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Traditional Food Ordering Service Information System "ANTAR RASA"

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ABSTRACT

The younger generation's interest in traditional food, partly due to limited digital promotion and accessibility, raises concerns about the preservation of Makassar's culinary heritage. This research aims to design and implement AntarRasa, a web-based food ordering information system to facilitate online access to traditional foods while strengthening local cultural identity. This study uses a qualitative descriptive-analytical method, with data collected through structured interviews and user observations, then thematically analyzed and validated to ensure its accuracy and reliability. The system was developed with features including registration, login, home, about, menu, gallery, and order, and tested using white-box and black-box verification methods. The results of the study showed that the system functions effectively, meets user needs, and provides convenience in ordering traditional food. In conclusion, AntarRasa supports the preservation and promotion of culture by integrating technology with culinary heritage and can serve as a model for similar applications in the context of other regional foods.

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INTRODUCTION

Along with the times, technology has progressed very rapidly. Many information media are now available through the internet and applications. The Internet, as one of the most extensive information media, is used by many users to obtain various information [1]. Technological developments have taken the application of technology in modern life one step further. One of them is an online food ordering application. With this app, you can more easily get the food you want without having to go to a food store. The emergence of new ways of ordering food online has led to changes in users' behaviors and lifestyles [2].

On the other hand, traditional foods are an important part of the cultural heritage of a region, reflecting the richness of flavor and biodiversity that reflects the cultural diversity of a country or region. Traditional foods have many historical and cultural values and are passed down from generation to generation [3]. Traditional foods include a variety of foods that are processed using traditional recipes and proven methods. Its distinctive features are its unique flavor and texture, as well as the use of local ingredients commonly available in the region [4]. However, the challenge that arises is the diminishing interest of the younger generation in traditional foods, which is largely due to limited information and lack of promotion through attractive and accessible digital media [5].

Several previous studies conducted by Dzakaul Malik and, Vidila Rosalina which discussed the traditional food ordering system, the goal was to involve traditional food businesses in Pandeglang Regency. In addition to serving orders, it also wants to promote

traditional Pandeglang food, because there are so many traditional Pandeglang foods that are not widely known even by the people of Pandeglang themselves [1]. Meanwhile, Antar rasa also plays an active role in promoting Makassar's traditional food. In this effort, Antar Rasa is present as a platform that aims to introduce and promote traditional food originating from Makassar. With the food service system, customers can order food online and have it delivered directly to them [6]. These findings show that there is a great opportunity to utilize information technology in promoting and preserving information technology in promoting and preserving traditions.

The use of a website-based information system in Makassar's traditional food marketing opens up opportunities to reach more potential consumers. Through an attractive and informative website, consumers can get information about traditional foods, including product descriptions, prices, ingredients, and customer testimonials. Marketing Makassar's traditional food through the website can also help expand sales by reaching consumers who are active online [4].

Thus, this research aims to design and implement a website-based information system as a medium for promotion and marketing of Makassar traditional food. Through this approach, it is hoped that not only will it increase the accessibility and reach of the market, but also support efforts to preserve local culinary heritage to remain relevant and competitive in the midst of the increasingly rapid development of information technology.

METHOD

Research Methods, Subjects, and Procedures

Research Methods

Research Methods This is a qualitative research with a descriptive-analytical approach. This research aims to develop a traditional food ordering information system that can make it easier for users to order traditional food online more easily and efficiently [7]

Research Subject

The subjects of this study were users who were interested in searching for traditional foods online. This subject was selected based on predetermined criteria, namely having an interest and need in looking for traditional foods [8]

Research Procedure

This research procedure consists of several stages, namely[9]

1. Data Collection: Data was collected through structured interviews with users who had been selected as research subjects. Interviews are conducted online through video conferencing platforms to make it easier for subjects to participate [10].
2. Data Analysis: The data collected is then analyzed using qualitative analysis to identify themes and patterns associated with the use of traditional food ordering information systems [11].
3. Data Validation: The analyzed data is then validated using predefined criteria to ensure the accuracy and reliability of the research results [12].
4. Presentation of Results: The results of the research are then presented in the form of a report containing information about the online traditional food ordering information system that was developed, as well as its implications for users and the traditional food sector in Makassar.

Data Collection and Analysis Techniques

Interview

Interviews are an effective technique in collecting qualitative data, especially in the context of this research involving users. Through structured interviews, researchers can gain in-depth information about users' experiences, preferences, and expectations of the traditional food ordering information system developed [13]. The use of video conferencing platforms makes it easier to collect data without having to meet face-to-face, making it more flexible in accommodating the participation of research subjects [14].

