MediCab
Mobile Application providing Smart Ambulance Service

A PROJECT REPORT

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in partial fulfillment for the award of the degree of
BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING

At

PRESIDENCY UNIVERSITY
BENGALURU
JANUARY 2024

PRESIDENCY UNIVERSITY

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that the Project report **"MEDICAB"** being submitted by "**Nikshith K S**, **Kishan Gowda** and **Naveen R**" bearing roll numbers "**20201CSE0538**, **20201CSE0541** and **20201CSE0558**" in partial fulfilment of requirement for the award of degree of Bachelor of Technology in Computer Science and Engineering is a bonafide work carried out under my supervision.

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DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **MediCab** in partial fulfilment for the award of Degree of **Bachelor of Technology** in **Computer Science and Engineering**, is a record of our own investigations carried under the guidance of **Dr. Joseph Michael Jerard V, Professor, School of Computer Science and Engineering, Presidency University, Bengaluru.**

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

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ABSTRACT

The "MediCab" report explores the innovative integration of medical services and transportation to enhance healthcare accessibility, especially in remote or underserved areas. This comprehensive study investigates the design, implementation, and impact of the MediCab system, a novel healthcare delivery model. Leveraging advanced technologies and strategic partnerships, MediCab aims to overcome geographical barriers, providing swift and efficient transportation for patients to medical facilities.

The report delves into the operational framework of the MediCab system, highlighting its user-friendly interface, real-time tracking, and collaboration with healthcare professionals. Drawing on data from pilot programs and case studies, the report assesses the effectiveness of the MediCab initiative in reducing patient transportation challenges, improving timely access to medical care, and ultimately enhancing health outcomes.

A thorough analysis is conducted on the main elements of the MediCab system, such as its technological framework, efficiency in operations, and cooperation with medical specialists. Case studies and data from the pilot program offer insightful information on the concrete advantages of MediCab, showcasing its ability to drastically lower obstacles to medical care by offering dependable and prompt transportation services.

KEYWORDS: Smart Mobile Application, Ambulance Service

ACKNOWLEDGEMENT

First of all, we indebted to the **GOD ALMIGHTY** for giving me an opportunity to excel in our efforts to complete this project on time.

We express our sincere thanks to our respected dean **Dr. Md. Sameeruddin Khan**, Dean, School of Computer Science and Engineering & Information Science, Presidency University for getting us permission to undergo the project.

We record our heartfelt gratitude to our beloved Associate Deans **Dr. Kalaiarasan C** and **Dr. Shakkeera L**, School of Computer Science Engineering & Information Science, Presidency University and **Dr. Pallavi R,** Associate Professor, Head of the Department, School of Computer Science and Engineering, Presidency University for rendering timely help for the successful completion of this project.

We are greatly indebted to our guide **Dr. Joseph Michael Jerard V**, Professor, School of Computer Science and Engineering, Presidency University for his inspirational guidance, and valuable suggestions and for providing us a chance to express our technical capabilities in every respect for the completion of the project work.

We would like to convey our gratitude and heartfelt thanks to the University Project-II Coordinators **Dr. Sanjeev P Kaulgud**, **Dr. Mrutyunjaya MS** and also the department Project Coordinators **Mr. Zia Ur Rahman, Mr. Peniel John Whistely.** We thank our family and friends for the strong support and inspiration they have provided us in bringing out this project.

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CHAPTER-1
INTRODUCTION

Many countries are working on transforming themselves into Smart Countries. If the city is going to be called a Smart City, then it should have all possible achievements in the sector of smart technology which is needed. This is the most challenging job to improve efficiency in the healthcare sector. It includes various aspects such as getting an ambulance in a minimum amount of time and providing proper treatment to the patient so that the chance of surviving increases in critical condition. Due to traffic, many problems are raised in urban areas which have caused much difficulty for the ambulance. Nowadays, road accidents in the city have increased and the loss of life due to accidents is even more crucial. We can overcome these limitations by upcoming technology like the Internet of Things and also ambulance services. Various hardware devices can be connected via wired and wireless networking tools and software implementations by which service will be provided faster to the users. By keeping these things in mind we've developed this application. It is also an attempt to participate actively in the process of transforming into a smart city and making required services more accessible will help users.

The introduction of the Medical Ambulance idea, which is comparable to the well-known ride-hailing services Ola and Uber, is a ground-breaking development in the field of patient transportation and emergency healthcare. By customizing on-demand ride services to the specific requirements of the healthcare sector, this creative method capitalizes on the effectiveness and convenience of these services. The following salient features underscore the importance of a Medical Ambulance service that draws inspiration from Ola and Uber.

1.1 On-Demand Healthcare Access :

Imagine a service that brings the immediacy and accessibility of ride-hailing platforms like Ola and Uber to the realm of emergency medical transportation. Medical Ambulance redefines the concept of on-demand healthcare access, ensuring that individuals in need can summon professional medical assistance swiftly and efficiently.

Similar to Ola and Uber, a Medical Ambulance service ensures that individuals can request emergency medical transportation promptly through a user-friendly mobile application.

The on-demand nature of the service means that patients can access professional medical assistance precisely when needed, reducing response times in critical situations.

On-Demand Healthcare Access, within the context of a Medical Ambulance service inspired by Ola and Uber, revolves around providing immediate and easily accessible emergency medical transportation. This concept is rooted in the idea of leveraging technology to ensure that individuals can swiftly summon professional medical assistance whenever and wherever needed. Here's a more detailed exploration of the key elements associated with On-Demand Healthcare Access.

1.1.1 Easily navigable mobile application:

One of the main features of On-Demand Healthcare Access is an easy-to-use smartphone application that lets consumers quickly request medical transportation. Users can enter vital details including the emergency's nature, their location at the time, and any special medical needs on the application's platform.

1.1.2 Swift Response Time:

The essence of on-demand access lies in the prompt response to user requests. Similar to the rapid response of ride-hailing services, the Medical Ambulance system ensures that emergency medical transportation is dispatched swiftly to the user's location.

1.1.3 24/7 Availability:

On-Demand Healthcare Access is not constrained by traditional business hours. The service operates around the clock, ensuring that individuals can access emergency medical transportation at any time, day or night.

1.1.4 Geolocation Services:

Integration of GPS technology allows the system to pinpoint the user's location accurately. This information is crucial for dispatching the nearest available Medical Ambulance promptly

1.1.5 Seamless Booking Process:

The booking process is streamlined to be as simple as possible. Users can request medical transportation with just a few taps on their smartphones, reducing the time and effort required to initiate emergency assistance.

1.1.6 Immediate Confirmation and Communication:

Upon receiving a request, the system immediately confirms the booking and communicates the estimated time of arrival to the user.

Real-time communication features ensure that users can stay informed about the ambulance's progress and can provide additional information if needed.

1.1.7 Inclusive Accessibility:

On-Demand Healthcare Access aims to be inclusive, catering to individuals with diverse needs, including those with mobility challenges or specific medical requirements on time. The service ensures that everyone, regardless of their circumstances, can access emergency medical transportation promptly.

