iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 11 **Issue:** IV **Month of publication:** April 2023

DOI: https://doi.org/10.22214/ijraset.2023.50708

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 11 Issue IV Apr 2023- Available at www.ijraset.com

Online Car-Pooling System

Kantem Sai Sreeja[1], Koshika Gowtham Kumar[2], Jeripothula Vishnu Vardha[3], Mr. Syambabu[4]
[1, 2, 3]*Students, Department of Electronics and Computer Engineering, J B Institute of Engineering and Technology, Hyderabad, Telangana*
[4]*Assistant Professor, Department of Electronics and Computer Engineering, J B Institute of Engineering and Technology, Hyderabad, Telangana*

Abstract: Carpooling is a popular means of transportation, especially for commuters who want to save money and reduce their carbon footprint.
A carpooling website can be a useful tool for organizing ridesharing arrangements, allowing people to connect with others who are heading in the same direction.
In this project, we will develop a carpooling website using Python. The website will have features such as user registration and login, ride creation and search, and payment processing. Carpooling is a sustainable means of transportation that is gaining popularity worldwide.
A carpooling website can help organize ridesharing arrangements, allowing people to connect with others who are heading in the same direction. In this project, we will develop a carpooling website using Python programming language. The website will include user registration and login, ride creation and search, and payment processing features. The Flask web framework will be used to handle user requests and responses, ensuring a user-friendly and secure website.

I. INTRODUCTION

Car-pooling, also known as carpooling or ride-sharing, is a popular transportation option that involves multiple individuals sharing a single vehicle to commute to work, school, or other destinations. It is a sustainable and cost-effective alternative to driving alone, as it reduces traffic congestion, air pollution, and individual travel costs.

Car-pooling works by coordinating with other individuals who have similar travel routes and schedules, and sharing the driving responsibilities and costs of a single vehicle. This arrangement can be informal, where individuals within a community or workplace organize their own carpooling arrangements, or it can be organized through dedicated carpooling services that connect individuals with compatible carpooling partners.

There are many benefits to car-pooling, including reduced traffic congestion and pollution, increased social interaction and networking opportunities, and decreased individual transportation costs. Car-pooling can also provide a more enjoyable and stress-free commute, as passengers can relax, read, or work during their commute, while drivers can save on fuel costs and reduce wear and tear on their vehicles.

Overall, car-pooling is a sustainable and convenient transportation option that can benefit individuals, communities, and the environment. By reducing the number of single-occupancy vehicles on the road, car-pooling can help reduce traffic congestion, lower transportation costs, and promote more sustainable and efficient transportation practices.

II. PROPOSED METHODOLOGY

In the Figure a system is displayed with backend as Node JS in the center which sends the HTML pages to the frontend which is React Native App which then sends back the API requests while the Node JS retrieves the data from the database which is Firebase here.

Modules are important to have a precise overview on the development of the project process so that while execution clarity of the next step is maintained. Carpooling using python has following modules:

1) User Registration and Profile Creation
2) Ride Search and Matching
3) Ride Scheduling and Booking
4) Driver and Rider Ratings
5) Payment Processing

©IJRASET: All Rights are Reserved

6) User Safety and Security
7) User Dashboard
8) Website Administration

Car Pooling using python comprises these five important modules. Each module is explained in detail below.

