

# Journey Jive

Malu G<sup>1</sup>, Renjini LR<sup>2</sup>, Harikrishnan S R<sup>3</sup>

Student, MCA, CHMM College for Advanced Studies, Trivandrum, India<sup>1</sup>

Assistant Professor, MCA, CHMM College for Advanced Studies, Trivandrum, India<sup>2</sup>

Associate Professor, MCA, CHMM College for Advanced Studies, Trivandrum, India<sup>3</sup>

**Abstract:** *With advances in technology, mobiles are becoming the next generation of computers. Developers are exploring the full potential of mobile technology. Pool' up is a mobile app that enhances existing software by using GPS to enable efficient and flexible carpooling. Carpooling allows people traveling to the same destination to share a vehicle, reducing fuel costs, traffic, pollution, and global warming. With the growing population, carpooling is essential to preserve our world. Many carpooling websites exist but often fail in practice due to a lack of flexibility and payment security. Previous carpooling apps had issues like constant driver tracking and passengers being unaware of driver status, along with security concerns. Carpooling is a web-based application that is portable and low-maintenance, involving multiple clients and a single server interacting via the internet. Users register and create an account, providing mandatory photo ID for security. The method includes opening a carpool schedule web page, submitting schedule changes, updating the page, and sending notifications to carpoolers. The system includes devices for loading the schedule, submitting changes, storing data, and sending notifications. To overcome previous system drawbacks, we proposed a new application focusing on security issues. We use a comment and rating system for passengers and drivers, helping others know about their travel companions. Our system includes modules for drivers, passengers, comments, ratings, and Google Maps.*

**Keywords:** Carpooling, Block Chain concept, GPS Embedded, User Friendly Web Application

## I. INTRODUCTION

Journey Jive is a web-based application that is easily portable and requires low maintenance. It consists of multiple clients and a single server, with the client and server interacting via the Internet. Users need to register and create an account by providing certain mandatory information, such as a photo identity for security purposes. The method involves the following steps: opening a carpool schedule web page from a carpool application, submitting a carpool schedule change, updating the carpool schedule web page, sending an email notification to the group of carpoolers, and pushing notifications to a plurality of devices owned by the group of carpoolers. The system includes multiple devices for loading a carpool schedule web page corresponding to a carpool group from a carpool application and submitting carpool schedule changes. It also includes a carpool schedule server for storing and providing carpool data related to one or more groups of carpoolers, receiving submitted carpool schedule changes, and sending email notifications and push notifications about the submitted carpool schedule changes. To overcome the drawbacks of previous systems or applications, we have proposed an application focused on security issues that led to the failure of previous systems. To address security concerns, we are implementing a comment and rating system. Both passengers and drivers have the ability to rate and comment on each other, providing useful information for those traveling with the same passengers and drivers. Our system will include modules for drivers, passengers, comments and ratings, and Google Maps integration. It will communicate with an IIS server, enabling two-way communication between drivers and passengers, and creating a flexible environment.

## II. LITERATURE REVIEW

With the rapid advancement in mobile technology, smartphones are evolving into powerful computing devices that are transforming various aspects of daily life, including transportation. One notable area of transformation is in carpooling, which aims to optimize travel by enabling individuals with similar destinations to share rides. This practice offers significant benefits, such as reducing traffic congestion, lowering fuel consumption, minimizing pollution, and