1.1.8 Integration with Emergency Services:

The on-demand model involves seamless integration with emergency services and medical facilities. This coordination ensures a smooth transition from the initial request for transportation to the arrival at the designated healthcare facility.

1.2 Community Health Impact:

The effects of a medical ambulance service on community health go beyond emergency response and include a comprehensive strategy for community healthcare. This effort aims to improve health outcomes by providing routine medical transportation for check-ups, treatments, and preventative care. It does this by expanding its services beyond emergency situations.

The program acts as a spark for health awareness and education initiatives, encouraging a culture of well-being and enabling people to make knowledgeable decisions about their health. The program is able to address particular health needs and advance fairness in healthcare access—especially in underserved areas—through partnerships with neighborhood associations, public health organizations, and local healthcare professionals. Additionally, the Medical Ambulance Service demonstrates its dedication to the resilience and general health of the community by taking part in immunization campaigns, disaster relief efforts, and public health situations.

The program is able to address particular health needs and advance fairness in healthcare access—especially in underserved areas—through partnerships with neighborhood associations, public health organizations, and local healthcare professionals. Additionally, the Medical Ambulance Service demonstrates its dedication to the community's overall resilience and health by taking part in immunization campaigns, disaster relief efforts, and public health situations. In addition to actively promoting population health and vitality and saving lives during emergencies, this all-encompassing and community-driven approach has a long-lasting effect on the general well-being of the community.

1.3 A Paradigm Shift in Emergency Healthcare:

Conventional emergency medical transportation models are undergoing a radical makeover in an age marked by technological breakthroughs and the emergence of on-demand services. In emergency healthcare, a new paradigm is emerging, one that sees ambulances not just as vehicles but also as dynamic, on-demand services designed to meet the urgent needs of individuals in critical medical situations. This paradigm is inspired by the efficiency and user-centric approach of ride-hailing giants like Ola and Uber.

This creative strategy aims to transform the availability and provision of emergency medical services. This concept proposes an intuitive mobile platform that links people in distress with nearby ambulances that are equipped with life-saving capabilities, much like the smooth, user-friendly interfaces of Ola and Uber. The objective is to achieve a notable reduction in reaction times by utilizing real-time position tracking and dispatching to guarantee prompt and effective transportation during emergency situations.

Beyond only being convenient for technology, Ola and Uber have inspired many other things. In the context of emergency medical transport, it includes a dedication to openness, user experience, and accessibility. With the simple tap of a smartphone, people in medical emergencies will be able to quickly access expert care in the future, reducing stress and worry during life-threatening situations.

The success of ride-hailing services has been leveraged to adapt this paradigm to ambulance services, while also acknowledging the crucial importance of healthcare. Strict safety procedures, strict adherence to medical standards, and the use of qualified medical staff all highlight the dedication to offering top-notch care during the transportation process.

1.4 User-Centric Technology Integration:

At the core of MediCab lies a commitment to user-friendly technology that empowers individuals during medical emergencies. Through an intuitive mobile application, users gain immediate access to medically-equipped vehicles, strategically stationed for rapid dispatch.

The integration of GPS-based tracking and real-time communication not only optimizes response times but also enhances the overall user experience, providing reassurance and transparency during critical moments. MediCab embodies the fusion of cutting-edge technology with healthcare, promising a paradigm shift in how we perceive and access emergency medical transport.

1.5 Novel Approach to Healthcare Delivery:

MediCab ushers in a new era in the provision of healthcare by assiduously fusing the essentials of on-demand transportation with emergency medical treatment. Inspired by the speed and effectiveness of ride-hailing services, MediCab imagines a time when access to healthcare will be instantaneous. With its emphasis on user-centricity and technological precision, this novel paradigm has the potential to completely transform the way emergency medical transport is now done.

The concept of an "Innovative Healthcare Paradigm" embodied by MediCab represents a fundamental departure from traditional models, ushering in a transformative era in healthcare delivery. Unlike conventional approaches, MediCab integrates on-demand transport principles, inspired by the efficiency of ride-hailing platforms, into the critical domain of emergency medical services.

This paradigm shift envisions a future where immediate and specialized medical assistance is accessible with unprecedented ease. By leveraging cutting-edge technology, user-friendly interfaces, and strategically stationed medically-equipped vehicles, MediCab challenges established norms.

This innovative approach not only optimizes response times but also emphasizes a holistic user-centric experience, reshaping how individuals perceive and access emergency medical transport. It signifies a departure from the norm, introducing a dynamic and forward-thinking approach to healthcare accessibility during critical moments.

CHAPTER-2

LITERATURE SURVEY

Serial No	Title of paper	Author	Year	Published At
1	Mobile Ambulance Management Application for Critical Needs	P Devigayathri, R Amritha Varshini	2020	Fourth International Conference on Computing Methodologies and Communication (ICCMC)
2	Design and Implementation of Free Ambulance Service System in Bandar Lampung City Based on Android Mobile Application	Gigih Forda Hery Dian Septama	2022	Seventh International Conference on Informatics and Computing (ICIC)
3	A Survey on existing system design used for managing ambulance booking through mobile App	L. Srinivasan Br Mounika	2023	International Conference on Computer Communication and Informatics (ICCCI)
4	Improving the Performance of Ambulance Emergency Service Using Smart Health Systems	Mohammad Abdeen Mohamed Hossam Ahmed	2021	IEEE/ACM Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE)
5	Accident Alert and Ambulance Tracking System	Ajaai R Harini S	2021	6th International Conference on Communication and

				Electronics Systems (ICCES)
6	**Ambulance Booking Application**	**Tina Susan Thomas**	**2021**	**6th International Conference on Signal Processing, Computing and Control**
7	**A Novel Smart Ambulance System—Algorithm Design, Modelling, and Performance Analysis**	**Tarek Rahil Sheltami**	**-**	**IEEE Access**
8	**A Smart Ambulance with Information System and Decision-Making Process for Enhancing Rescue Efficiency**	**Chanchai Thaijiam**	**-**	**IEEE Access**

Table 2.1

2.1 Medical Transportation and Access to Healthcare:

Investigate existing literature on challenges related to medical transportation and the impact on access to healthcare services, especially for individuals with limited mobility or residing in remote areas.

Medical transportation significantly impacts access to healthcare, especially for vulnerable populations. Limited mobility, geographic remoteness, or lack of reliable transportation can create barriers to essential healthcare services. Studies in this area focus on understanding these challenges, exploring disparities, and proposing solutions. Improved medical transportation, as envisioned in projects like Medicab, aims to bridge these gaps, ensuring timely access to medical facilities for individuals in need, thereby enhancing overall healthcare equity and outcomes.

2.2 Collection of Data from Uber and Ola Consumers:

Research on Users Opinion and Bliss towards Online Cab Service concerning a region recalled the development history of some of the leading peaks of cab rental applications like Ola and Uber. The paper also focused on the collected data of Uber and Ola consumers. Data was collected from nearby professionals. Analytical investigation explicated that customers favor Uber over Ola over billing as a concern. On the contrary with safety Ola is picked over Uber.

2.3 Effective Ambulance Service:

A general thesis on ambulance Service have developed an idea for saving sufferers‟ lives in a more agile and potential way. With their Application, the ambulance can reach to the user or victim as the position is traced or delivered by the application and also can accommodate important equipment's which is needed for the patient's well-being.

