Journal of Computer Science Advancements, 2(1) - February 2024 48-53

Design Android-Based Mobile Food Vendor Location Search Application

Nadia Bintang[1], Sumpena[2], Wawan Setiawan[3], Agung Raharja[4]
[1,2,3]Sekolah Tinggi Manajemen Informatika dan Komputer Cirebon, Indonesia
[4]Universitas Bandung, Indonesia

Corresponding Author: Nadia Bintang, E-mail; nadia908@gmail.com

Article Information:
Received February 10, 2024
Revised February 19, 2024
Accepted February 25, 2024

ABSTRACT

The development of culinary business in Indonesia is progressing from time to time. This was helped by the development of increasingly rapid technology. Non-formal business actors also develop, especially mobile food vendors. The author wants to create an application that can improve the competitiveness of mobile food vendors by providing information that is easily obtained by the public to find out information and locations of mobile food vendors that can be accessed via mobile devices connected to the internet. This research offers an android application that can track the presence of traders in realtime making it easier for users to find food vendors around them using the Location Based Service (LBS) method using Global Positioning System (GPS) technology. In addition, this application also uses Google Maps API technology for map and Firebase needs for database needs.

Keywords: *Firebase, GPS, Google Maps API, LBS, Mobile Food Merchants*

Journal Homepage https://journal.ypidathu.or.id/index.php/jcsa

How to cite: Bintang, N., Sumpena, Sumpena., Setiawan, W., & Raharja, A. (2024). Design Android-Based Mobile Food Vendor Location Search Application. *Journal of Computer Science Advancements*, 2(1). 48-53 https://doi.org/10.70177/jsca.v2i1.1071
Published by: Yayasan Pendidikan Islam Daarut Thufulah

INTRODUCTION

Technological developments and developments in the field of software are progressing very rapidly (Chaitanya, 2020). In this digital era, the use of technology is increasing rapidly Including the development of the culinary business in Indonesia is advancing from time to time (Ekhsan, 2022). This is supported by the growth of the food and beverage industry which has increased to 8.46% in the second quarter of 2015%. At the end of 2015, the Minister of Industry predicted that the food and beverage industry would grow by around 7.4-7.8 percent in 2016. The development of the culinary world is increasingly helped by technology that is growing rapidly (Too,

2020). Not only restaurants, cafes, and large eating places that enliven this culinary world, non-formal business actors also enliven the culinary world such as mobile food vendors (Kabir, 2020).

RESEARCH METHODOLOGY

Research methodology is a systematic framework or approach used by researchers to plan, conduct, and analyze research (Nauni, 2023). Prototype method is the method used in the development of this application.

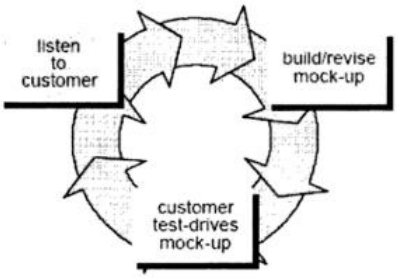

Figure 1. Model *Prototype*

Conducting system development requires an initial needs assessment and analysis of ideas or ideas for building or developing a system (Prakash, 2021). Analysis is carried out to find out what components of the system are running, it can be in the form of hardware, software, networks and system users as the end user level of the system.

In order to carry out system development, an initial needs assessment and analysis of ideas or ideas for building or developing a system are needed (Treeratanaporn, 2021). Analysis is carried out to find out what components of the system are running, can be in the form of hardware, software, networks and system users as the end user level of the system.

Use Case Diagram

Use Case Diagram illustrates the sequence of interactions between the user and the system. Interaction between user and system.

