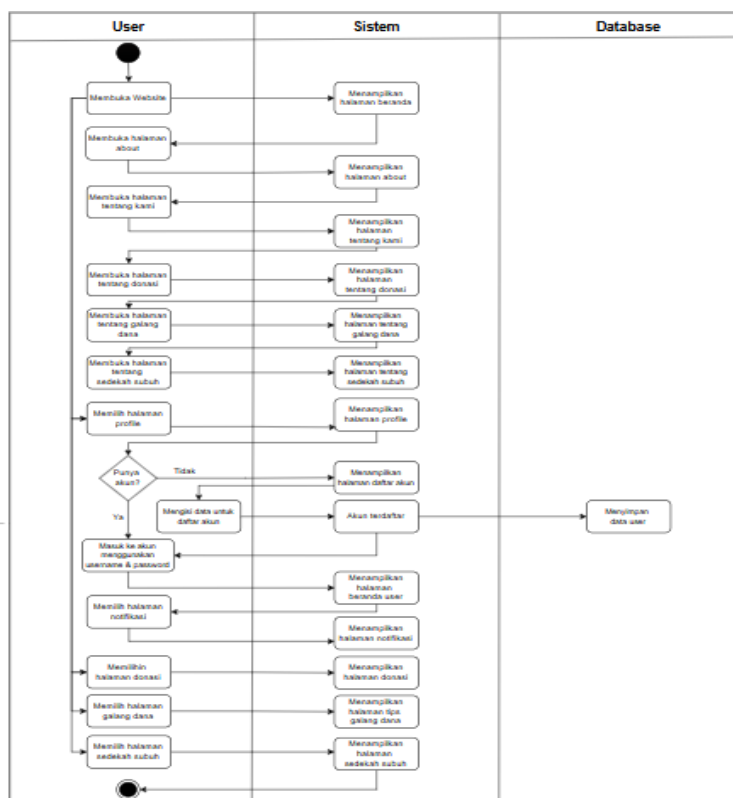

Figure 4. User Activity Diagram for Home Page

The activity diagram for the Home page illustrates the flow when the user first accesses the website, where the system displays the home page and allows the user to navigate to the About page (including the subpages About Us, About Donation, About Fundraising, and About *Sedekah Subuh*), Profile, Notifications, Donation, Fundraising, and *Sedekah Subuh* pages. At this stage, the user has not yet logged in, so the system only displays information without providing access to the transaction processes.

4.2 Website Interface Design

4.2.1 Admin Page Interface Design

The interface design of the Klik Amal website focuses on ease of access and user comfort, with a clear separation between the admin and user interfaces according to their roles and needs. The design process was carried out using Figma, allowing the layout, color scheme, and responsiveness to be simulated before implementation. On the admin side, the available pages include login, dashboard, donation data, fundraising data, *sedekah subuh* data, program details, and logout. All interfaces are designed so that admins can monitor activity summaries (total users, total donations, active fundraising campaigns, and *sedekah subuh*), manage transactions, approve or reject fundraising programs, and ensure that donations and *sedekah subuh* funds are correctly received in the designated account.

4.2.2 Admin Page Interface Design

On the user side, the interface is designed to be more informative and interactive, covering the login, registration, about (with subpages About Us, About Donation, About Fundraising, and About *Sedekah Subuh*), home, profile and edit profile, My Fundraising, notifications, donation, donation detail, donation amount input, fundraising, fundraising form, and *sedekah subuh* pages. The home page presents three main features (donation, fundraising, *sedekah subuh*) and featured donation programs with information on targets, remaining time, and a "Donate Now" action button. The fundraising and *sedekah subuh* forms are equipped with nominal input, supporting document uploads, and terms-and-conditions confirmation to maintain security and program credibility. Overall, this interface design supports the user flow from information, to decision-making, to the execution of donations or fundraising in a clear and structured manner.

4.3   Implementation

In the implementation stage, the website was developed using the PHP programming language with MySQL as the database. This was done to ensure that the website functions properly.

