



Design of a Mobile-Based Wedding Information and Booking System using Backend as a Services (BaaS) on android platform

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Abstract. Nowadays, wedding organizer services have become a necessity in wedding events. However, it is often found that bookings are made manually to the vendor's location which results in impracticality. This research aims to build an application that brings practicality in the field of wedding organizers. Later this application has an online booking function carried out by wedding bookers and can establish communication with vendors in making wedding bookings. The focus of the research is to provide practicality to bookers and vendors. This research uses the Case Study method, interviews and observations conducted at Omah Kebon Resto as a case study. The application was built based on Android with Cloud Baas services on the Firebase platform for database management. The final evaluation was carried out by distributing questionnaires to respondents for the level of satisfaction of using the application built. The results stated that 37.12% of respondents were very positive, 45.41% stated positive, 13.54% stated neutral, and 3.93% stated negative. So, it can be concluded that respondents feel positive if this application can help practicality in getting information and booking wedding organizer vendors.

Keywords: wedding, wedding booking, wedding organizer, mobile app, online booking

(Received 2024-01-28, Accepted 2024-02-17, Available Online by 2024-03-08)

1. Introduction

Wedding organizer is a service that is used to help brides and families in preparing their wedding planning. Some busy brides and families may seek help from wedding organizers to organize their wedding events without having to bother [1]. Wedding organizer services are often sought after by the public because in addition to making wedding party planning easier, wedding organizers are also very helpful for those who want to avoid the hassle of planning a wedding [2].

Interest in using wedding organizer services is increasing along with people's lifestyle and income. According to Kunjana (2020), in 2020, this interest increased by 20-30%, which resulted in intense competition among wedding organizer service providers. Therefore, business people in the wedding organizer industry are expected to have special strategies to survive in this increasingly competitive era [3].

When promoting wedding services, a wedding organizer faces the problem of not being able to present complete wedding package information. Some of the problems that arise include difficulties in

managing the latest wedding package list and processing transaction data manually, which can cause misinformation on order details and difficulty in finding customer order data. In addition, the manual way of recording and calculating also has the potential to cause errors in determining business profits and losses [4].

Applications are the right solution. The role of applications is an important support to help advance business strategies [5]. Making applications can aim to provide practicality and convenience for wedding event bookers who want to get information or place an order [6]. This will also have an impact on employees in managing wedding orders more easily. Furthermore, this application will provide information in the form of menu details provided by the vendor, this provides information to the booker in order to get an overview before booking the event through the application later.

Before conducting research, a literature review has a very important role as a reference for gathering information and aspects needed later. The literature review is also considered important because it is a foundation that explains why researchers choose a particular theme or title. In addition, the literature review serves as a foundation for outlining theories, findings, and materials relevant to the research, so that it becomes a strong basis for conducting the research conducted. Thus, the literature review provides an in-depth and contextual framework for the work to be reported [7].

1. In research conducted by R. Aulianita, entitled "User Center Design in Building a Website-Based Wedding Organizer", the principles of User Centered Design are applied to the website. This research aims to provide a platform used by wedding organizers to conduct promotions, thus allowing prospective brides to make reservations more easily [8].
2. In research conducted by S. A. Haswir and K. Budayawan, entitled "Designing an Information System for Management of Auction Services", this research implements the CodeIgniter framework. The result is an information system for managing pampering services as a promotional and ordering media that allows reservations and payments to be made online via the website [9].
3. In a study conducted by T. Pintang, entitled "Application of Sms Gateway to the Wedding Property Booking System using RESTful Web Service at Puspita Wedding", implementing RESTful Web Service and SMS Gateway. The result is a structure that can be used in various modern programming languages, known as the JSON format. The website made it easier for the admin to get data and record rental transactions efficiently. The implementation of RESTful Web Service and SMS Gateway using Gammu can reduce the SMS Gateway hosting rental budget [10].

From all the explanations that have been done by previous researchers, it can be concluded that the discussion of applications that support businesses in the field of wedding organizers is an interesting topic. Therefore, in this paper, the research conducted is to design an Android-based application with the Flutter framework by utilizing the Baas service on Firebase to store data about the information and menus provided later, the application to be built will be Android-based using the Flutter framework and the Backend as a Services (BaaS) service on Firebase, which aims to facilitate application connection to the database in real time. The use of Firebase services from Google was chosen to provide stability when the application connects data to the database. This is expected to increase user responsiveness in using the application.