contributing to global warming mitigation. Despite the potential advantages, earlier carpooling solutions, predominantly web-based, faced several limitations, including lack of flexibility, inadequate payment security, and ineffective communication between drivers and passengers. The advent of mobile applications marked a significant improvement over these traditional web-based carpooling systems. Mobile technology introduced real-time communication and dynamic updates, which addressed some of the major shortcomings of earlier systems. However, the initial mobile carpooling apps still struggled with issues such as inadequate driver tracking and insufficient transparency regarding driver status, which posed safety concerns. Additionally, security issues, including the potential for fraudulent activities and privacy breaches, remained significant challenges. The lack of robust mechanisms for verifying users and securing transactions contributed to these concerns. In response to these challenges, modern carpooling applications like Pool' Up have been developed to provide more effective solutions. Pool' Up leverages GPS technology to enable real-time tracking of vehicles, offering both drivers and passengers enhanced visibility and peace of mind. This feature directly addresses the problem of driver tracking, allowing passengers to know the exact location of their ride and ensuring that drivers are aware of their passengers' locations as well. Such transparency is crucial for enhancing safety and building trust among users. Security improvements are another key aspect of modern carpooling apps. Pool' Up, for instance, incorporates mandatory photo ID verification during user registration, which helps to establish trust and reduce the risk of fraudulent activities. Additionally, the app features a comment and rating system that allows users to provide feedback on their travel companions. This feature not only fosters accountability but also enables future users to make informed decisions based on the experiences of others. Moreover, Pool' Up utilizes Google Maps for route optimization, a feature that significantly enhances the carpooling experience. By integrating Google Maps, the app helps users plan and adjust routes effectively, ensuring that carpooling is as efficient as possible. This integration also facilitates real-time updates and notifications regarding schedule changes, which are essential for maintaining the flexibility and responsiveness of the carpooling service. In summary, the integration of advanced mobile technology into carpooling applications has led to substantial improvements over earlier systems. Pool' Up exemplifies this progress by addressing previous drawbacks through enhanced tracking, security measures, and route optimization. These advancements contribute to a more efficient, secure, and user-friendly carpooling experience, aligning with the growing need for sustainable transportation solutions in an increasingly populated world.

### III. PROPOSED METHOD

Carpooling, also known as ride-sharing or lift-sharing, involves sharing a vehicle among individuals who wish to travel the same route and are open to sharing their vehicles and associated costs. This approach utilizes private vehicles and divides the travel and maintenance expenses among all passengers, aiming to increase vehicle sharing among users and consequently reduce the number of single-occupancy vehicles. This method is often adopted by specific groups, such as coworkers, university students, or a mix of both, who integrate carpooling into their daily routines. It is also used for less frequent trips to other cities. Social networks and carpooling websites make it easy to find fellow carpoolers. Carpooling offers numerous advantages, including alleviating parking issues due to fewer vehicles, reducing energy consumption and pollution, lowering travel costs, and providing an alternative transportation mode in areas with limited public transit options. However, there are a few inconveniences associated with this service. One is that drivers may experience reduced independence, as accommodating multiple passengers involves schedule constraints. The primary concern, though, is security, as carpooling with strangers can be intimidating due to the potential risks, even if the actual crime rate is low. To address security concerns, many platforms implement reputation systems that flag problematic users and allow responsible users to build trust. These systems enhance the value of the carpooling service by providing some assurance to users. Another strategy involves gradually introducing the service to new niches and leveraging social networks to connect people. Successful carpooling applications often conduct background checks and require criminal records during the signup process to ensure a minimum level of security. These measures help mitigate the security issues that pose the most significant barrier to entry in carpooling services.

#### IV. TECHNOLOGY USED

##### Visual Studio 2019

Visual Studio is used for creating computer programs, websites, web applications, web services, and mobile applications. Visual Studio leverages Microsoft development platforms, such as the Windows API, Windows Forms, Windows Presentation Foundation, Windows Store, and Microsoft Silverlight, to produce both native and managed code. As a fully-featured and extensible IDE, Visual Studio is available for free and supports the development of modern applications for Android, iOS, and Windows, as well as web applications and cloud services. It does not inherently support any specific programming language, solution, or tool. Instead, it allows for the integration of functionalities through the use of VSPackages. Once installed, these functionalities become accessible as services within the IDE. Visual Studio provides three core services: SVsSolution, which facilitates the enumeration of projects and solutions; SVsUIShell, which offers windowing and UI capabilities (such as tabs, toolbars, and tool windows); and SVsShell, which handles the registration of VSPackages. The IDE also manages the coordination and communication between these services. All editors, designers, project types, and other tools within Visual Studio are implemented as VSPackages, and the IDE uses the Component Object Model (COM) to access these packages. The Visual Studio SDK includes the Managed Package Framework (MPF), a set of managed wrappers around the COM interfaces, enabling the creation of packages in any CLI-compliant language. However, the MPF does not provide all the functionalities offered by the Visual Studio COM interfaces.

