

Design of Tourism, Culture and Culinary Information System in Jombang Regency Based on Android

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Article Info :	ABSTRACT
Article History : Received : 29-04-2025 Revised : 24-06-2025 Accepted : 27-12-2025 Available Online : 15-01-2026 Keyword : <i>Android, Tourism, Culture, Culinary, Rapid Application Development (RAD)</i>	<i>This research aims to design and implement an Android-based digital platform to promote the tourism, culture and culinary diversity of Jombang Regency in an interactive and informative manner. The main objective is to increase the awareness of local communities and tourists of the tourism and culinary potential in Jombang through easy access to accurate and up-to-date information, as well as providing reliable guidance for tourists. In addition, this research aims to encourage local economic growth by increasing the number of tourist visits and consumption of local cultural and culinary products. Using the Rapid Application Development (RAD) method, this research includes user requirements analysis, analysis modelling, design modelling, and application construction. Through surveys, interviews, market analysis, and case studies of successful digital marketing campaigns, it is hoped that this information system can make a significant contribution to promoting and preserving cultural wealth and increasing the number of tourist visits to Jombang Regency.</i>

1. INTRODUCTION

Jombang Regency, located in East Java Province, Indonesia, has rich tourism, cultural and culinary potential that is yet to be fully explored. While there are a number of valuable tourist destinations and cultural heritage, structured and integrated information regarding this potential is still limited. The lack of effective and systematic promotion has been an obstacle in raising Jombang's profile as an attractive tourist destination (Sufaidah, Muawanah, & Anggraini, 2020).

The progress of information and communication technology is currently growing, so that indirectly its utilization is increasing rapidly. Information and communication technology is defined as the use of computer devices as a tool for processing, presenting and managing data and information based on communication equipment (Parsaorantua et al., 2017). The utilization of information and communication technology can be applied in various fields, one of which is in the field of tourism (Sephiana et al., 2022).

Tourism is a field that is currently being discussed by many parties. The law on tourism, namely Law of the Republic of Indonesia Number 10 of 2009 defines tourism as a variety of things related to tourism activities and supported by various facilities and services / services provided by related parties such as the community, entrepreneurs, government and local government. The existence of unique and interesting tourism potential in an area should be utilized through good tourism development (Khotimah et al., 2017).

According to Law No. 10 of 2009 concerning Tourism, what is meant by tourism is a variety of tourist activities supported by various facilities and services provided by the community,

entrepreneurs, government and local governments. Natural and cultural wealth is an important component of tourism in Indonesia (Luturlean & Se, 2019).

The literature review highlighted the shortcomings in digital promotion of tourism and local culture, as well as the importance of integrating information technology to increase accessibility and exposure of tourist destinations. Several studies have shown that the use of mobile applications can significantly increase the number of tourist visits and expand appreciation of local cultural heritage (Akhtar et al. 2021).

In response to this need, this research proposes the development and implementation of an Android-based Tourism, Culture, and Culinary Information System for Jombang Regency. The platform is designed to present integrated and easily accessible information about local tourist destinations, culture, and culinary, with the aim of enhancing the tourist experience as well as effectively supporting tourism promotion.

The innovative value of this research lies in the utilization of digital technology to increase exposure and understanding of the rich culture and tourism potential in Jombang Regency. The proposed platform not only aims to facilitate travel planning for tourists but also to support local economic development through increased visitation and consumption of local products.

2. METHOD

The RAD (Rapid Application Development) software development method was used in this study to facilitate the development of an Android application aimed at promoting tourism, culture and culinary in Jombang Regency effectively and efficiently. RAD is known for emphasizing a rapid iterative process and intensive user involvement in each stage of development (Santi, 2019).