Observation

The use of observation as an additional technique can provide a more complete understanding of user interactions with traditional food ordering information systems [15]. Direct observation of users while using the system can provide insight into usage patterns, difficulties encountered, and responses to specific features in the system [16].

Qualitative Analysis

Qualitative analysis is at the heart of this research method, where data collected from interviews and possibly observations, is analyzed to identify themes and patterns [17]. Through this analysis, researchers can understand user preferences, problems faced, and their expectations for the traditional food ordering information system developed [18].

Data Validation

Data validation is an important step to ensure the accuracy and reliability of research results [19]. Using pre-set criteria, researchers can verify the results of the analysis and ensure that the conclusions drawn are supported by the data collected. Thus, the results of the research can be considered more valid and trustworthy [20].

Table 1. Research Methods Information System for Ordering Traditional Food Inter-Flavor

Research Stages	Description
Research Methods	Qualitative with a descriptive-analytical approach.
Research Subject	Consumers who are interested in traditional foods.
Research Procedure	1. Data Collection: Structured interviews through platform video conferencing. 2. Data Analysis: Using qualitative analysis to identify themes and patterns. 3. Data Validation: Ensure the accuracy and reliability of research results. 4. Presentation of Results: Presented in the report.
Research Materials	Structured interviews and qualitative analysis.
Data Collection Techniques	Structured interviews with the research subject.
Amount of Data	10 research subjects.
Analytical Techniques	Qualitative analysis and data validation.

RESULTS AND DISCUSSION

Planning Stage

At this planning stage, there are needs or features needed to build an information system for Inter-Flavored Food Service that will be used. Here are the desired features in the Antar Rasa system:

1. Feature
   a. Registration
   b. Login
   c. Home
   d. About
   e. List of Menus
   f. Gallery
   g. Order
   h. Team

Before these features are realized, a feasibility study was conducted to assess whether Antar Rasa is feasible to operate this food service information system. The feasibility study includes two aspects, namely technical feasibility and organizational feasibility. The following are the results of the feasibility study that has been conducted:

2. Technical Feasibility

   Antar Rasa is considered technically feasible, although it has some risks to be aware of:

   a. Risks Related to Familiarity with the Application (Moderate Risk):
      - Marketing Division: Have no experience using the Inter-Rasa information system. Intensive training is required to ensure an adequate understanding of the use of the system.
      - IT Division: Despite having a fairly good understanding of offline sales systems, it lacks experience in developing Antara Rasa information systems. Additional learning and/or recruitment of experienced resources in web application development is required.
   b. Risks Related to Familiarity with Technology (Low Risk):
      - IT Division: While not fully mastering infrastructure and internet service provider (ISP) issues, it will hire a consultant to help. This decision is considered the right step to address the lack of internal expertise.
      - IT Division: Be familiar with the framework and development environment (IDE) to be used, which will make it easier to develop the system.
      - Marketing Division: Have no experience using web technology. Training or assistance is required to ensure an adequate understanding of the use of the web platform.
   c. Compatibility with Existing Systems and Infrastructure (Low Risk)

      The existing booking system uses open standards, so it is compatible with the web-based Inter Rasa information system to be built. Risks related to compatibility with existing systems and infrastructure are considered low.
3. Organizational Eligibility
   a. User / System Owner : PT Makassar Kulina Utama
   b. The development team involved in this project is already well-structured and has a clear role in the development of the system.
      - Project Leader (Putri Rahayu): Responsible for the overall management of the Inter-Taste Information System development project.
      - System Analysis (A. Siti Rahmawati): Responsible for analyzing the needs of users and businesses related to Inter-Taste Information Systems.

- System Designer (Nashifah Nurul Fajri): System Designer designs the technical structure of the Inter-Taste Information System based on the specifications prepared by the System Analyst.
- Programmer (Ainun Mardiah): The programmer is responsible for developing program code based on the design and system specifications that have been prepared by the System Designer.

The estimated work on the Antar Rasa food service information system is 6 months which is carried out by a team of 4 people.