##### Blockchain Technology

Blockchain technology is an innovative system that serves as the backbone for cryptocurrencies such as Bitcoin and extends its potential to various other fields. Essentially, a blockchain is a decentralized digital ledger that records transactions across a network of computers in a secure, transparent, and unchangeable manner. The term "blockchain" reflects the technology's structure: data is stored in blocks, which are linked together in a sequential chain. Each block contains a list of transactions, a timestamp, and a reference to the previous block, creating a continuous and tamper-proof chain. Once data is entered into a block and added to the chain, it becomes extremely difficult to alter or delete without modifying all subsequent blocks, which requires agreement from the majority of the network participants. A fundamental characteristic of blockchain technology is its decentralization. Unlike conventional databases controlled by a single entity, a blockchain relies on a distributed network of computers, known as nodes. Each node keeps a full copy of the blockchain, which strengthens security and reduces the chances of data tampering or centralized failures. This decentralized setup makes blockchains particularly robust against hacking and fraudulent activities. A major advantage of blockchain technology is its decentralization. Unlike traditional databases controlled by a single entity, a blockchain functions on a distributed network of computers, or nodes. Each node holds a complete copy of the blockchain, which boosts security and reduces the risk of data tampering or centralized failures. This decentralized model makes blockchains particularly resilient against hacking and fraud. Beyond the realm of cryptocurrencies, blockchain technology has promising applications in areas such as supply chain management, healthcare, finance, and voting systems. It offers transparent and verifiable transaction records, enhances efficiency, and reduces costs. blockchain technology represents a significant advancement with its focus on security, transparency, and decentralization. Its potential applications are vast and can lead to meaningful improvements across various sectors of society.

##### C#.Net

C# programs operate on the .NET framework, utilizing the common language runtime (CLR), a virtual execution environment developed by Microsoft. The CLR implements the common language infrastructure (CLI), an international standard that facilitates the creation of execution and development environments where different languages and libraries can seamlessly interact. When a C# program is executed, its assembly is loaded into the CLR. The CLR performs Just-In-Time (JIT) compilation, transforming the Intermediate Language (IL) code into native machine instructions specific to the host system. This process optimizes performance by compiling code as it is needed during execution. The CLR offers various services to enhance application reliability and performance, including automatic garbage collection, which helps manage memory by reclaiming unused objects, and exception handling, which provides structured error management. Additionally, the CLR oversees resource management, ensuring efficient use of system resources.

**Microsoft SQL Server 2008**

Organizations today face numerous data challenges, including the proliferation of data and systems across their enterprises, the need for consistent data access for employees, customers, and partners, and the desire to provide information workers with meaningful data to drive informed decisions. Additionally, there is a constant mandate to control costs without sacrificing application availability, security, or reliability. The next release of SQL Server aims to address these challenges effectively. SQL Server 2008, Microsoft's next-generation data management and analysis solution, promises to deliver enhanced security, scalability, and availability to enterprise data and analytical applications, while also simplifying their creation, deployment, and management. Building on the strengths of SQL Server 2000, SQL Server 2008 offers an integrated data management and analysis solution designed to assist organizations of all sizes. The new release seeks to maximize IT productivity by reducing the complexity involved in creating, deploying, and managing database applications. It empowers developers with a rich, flexible, and modern development environment, enabling the creation of more secure database applications. SQL Server 2008 facilitates data sharing across multiple platforms, applications, and devices, making it easier to connect internal and external systems. It also delivers robust, integrated business intelligence solutions that support informed business decisions and enhance productivity across organizations. In addition to these benefits, SQL Server 2008 focuses on controlling costs without compromising performance, availability, or scalability. Enterprises can expect advancements in three key areas: enterprise data management, developer productivity, and business intelligence. In today's connected world, data and the systems that manage it must always be accessible to users. With SQL Server 2008, users and IT professionals will benefit from reduced application downtime, increased scalability and performance, and enhanced security controls, ensuring that the data infrastructure is robust and reliable for all organizational needs.

**V. DATABASE DESIGN**

Database design is crucial in software systems, focusing on creating an efficient, flexible structure for storing and accessing data. The goal is to ensure easy, cost-effective data access. It involves defining the structure of business objects in a client/server system, requiring normalization to minimize redundancy and maintain data integrity. Normalization involves organizing attributes into tables to eliminate redundancy and ensure correct data relationships. The design process also includes determining physical access paths for optimal performance.