This research implements the case study method, which is an in-depth exploration of a "finite system" or "diverse cases" in a specific context. This method involves in-depth data collection from various sources of information to understand and analyze the implementation of the application that has been built. This case study is expected to provide comprehensive insights. This research implements the case study method, which is an in-depth exploration of "limited systems" or "diverse cases" in a particular context. This method involves in-depth data collection from various sources of information to understand and analyze the implementation of the application that has been built. This case study is expected to provide comprehensive insights [11].

2. Methods

This stage contains a discussion of the application that was built with a discussion based on the method used, namely Case Study. Case Studies are found in many studies that play a role in assisting in

presenting research guidelines from simple to complex levels. This method has a design with an arrangement of stages tailored to research needs starting from introduction, research objectives, literature study, subject selection, system design, application development, data collection, data analysis, and conclusions.

This research started by finding out about the development of wedding booking industry trends. The aim is to make it easier for wedding bookers to access information and make bookings with wedding vendors efficiently. The next step involved searching and learning from previous research related to the topic to be researched. The case study location was chosen at Omah Kebon Resto, a wedding organizer service provider. Interviews and observations will be conducted to collect the necessary data. After that, based on the results of observations and discussions with the vendor owner, a system that suits the vendor's needs will be designed before entering the application development stage. The system development process is then carried out in accordance with the design and planning that has been made previously. Data is collected after the customer tries the application, and questionnaires are filled out to obtain application trial data. The final stage involves analyzing and assessing the data that has been collected from filling out questionnaires, as well as concluding and discussing the final results of the research that has been carried out.

2.1. Research Framework

At this stage, researchers conducted observations and interviews. Observations were made by directly observing interactions between employees and customers at Omah Kebon Resto to understand how information is delivered, while interviews were conducted with the owner and employees of the restaurant to gain insight into the menu and other needs that support website development. Thus, researchers can compile a research framework as shown in Figure 1 below:

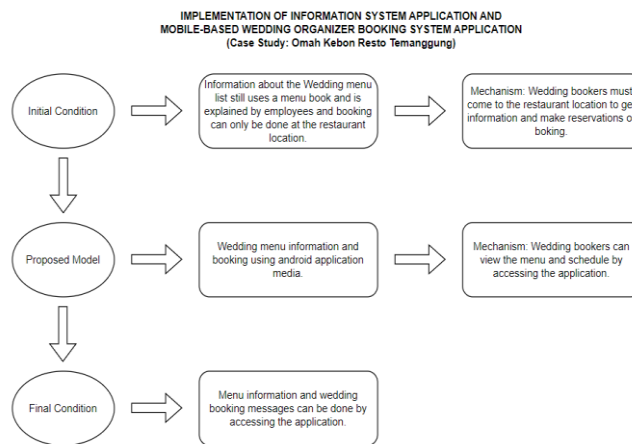


Figure 1. Reseach Framework

2.2. Research Data

The data source is the subject from which the data is obtained. In this study, researchers used two data sources, which consisted of.

1. Primary data

Primary data is data obtained by means of being collected by researchers directly from the main source. The primary data sources in this study are menu lists, information, price lists.

2. Secondary Data

Secondary data is data collected by researchers from pre-existing sources of information. Secondary data is generally in the form of graphs, diagrams, and tables. The secondary data sources in this study are various journals as references.

2.3. Application Design

Can be seen in Figure 2 shows the Use Case diagram of the application made to see the service model contained in the system. In the diagram, there are 2 actors, namely employees and customers. Employees have a role in inputting the menu available at the wedding organizer, as well as taking care of the status of orders that will be sent to customers. In this Use Case diagram, there is a scope of the system being developed and serves as a medium for presenting the roles of actors who are outside the box. The role of employees is to be able to add menu categories, add menus, view order schedules, view customer orders, and send confirmations to customers. Customers can play several roles, such as viewing the menu in the application, viewing available information, adding menus to the list, viewing the list in the basket, filling out the order schedule, checking out, and viewing the order confirmation status.



Figure 2. Use Case Diagram

2.4. System Flows

In designing this application using flowchart. Flowchart itself is used to show the overall system workflow. In general, the flow of the wedding organizer booking system can be seen in Figure 3 below.



