



e-ISSN: 2319-8753 | p-ISSN: 2347-6710

# IJRSET

International Journal of Innovative Research in  
**SCIENCE | ENGINEERING | TECHNOLOGY**



# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 12, Issue 5, May 2023

**ISSN** INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA

Impact Factor: 8.423

# Lunchbox-A Mobile Application (Implementation)

Alekh Shirke<sup>1</sup>, Vaibhav Wani<sup>2</sup>, Sanket Magar<sup>3</sup>, Mayur Mahajan<sup>4</sup>, S.H.Lokhande<sup>5</sup>

Student, Department of Computer Engineering, Sinhgad Institute of Technology And Science, Pune,

Maharashtra, India<sup>1,2,3,4</sup>

Assistant Prof, Department of Computer Engineering, Sinhgad Institute of Technology And Science,

Pune, Maharashtra, India<sup>5</sup>

**ABSTRACT:** The Lunchbox app is a Flutter-based mobile application designed to meet the needs of singles and students living away from home by offering a simple way to find messes and small hotels within a 2-kilometer radius. The app has separate features for mess owners and customers, allowing owners to manage menus, view bookings, and keep track of customer reviews, while customers can browse menus, reserve seats, and find their preferred mess. Lunchbox helps users save time, promote minor messes, and increase their customer base. By focusing on the needs of its users, Lunchbox makes sure people can quickly find good food options nearby, improving their overall dining experience.

**KEYWORDS:** Lunchbox, Flutter application, Owner side, Customer side, Menu, Bookings, Reviews, Messes, Small hotels, Location-based, 2km radius, Seat booking, Directions, Ratings, Quality food, Convenience, Bachelors, Students, Remote living, User-friendly interface..

## I. INTRODUCTION

The Lunchbox app is a comprehensive solution created to meet the needs of bachelors and students who are away from their families because of work or educational obligations. Within a 2-kilometer radius of the user's current location, it aims to offer a quick and easy way for users to access a variety of messes and small hotels. This application provides both owners and customers with a user-friendly interface with distinctive features catered to their respective needs by utilizing the power of Flutter.

The Lunchbox app's owner side gives mess and small hotel owners all the features they need to efficiently run their businesses. Owners may easily update menu, View menu view bookings, monitor customer reviews and obtain insightful client feedback. In addition to streamlining owners' everyday tasks, this functionality enables them to improve the quality of their services based on feedback from clients.

On the customer side, the Lunchbox app offers a seamless experience for people looking for a quick and easy method to locate and acquire high-quality meal options in their area. The software provides users with a thorough list of messes and small hotels within a 2-kilometer radius by utilising users current location. Users may easily browse menus, view duration of availability, and reserve seats. The app offers directions to the selected mess, making it effortless for users to navigate to their intended meal location.

The Lunchbox app helps customers by saving them the time and trouble of individually visiting or contacting each mess. It also provides a platform for promoting smaller messes and growing their clientele. The app promotes a beneficial partnership where users can find undiscovered culinary gems and mess owners can increase their reach and draw in new consumers by bridging the gap between these facilities and new customers. Lunchbox provides a helpful solution for the fast-paced lifestyles of people living away from home, ensuring they never have to give up on the quality and convenience of their daily meals.

## II. MOTIVATION

The motivation behind Lunchbox software is to provide a user-friendly platform that solves the everyday problem of hostellers going to different messes to know about the menu. By providing accurate and up-to-date information about the daily menu at nearby messes, Lunchbox saves time and effort for customers while also helping Mess owners increase their customer base. Additionally, the use of sentiment analysis and order display incentivizes Mess owners to maintain quality and create healthy competition, ultimately resulting in improved customer satisfaction and increased revenue for Mess owners. The motivation behind Lunchbox is to create a win-win solution for both customers and Mess owners, making the process of finding and choosing a Mess easier and more efficient.

## III. REQUIREMENTS AND DEPENDENCIES

### Requirements:-

1. **Mobile Device:** The Lunchbox application should be compatible with Android and iOS mobile devices, including smartphones and tablets.
2. **Camera:** The device should have a functioning camera to support functionalities such as scanning QR codes or capturing images.
3. **GPS:** The device should have GPS capabilities to determine the user's current location accurately.
4. **RAM:** The device should have a minimum of 4GB RAM to ensure smooth app performance.
5. **Storage:** The device should have at least 100MB of free memory to install and run the Lunchbox app.
6. **Internet Connectivity:** The device should have an active internet connection (via Wi-Fi or cellular data) for real-time communication with backend services and data retrieval.