Login

Field Name	Data Type	Size	Constraint	Description
userid	int	4	Foreign Key	User Identification no from the user registration table
username	varchar	20	Primary key	User Name
pwd	varchar	10	NOT NULL	password
status	int	2	NOT NULL	Status

Complaint

Field Name	Data Type	Size	Constraint	Description
dcompid	int	4	Primary key	Complaint ID
senderid	varchar	20	Foreign key	Sender ID from user registration table
receiverid	varchar	20	Foreign key	Receiver ID from the user registration table
sub	varchar	20	NOT NULL	Subject
msg	varchar	50	NOT NULL	Message
date1	varchar	20	NOT NULL	Sending Date
reply	varchar	50	NOT NULL	Reply
date2	varchar	20	NOT NULL	Reply Date
status	int	4	NOT NULL	Status

Registration

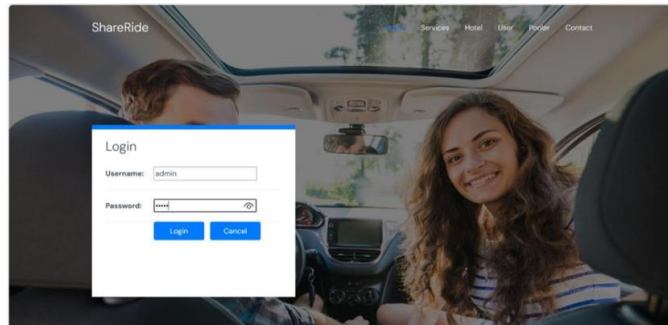
Field Name	Data Type	Size	Constraint	Description
did	int	4	Primary key	User Identification
username	varchar	20	Foreign key	User Name from the Login table
pwd	varchar	20	NOT NULL	Password
name	varchar	20	NOT NULL	Name of the Driver
emailid	varchar	2	NOT NULL	Email ID
gender	varchar	6	NOT NULL	Gender
contactno	varchar	12	NOT NULL	Contact number
dob	varchar	20	NOT NULL	Date of Birth
address	varchar	50	NOT NULL	Address of driver
dquestion	varchar	20	NOT NULL	question
danswer	varchar	20	NOT NULL	Answer
status	int	4	NOT NULL	status

**VI. FUTURE SCOPE**

In the future, a system is envisioned that integrates multiple mobile devices to manage a carpool schedule effectively. This system will be part of a carpool application designed to facilitate carpool groups. Users will be able to access and load a dedicated web page for their carpool group through the application on their mobile devices. This web page will allow them to view current schedules and submit any changes necessary to accommodate their needs. A central component of this system will be a carpool schedule server. This server is responsible for storing and managing all carpool data related to one or more groups of carpoolers. When a user submits a change to their carpool schedule via the mobile app, the server receives and processes this information. The server ensures that the updated schedule is stored accurately and efficiently, reflecting any changes made by the group members. In addition to processing schedule changes, the system is designed to keep all carpool group members informed about any modifications. Once a change is submitted and processed, the system automatically sends an email notification to all relevant parties, ensuring that everyone is aware of the new schedule. Furthermore, it pushes notifications to the users' mobile devices, providing real-time updates and alerts regarding the carpool schedule changes. By leveraging mobile technology and centralized data management, this carpool scheduling system aims to streamline the organization and communication of carpool groups, making it easier for users to coordinate their transportation needs effectively and efficiently.