Figure 3. Flowchart

Customers can access the web or app and login. If they do not have an account, they can register first before logging in. After login, customers will be directed to the first home page. Here, they can access the menu by selecting the desired menu category, and then view the product details and choose to add it to the cart. Customers can view products that have been added to the cart and check the status of orders that have been checked out. They can also ask questions about the wedding menu via chat and customize their profile. Transactions can be made after checkout, and customers will receive a confirmation from the wedding after the transaction is completed. On the other hand, employees need to login before accessing the wedding menu dashboard. They have the authority to add, delete, and edit wedding categories and menus. In addition, employees can view a list of orders that have been placed by customers, as well as confirm transaction status. Interaction with customers can also be done through the chat feature.

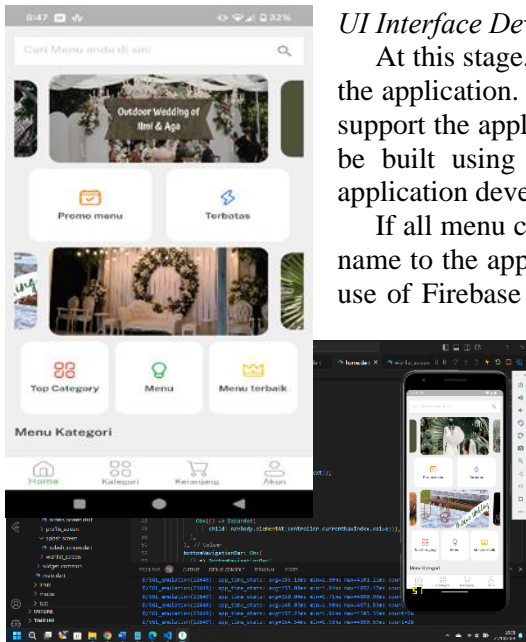


Figure 4. Application Development Process.

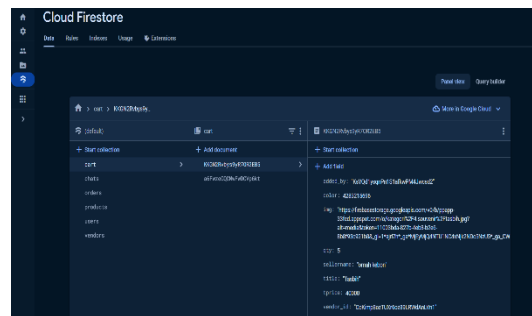


Figure 5. Database usage

UI Interface Development

At this stage, the next activity carried out is to create a menu display in the application. The display that will be made includes the parts needed to support the application when used later. Furthermore, this application will be built using the Flutter framework. Figure 4, and Figure 5 is the application development process using Flutter.

If all menu components have been completed, the next step is to give a name to the application, an explanation of the application details, and the use of Firebase services to manage user authentication in the application

later.

The application development stage is carried out using VS code which is a type of text editor with the addition of the Flutter framework extension. Furthermore, the finished application will be built app, so that it can be tested on several Android devices.

3. Results and Discussion

3.1. Result

The results of the application interface can be seen in Figure 6. When the customer/user successfully logs in, they will be able to access various content menus in the application. In Figure 7 the wedding menu category page separates the wedding menu catalog. On the profile menu, several menus can be accessed as in Figure 8.

3.2. Application Testing

At this stage is the final part as in the Case Study method, namely evaluation and discussion section. evaluation stage has the aim of the application that has been made it can find out how feasible the application can carry out its performance. The next stage that carried out is the creation of a questionnaire to determine the level satisfaction with the application built. The following is Table 1