2.4 Location-Based Services:

Progressive research on Location-based services studied two broad categories of LBS. To track the location of a users device, the LBS detection technique can use a dynamic and real time plotting algorithm. A particular location is broadly identified by practicing the corresponding graph system. Several LBS can be categorized following the varied kinds of the intended recipient whether device or human, push vs. pull, secondary vs. primary and so on. Push and Pull based LSB were the two categories explained. Another research called Observe Time Difference Of Arrival (OTDOA) method, which considers the data gathered from a minimum of three base–stations is performed. Further Round Trip Time is calculated to determine the location.

2.5 Global Positioning System:

GPS Based Shortest Path for Ambulances explains GPS as a mesh of spacecraft, that transmits instance information about the varying location of a device to and from the satellite the back to the planet, which is then captured by Global Positioning System transceivers, such as navigating objects & are utilized to estimate the location, velocity

& duration at the carriers position.

2.6 Dynamic Routing for Emergency Vehicle:

Dynamic Routing for Ambulances can be done by Col- lecting Real-Time Street surveillance [4] under IGA. IGA makes the ambulance interact among others. IGA also enables the ambulance to get vehicular information from the other cars. The emergency vehicle sends the primary path of the ambulance determined by vehicle navigating tool to those vehicles in the contagious scope of the ambulance including its location, and journey history emergency vehicle broadcasts the query via multi-hop communication. The ambulance sends its path to all the other vehicles in its extreme directions. The vehicle can know the exact traveling path of the ambulance from its current location. The ambulance receives vehicular data for time, route & calculates a novel driving directions.

This concept was further implemented by another technology called LIFI which dispatches vehicular data with the headlights and signal lights. However, the concept is still under research.

2.7 Development of RIS:

RIS for Ambulance Services based on GPS and GIS technology provides a Route Construction Algorithm. Ambulance estimates the road data collected by IGA and define the shortest path by RCA. RCA uses the Dijkstra method where a crossroad means one vertex, a street within crossroads means an edge, path comprises the direction, a mediocre corridor of every crossroads becomes the power of the edge, and a map is a labeled chart. For crossings where there is traffic and vehicle are staggered, data is not collected, hence further parameters are not detected. Therefore, road data which was analyzed before traffic is finalized and sent to the ambulance. If the existing path needs a longer duration than the new route, the ambulance estimates the new route.

2.8 Location Based Push Service With Clustering Method:

A position-based push service structure which applies the clustering method [7] simplifies the transmission complexity of emergency data with the help of Push and Pull LBS. Traditionally, where emergency responses were done manually with call centers, latency within response was an overhead keeping human life at stake. Later

all manual responses system was replaced with an automated system with algorithms on standalone devices either in ambulance or handsets. EMSS(Emergency Medical System Services) is such an algorithm that bridges this time gap to dispatch ambulance services within 10 to 15 minutes in cities and 20 to 30 minutes in native areas. With EMSS patients need not wait for busy and hold lines. EMSS ensures clear information from the patient, whether it be the location, disease, and billing.

Hence, with EMSSthepatientcangetearlyadvancecare.

2.9 H. E-Ambulance System:

M Bin-Yahyaa, E M. Shakshukib in their research "E- AMBULANCE: RealTime Integration Platform for Heterogeneous Medical Telemetry Systempaper" [10] introduced the Electronic emergency ambulance response system; an intelligent ambulance design that performs automatic response developments into intensification to regulating to boost some likelihood from protecting sufferers of health frightening situations by using IOT sensors, DDS standards. Additionally to this, added factors of Quality of Services strategies and Real-Time Publish-Subscribe Protocol which could be harmonized to magnify the sense of Data Distribution Services in medicinal operations across numerous radio communication technology such as Wireless Fidelity and many more.

CHAPTER-3
RESEARCH GAPS OF EXISTING METHODS

3.1 Emergency Response Time Optimization:

Investigate ways to optimize emergency response times within Medicab services. Research on strategies to leverage real-time data, predictive analytics, and traffic management to ensure the quickest possible response during emergencies.

Emergency response time optimization involves leveraging real-time data, predictive analytics, and dynamic resource allocation to minimize the time it takes for emergency services, including Medicab-like units, to reach critical incidents. By integrating GPS, traffic management systems, and location-based services, the goal is to swiftly navigate through urban areas and efficiently allocate resources. Technology-enabled communication, public awareness, and continuous monitoring contribute to a coordinated and rapid emergency response. This multifaceted approach aims to enhance overall efficiency, ultimately improving patient outcomes during critical situations.

3.2 Predictive Analytics:

Utilizing past data, predictive analytics makes predictions about future events and crises. Emergency services can allocate resources and deploy resources proactively by evaluating patterns and trends to predict event locations.

Using statistical algorithms and machine learning approaches, predictive analytics is a data-driven process that examines past data to find patterns, trends, and possible future events. Decision-making in a number of industries, including as marketing, banking, and healthcare, is greatly aided by predictive analytics. It entails drawing conclusions from huge datasets in order to forecast upcoming occurrences or trends with confidence. Predictive analytics helps firms reduce risks, optimize resource allocation, and predict customer behavior by using sophisticated statistical models. For example, it can predict disease outbreaks, patient admission rates, and treatment outcomes in the healthcare industry. Predictive analytics is useful because it may give firms actionable

insights that help them plan ahead, simplify processes, and increase overall productivity in anticipation of future events.

3.3Dynamic Resource Allocation:

Implementing dynamic resource allocation strategies ensures that emergency resources, including Medicab services, are distributed strategically based on real-time demand and incident severity. This can involve dynamically adjusting the location of standby units to be closer to potential hotspots.

Dynamic resource allocation refers to the real-time adjustment and optimization of resources based on changing demands, priorities, and conditions. In various industries, including emergency services, technology, and project management, dynamic resource allocation is crucial for efficient operations. In emergency response scenarios, it involves the adaptive deployment of personnel, vehicles, and equipment to respond promptly to evolving incidents. In technology and cloud computing, it refers to the automatic allocation and deallocation of computing resources based on application needs. This dynamic approach enhances flexibility, cost-effectiveness, and responsiveness. In project management, it ensures that resources are allocated based on project priorities and requirements, optimizing productivity. The key to effective dynamic resource allocation lies in continuous monitoring, data-driven decision-making, and the ability to quickly adapt to changing circumstances, ultimately improving overall operational efficiency.

3.4 GPS and Location-Based Services:

The integration of GPS and location-based services is crucial for pinpointing the exact location of emergencies and optimizing routes for emergency vehicles. This technology allows for precise navigation, reducing the time it takes to reach the scene.

Global Positioning System (GPS) and Location-Based Services (LBS) play pivotal roles in modern navigation and information delivery. GPS, a satellite-based navigation system, provides accurate geographic coordinates, enabling precise positioning

anywhere on Earth. Location-Based Services leverage this data to offer location-specific information and functionality through mobile devices or applications. In transportation, GPS enables route optimization, real-time tracking, and efficient navigation, enhancing the effectiveness of services like Medicab. LBS, integrated into applications, delivers location-specific content such as nearby services, traffic updates, and personalized recommendations. This technology is instrumental in sectors like tourism, retail, and emergency response. By harnessing the power of GPS and LBS, businesses and services can tailor experiences, improve efficiency, and provide users with context-aware information in various contexts, contributing to a more connected and informed world.