Stages of Analysis

1. System Description

   Food Ordering Service "Antar Rasa" is an online platform that exclusively provides a selection of traditional food dishes. The main advantage of the "Antar Rasa" Food Ordering Service is its ability to deliver orders directly to the destination address, providing convenience without having to leave the house and can make it easier to find traditional food.
2. Functional Requirements
   a. Actor

      Have the responsibility to manage the products sold on the website, including adding, editing, and removing products and managing their stock. They also need tools to manage the payment process.
   b. Admin roles:
      - View incoming orders
      - Confirm payment from a customer
      - Manage order status.

3. Use Case Diagram

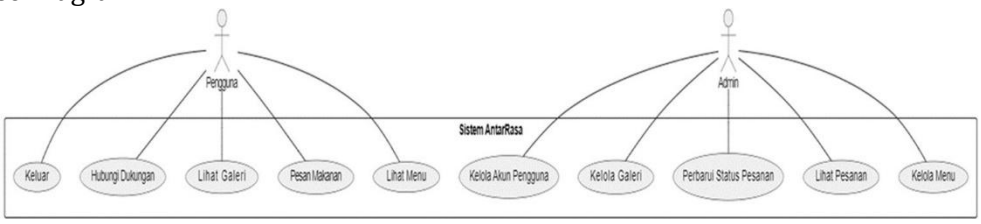


Figure 1. Use Case Diagram

4. Activity Diagram

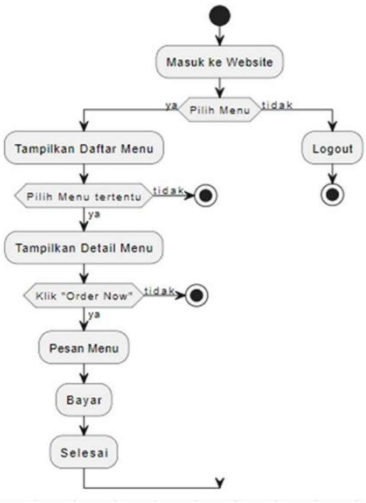


Figure 2. Activity Diagram

5. Class Diagram

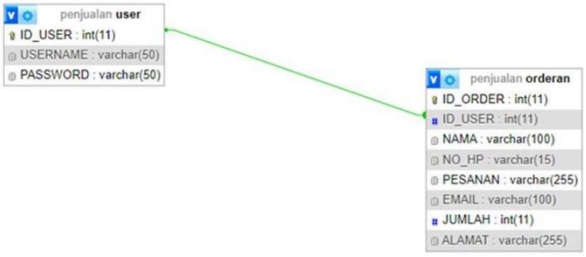


Figure 3. Class Diagram

6. Sequence Diagram

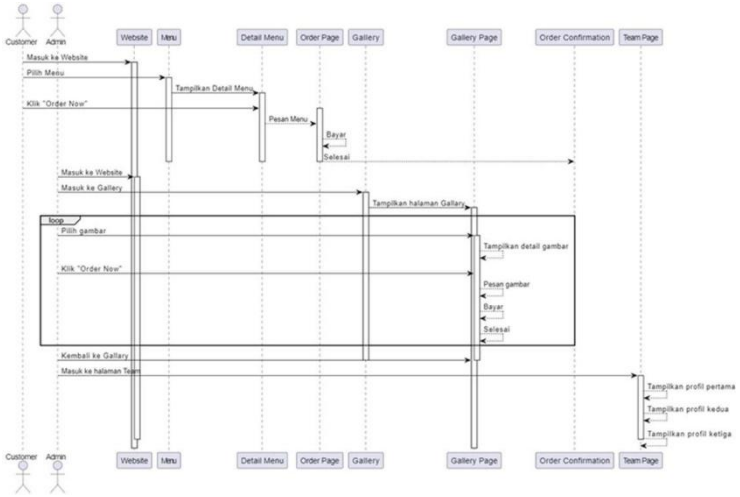


Figure 4. Sequence Diagram

7. Non-Functional Requirements

Non-functional requirements are requirements that describe how a system or software should operate in terms of performance, security, reliability, scalability, and management. Non-functional requirements generally relate to the quality or other characteristics of the system or software, in addition to features and functionality. In this study, relevant non-functional needs will be identified. The following are the Non-Functional requirements in this study:

a. Performance Requirement: The website must be fast, responsive, and stable, capable of handling traffic spikes and orders well.
b. Safety Requirement: The website must be secure for users, protect personal data and financial transactions, and avoid cyberattacks.
c. Security Requirement: The website must have strong data encryption, strict access controls, and ongoing security monitoring to prevent abuse and attacks.
d. Software Quality Attributes: The website must be easy to use, reliable, secure, scalable, easy to maintain, compatible with various devices, easy to access, easy to test, and able to connect with other systems.
e. Development Platform: Websites use web platforms, and mobile platforms.