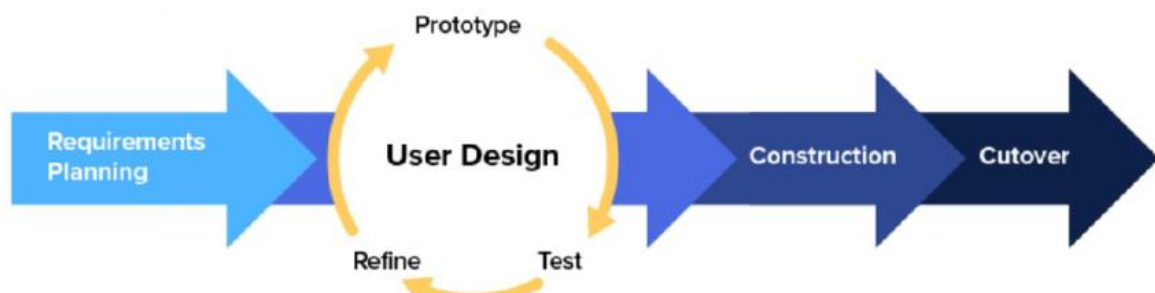


Figure 1. Rapid Application Development (RAD) Method

2.1 Requirements Analysis

This stage is important to identify user needs and system specifications. Through observation, interviews, and analysis of related documents, such as previous journals. The focus is to understand how the application can promote and provide the right information about tourism, culture, and culinary in Jombang Regency, thus facilitating easy and integrated accessibility of information. The following are the stages in requirements analysis :

a. Literature Study

Collect information about digital tourism promotion, the use of information technology in Android applications, and best practices in building tourism information systems to design interactive and informative applications.

b. Observation

Understanding the actual conditions of tourism, culture, and culinary in Jombang Regency through direct searches to tourist sites, interactions with local communities, and evaluation of existing tourism promotions to identify information gaps and end-user needs.

c. Interview

Conduct interviews with the tourism office, destination managers, culinary businesses, and potential tourists to gain insight into user preferences, expectations of the application, and challenges in promoting tourism and culinary in Jombang Regency(Kojongian, Wowor, & Karouw, 2017).

2.2 Analysis Modeling

At this stage, an analysis of the current system is carried out, namely tourism promotion and related information that currently exists in Jombang Regency. At this stage describes the existing process and determines the main features that must be included in the Android application. This analysis also helps ensure that the information presented is always up-to-date and accurate.

2.3 Design Modeling

This stage will design a solution based on the analysis of user needs and requirements that have been previously identified. At this stage, UML modeling such as use case diagrams, activity diagrams, and other diagrams are carried out to design the user interface, database structure design, and Android application architecture. This design aims to provide an interactive and intuitive user experience, one of which includes location-based search features (Nurhindarto, Santoso, & Hidayat, 2020).. The following is a Unified Modeling Language (UML) design to model the Android-based Tourism, Culture, and Culinary Information System in Jombang Regency through the three most common UML diagrams:

a. Use Case Diagram

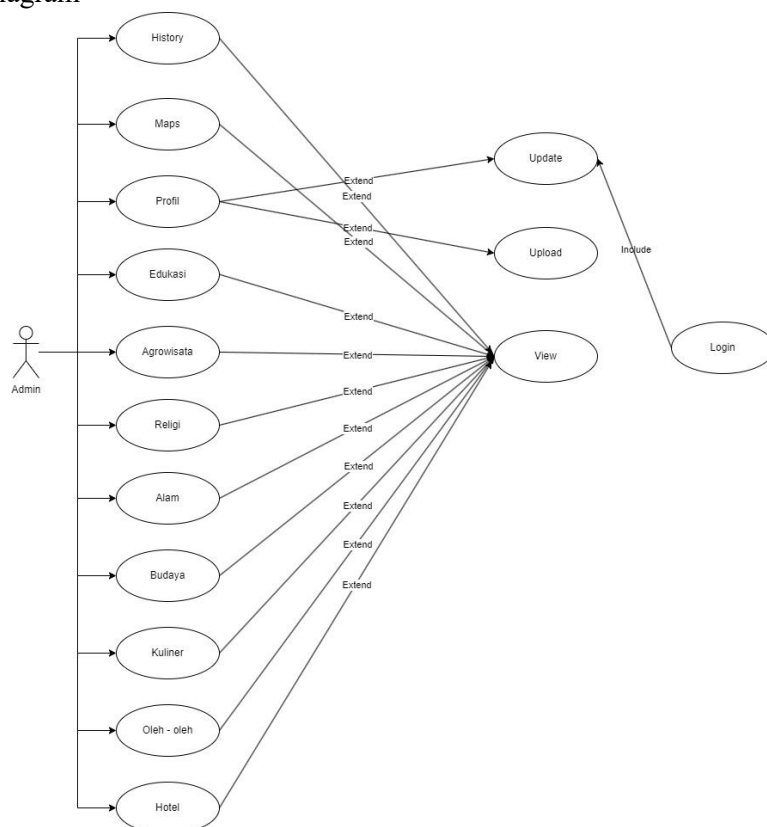


Figure 2. Use Case Diagram

The use case diagram above shows the interaction between users and features in the Tourism, Culture, and Culinary Information System, such as History, Maps, Profiles, Education, Agritourism, Religion, Nature, Culture, Culinary, Souvenirs, and Hotels. This diagram helps understand the use of the system in managing and updating information in the application.

b. Actifity Diagram

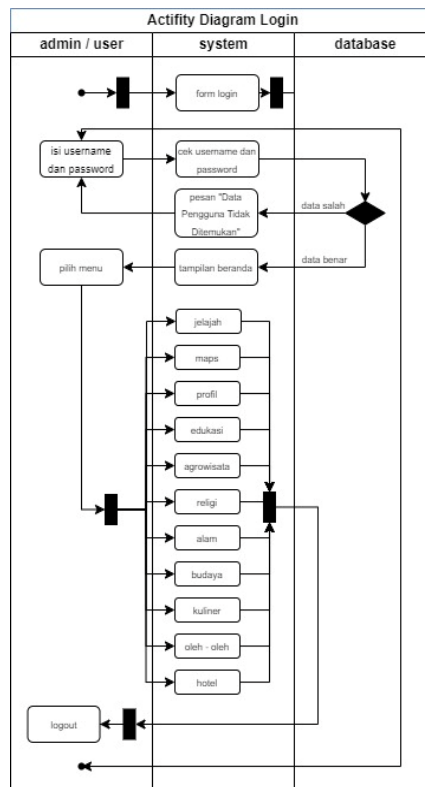


Figure 3. Login Activity Diagram

This diagram is a Login Activity Diagram that describes the user login process on the Android-based Tourism, Culture and Culinary Information System in Jombang Regency. This diagram shows the visual steps of the login process, starting from the opening of the login page to access to the menu or activity after successful login.

c. Class Diagram

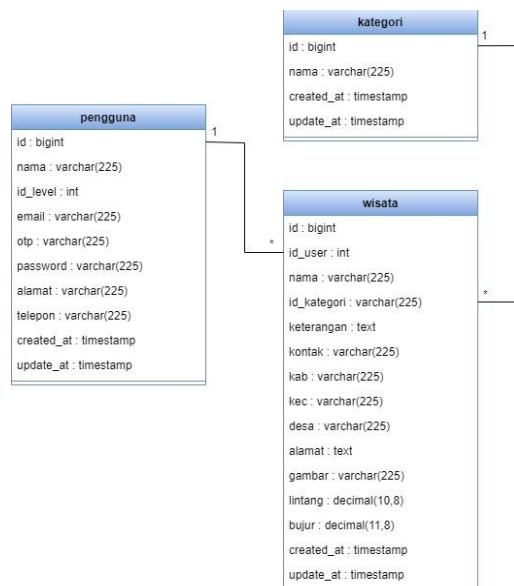


Figure 4. Class Diagram

The diagram is a Class Diagram that depicts the elements of the database such as tables, columns, and keys. Its purpose is to model the specific structure of the database.