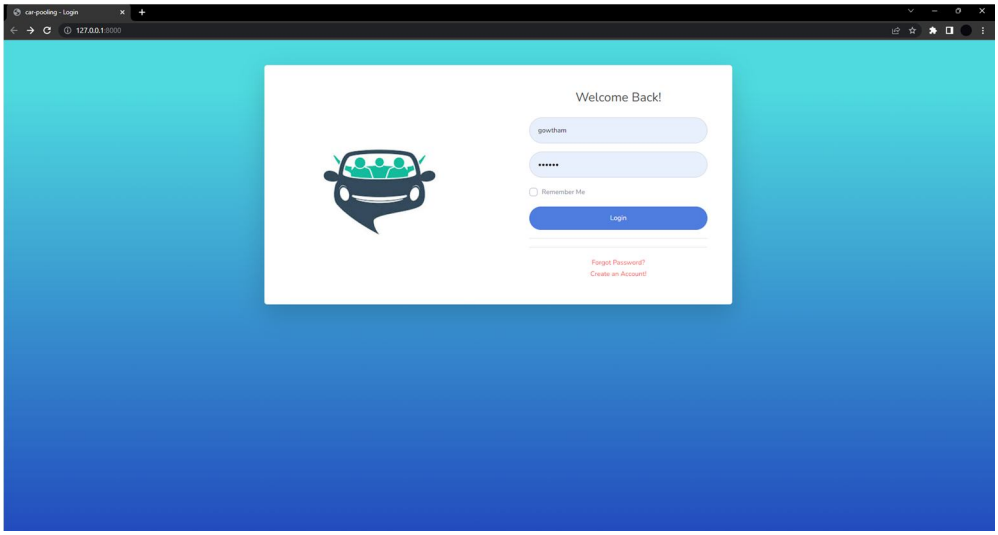
a) *User Registration and Profile Creation:* Users can register and create a profile on the website, including their name, contact information, and travel preferences.
b) *Ride Search and Matching:* Users can search for rides based on their origin, destination, and travel date and time. The website uses an algorithm to match riders with drivers who are heading in the same direction
c) *Ride Scheduling and Booking:* Once a ride is matched, the website allows users to schedule and book their ride, including the pickup location and time, and the payment method.
d) *Driver and Rider Ratings:* The website includes a rating system for drivers and riders, allowing users to rate their experience with each other and provide feedback.
e) *Payment Processing:* The website allows for payment processing for the ride booking, with options for both drivers and riders to pay for their respective portion of the ride.
f) *User Safety and Security:* The website includes safety and security features, such as user verification, emergency contacts, and in-app messaging.
g) *User Dashboard:* The website includes a user dashboard for both drivers and riders, providing access to their ride history, upcoming rides, and other account information.
h) *Website Administration:* The website includes an administration panel for the website administrators to manage user accounts, ride bookings, and website content.

III. LITERATURE REVIEW

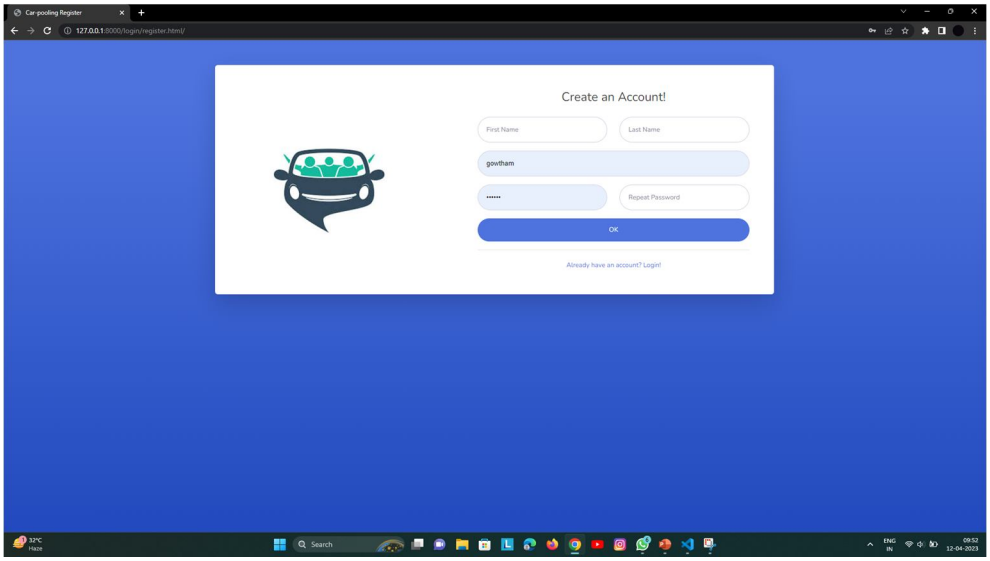
In many nations, Carpooling has been established specifically for Employees and Students.
The research papers that discuss the current car pooling systems in use around the world are listed below.
Mayur K. Thorat and Rahul M. Lahakare have given an overview of Carpooling system With SMS alerts emphasizing more on overcoming issues encountered before and how to make it more secure. They gave the idea of using it for both inter-city and intra-city travels. They tried to expand their user base to blind people also who can use speech recognition technique to precisely know the location at any time.
R. Manzini and A. Pareschi have even a decision support system for the application of carpooling system. This will be used to support passengers to in determining which cars to use. Swati. R. Tare, Neha B. Khalate and Ajita A. Mahapadi have contributed by suggesting ideas on how make this application more user-friendly for passengers and not only for drivers.
They especially worked on reliability of Real time System and security of woman travellers. BlaBlaCar is the world's largest long-distance ridesharing community. Conceived in December 2003 by Frédéric Mazzella, and founded in 2006,
BlaBlaCar connects drivers and passengers willing to travel together between cities and share the cost of the journey. BlaBlaCar has more than 20 million members across 19 countries.
Members must register and create a personal online profile, which includes ratings and reviews by other members, social members show how much experience they have of the service, meaning those with more-known as “ambassadors” - attract more ride shares.
One major shortcoming of this application is that it only offers inter-city carpooling options which our application aims to rectify and add intra-city commuting options too. FolksVagn offers a community-based system that helps people share rides with others. While the passengers get rides at costs much cheaper than a regular taxi service, the car owner gets a share of the fare.
It is open only to corporate clients as it requires a corporate email for registration and has a prepaid account or online wallet system to pay for the ride.
The famous taxi-hire application “taxifares” on android platform is the first car sharing application who took the initiative and introduced Carpooling for “Vacationers” .i.e. for those who are on vacations and want to spend less on travelling to save their pocket.
They started it for some particular routes only like “Chandigarh-Delhi”, “Mysore-Manali” etc. and they are looking forward to reach out the masses in coming future.**TS**