### Dependencies:-

1. **Flutter:** The core framework for developing cross-platform mobile applications.
2. **get:** A package that provides simplified and efficient state management for Flutter applications.
3. **firebase\_core:** A Flutter plugin that provides basic Firebase Core functionality.
4. **firebase\_auth:** A Flutter plugin for Firebase Authentication, which enables user authentication and sign-in methods.
5. **cloud\_firestore:** A Flutter plugin for Firebase Cloud Firestore, a NoSQL cloud-based database for storing and syncing data.
6. **permission\_handler:** A Flutter plugin for handling runtime permissions on both Android and iOS platforms.
7. **shared\_preferences:** A Flutter plugin for storing key-value pairs on the device.
8. **flutter\_rating\_bar:** A Flutter package that provides a customizable rating bar widget.
9. **provider:** A package that allows simple and efficient state management for Flutter applications.
10. **cupertino\_icons:** A package that provides the Cupertino Icons font for iOS style icons.
11. **image\_picker:** A Flutter plugin that allows selecting images and videos from the device's gallery or camera.
12. **firebase\_storage:** A Flutter plugin for Firebase Cloud Storage, a service for storing and serving user-generated content like images or videos.
13. **google\_sign\_in:** A Flutter plugin that enables Google Sign-In functionality for authentication.
14. **geolocator:** A Flutter plugin for accessing device location information.
15. **flutter\_polyline\_points:** A Flutter package for decoding and encoding polylines for use with Google Maps Polyline API.
16. **flutter\_svg:** A Flutter package for rendering SVG images.
17. **google\_maps\_flutter:** A Flutter plugin for embedding Google Maps into a Flutter application.
18. **geocoding:** A Flutter plugin for converting addresses to coordinates and vice versa.
19. **location:** A Flutter plugin for accessing location information using device sensors.

IV. METHODOLOGY

Algorithm used:-

The Haversine algorithm is a formula used to calculate the distance between two points on the Earth's surface given their latitude and longitude coordinates. It provides an approximation of the distance by assuming a perfect sphere for the Earth.

Lunchbox has a two – tire architecture , client is writer in flutter and database is managed by firestore database . additionally we have used some third party APIs to support our direction and authentication .