4.3.1 Admin Page

The admin page is the interface intended for the administrator, consisting of the login page, dashboard, donation data, fundraising data, and *sedekah subuh* data. The implementation of the admin login page is shown in Figure 5-9.
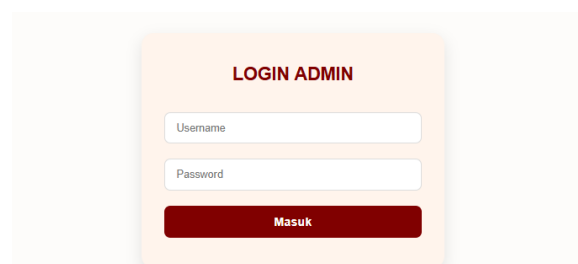

Figure 5. Admin Login Page
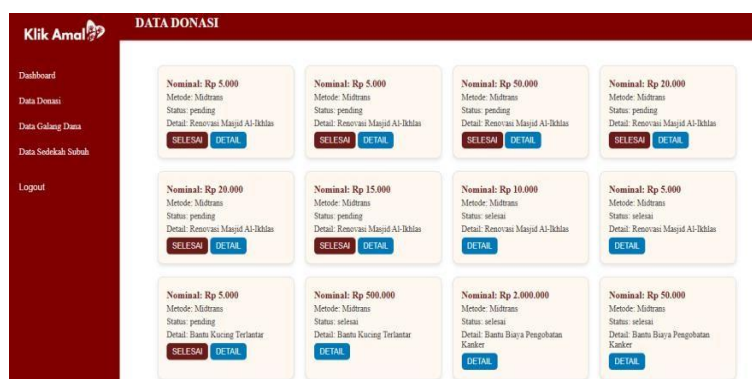
Figure 6. Admin Dashboard Page
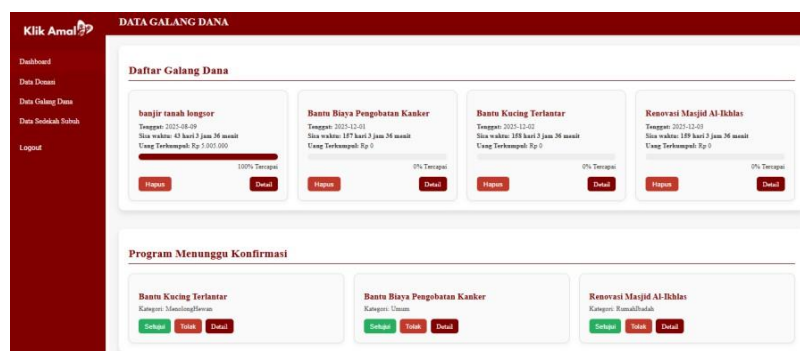

Figure 7. Admin Donation Data Page

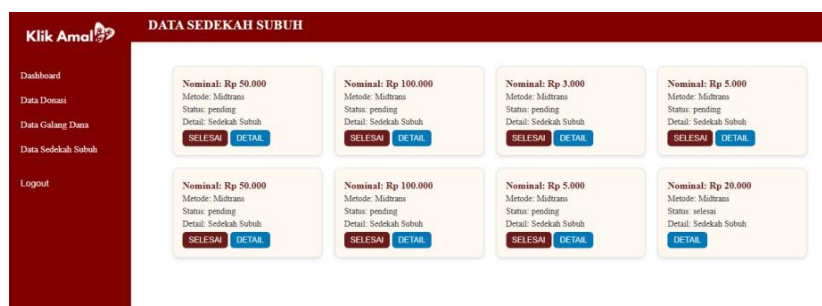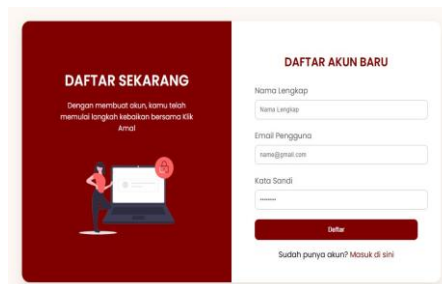**Figure 8. Admin Fundraising Data Page**

Figure 9. Admin *Sedekah Subuh* Data Page

4.3.2 User Page

The user page is the interface intended for end-users, consisting of the login, registration, home, about, About Us, About Donation, About Fundraising, About *Sedekah Subuh*, notifications, profile, edit

profile, My Fundraising, donation, donation detail, donation amount input, How to Fundraise, fundraising form, *Sedekah Subuh*, and payment gateway by Midtrans pages.