2.4 Construction

This stage includes the actual development of the Android application, which involves the use of appropriate technology platforms such as programming languages for Android, web frameworks, databases, etc. In addition, testing of the application will be conducted to ensure that the application meets the predefined requirements and provides an intuitive user experience. This development also supports the promotion of Jombang Regency tourism in a modern and effective way.

These steps of the RAD methodology are based on an approach that has been proven effective in the development of application-based information systems in various contexts (Boehm, 1988; Martin, 1991). The use of RAD was also chosen to ensure rapid project completion and meet user needs directly (McConnell, 1996).

3. RESULTS AND ANALYSIS

The following are the results and analysis of the research of the Android-Based Tourism, Culture and Culinary Information System in Jombang Regency.

a. OTP Register and Verification Page



Figure 5. Register page



Figure 6. OTP Verification Page

The registration page allows new users to register by filling in their name, email, phone number, password, and address. After filling out the form, the user receives an OTP via email which must be entered to complete the registration process and login to the application.

b. Login Page

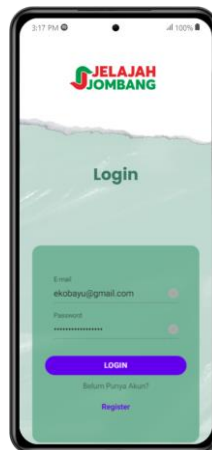


Figure 7. Login Page

The login page is used to authenticate registered users. The user must enter the email and password used during registration. The application will verify the credentials with the system data. If valid, the user will successfully login and gain access to the application features.

c. Home Page and Travel and Culinary Recommendations



Figure 8. Home Page



Figure 9. Tourism and Culinary Recommendation Page

d. Menu Page and Menu Detail Page



Figure 10. Menu Page

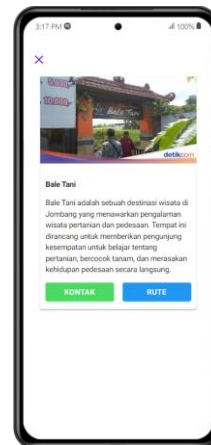


Figure 11. Menu Detail Page

Each page menu is almost the same according to their respective categories, for example, the education page. The education page displays information about educational tourist attractions in Jombang Regency, providing destinations that offer a fun and informative learning experience. While the page menu details are almost all the same according to their respective categories, for example, the education menu detail page.

The Education Menu Detail page provides complete information about educational tourist attractions, including descriptions, history, facilities, operating hours, photos and videos. This page also features contact and route buttons to facilitate communication with the manager and find the location via Google Maps.

e. Maps Page

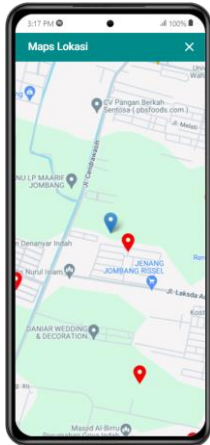
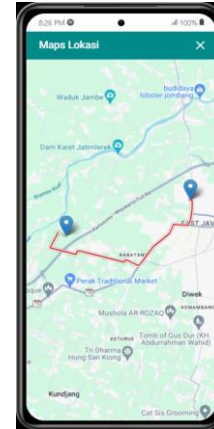


Figure 12. Maps Page



Figure 13. Pop Up page when the location point is clicked



Page 14. Route Page

This page is specifically designed to help users find various interesting destinations in Jombang Regency based on proximity to the user's current location. The map includes eight main categories that provide a diverse selection of activities and places to explore.

f. Profile and Photo Upload Page

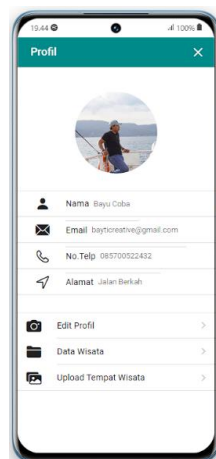


Figure 15. Profile page

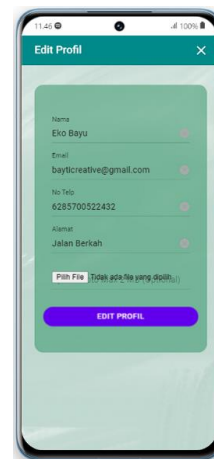


Figure 16: Photo Upload Page

The Profile page allows users to manage personal information and update important details. Users can view and update their name, email, phone number, address, and profile photo. System admins have an additional feature to upload new tourist information, including place name, description, category, address, photo, and contact.