3.5 Integration with Telecommunication Systems:

Integrating emergency response services with telecommunication systems ensures that calls are promptly received and accurately routed to the appropriate emergency response teams. This integration enhances communication and aids in a swift response.

Integration with telecommunication systems involves the seamless connection of emergency response services, like Medicab units, with communication networks for swift and efficient responses. This integration ensures that emergency calls are promptly received, accurately processed, and rapidly dispatched to the appropriate response teams. Advanced telecommunication systems enable enhanced communication between emergency services, allowing for the coordination of resources and information sharing during critical situations. This includes leveraging technologies such as automatic call distribution, computer-aided dispatch, and location-based services to optimize response times. Integration with telecommunication systems is vital for improving the overall responsiveness of emergency services, ensuring timely and effective communication between dispatchers, first responders, and Medicab units, ultimately contributing to more efficient and potentially life-saving emergency medical transportation.

CHAPTER-4

PROPOSED METHODOLOGY

4.1 System Overview

In this project we have built a system to facilitate emergency health response. In particular, we have looked to create a modern, cross-platform mobile application for locating and booking an ambulance for transporting a patient to the hospital, by following the Uber model.

The application is having 2 types of users:

I. Customer: It can be anyone who is requesting the services of an ambulance; A person requesting on the behalf of the patient or the patient themself.

II. Driver: The driver of the ambulance who will be notified of the customer's request.

There is a single app for both the customer and the driver with two modes, customer mode and driver mode. The preferred mode can be chosen during registration. To determine the ambulance path, we have used Google Maps SDK and its geolocation API for the route.

4.2 User Architecture:

The initial parts of the application are the customer mobile application, and driver mobile application

4.2.1 Customer:

Registration and login through mobile number and password

a) SMS service for
   i. verification of phone number
   ii. resetting password
   iii. confirmation of payment

b) A 2D map displaying
   i. the current location of the customer
   ii. the ambulance(s) available nearby
   iii. the nearby hospitals
   iv. upon successful booking of an ambulance, the live tracking of it to the point of reaching the hospital

c) Address pinning and storage of addresses
d) Details of the ambulance
    i. Driver's name
    ii. Driver's photo
    iii. Driver's phone number
    iv. Registration number
e) Option between cash/cashless payment
f) Third-party payment gateway to facilitate cashless payment.
g) Route to be taken by the ambulance predetermined by the geolocation API.
h) Estimated Time of Arrival of the ambulance.
i) Total Cost of the service will be displayed.
j) Push notifications to indicate the arrival of the ambulance.
k) OTP to be provided to the driver during verification will be displayed.
l) Past bookings history.
m) A rating out of 5 stars can be given to the driver

4.2.2 Driver

a) Registration using
    i. Name
    ii. Phone Number
    iii. Registration Number of the ambulance
    iv. Profile picture ○ Password
    v. UPI/Bank Account details for payment
b) Login using phone number and password.
c) Current location of the driver.
d) Upon a request
    i. the location of the customer and the hospital chosen by them.
    ii. option to accept/reject the request.
    iii. Mode of payment chosen by the customer.
e) Upon accepting a request, route navigation till the hospital.
f) Input for entering the OTP provided by the customer for verification

4.3 Real-Time Tracking and Communication:

Integrating GPS technology allows users, as well as healthcare providers, to track the ambulance's location in real-time.

Two-way communication features enable direct interaction between patients, medical professionals onboard, and emergency dispatch, ensuring clear communication and reassurance throughout the journey.

Real-Time Tracking and Communication in the context of a Medical Ambulance service inspired by Ola and Uber play a crucial role in ensuring transparency, efficiency, and reassurance for both patients and healthcare providers. This integration of technology enhances the overall experience of emergency medical transportation. Here's a more detailed exploration of the key aspects associated with Real-Time Tracking and Communication.

4.3.1 GPS Technology:

Real-Time Tracking relies on Global Positioning System (GPS) technology, which allows continuous monitoring of the ambulance's location.

The GPS provides accurate and up-to-date information on the ambulance's current position, enabling users and healthcare providers to track its progress in real-time.

4.3.2 User Visibility:

Patients and their families, through a dedicated mobile application, gain access to a live map displaying the real-time location of the Medical Ambulance.

This visibility offers a sense of control and assurance, reducing anxiety during critical moments and allowing users to anticipate the arrival of the ambulance.

4.3.3 Estimated Time of Arrival (ETA):

Real-Time Tracking enables the system to calculate and communicate the Estimated Time of Arrival (ETA) to the user.

Users receive timely updates on when the ambulance is expected to reach their location, providing them with valuable information for better planning and preparation.

4.3.4 Two-Way Communication:

The integration of Two-Way Communication ensures direct and instant

interaction between users and medical professionals on board the ambulance.

Users can communicate any additional information, such as changes in the patient's condition or specific medical needs, directly to the healthcare providers, fostering clear and immediate communication.

4.3.5 Emergency Dispatch Communication:

Real-Time Tracking facilitates continuous communication between the ambulance and emergency dispatch services.

This connection allows emergency operators to stay informed about the ambulance's progress, address any unforeseen issues, and coordinate with healthcare facilities for a smooth transition upon arrival.

4.3.6 Enhanced Safety Measures:

Continuous tracking enhances safety measures by allowing healthcare providers to anticipate and prepare for potential challenges en route.

In case of unexpected situations, such as road closures or traffic delays, real-time information empowers the Medical Ambulance team to adjust their route and maintain the quickest path to the destination.

4.3.7 Post-Transport Communication:

Real-Time Tracking is not limited to the journey itself. It extends to post-transport communication, enabling users to receive updates on the patient's arrival at the healthcare facility.

This feature ensures that families and healthcare providers remain informed about the completion of the journey and the patient's transition into the medical facility.

By combining Real-Time Tracking and Communication, the Medical Ambulance service ensures a dynamic and responsive system that prioritizes transparency and effective coordination. This not only contributes to a smoother emergency medical transportation experience but also establishes a foundation of trust between users, healthcare providers, and the overall healthcare system.

4.4 Dispatch Mechanism:

The dispatch system methodology involves a systematic approach to managing and

prioritizing medical transportation requests. It begins with a user-friendly interface for receiving and processing calls efficiently. Advanced communication technology ensures rapid response times, allowing for quick assessment and prioritization of emergencies. The system incorporates a streamlined protocol for dispatching certified medical professionals, such as paramedics or emergency medical technicians, to the location. Real-time tracking and coordination functionalities optimize resource allocation, enhancing overall efficiency. Regular updates and training sessions for dispatch personnel ensure proficiency in utilizing the system, while continuous evaluation and improvement strategies are implemented to maintain the system's effectiveness in facilitating timely and appropriate medical responses. The first step in the process is to set up an effective dispatch system that can quickly accept and rank requests for medical transportation. By employing cutting-edge communication technologies, the dispatch center guarantees that emergency calls are handled quickly.

