Development of Web Based Information System for Branding Services

A F Doni¹, F A Mufarroha², Y D P Negera³, E Sugiarti⁴
¹,²,³,⁴ Departement of Informatic Engineering, University of Trunojoyo Madura, Indonesia
Email: doni.fatah@trunojoyo.co.id¹, yudha.putra@trunojoyo.ac.id³

Abstract. Introducing a company or business in order to attract potential customers is a mandatory requirement so that the company or business has improved performance or can be more easily recognized by prospective customers, causing the company or business to sell products or services to prospective customers more easily because they are known and trusted by customers. Everything can be done easily using promotional services or professional branding services that follow the development of communication technology, in using these services companies or businesses do not need to come to the location where the service is located, the intended customers are not only local consumers and the promotional media used is not media print out. This research develops a web-based branding service information system, a system built using the Elicitation Requirement stage by distributing questionnaires and conducting interviews with system users and related parties in the development of the system, the System Requirement analysis stage based on functional and non-functional needs, system design use cases, Activity Diagrams and CDM PDM for database design, web-based implemented systems, using PHP, the coding process with Notepad ++ text editor, MySql as the database, testing using Black Box to test each system function, research results are obtained according to the stages that the system simplifies the ordering process for customers who want to use branding services, no need to come to what service location because it is done online, the media used are easily accepted by customers because it is done digitally and presented interactively for slow reach again is not only local but has expanded.

Keyword: Branding Service, Customers, Development, Interactively, Improved Performance

1. Introduction
The development of communication and information technology has developed rapidly, thus creating opportunities to open businesses in the form of advertising services or branding services, which in the past were still performed using newspapers and other print media that were considered less effective which resulted in a lack of information conveyed and limitations distance and time, as well as when using the service must come the location of the location of the service how much that causes the way it still needs to be improved [1], with the help of communication technology the form of advertising services or branding services experienced a huge change where starting from the promotional media no longer uses print media but already in digital form [2], the target consumer has expanded to the world and how to order online [3], so when you want to use advertising services or branding services no longer need to bother coming to what location and promotion information conveyed that customers are also interesting and interactive so that customers’ interest in information or promotions provided is easier for customers to accept and understand [4][5][6].
When a company or business is able to market and attract consumers to purchase products or services, it will have a good impact on the company, besides that if a company or business in promoting goods and services by utilizing marketing information systems that are better and in accordance with its market not demanding the possibility of increasing performance and increasing the market share of the company or business so as to facilitate the organization in making decisions [7]. If a company or business is able to combine marketing information systems with marketing research [8], marketing intelligence, and several other developing technologies will statistically improve company performance and facilitate decision making in the future [9].

Besides using information systems that are increasingly talked about as a determining factor in the success of a company or business in encouraging products or services for prospective customers [10], there are many studies that have been well done in the field of computers, banking, social, and also marketing or marketing. Based on this research shows the company or utilizing information systems in the field of marketing to find goods or services that encourage consumers [11], understand and predict problems that drive the progress of the company or business [12], increase productivity and increase costs in the organization of the quality of its human resources, help policy holders in determine the strategic steps to take a decision or management in planning [13][14], monitoring, supply of raw materials, ranging from suppliers, producers, retailers to end consumers equipped to, improve performance and improve data accurately and realtime [15], and to help what is desired or done by candidates customer [16].

Based on the above, this research creates a promotion information system or web-based branding service that provides online branding ordering services and other promotional or marketing media.

2. Method

Overall the research method used can be seen in Figure 1. Where the initial step is Requirements Elicitation where in this process identified the needs needed and usually also as a bridge to overcome the differences between related stakeholders but basically aims to describe and determine the needs according to the limits [17] [18], obtained from interviews and questionnaires with system users and related parties that play an important role in the development of the system [19], the next step System Requirements Analysis and formulated in accordance with the results obtained from previous activities both related to functional needs and non-functional [20], the next step is to make the system design in accordance with the results of the system needs analysis which is done then the design is designed using UML, Use Case and Activity Diagram [21], then the next step is to implementation the results of the steps Previously entered into the program listing by applying it to the PHP and MySql programming languages as the database [22], after the application was successfully made the next step was testing using the Black Box [23] or Test Case system where the expected results of the system were tested whether the quality of the system was running well in accordance with the expected results [24][25].

![Figure 1. System Diagram](image)

3. Results

3.1. Requirements Elicitation

With the help of information systems that are in accordance with system requirements by distributing questionnaires and conducting interviews with users and related parties related to the development of the system by distributing to users randomly based on the type of work through Google form as well as elicitation needs for the needs of problems or limitations of a system [17] [18], understanding the system and changes to the system, from the results of responses to 20 questions and 21 respondents...
can be seen in Figure 2, from the responses obtained by the average results they agree if asked to run online and can improve the effectiveness of their work, and the average they also agree to use social media as a promotional tool and compile to order advertising services [24]. They like to use simple advertising services in the sense that they no longer need to come to the next place of service, the way to order is easy and wide-reaching.

Figure 2. User questionnaire results

3.2. System Requirements Analysis

The needs analysis activity aims to determine the scope of a system that will be built in accordance with the wishes of the user or user. At this stage, there are 2 needs (table 1) the first is functional requirements related to user needs for the main quality of system development which is obtained directly from the results of questionnaires and interviews with users and second is non-functional requirements namely supporting needs in success in developing a good system in terms of interface and compatibility [26], as well as software and hardware requirements used. Besides that, the system needs analysis conducted is also in accordance with the accuracy requirements in obtaining information starting from the time dimension, content dimensions, and format dimensions, because during the process of finding information recently and the contents of the information obtained from questionnaires and interviews easy to understand and right on target and the format in gathering information is also in accordance with what is expected in the needs analysis process.