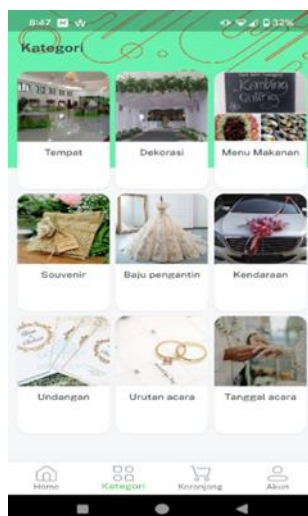


Figure 7. Category Pages

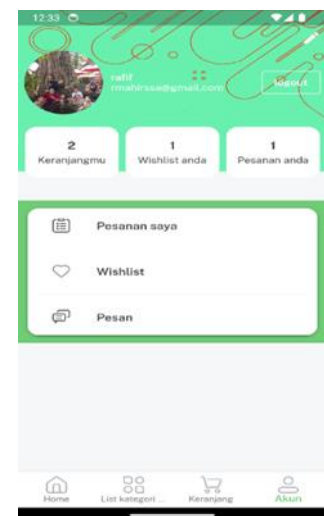


Figure 8. Profile Pages

found the testing so that will be of user being which

Figure 4. Home Page

displays the questions from the questionnaire distributed to customers who have tested the application. From the incoming questionnaire, 23 participant votes were collected.

Table 1. Questions regarding user satisfaction level

No	Question
1	What do you think about the display contained in this wedding booking application?
2	Does this app offer convenience in ordering wedding menus?
3	Is the app running properly, with no issues experienced?
4	Does this app help you get wedding menu information more easily?
5	What do you think about the performance response of this application?
6	How easy is it to use this app?
7	Does the app help you to place an order?
8	Are you satisfied with the features this app offers?
9	How easy is it for you to place an order on this app?
10	What do you think about the completeness of the wedding menu provided?

From the distributed questionnaires, the calculation and compilation results are listed in Table 2 below. From a total of 23 responses to 10 questions, there are variables A to D, with values of 4 to 1. The results are as follows: Option A received 85 votes, Option B received 104 votes, Option C received 31 votes, and Option D received 9 votes. After conversion into percentages, 37.12% chose A, 45.41% chose B, 13.54% chose C, and 3.93% chose D. These results show that the majority of users chose option B, signaling a positive response of 45.41%. This indicates that this application can help the efficiency of work in the wedding organizer business. Evaluation of the operation and use of the application showed that the questionnaire fillers did not find any obstacles and considered the application to run well. The information presented and the ease of access to the wedding menu were considered very helpful by the questionnaire fillers. Overall, the application's performance was rated as fast and responsive by the users.

Table 2. User satisfaction questionnaire results.

No pertanyaan	Pilihan jawaban				total
	A	B	C	D	
1	9	10	3	0	23
2	7	9	6	1	23
3	12	8	3	0	23
4	10	10	2	1	23
5	17	6	0	0	23
6	9	12	2	0	23
7	6	10	5	2	23
8	8	11	4	0	23
9	5	17	1	0	23
10	2	11	5	5	23

The results of the questionnaire showed the majority of users chose option B, indicating significant satisfaction with the features of the wedding organizer app. This confirms the importance of research in understanding user needs and the potential of technology to improve industry efficiency. However, the limitations of the questionnaire need to be recognized in the in-depth understanding of user preferences. With the analysis of the questionnaire results, this research provides important insights for technology development in the industry, enabling the design of more effective and relevant solutions to improve the user experience and efficiency of wedding event organization.

4. Conclusion

Based on the discussion and research results that have been carried out in the process of designing an Android mobile-based wedding menu information ordering and accessing application, the use of the Case Study model in its implementation is a very useful guide in exploring the dynamics of using this application. The evaluation revealed that most customers were satisfied with the app, with 37.12% expressing a very positive level of satisfaction and 45.41% expressing a positive level of satisfaction. However, there were also some who felt neutral (13.54%) or negative (3.93%) about the app. Thus, the potential benefits of this application to the efficiency of placing orders and accessing menu information provided by wedding organizer vendors are becoming increasingly clear

This reinforces the broader impact of this research on the wedding organizer industry. The app not only makes it easier for customers to plan weddings, but can also improve the efficiency and quality of services provided by wedding organizer vendors. Stakeholders, including vendors, brides-to-be, and professionals in the industry, can benefit from the app in improving user experience and operational efficiency.

In this context, recommendations for practitioners and policymakers include efforts to continuously improve and update the UI to make the application more interactive and attractive to users. In addition, the addition of a web-based system could expand the application's access range. The addition of features also needs to be considered in accordance with future development needs, so that this application remains relevant and can meet the demands of a growing market. Thus, this research not only contributes directly to the development of the application, but also provides useful insights for the development of the wedding organizer industry as a whole.

Acknowledgements

The author would like to thank Omah Kebon Temanggung for supporting this project.

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