System Architecture

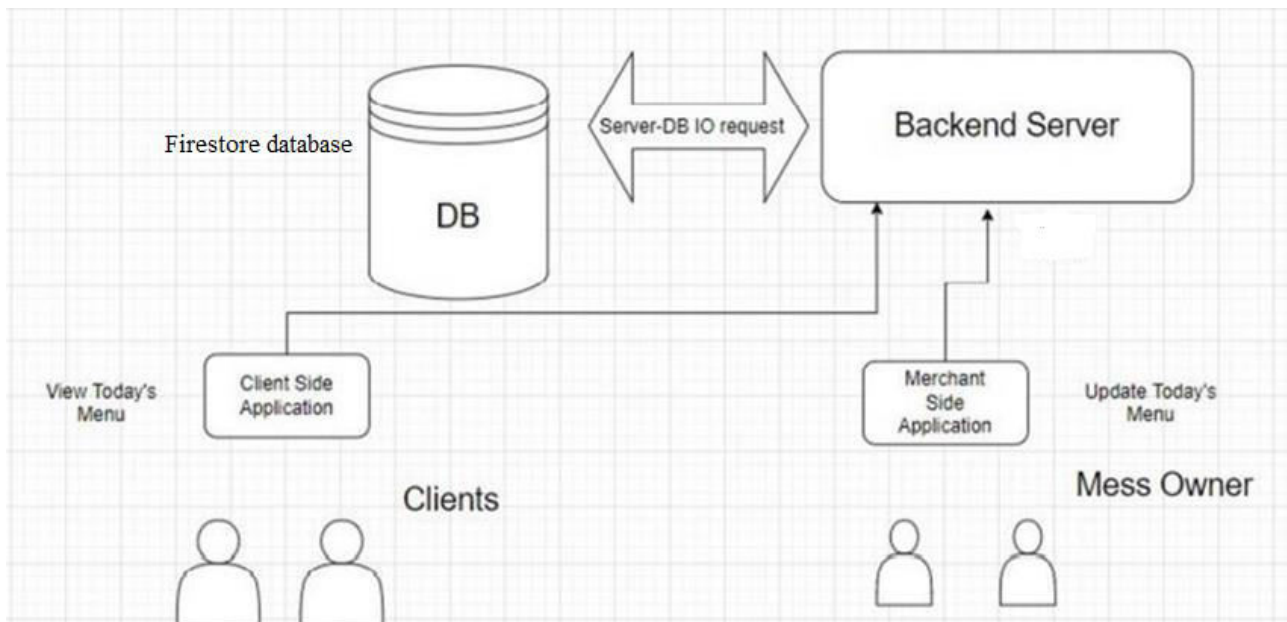


Figure 4.1: System Architecture

Data Flow Diagram

Level 0

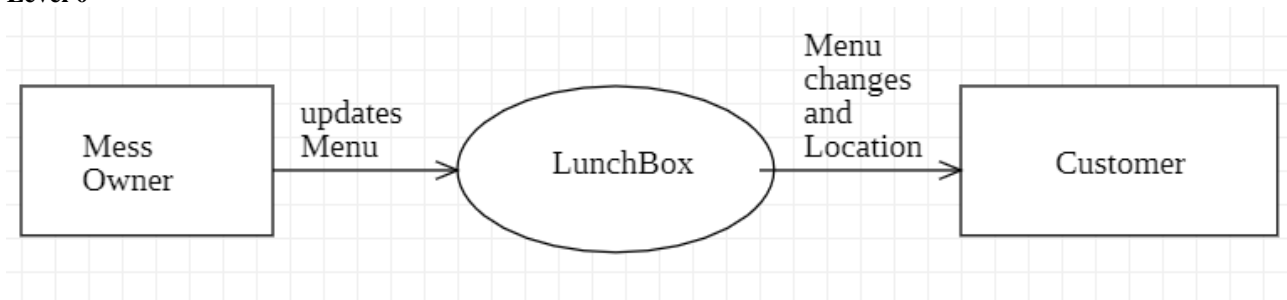


Figure 4.2: Data Flow Diagram level 0

Level 1

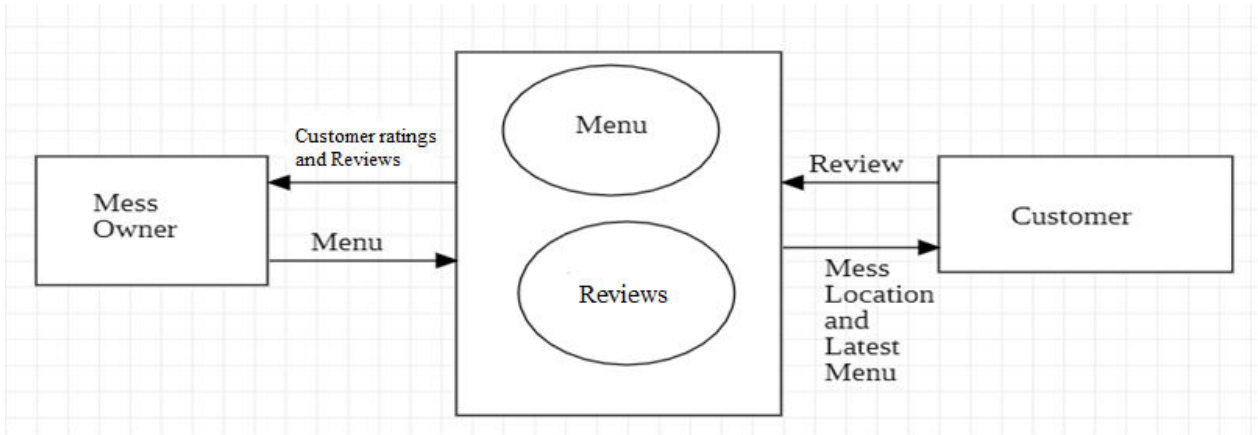


Figure 4.1: Data Flow Diagram level 1