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |

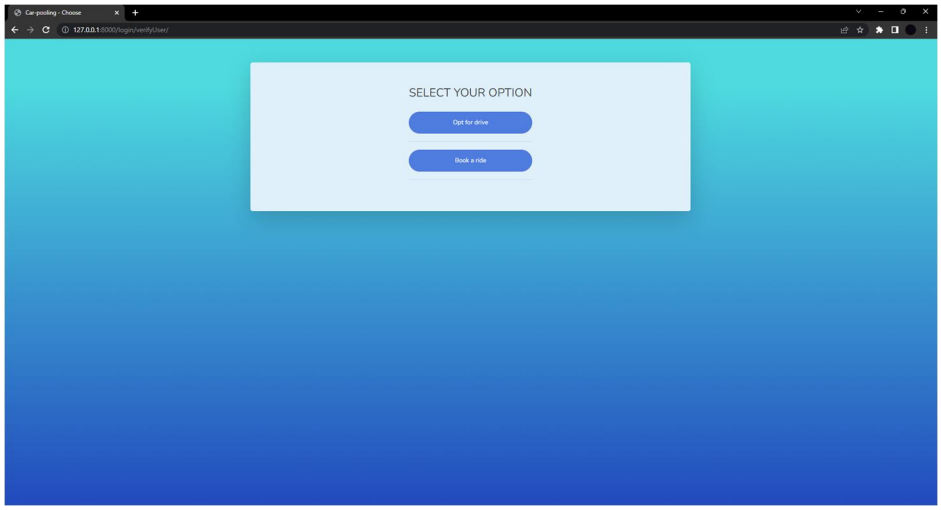
A. Login page



B. Sign Up Screen

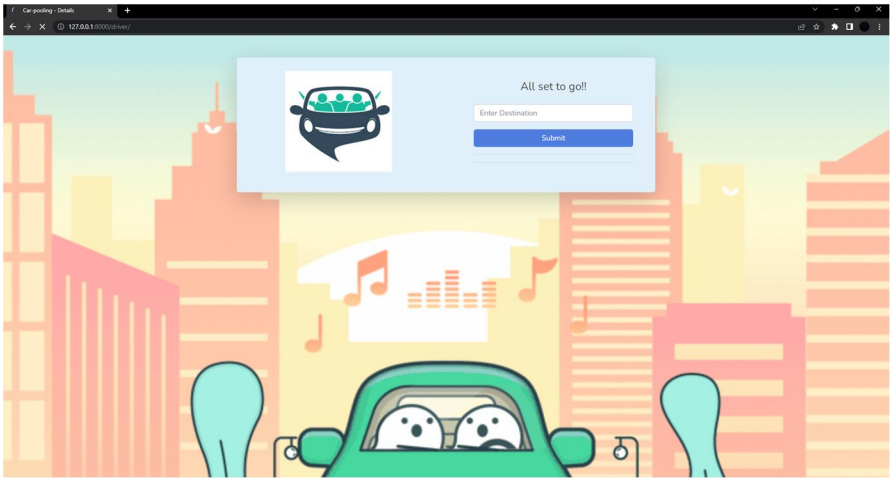


C. Option to ride or drive

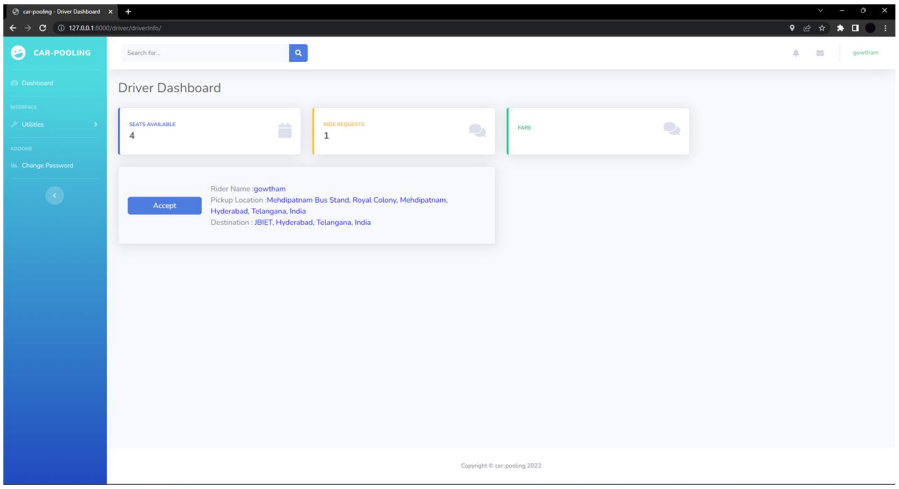


©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |

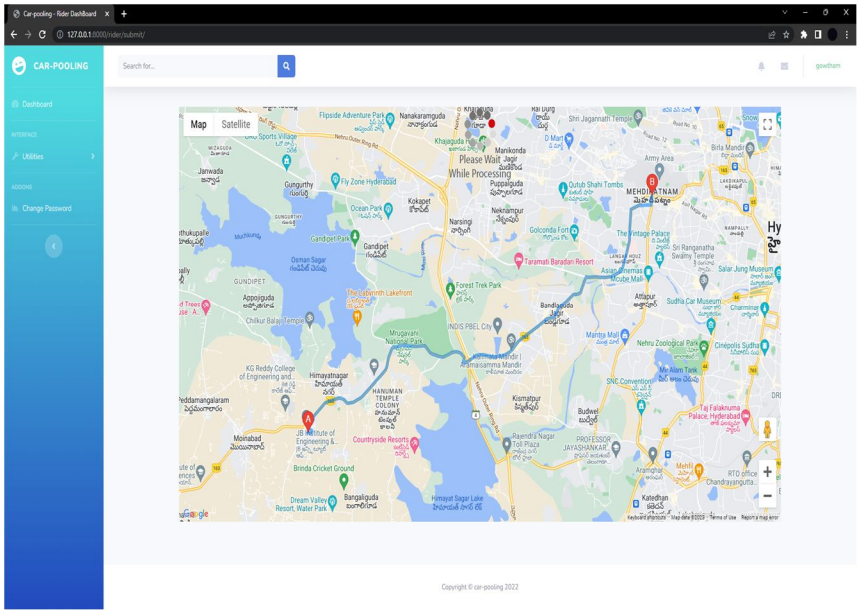
D. Driver destination part



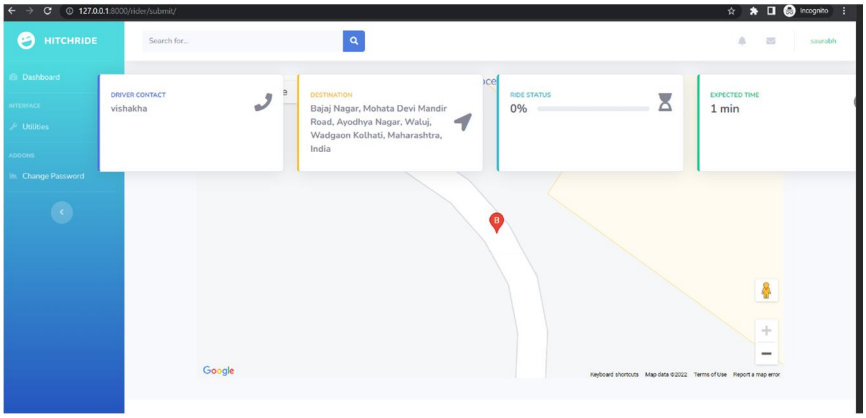
E. Driver Dashboard



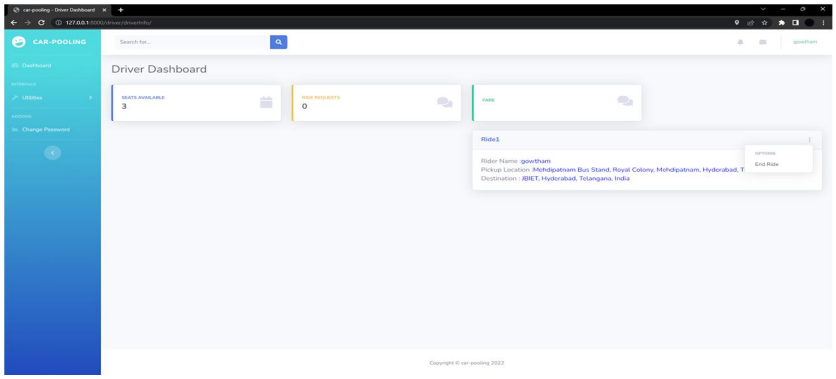
F. Rider route map



G. *Status*



H. End ride

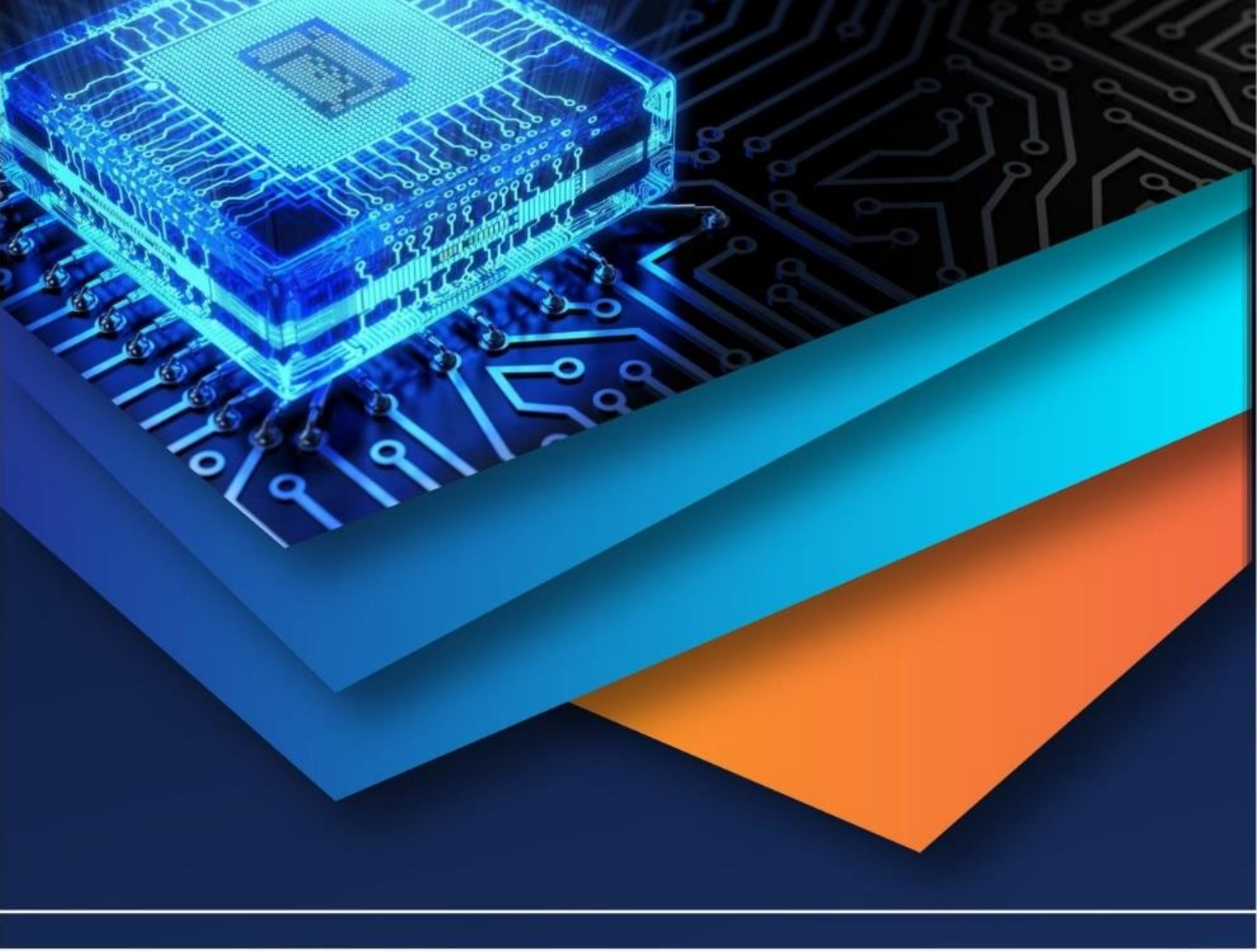


IV. CONCLUSIONS

Carpooling is a sustainable transportation option that can benefit individuals, communities, and the environment. A carpooling website built using Python can help automate the process of matching riders with drivers, providing scheduling, payment, and communication features, and implementing policies to ensure trust and safety among users. By