4.5 Market Research and Feasibility Study:

A new healthcare service like MediCab, which takes its cues from ride-hailing models like Ola and Uber for emergency medical transportation, would not be possible without market research and a feasibility study. This extensive procedure entails a detailed analysis of numerous aspects to guarantee not only the service's feasibility but also its compatibility with the particular requirements and traits of the intended audience.

Finding the target demographics is the first stage in this procedure. Our objective is to gain an understanding of the population density, distribution, and features in the selected regions by means of a comprehensive demographic analysis. This analysis takes into account variables including age groups, common medical diseases, and the general infrastructure of cities.

Simultaneously, an in-depth examination of historical data on emergency service calls, response times, and geographical distribution is conducted. This empirical analysis aids in pinpointing areas with high demand for emergency medical services, enabling the strategic placement of MediCab to optimize its reach and responsiveness. This phase of the study involves identifying service gaps and opportunities for improvement in existing emergency medical services, thereby positioning MediCab as a responsive and efficient alternative.

A critical component of the market research and feasibility study is the competitive analysis. By assessing existing emergency medical service providers, we gain insights into the strengths, weaknesses, and service coverage of competitors. This knowledge is invaluable in crafting a unique value proposition for MediCab, differentiating it in terms of technology, response times, and overall user experience. Understanding the competitive landscape informs the development of strategies to position MediCab as a preferred and innovative choice for emergency medical transport.

Technology adoption rates play a pivotal role in shaping the success of a service like MediCab. Accordingly, the feasibility study delves into the prevalence of smartphones, internet connectivity, and the general willingness of users to embrace an on-demand healthcare solution. This analysis ensures that the technological infrastructure required for MediCab aligns with the prevailing tech-savvy trends and addresses potential barriers to user adoption.

Regular updates and maintenance schedules are ingrained in the technology development process to ensure the continued reliability and optimal performance of the platform. This proactive approach to maintenance guarantees that the technology remains cutting-edge, adhering to industry standards, and capable of accommodating future advancements in healthcare technology.

4.6 Technology Platform Development:

The development of the technology platform for MediCab, an on-demand ambulance service inspired by Ola and Uber, encompasses a multifaceted process aimed at creating a robust, user-friendly, and innovative mobile application. The platform's architecture is intricately designed to seamlessly integrate cutting-edge technologies that not only optimize emergency response times but also prioritize user experience and transparency.

At the core of this technological endeavor is the collaboration with experienced app developers who specialize in crafting intuitive interfaces for optimal user engagement. These developers work in tandem with healthcare technology experts to ensure that the application aligns with the unique requirements of emergency medical services

while providing a user experience akin to popular ride-hailing applications.

To enhance the operational efficiency of MediCab, the technology platform integrates GPS-based location tracking. This feature serves a dual purpose: it enables users to accurately pinpoint their location when requesting assistance, and it allows the dispatch system to identify the nearest available ambulance swiftly. The real-time nature of this tracking system is instrumental in optimizing response times, a crucial factor in emergency medical services where every second counts.

Real-time communication features are seamlessly integrated into the platform to establish a transparent and reliable channel between users, emergency medical personnel, and the dispatch center. This ensures that users are kept informed about the status of their request, the location of the dispatched ambulance, and any other relevant updates. Such transparent communication is essential in providing reassurance to individuals facing medical crises, aligning with the user-centric ethos of MediCab

4.7 Personnel training:

A medicab service's specialized cars are painstakingly built to accommodate a variety of medical issues while in transit. These cars are outfitted with cutting-edge medical equipment and meet strict safety regulations, guaranteeing that patients will receive care right away. They offer accommodations for a range of patients' requirements, including those who need vital life support equipment or mobility assistance. The capacity of medical personnel to provide treatment while traveling is given equal priority in the design as is the comfort of the patient. The operational integrity of these vehicles is ensured by routine maintenance inspections and compliance with safety procedures. Within the medicab service, specialised vehicles are essential to ensuring that patients are transported safely and effectively.

4.8 Regulatory Compliance:

Managing regulatory compliance is a critical component of launching MediCab, the on-demand ambulance service modeled after Uber and Ola. To guarantee the service operates legally and morally, strict adherence to licensing requirements, safety standards, and healthcare regulations is necessary. This means obtaining the required licenses and certifications that attest to the service's dedication to providing high-

quality and safe healthcare during transit, as well as deeply understanding the legal framework governing emergency medical services through extensive consultations with local, regional, and federal healthcare regulatory bodies.

4.9 Specialized Automobiles:

The usage of specially fitted vehicles made to accommodate patients with a variety of medical issues is given priority by medicab services. Strict safety regulations are followed, and these cars have all the medical gear needed to deliver emergency care while in transit.

4.10 Channels of Communication:

Communication channels are pivotal in the methodology of a medicab service, ensuring seamless coordination between the dispatch center, medical personnel, and receiving healthcare facilities. Utilizing advanced communication technology, these channels facilitate real-time information exchange. Clear and efficient communication is vital for relaying critical patient information, coordinating emergency responses, and optimizing the overall workflow. Well-established channels contribute to the swift transfer of information, enhancing the medicab service's ability to respond promptly to medical transportation requests and provide timely assistance to those in need. The medical staff, receiving healthcare facilities, and the dispatch center all have open lines of contact. By ensuring smooth coordination and prompt transmission of vital information, maximizes the medicab service's efficiency.

CHAPTER-5
OBJECTIVES

5.1 Emergency Protocols :

The primary objective of the emergency response aspect in the medicab service methodology is to establish a rapid and effective system for addressing urgent medical transportation needs. This includes implementing a responsive dispatch system that prioritizes and expedites emergency calls. Trained medical professionals equipped with the latest protocols and equipment are dispatched swiftly, ensuring immediate care. The focus is on reducing response times, optimizing resources, and efficiently managing emergencies, ultimately contributing to the service's ability to provide timely and life-saving assistance to individuals in critical medical situations.

5.2 Patient Care :

The central objective of patient care in the medicab service methodology is to ensure the highest standards of care during medical transportation. This involves employing certified and well-trained medical professionals equipped with the latest protocols and medical equipment. The focus is on delivering compassionate and immediate care to patients en route to healthcare facilities. By prioritizing patient comfort and safety, the medicab service aims to provide a supportive and responsive environment that meets the medical needs of individuals during transit.

5.3 Safety and Compliance :

The key objective of safety and compliance in the medicab service methodology is to adhere to rigorous regulatory standards and safety protocols. This ensures legal compliance, prioritizes the safety of both patients and medical personnel, and fosters trust among stakeholders. By meeting licensing requirements and following operational protocols, the medicab service aims to create a secure and reliable medical transportation system that operates within established legal frameworks while upholding the highest standards of safety and care.