Users only need to click the edit button and save the changes. This page makes it easier for users and admins to manage information, as well as add new tourist destinations in Jombang Regency.

g. Tourism Upload Page



Figure 15. Tourism Upload

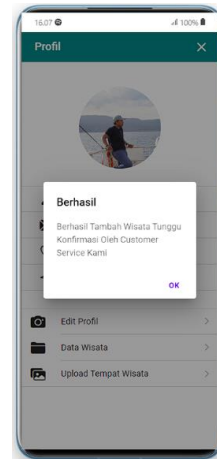


Figure 16: Successful Tourism Upload

Page

The Tourism Upload page in this application is designed to make it easier for users and admins to manage tourism, cultural, and culinary data in Jombang Regency. This feature allows tourism managers to introduce their destinations by filling out a form that includes the name of the tour, category, contact, location, as well as a description and image.

The difference is that data uploaded by the admin will be accepted immediately, while data from users will have a pending status until verified by the admin. This mechanism aims to prevent data duplication and ensure the quality of information, thus improving the functionality and attractiveness of the application.

h. Tourism Data Page

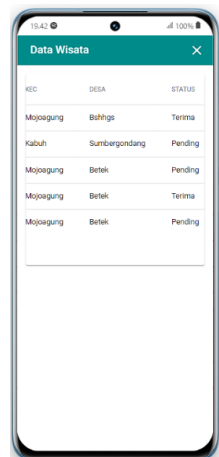


Figure 15. Tourism Data Page
(User)

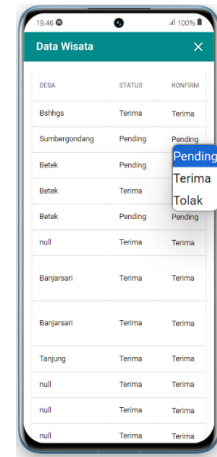


Figure 16: Tourism Data Page
(Admin)

The Tourism Data page is designed to display tourism data uploaded by admins and users. If the user is logged in, the page only displays basic information such as tour name, category, contact, sub-district, village, and status. However, for admins, the page is equipped with a confirmation feature to verify data validity and prevent duplication. With this mechanism, the data displayed is more accurate and organized, thus improving the functionality and attractiveness of the application.

4. CONCLUSION

The development of an Android-based Tourism, Culture, and Culinary Information System in Jombang Regency has successfully provided a structured, easily accessible, and up-to-date platform. The application has demonstrated its potential in increasing Jombang's tourism promotion and exposure, providing integrated and accurate information, and utilizing mobile technology to support local tourism. The system has also contributed to the local economy by encouraging increased tourist visits and consumption of cultural and culinary products from Jombang. With features such as location-based search and navigation the app provides an interactive and intuitive user experience. In addition, the system provides easy and integrated information accessibility management, allowing users to easily access up-to-date information on tourism destinations, cultural and culinary treasures of Jombang Regency.

5. ACKNOWLEDGEMENTS

This research aims to promote the tourist, cultural, and culinary diversity of Jombang Regency through an interactive and informative Android-based digital platform. This research uses the Rapid Application Development (RAD) methodology and involves comprehensive user needs analysis, modeling, design, and construction of the application. We would like to thank all participants in the survey, interviews, and market analysis. Special thanks to all those who contributed through this final project research, which significantly helped in the implementation and evaluation phases.

6. DECLARATION OF COMPETING INTEREST

We declare that we have no conflict of interest.

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