The implementation of the user registration page can be seen in Figure 10-17.

Figure 10. User Registration and Login Page

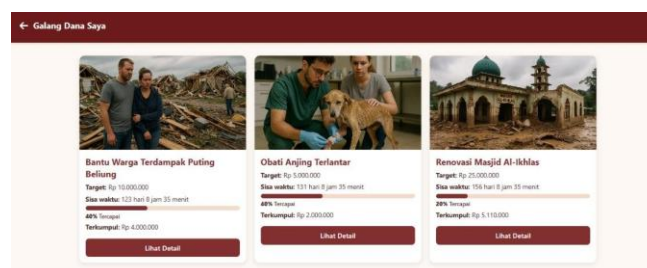**Figure 11. User Home Page**

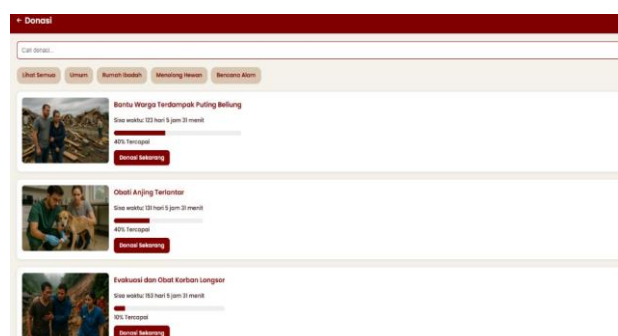**Figure 12. My Fundraising Page**

Figure 13. Donation Page

Figure 14. Donation Amount Input Page

Figure 15. How to Fundraise Page

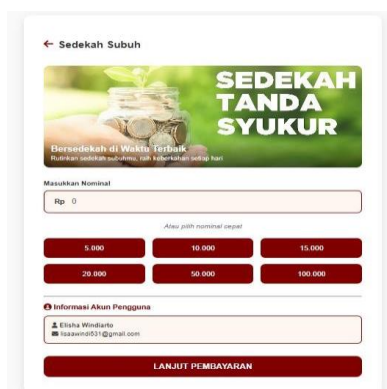
Figure 16. Fundraising Form Page

Figure 17. Sedekah Subuh Page

4.4 Website Hosting

At this stage, the first step is to host the website so that it can be accessed online. The process begins by determining the domain name to be used for the website. The steps for hosting the Klik Amal website are as follows: (1) Hosting Account Registration. The first step is to register an account with a hosting service provider via the link https://my.hypercloudhost.com. This process includes filling in personal data and selecting a service package according to your needs; (2) Access to cPanel Hosting. After registration is successful, the user can use the created username and password to access cPanel, which is used to manage various hosting configuration settings; (3) Export and Import Database. The database that was created locally using phpMyAdmin in XAMPP is exported in .sql format. Next, go to the MySQL Databases menu in cPanel to create a new database. After the database is created, import the .sql file via the phpMyAdmin menu in cPanel; (4) Upload Website Files. The Klik Amal website files to be uploaded must first be compressed into .zip format. Then, open the File Manager menu in cPanel and upload the .zip file to the public_html directory. After the upload process is complete, extract the file so that all website files can be accessed; (5) Configure Database Connection. Once all files have been extracted, the next step is to configure the database connection in the db.php file. Ensure that the database name, username, and password settings match the database created via cPanel; (6) Website Ready to Use. After all processes are completed, the Klik Amal website has been successfully hosted and can be publicly accessed via a browser at the URL: www.klikamal.my.id.

4.5 Testing

Testing on the Klik Amal website is an important step in the development process to ensure that all features run properly and as expected. At this stage, testing is carried out in two phases: black box testing of the website and browser-based testing.

4.5.1 Website Testing Using Black Box

Black box testing is conducted to examine whether each feature in the website functions as intended and to identify any errors that may occur when the features are used by users. Testing on the Klik Amal website was carried out to ensure that all features run as required, primarily through *black box* testing on both the admin and user sides. On the admin side, all core functions such as login, dashboard, donation data management, fundraising data, *sedekah subuh* data, program detail view, and logout were tested and all operated as expected. On the user side, features ranging from registration, login, home page, information pages (about, about us, donation, fundraising, *sedekah subuh*), notifications, profile and edit profile, my fundraising, donations, donation details, donation amount input, how to fundraise, fundraising form, *sedekah subuh*, up to payment via Midtrans also showed "successful" results in every test scenario.