Table 1. Requirements Analysis

| Functional Requirements | Non-Functional Requirements |
|--------------------------|-----------------------------|
| 1. The system has a login feature for Users and Admins | 1. Interface and Compatible |
| 2. The system has a Sign-Up feature. | • Display system is user friendly (easy to understand), simple and attractive |
| 3. The system can display the User Profile. | • The system can be operated in multiple platforms |
| 4. The system has an easy and practical ordering feature. | 2. Software |
| 5. The system can display the order status to the User. | • Windows 7/8/10 or Linux OS |
| 6. The system can make a customer transaction | • XAMPP, MySql Server, |
| 7. The system has the Main Page. | • Notepad ++ or Sublime, Browser |
| 8. The system uses the Recaptcha security code. | 9. Admin can process User data, Order Status, Updating price list. |
3. **Hardware**

| • Laptops / Computers, Intel Core, 2 GB RAM, 500 GB hard drive, GPU Nvidia / AMD / Intel |

### 3.3. System Design

To describe activities or design processes carried out on a system built using Use Cases and Activity Diagrams.

a. Use Case Diagram

![Use Case Diagram System](image)

**Figure 3. Use Case Diagram System**

In figure 3, there are 10 main activities, and 2 actors are user and admin. Where the admin actor can view the order status, delete user data, change user status, update prices, and log in to the system logout. As for actors, users can register and enter logouts, view price lists, order services, make payments, change, or change profiles.

b. Activity Diagram

Where in this section describes or illustrates the activities that occur in the system or business processes that occur from a system perspective.
Figure 4. Order Activity Diagram

In the process of ordering activities the user begins to select an order, then enters the order amount, after entering the Recapta code, arranging for the user to enter this code incorrectly, then the user must enter the code back to true, if the Recapta is correct then a transfer request will appear. When the user succeeds in order, the user can view the order status page.

c. Database

In this database design, the design uses PDM which explains the physical database design or database to be used.

Figure 5. PDM Database Design

Where in the PDM database design there are 8 entities that are interconnected, user entities are related to gender, types of users and reservations, when the order has a relationship booking status, ordering details, ordering details related to services, services by service category.

d. Implementation

In developing applications built using the PHP programming language using Notepad ++ editor or sublime as a text editor in the coding process, as well as using MySql as the database, a web-based system built on a browser. Next is the description of the system interface built.

Figure 6. Display (a) Login Page, (b) SingUp Page, (c) Price List Page, (d) Order Page, (e) Order Status Page, (f) Price Update Page
In Figure 6 for (a) login page display in the username and password fields, it is used to enter the admin page dashboard page and dashboard user page, while (b) the register page is used to register as a new user, there is a username, email field, gender selection, telephone number field, password field, password repeat field, and register button. (c) The price list page sets the price list for each service sold. (d) Order page for ordering online branding advertising services. There are options, Recaptcha, send button, message button, and cancel button. (e) Order status page is used to view order status, starting with the order number, order ID, order date, total price, status, and order details. (f) The price update page used to view price lists, and price quotes. There are service name fields, service category selection, description fields, price fields, change service buttons, back buttons.

e. Testing
In the test system here we use the Black Box system which is the Test Case where the expected results and the results of the system will be matched whether the system is in accordance with the expected results.

**Table 2. Test Case Ordering status**

| Id Scenario | Scenario Name | Dashboard page | Order status menu | Order date | Total price | Order ID | Ordering status | Order Details Button | Results | Picture |
|-------------|---------------|----------------|-------------------|------------|-------------|----------|-----------------|---------------------|---------|---------|
| SKA-23      | Ordered success fully, then see the order status | V | V | V | V | V | V | V | Order Status Page Display. |
| SKA-24      | If the User has not ordered | V | I | I | I | I | V | I | Display Date, Total, ID, Status of Blank Order, Details Button does not appear. |

Used to test the system in the Order status section, there are 2 expected results.

**Table 3. Test Case Payment**

| Id Scenario | Scenario Name | Order page | Recaptcha Field | Order Confirmation Button | Cancel Order button | Message Button | Results | Picture |
|-------------|---------------|------------|-----------------|---------------------------|---------------------|----------------|---------|---------|
| SKA-35      | Order Confirmation Button successful | V | V | V | V | V | The system raises a warning "Data successfully added!". |
| SKA-36      | Cancel order button successful | V | V | V | V | V | The system displays the Order page |
| SKA-37      | The user has not ordered and filled Recaptcha a correctly | V | I | V | V | I | The system does not display the Message button. |

Required to restore the system to the payment department, one of which is that an order has been

4. Conclusion
Based on the results of tests conducted on research conducted in accordance with the stages, the development of web-based branding service information systems can facilitate ordering for customers who want to use branding services easily because they do not need to bother fixing online locations, the media used is easily accepted by customers because it is provided interactive and also visitors are not only local but already widespread. In the next research development, it will be built using target consumers based on the type, type of work, age and location of the dependent consumer, and several types of promotional services are developed again to improve the performance of social media that are used starting from subscription services, increasing traffic, such as comments and also share other types of promotions according to the promotional media used.approved or payment will display the message "Data successfully added".

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