5.4 Efficient Communication :

Efficient communication is a pivotal objective in the medicab service methodology, which aims to establish clear and streamlined channels between the dispatch center, medical personnel, and healthcare facilities. Utilizing advanced communication technology, ensures real-time information exchange, facilitating swift responses to medical transportation requests. The focus is on optimizing coordination, relaying critical patient information, and enhancing the overall workflow. Well-established communication channels contribute to the medicab service's ability to respond promptly to emergencies and provide timely assistance, fostering effective collaboration among key stakeholders.

5.5 Specialized Vehicle Functionality :

Using cars designed for various medical problems while in transit is the goal of the medicab service methodology's specialized vehicle functionality. These cars meet stringent safety regulations and are outfitted with cutting-edge medical equipment to provide prompt and efficient patient care. Placing a high priority on patient comfort, they cater to a range of requirements, including life support systems and mobility assistance. The layout places equal emphasis on safety and the capacity of medical personnel to provide care while traveling. The operational integrity of these vehicles is preserved by routine maintenance inspections and attention to safety procedures, which helps to ensure the efficient and safe transfer of patients.

5.6 Quality Assurance :

Quality assurance in the medicab service methodology focuses on systematic measures to assess and enhance performance. The service evaluates response times, patient outcomes, and operational protocols through regular audits and feedback mechanisms. This process ensures continual improvement, fostering efficiency and overall service quality. Quality assurance instills confidence in stakeholders, maintaining the service's commitment to providing optimal medical transportation. It emphasizes ongoing evaluation and refinement, creating a foundation for the highest standards of healthcare delivery within the medicab service.

5.7 Preventive maintenance :

It is a vital component of the medicab service methodology, emphasizing regular checks and adherence to schedules. It aims to prevent vehicle breakdowns by inspecting medical equipment, vehicle systems, and safety features routinely. Swift resolution of identified issues minimizes downtime, contributing to the overall reliability of the service. By prioritizing preventive maintenance, the medicab service ensures operational integrity, extends the lifespan of its vehicles, and upholds the highest standards of safety and care during medical transportation.

CHAPTER-6

SYSTEM DESIGN & IMPLEMENTATION

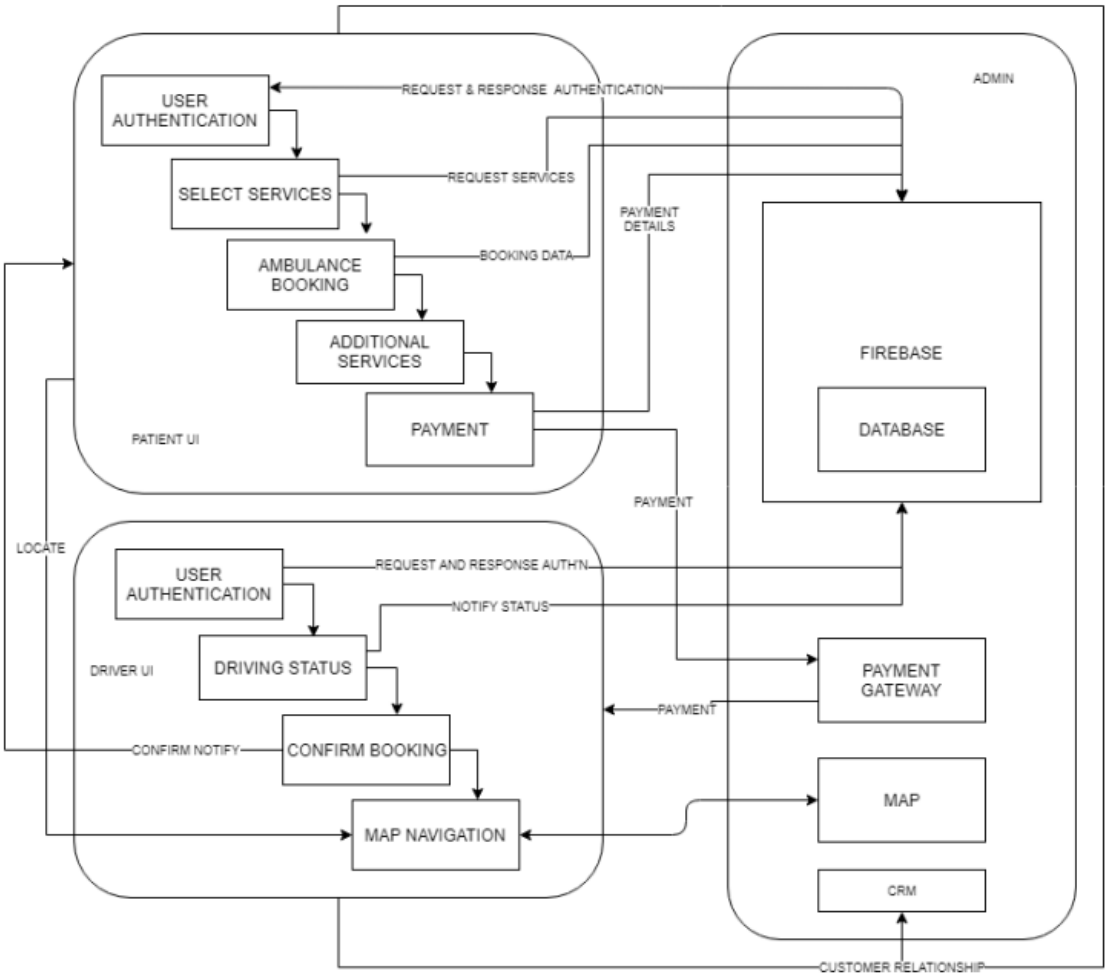

Fig 6.1 Software Architecture

This mobile application comprises of a three-tier software architecture. The presentation tier contains the React Native based cross-platform application which have two types of users; customer and driver. The application tier communicates with the presentation tier through a Axios HTTP Client. NodeJS is used to build the application server, with Express.js providing the framework. Payment, SMS and Maps API is also present to provide their respective services. The data tier consists of the database server, housing an SQL database. The application server is connected to the database, query it and also modify it through an SQL client.