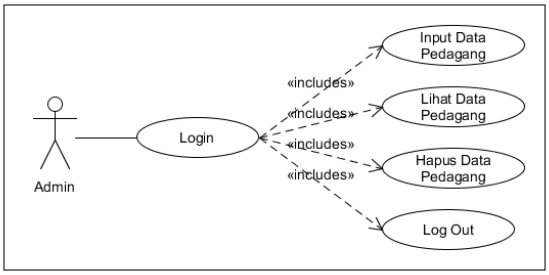

Figure 2. Use Case Diagram

Activity Diagram

Activity Diagram or activity diagram is one type of UML diagram that can be used to model any process that occurs in a system. This diagram shows the work process of the system that we create from start to finish.

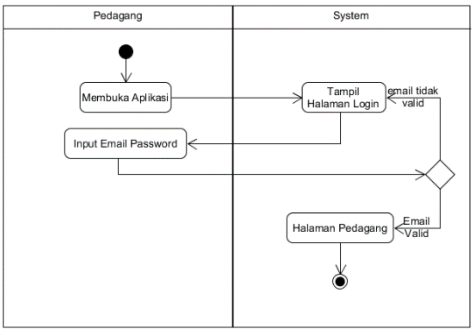

Figure 3. *Activity Diagram Login*

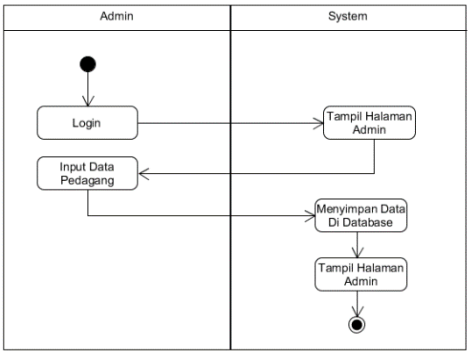

Figure 4. *Activity Diagram Input Data*

Sequence Diagram

Sequence diagrams describe how entities in the system interact, including the messages used during the interaction. All messages are described in order of execution. Sequence diagrams describe the behavior of objects in use cases by describing the lifetimes of objects and the messages sent and received between objects.

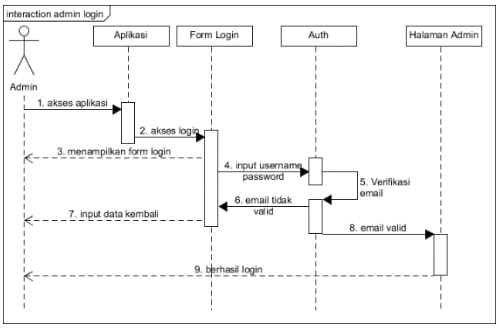

Figure 5. *Sequence Diagram Login*

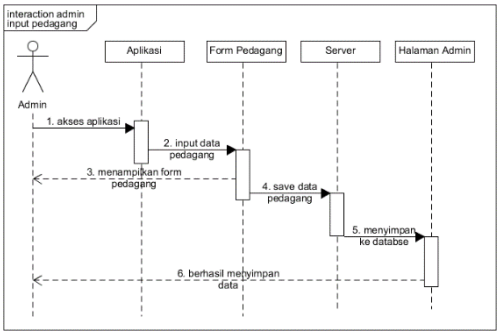

Figure 6. *Sequence Diagram Input Data*

Class Diagram

Class diagram is a static model that describes the structure and description of classes. Class diagrams also explain the relationships between classes in a system that is being created and how they are organized.

RESULT AND DISCUSSION

Implementasi

Implementation is the application of the application that is built based on the design designed. The implementation carried out at this stage is the implementation of the user interface and its functions.