Design Stage

At this design stage, the devices that will be used in the Antar Rasa information system will be discussed, including the hardware interface, the software interface, as well as the initial design or provisional image that will be the initial benchmark for designing the Antar Rasa system's display.

1. Hardware Interface

A hardware interface in an Inter-Sense information system is required to display the system's display. A hardware interface may also be required to perform data entry or other tasks. Here is the hardware used in the Inter-Flavor system:

a. Laptop

Figure 5. Laptop

Laptops are one of the very vital hardware in this Bulukumba Explore information system. The admin will use the PC or laptop to run this tourism destination information system.

b. Mouse dan Keyboard

Figure 6. Mouse dan Keyboard

A mouse is used to move the cursor on a PC or computer, while a keyboard is one of the hardware used to enter data into a PC or computer.

c. Router

Figure 7. Router

A router or network connector serves as a hardware that connects multiple computer networks and acts as a connecting point between the local network and an external network such as the internet. In the context of internet network transmission, network connectors have an important role in routing and directing data traffic between connected devices in the network.

2. Software Interface

Software interaction in an inter-sensory information system plays an important role in facilitating efficient communication between the different types of software used in the system. This interface aims to ensure smooth interaction between system components, including connections with databases, operating systems, and specific programming languages.

3. Advance Planning
   a. Register Page

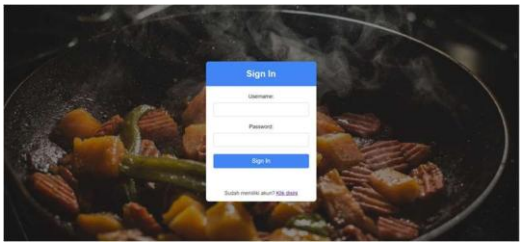


Figure 8. Halaman Register

   b. Login Page

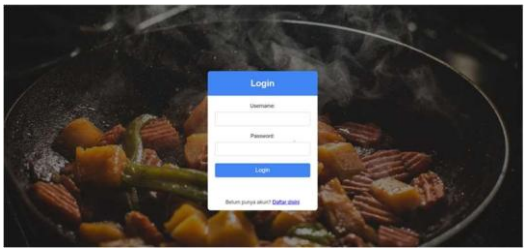


Figure 9. Login Page

   c. Home

Figure 10. Home Page

   d. About

Figure 11. Halaman About

e. Menu Page

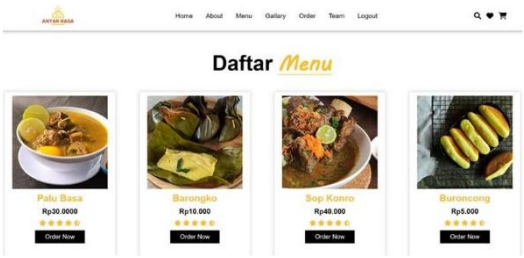


Figure 12. Menu Page

f. Halaman Gallary

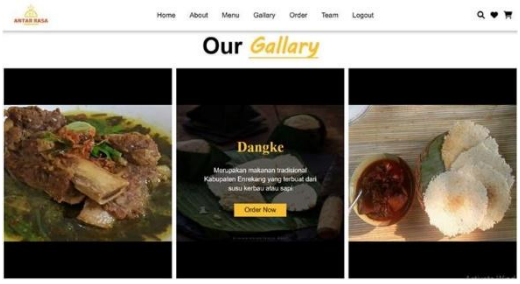


Figure 13. Halaman Gallary

g. Order Page

Figure 14. Halaman Order

h. Team Page

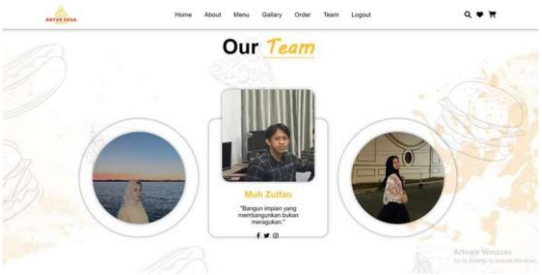


Figure 15. Halaman Team

Testing Stage

After the creation of the Inter-Flavored Food Service Information System is completed, the next step is to verify that the system is in accordance with the needs of users. Verification is carried out through two methods, namely White Box and Black Box verification. The purpose of this verification is to recognize potential issues and ensure that the system is operating properly before it is fully implemented.