Overall, the test results indicate that both admin and user functions are running properly, with no significant issues found in the tested usage flows.

3.5.2 Website Testing Using Browsers

This testing stage was carried out to determine whether the website can be displayed properly when accessed using Google Chrome, Microsoft Edge, and Mozilla Firefox. The goal is to ensure that the appearance and functionality of the Klik Amal website run well across all browsers used.

Table 1. Browser Testing Results

No	Browser	Version	Result	Description
1	Google Chrome	138.0.7204.97	The website can be accessed and functions as expected	Success
2	Microsoft Edge	138.0.3351.55	The website can be accessed and functions as expected	Success
3	Mozilla Firefox	140.0.2	The website can be accessed and functions as expected	Success

Based on Table 1, it can be concluded that the website runs successfully on all tested browsers. Every tested feature produced a successful result, indicating that the features operate effectively.

3.5.3 Device Testing Section

Device testing involves accessing the Klik Amal website on various devices such as desktops, laptops, and smartphones. This stage ensures the website displays responsively across different screen sizes and functions properly on all device types. See Table 2

Table 2. Device Test Results

No	Device Name	Expected Result	Test Result
1	LAPTOP Acer Aspire A314-22 Windows 11 (1366 x 768)	Responsive display and proper functionality	As expected
2	Apple iPhone 13 (844 x 390)	Responsive display and proper functionality	As expected
3	LAPTOP Asus X441NA Windows 11 (1366 x 768)	Responsive display and proper functionality	As expected
4	Apple iPhone 11 (896 x 414)	Responsive display and proper functionality	As expected

All devices met expectations with responsive layouts and full functionality. The website demonstrates strong cross-device compatibility.

3.5.4 Questionnaire Testing

Questionnaire testing assessed user satisfaction with the Klik Amal website through responses from 22 participants. Data analysis employed the Customer Satisfaction Index (CSI) method using a Likert scale.

Table 3. Questionnaire Results

Question	SS	S	N	TS	STS	CSI
Website display and navigation easy to understand	16	5	1	0	0	93.6%
Design, appearance, and colors attractive and theme-appropriate	15	6	1	0	0	92.7%
Donation or subuh alms process clear and non-confusing	15	7	0	0	0	93.6%
Fundraising feature easy to use with clear procedures	16	5	1	0	0	93.6%
Payment process for donations or subuh alms straightforward	16	6	0	0	0	94.5%
Willing to reuse website for future donations, subuh alms, or fundraising	11	8	3	0	0	87.2%

Based on the overall CSI results, a final score of 92.5% was obtained, indicating a high level of user satisfaction with the Klik Amal website.

4 CONCLUSION

Based on the design and development of the Klik Amal website using the PHP programming language and MySQL database, it can be concluded that the website has been successfully built and runs properly. Klik Amal is able to facilitate the public in making donations, performing *sedekah subuh*, and conducting fundraising activities online in an easy and fast manner. The website has been tested using black box testing, browser and device testing, as well as user testing through questionnaires. The test results show that the website is easy to use, has an attractive design, and provides features that meet user needs. User assessments using the CSI method indicate a high level of satisfaction with the interface and ease of use. The Klik Amal website still requires further feature development, particularly in enhancing security and adding interactive features such as reviews, comments, and aid tracking in order to increase user trust.

Ethical Approval
Not Applicable

Informed Consent Statement
Not Applicable

Authors' Contributions
EW contributed to the conceptualization of the study, theoretical framework, and supervision of the research process. She also coordinated the manuscript preparation and served as the corresponding author. LP contributed to the methodology design, data analysis, and validation procedures, including reliability and construct validity testing. She was responsible for data collection, literature review, and assisting in drafting and revising the manuscript.

Disclosure Statement
The Authors declare that they have no conflict of interest

Data Availability Statement
The data presented in this study are available upon request from the corresponding author for privacy.

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