Level 2

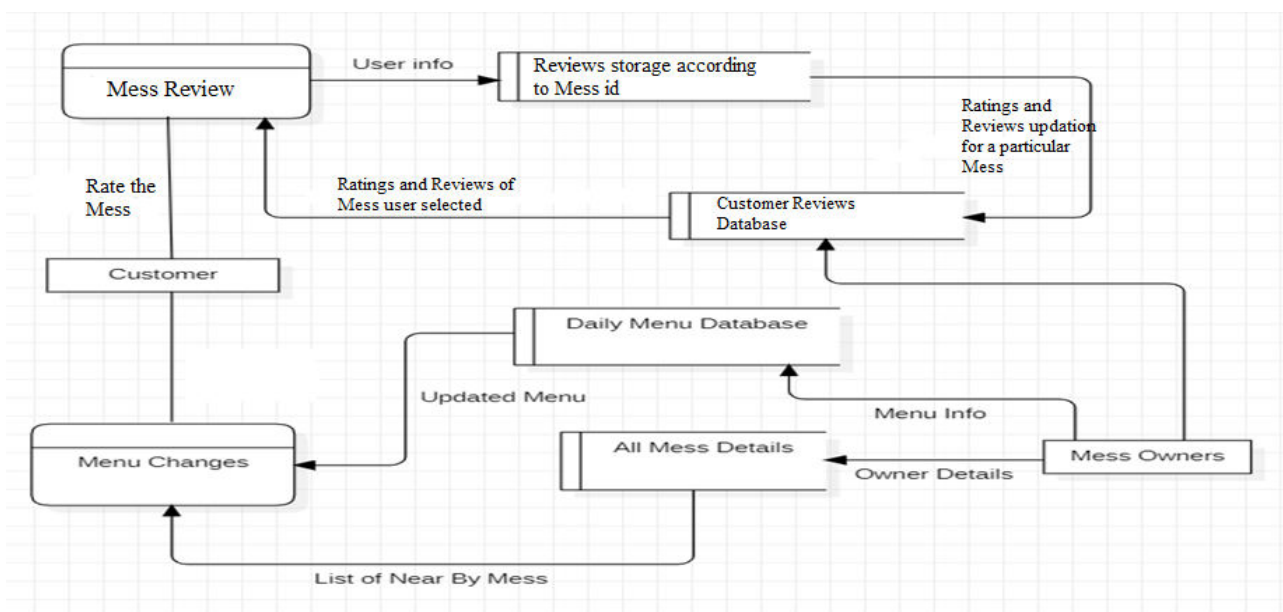


Figure 4.2: Data Flow Diagram level 2

Class Diagram

The Customers , and Restaurant Owner class is responsible for holding geolocation coordinates and restaurant owner class has all the information of restaurant with images .