1. White Box Testing

Table 2. White Box Testing

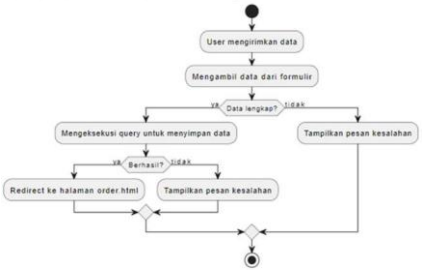
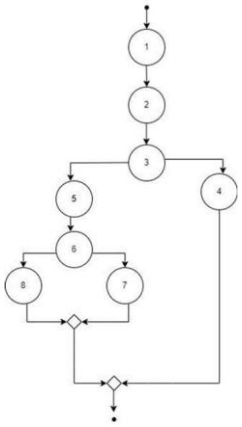
Flow Chart	Flow Graph
	

Figure 16. Flow Chart

Figure 17. Flow Graph

Flowchart Lines	Cyclomatic Complexity
Line 1=1 – 2 – 3 - 4	V(G) = E - N + 2
Line 2 = 1 – 2 – 3 – 5 – 6 – 7	V(G) = 4 - 5 + 2
Line 3 = 1 – 2 – 3 – 5 – 6 – 8	V(G) = 1
	P = 1 + 1 = 2

From the results of the white box verification carried out to evaluate the Antar Rasa information system, it was found that all logical flows or flowcharts implemented in the program ran as desired.

2. Black Box Testing
   a. Successfully placed an order

Table 3. Black Box Successfully Placed an Order

Testing Activities	Expected realization	Test Results	Conclusion
Enter your name	Functional name form		()Accepted ()Rejected
Enter your phone number	Phone number form works		()Accepted ()Rejected
Enter the name of the food/beverage ordered	Form you order works		()Accepted ()Rejected
Enter your email	A working email form		()Accepted ()Rejected
Enter the price of the food/beverage ordered	Form how much works		()Accepted ()Rejected

Enter your address	Address form works		()Accepted ()Rejected
Click the order now button	The order now button works and the order is successfully placed		()Accepted ()Rejected

b. Failed to place an Order

Table 4. Black Box Successfully Placed an Order

Testing Activities	Expected realization	Test Results	Conclusion
Enter your name	Functional name form		()Accepted ()Rejected
Enter your invalid phone number	Phone number form works		()Accepted ()Rejected
Enter the name of the food/beverage that was ordered that is invalid	Form you order works		()Accepted ()Rejected
Enter your invalid email	A working email form		()Accepted ()Rejected
Enter the price of food/drinks	Form how much works		()Accepted ()Rejected

Implementation

This implementation stage displays the results of the design interface of the online traditional food ordering information system "Antar Rasa" which has been completed. The following is a view of the "Antar Rasa" information system that has been developed. The system uses PHP as the programming language, XAMPP as a software package used to create and run web servers locally, and MySQL as a database, making the system reliable and efficient.

In the development of the "Intertaste" information system interface, HTML, CSS, and JavaScript technologies are often used together in web development. HTML serves to build the structure and content of the page, while CSS is used to organize the visual appearance of the page. In addition, JavaScript plays a role in adding dynamic interactions and functions. By combining these three technologies, developers can implement pre-planned interface designs. Additionally, HTML, CSS, and JavaScript have a crucial role to play in developing a responsive and interactive interface.

a. Register Page

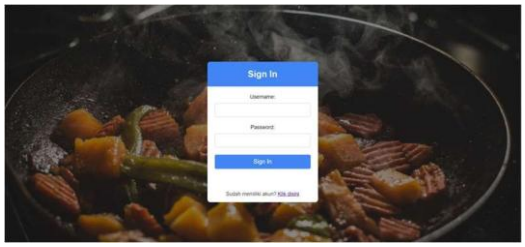


Figure 8. Halaman Register

This feature allows users to create a new account on AntarRasa.com platform. With registration, users can access food ordering features, manage their orders, and get other benefits such as special promos and discounts.