promoting carpooling as a viable transportation option, we can reduce traffic congestion, carbon emissions, and transportation costs, and improve air quality and productivity for commuters. Carpooling is an effective transportation option that can have significant environmental, social, and economic benefits. By encouraging people to share rides, we can reduce traffic congestion, carbon emissions, and transportation costs. A carpooling website built using Python can help streamline the process of matching riders with drivers, providing scheduling, payment, and communication features, and implementing policies to ensure trust and safety among users.

REFERENCES

[1] Author: Mayur K. Thorat, Rahul M. Lohakare, “International Journal of Engineering Research and Technology (IJERT)”, ISSN: 2278-0181 (ISO 3297:2007) Vol. 2, Issue 11.
[2] Author: R. Manzini and A. Pareschi, “A Decision-Support System for the Car Pooling Problem,” Journal on transportation technologies, Vol.2, No. 2, 2012, pp. 85-101. DOI:10.4236/jtts.2012.22011.
[3] Author: Swati. R. Tare, Neha B. Khalate and Ajita A. Mahapadi,”International Journal of Advanced Research in Computer Science and Software Engineering 3(4)”, ISSN:2277 128X April - 2013, pp. 54-57.
[4] Beria P., Bertolin A., Il Carpooling in Italia: Analisi dell’Offerta. TRASPOL, 2016, Report 2/2016. Beria P., Bertolin A., Il Carpooling in Italia: Analisi dell’Offerta. TRASPOL, 2016, Report 2/2016. Beria P., Bertolin A., Il Carpooling in Italia: Analisi dell’Offerta. TRASPOL, 2016, Report 2/2016. Beria P., Bertolin A., Il Carpooling in Italia: Analisi dell’Offerta. TRASPOL, 2016, Report 2/2016.
[5] Arpita D. Real-Time Carpooling System for Android Platform. International Journal of Engineering and Innovative Technology (IJEIT). 2012:436-437.
[6] Sneha M, et al. Take Me with You: A Smart Carpooling App Using Genetic Algorithm. International Engineering Research Journal (IERJ). 2016;2:962-964.
[7] Nale NM, et al. Real-Time Carpooling Application for Android Platform. International Journal of Engineering and Computer Science. 2016;5:15900-15903.
[8] Kapil K, et al. Car Pooling Android Application. International Journal of Engineering Research in Computer Science and Engineering (IJERCSE). 2016;3:29-3
[9] Bharadwaj AN, et al. Public Bicycle-Sharing System. National Conference on Product Design. 2016;1-4.
[10] Dodal AS, et al. Bike Sharing and Rental System: An Android Application. International Journal for Research in Applied Science and Engineering Technology. 2016;1123-1127.
[11] Sumit S, et al. SPAC DRIVE. : Bike Sharing System for Improving Transportation Efficiency Using Euclidian Algorithm. International Journal of Advance Engineering and Research Development. 2017; 3:127-130.



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)