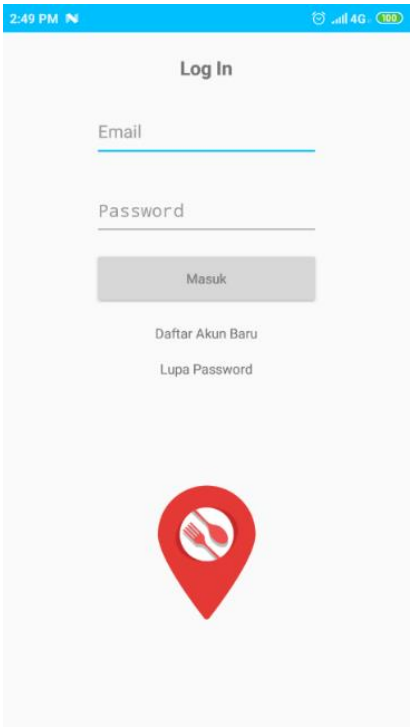

Figure 8. *Login*

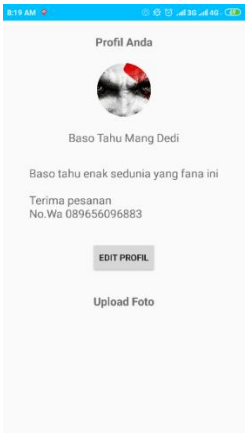

Figure 9. Profil

System Testing

Software testing is carried out to ensure that the application made can run according to the expected functionality. Testing aims to see the level of errors that occur in the software (Jaya, 2018).

CONCLUSION

Based on the description that the author has discussed in the previous chapters regarding the design of an android-based mobile merchant search application, the following conclusions can be drawn; a) This mobile food trader search application can present information about the location of mobile food traders in real time or not, b) This application successfully implements the Global Positioning System (GPS) and Google Maps APIs to make it easier for users to find the location of mobile food vendors on android applications.

Suggestions

After the author compiles and creates this search application, the author can find out what are the advantages and disadvantages of the application that the author created. The suggestions on the application that the author made; a) Further development, this application is expected to use its own server so that it does not depend on third-party servers, b) It is hoped that this application will be developed again by adding camera features, chat features to contact traders directly in the application.

REFERENCES

Chaitanya, J. (2020). Design and development of customized technology interactive model for object (living and nonliving) tracking system. *Proceedings of the 4th International Conference on Trends in Electronics and Informatics, ICOEI 2020, Query date: 2024-08-21 17:30:41*, 821–825. https://doi.org/10.1109/ICOEI48184.2020.9143063

Ekhsan, H. M. (2022). Mobile App for Wallet Tracking using GPS Tracker. *2021 6th IEEE International Conference on Recent Advances and Innovations in Engineering, ICRAIE 2021, Query date: 2024-08-21 17:30:41*. https://doi.org/10.1109/ICRAIE52900.2021.9704001

Kabir, A. Z. M. T. (2020). A Comprehensive Smart IoT Tracker for the Children, Elder, and Luggage with the Assistance of Mobile App. *7th International Conference on ICT for Smart Society: AIoT for Smart Society, ICISS 2020 - Proceeding, Query date: 2024-08-21 17:30:41*. https://doi.org/10.1109/ICISS50791.2020.9307591

Nauni, D. (2023). GPS-based On-Demand Ambulance Booking System Using Google Cloud. *2022 OPJU International Technology Conference on Emerging Technologies for Sustainable Development, OTCON 2022, Query date: 2024-08-21 17:30:41*. https://doi.org/10.1109/OTCON56053.2023.10113918

Prakash, B. R. (2021). A Web Based Approach for Navigation Technology using Fused Location API. *2021 IEEE International Conference on Mobile Networks and Wireless Communications, ICMNWC 2021, Query date: 2024-08-21 17:30:41*. https://doi.org/10.1109/ICMNWC52512.2021.9688537

Too, W. G. (2020). Features of mobile tracking apps: A review of literature and analysis of current apps compared against travel agency requirements. *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 12216*(Query date: 2024-08-21 17:30:41), 107–120. https://doi.org/10.1007/978-3-030-50350-5_10

Treeratanaporn, T. (2021). Application of Fall Detection for the Elderly: A Case Study of Thailand. *Proceedings - 2021 Research, Invention, and Innovation Congress: Innovation Electricals and Electronics, RI2C 2021, Query date: 2024-08-21 17:30:41*, 252–257. https://doi.org/10.1109/RI2C51727.2021.9559783