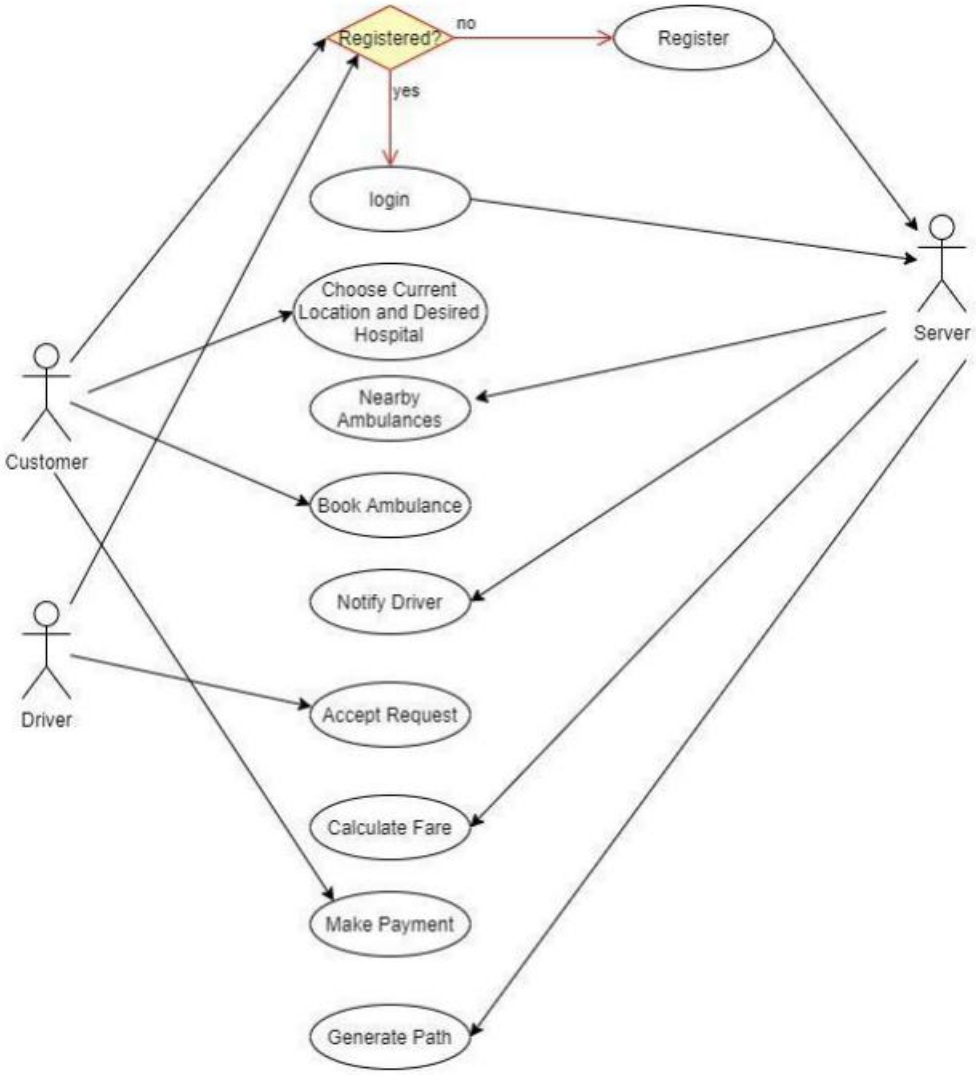

Fig 6.2 Use Case Diagram of the System

The following Use Case Diagram shows the different ways the user can interact with the system. It mentions the frequent interactions that a user might have with the system and also shows the basic flow of events occurring during the use of the application.

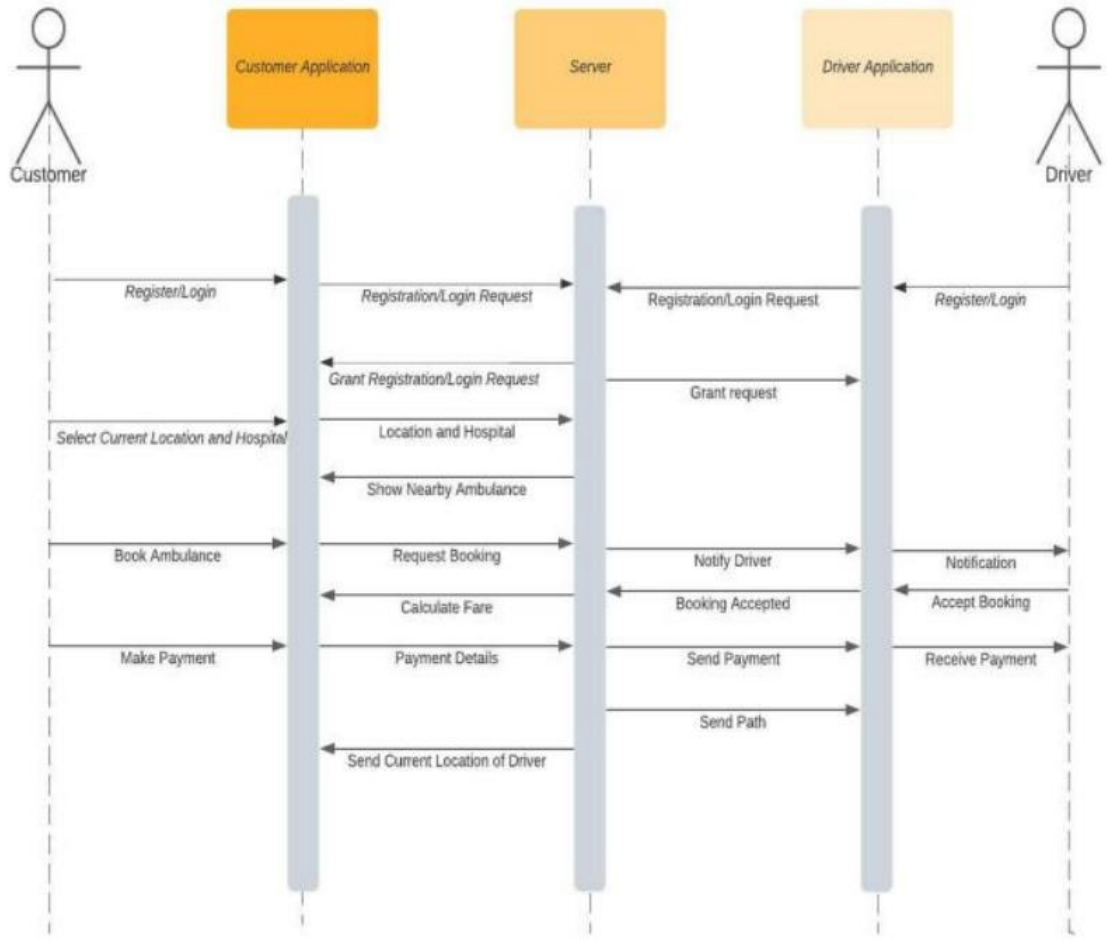

Fig 6.3 Sequence Diagram of the System

The following Sequence Diagram of the entire system explains how the various entities interact with each other and also provides a sequence of the general events that occur during the use of the application. There are two actors' part of the system, namely the Customer and the Driver. The server acts as the bridge between the two actors. The mobile application present at the actors' side provide as a medium of communication between them and the server.

CHAPTER-7

TIMELINE FOR EXECUTION OF PROJECT

(GANTT CHART)