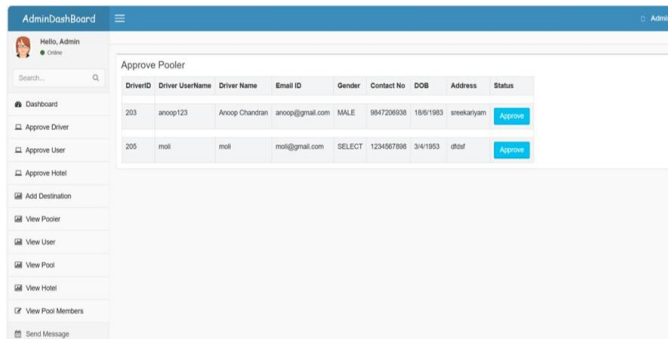
**VII. RESULT**

Login Form

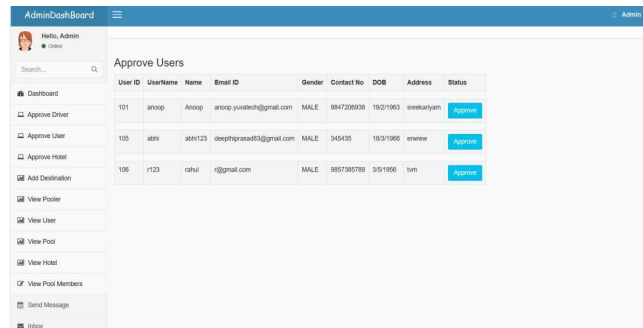




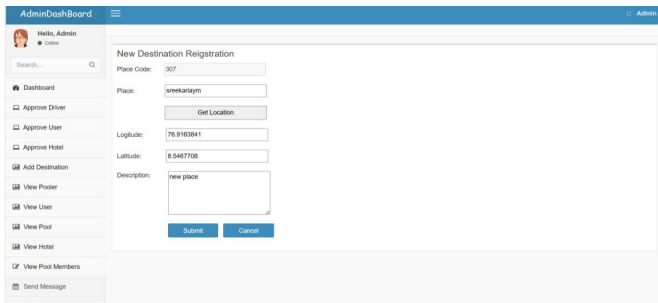
Admin Approve Pooler



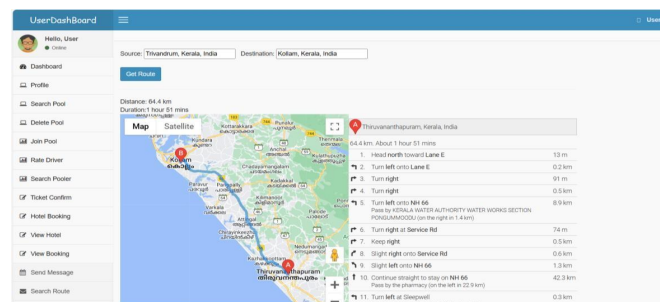
Admin Approve User



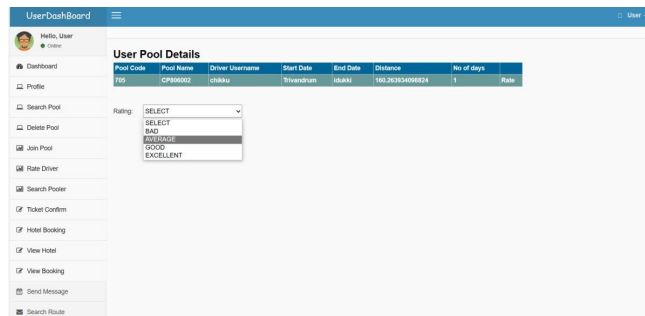
Admin Add Destination



User Search Route



User Rate Driver



Pool Code	Pool Name	Driver Username	Start Date	End Date	Distance	No of days	Rate
775	CP80002	chiku	17/08/2024	18/08/2024	100.2033488824	1	

**VIII. SUMMARY**

This project introduces a solution to the ever-increasing traffic problems, promising a significant improvement in the way future generations approach driving. Our commitment to societal change drives us to implement innovations that enhance people's lives. Carpooling, in particular, stands out as a catalyst for positive transformation, offering numerous benefits to society, individuals, and the environment. The proposed method involves several key steps to streamline the carpooling process. This platform allows participants to view current schedules and submit any necessary changes easily. Once a change is submitted, the system updates the carpool schedule web page to reflect the new information accurately. To ensure effective communication among all carpool group members, the system automatically sends email notifications detailing the changes. Additionally, real-time push notifications are sent to all group members' mobile devices, providing timely updates about the revised schedule. By facilitating better coordination and communication, this method enhances the efficiency and convenience of carpooling. Through this project, we aim to make carpooling a more attractive and viable option, reducing traffic congestion, lowering individual transportation costs, and minimizing environmental impact. Our solution paves the way for a smarter and more sustainable driving future.

**REFERENCES**

- [1]. 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]. 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.
- [3]. 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: Analisisidell'Offerta. TRASPOL, 2016, Report 2/2016. Beria P., Bertolin A., Il Carpooling in Italia: Analisisidell'Offerta. TRASPOL, 2016, Report 2/2016.
- [5]. Arpita D. Real-Time Carpooling System for Android Platform. International Journal of Engineering and Innovative Technology (IJEIT).
- [6]. Sneha M, et al. Take Me with You: A Smart Carpooling App Using Genetic Algorithm. International Engineering Research Journal (IERJ).
- [7]. Nale NM, et al. Real-Time Carpooling Application for Android Platform. International Journal of Engineering and Computer Science.
- [8]. Kapil K, et al. Car Pooling Android Application. International Journal of Engineering Research in Computer Science and Engineering (IJERCSE).
- [9]. Bharadwaj AN, et al. Public Bicycle-Sharing System. National Conference on Product Design.
- [10]. Sumit S, et al. SPAC DRIVE.:Bike Sharing System for Improving Transportation Efficiency Using Euclidian Algorithm. International Journal of Advance Engineering and Research Development