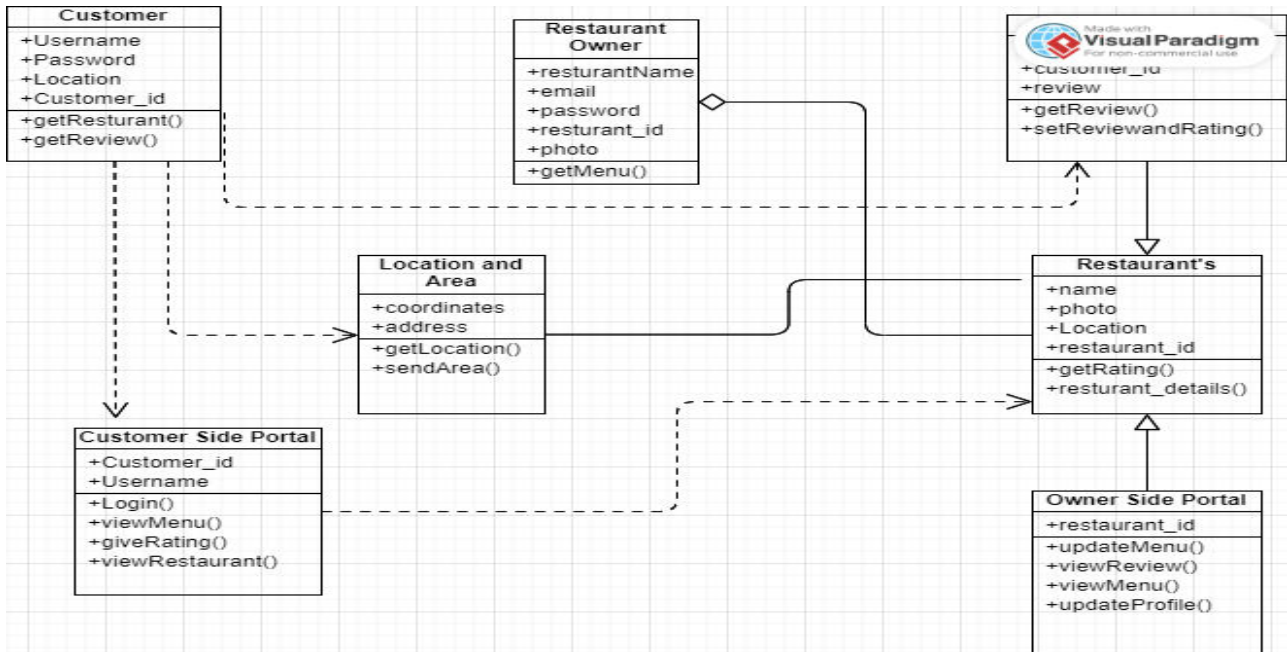


Figure 4.3: Class Diagram

V. IMPLEMENTATION RESULTS

Welcome Page

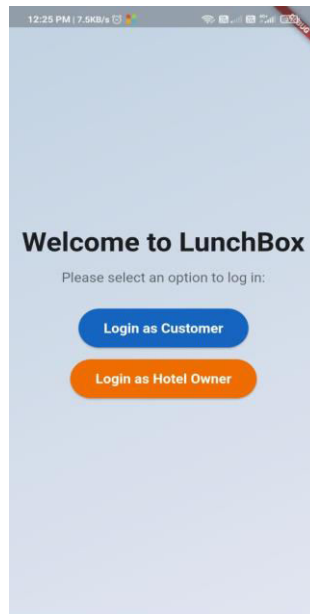


Figure 5.1: Welcome Screen

Welcome Screen has Two options :

1. Login as Customer - Clients that will view the near bywithin 2km radius messes.
2. Login as Hotel Owner – Owners who can update menus and manage their bookings



Client Side:

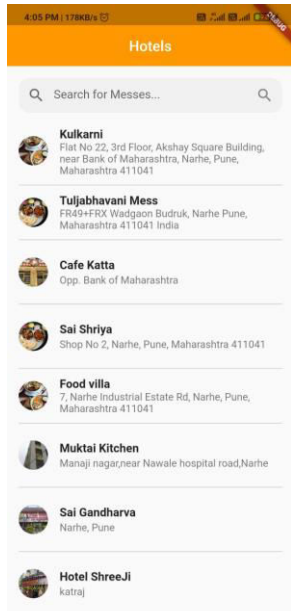


Figure 5.2: Client Home Screen

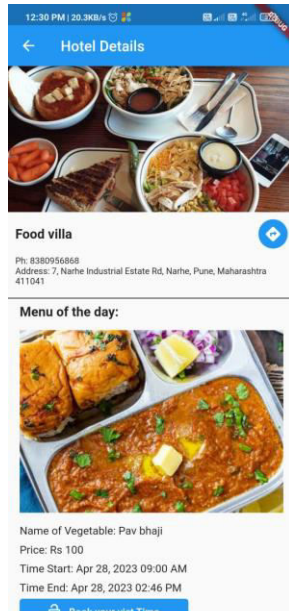


Figure 5.3: Restaurant Screen

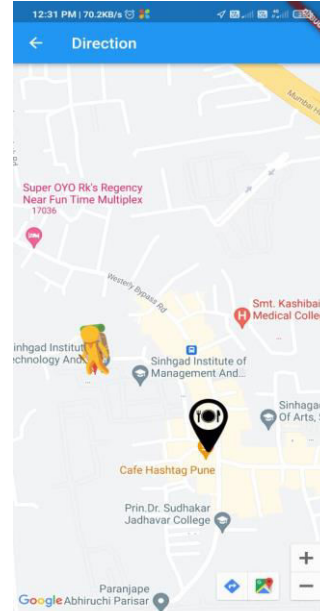


Figure 5.4: Navigation Screen

Mess OwnerSide:

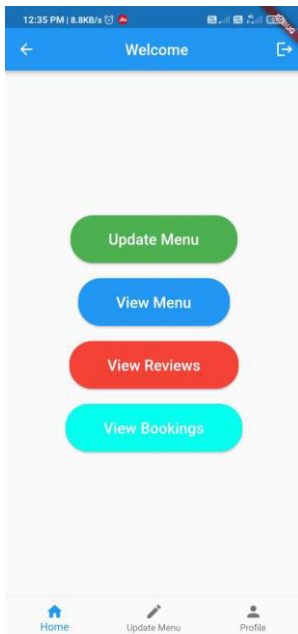


Figure 5.5: Mess owner Home Screen

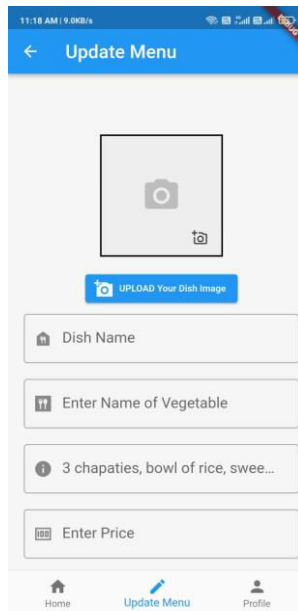


Figure 5.6: Update Menu Screen

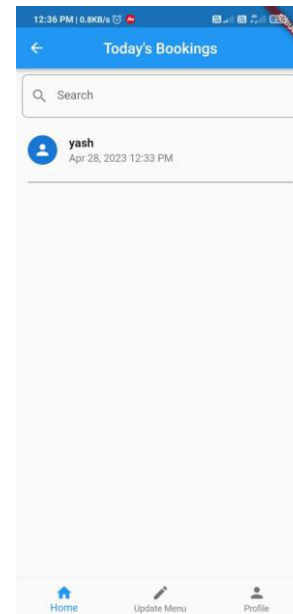


Figure 5.7: View Bookings



## VI. CONCLUSION

In conclusion, the Lunch Box Platform for Mess Owners and Clients offers a practical solution to the problem of finding nearby messes. With the added feature of customer ratings, clients can make informed decisions about where to eat. The platform also allows users to easily check the latest menus of registered messes and kitchens nearby without the need for physical visits. Mess owners can update their menus and rates on a daily basis, and these changes are visible to customers. Overall, this platform provides a convenient and efficient solution for both mess owners and clients, enhancing the dining experience for everyone involved.

## REFERENCES

- [1] Patra, S., Velisetty, K., Patel, P. (2015). GOOGLE MAPS AND RSS INTEGRATION IN ANDROID. International Journal of Students' Research in Technology Management, 1(6), 614-618.
  - [2] C. Chauhan and S. Sehgal, "Sentiment analysis on product reviews," 2017 International Conference on Computing, Communication and Automation (ICCCA), 2017, pp. 26-31, doi: 10.1109/CCAA.2017.8229825.
  - [3] S. Boukhary and E. Colmenares, "A Clean Approach to Flutter Development through the Flutter Clean Architecture Package," 2019 International Conference on Computational Science and Computational Intelligence (CSCI), 2019, pp. 1115-1120, doi: 10.1109/CSCI49370.2019.00211.
  - [4] S. -H. Zou, N. -S. Fang and W. -J. Gao, "Research on online cloud storage technology," 2020 19th International Symposium on Distributed Computing and Applications for Business Engineering and Science (DCABES), 2020, pp. 62-65, doi: 10.1109/DCABES50732.2020.00025.
  - [5] R. Gupta, A. Verma and H. O. Topal, "Customer Segmentation of Indian restaurants on the basis of geographical locations using Machine Learning," 2021 International Conference on Technological Advancements and Innovations (ICTAI), 2021, pp. 382-387, doi: 10.1109/ICTAI53825.2021.9673153.
  - [6] H. ChunLi and J. WenJun, "Aspect-Based Personalized Review Ranking," 2018 IEEE SmartWorld, Ubiquitous Intelligence & Computing, Advanced & Trusted Computing, Scalable Computing & Communications, Cloud & Big Data Computing, Internet of People and Smart City Innovation (SmartWorld/SCALCOM/UIC/ATC/CBDCCom/IOP/SCI), 2018, pp. 1329-1334, doi: 10.1109/SmartWorld.2018.00231.
  - [7] Y. J. Ah, K. H. Jeong, S. J. Woo and L. S. Ho, "Visualization of restaurant information on web maps," The 5th International Conference on New Trends in Information Science and Service Science, 2011, pp. 270-272.
  - [8] Z. -J. Zha, J. Yu, J. Tang, M. Wang and T. -S. Chua, "Product Aspect Ranking and Its Applications," in IEEE Transactions on Knowledge and Data Engineering, vol. 26, no. 5, pp. 1211-1224, May 2014, doi: 10.1109/TKDE.2013.136.
- R. Y. Kim, "Using Online Reviews for Customer Sentiment Analysis," in IEEE Engineering Management Review, vol. 49, no. 4, pp. 162-168, 1 Fourthquarter, Dec. 2021, doi: 10.1109/EMR.2021.3103835.





**INNO SPACE**  
SJIF Scientific Journal Impact Factor  
**Impact Factor: 8.423**



**ISSN** INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA



# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

9940 572 462 6381 907 438 [ijirset@gmail.com](mailto:ijirset@gmail.com)



[www.ijirset.com](http://www.ijirset.com)

Scan to save the contact details