b. Login Page

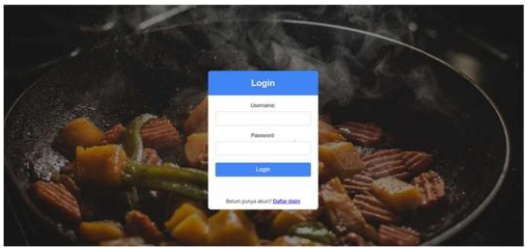


Figure 9. Login Page

This feature allows users who already have an account to log in to AntarRasa.com platform. By logging in, users can access food ordering features, view order history, and perform other interactions in the system.

c. Home

Figure 10. Home Page

This feature displays the home page of AntarRasa.com platform. The home page aims to provide users with key information, such as a brief description of AntarRasa.com services, navigation menus, promotions, and other important features.

d. About

Figure 11. Halaman About

This feature displays the home page of AntarRasa.com platform. The home page aims to provide users with key information, such as a brief description of AntarRasa.com services, navigation menus, promotions, and other important features.

e. Menu Page

Figure 12. Menu Page

This feature allows users to view the list of menus available in AntarRasa.com. Users can see the pictures, names, prices, and descriptions of the food offered.

f. Halaman Gallary

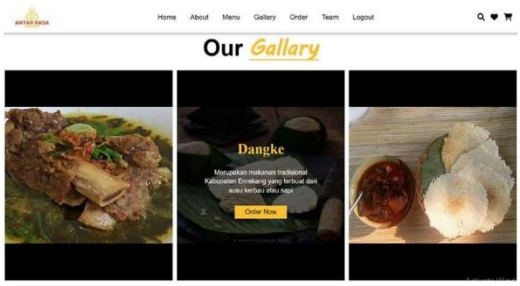


Figure 13. Halaman Gallary

The Gallery feature allows users to view a collection of images of food served on the AntarRasa.com. Each picture is accompanied by a brief description to provide additional information about the food.

g. Order Page

Figure 14. Halaman Order

The Gallery feature allows users to view a collection of images of food served on the AntarRasa.com. Each picture is accompanied by a brief description to provide additional information about the food.

h. Team Page

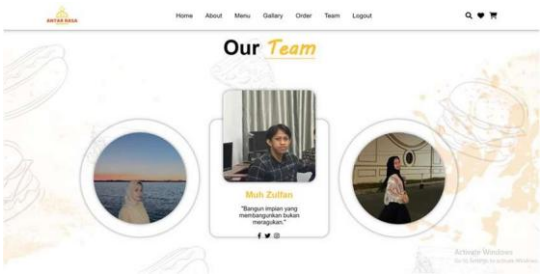


Figure 15. Halaman Team

The Team page introduces the team members behind AntarRasa.com. Users can see photos, names, and short bios of each team member.

Maintenance

After the implementation of the traditional food ordering information system (Antar Rasa), it is important to carry out the maintenance stage to maintain the performance and safety of the system. The maintenance phase involves several important steps, such as active malware management, which is carried out regularly, defragmenting, performing hardware checks, and backing up important data. These steps are necessary so that AntarRasa can continue to operate properly and smoothly without interruption.

By performing proper maintenance, Antar Rasa's information system can remain in optimal function, protecting sensitive data and avoiding security issues that may arise. Regular maintenance also helps prevent hardware failures, extend system life, and ensure the availability of critical data in emergency situations. With a commitment to regular and disciplined maintenance, Antar Rasa can provide sustainable benefits to its users and drive the efficiency of Antar Rasa's traditional food ordering information management.

CONCLUSIONS

The research has successfully developed a web-based traditional food ordering system, "Antar Rasa," which is designed to make it easier for users to order traditional Makassar food and strengthen the region's cultural identity. The system is equipped with various features such as Registration, Login, Home, About, Menu List, Gallery, and Booking that provide a thorough and efficient user experience. The research findings show that this app not only facilitates the food ordering process, but also plays an important role in promoting and preserving Makassar's traditional cuisine. With a qualitative-descriptive-analysis method, the study identifies the needs of users and ensures that the system built meets their expectations. The contribution of this research to science includes the development of information systems that are able to integrate modern technology with cultural preservation efforts, as well as providing a model for the development of similar applications in other traditional culinary contexts.

To improve the "Between Rasa" system, it is recommended that developers continue to optimize existing features by paying attention to user feedback to improve the user experience. In addition, it is important to implement a broader marketing strategy so that more people know and use this platform, so that the mission of preserving Makassar's traditional culinary can be achieved more effectively. Further research is also needed to examine the impact of using these systems on the preservation of local culture and economy, as well as to develop additional features such as user reviews and a reward system for customer loyalty.

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