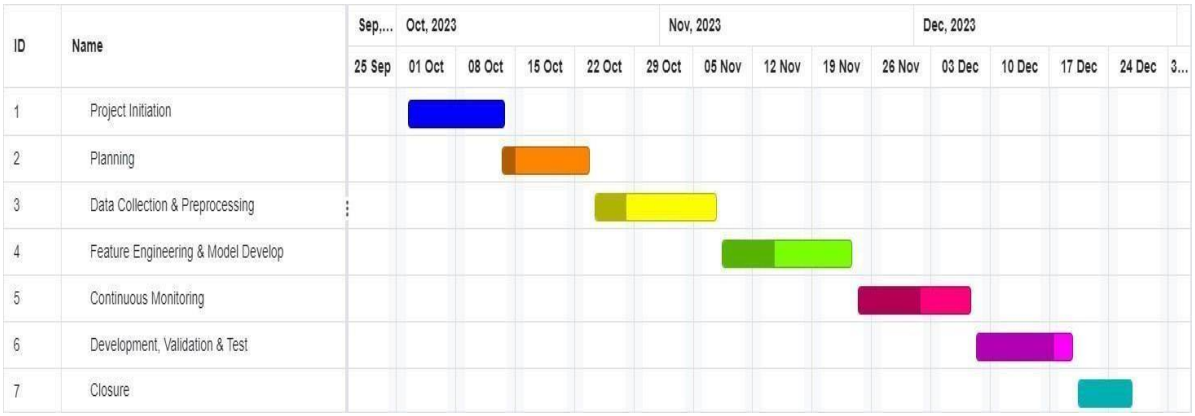

Fig 7.1 Gantt Chart

Id	Name	Start Date	End Date	Duration	Progress %
1	Project initiation	02-Oct-2023	07-Oct-2023	5 days	0
2	Planning	07-Oct-2023	13-Oct-2023	6 days	10
3	Data analysis and Preprocessing	15-Oct-2023	25-Oct-2023	15 days	20
4	Literature survey	25-Oct-2023	06-Nov-2023	11 days	30
5	Model development	12-Nov-2023	25-Nov-2023	12days	50
6	Validation and Testing	08-Dec-2023	19-Dec-2023	10 days	80
7	Closure	20-Dec-2023	26-Dec-2023	5 days	100

Table 7.1 Timeline for Execution of Project Table

CHAPTER-8
OUTCOMES

The outcomes of Medicab services have been transformative in enhancing medical transportation and healthcare accessibility. By leveraging technology, Medicab has significantly improved patient experiences, ensuring timely and efficient transportation for medical appointments. The implementation of real-time tracking systems and route optimization has minimized waiting times, leading to better patient outcomes.

Patients, particularly those with chronic illnesses or limited mobility, have reported increased convenience and reduced stress in reaching healthcare facilities. The prompt and reliable transportation provided by Medicab has contributed to a higher rate of on-time medical appointments and decreased instances of missed or delayed treatments.

Moreover, the integration of user-friendly mobile applications has empowered patients to schedule rides easily, track their transportation in real-time, and provide valuable feedback. This has resulted in a patient-centric approach, enhancing overall satisfaction and trust in the healthcare system.

In addition to benefiting patients, Medicab services have streamlined operational efficiency for healthcare providers. The optimized transportation routes and improved coordination have led to cost savings and resource optimization.

In summary, the outcomes of Medicab services encompass improved patient access to healthcare, enhanced operational efficiency, and an overall positive impact on the healthcare experience for both patients and providers.

8.1 Enhanced Patient Access:

Medicab services have significantly increased accessibility to healthcare facilities, particularly benefiting individuals with limited mobility, disabilities, or those residing in remote areas. The availability of reliable transportation has facilitated timely access to medical appointments and treatments.

8.2 Reduced Missed Appointments:

The implementation of efficient scheduling systems and real-time tracking has led to a reduction in missed or delayed medical appointments. Patients can rely on Medicab services for prompt and timely transportation, improving adherence to healthcare schedules.

8.3 Improved Patient Satisfaction:

The user-friendly nature of Medicab applications and the convenience they offer in scheduling rides have positively impacted patient satisfaction. The transparent tracking system allows patients to monitor their transportation in real-time, contributing to an overall positive experience.

8.4 Streamlined Operations for Healthcare Providers:

Medicab services have streamlined transportation logistics for healthcare providers. Optimized routes and efficient coordination have led to improved operational efficiency, allowing healthcare facilities to focus more on delivering quality care.

8.5 Cost-Effective Solutions:

Through route optimization and resource management, Medicab services have demonstrated cost-effectiveness for both patients and healthcare providers. This ensures that transportation services are efficient and economically viable.

8.6 Positive Impact on Health Outcomes:

By addressing transportation barriers, Medicab services have played a role in positively influencing health outcomes. Patients can access healthcare facilities in a timely manner, contributing to better management of chronic conditions and overall health improvement.

CHAPTER-9
RESULTS AND DISCUSSIONS

9.1 Project Overview:

Begin with a comprehensive overview of the Medicab project, including its goals, objectives, and the problem it aims to solve in the healthcare or transportation sector.

The Medicab project envisions a transformative solution in healthcare transportation, aiming to bridge gaps between patients and medical facilities. Focused on efficiency and accessibility, Medicab addresses the critical need for on-demand medical transportation. Leveraging technology, it offers a user-friendly platform, ensuring swift access to professional medical assistance. The project integrates trained medical personnel and necessary equipment, creating a holistic healthcare environment during transit. Real-time tracking and communication features enhance transparency, fostering confidence in users. With a commitment to cost-effective and transparent billing, Medicab aspires to redefine emergency medical transportation, emphasizing a patient-centric approach and broader community health impact beyond immediate emergencies.

9.2 Technology Integration:

Explore the technological aspects of Medicab. How is technology integrated into the project, and what role does it play in enhancing medical transportation?

Medicab's technology integration revolutionizes healthcare transportation by employing a user-friendly mobile app for seamless bookings, real-time tracking, and telemedicine services. GPS technology ensures accurate ambulance location tracking, while data analytics optimizes response times. Incorporating digital payment systems and stringent security measures, Medicab offers a secure and efficient billing process. Artificial Intelligence enhances route optimization, and cloud-based infrastructure ensures scalability and data accessibility. Integration with electronic health records provides medical professionals with essential patient information, culminating in a sophisticated, technology-driven solution that prioritizes efficiency, security, and user experience in emergency medical transportation.

9.3 Service Model:

Analyze the service model of Medicab. Is it an on-demand service, subscription-based, or integrated with existing healthcare systems? How does it differ from traditional ambulance services?

Medicab's service model revolves around on-demand healthcare transportation, providing immediate access to professional medical assistance via a user-friendly mobile application. Users can efficiently request services, input critical information, and track ambulances in real-time. The model integrates trained medical personnel, telemedicine services, and optimized routes through artificial intelligence. With a commitment to transparency, Medicab ensures clear and itemized billing, incorporating digital payment options for a seamless user experience. This patient-centric approach extends beyond emergencies, addressing routine medical needs and contributing to community health initiatives, making Medicab a comprehensive and accessible solution for healthcare transportation.

9.4 User Experience:

Think about the aspect of the user experience. How easy is it for users to seek Medicab services? What features is the specialized mobile application offering? Is there one?

Consider the user experience component. How simple is it for customers to call Medicab? What features does the niche app for mobile devices offer? Exists one?

An effective and user-friendly experience is highly valued by Medicab, and it is made possible with a unique mobile application. The program ensures easy and clear scheduling, allowing clients to get medical attention fast. Real-time tracking solutions offer transparency and anxiety-reducing live updates on ambulance positions. The incorporation of telemedicine services guarantees continuous treatment by enabling direct communication with medical staff throughout transportation. Medicab enhances financial transparency for users by providing both transparent and itemized billing along with digital payment choices.

9.5 Future Developments:

Discuss any future developments or expansions planned for Medicab. How does the project aim to evolve and adapt to changing healthcare and transportation landscapes?

Medicab is a reliable and easy-to-use community health solution because

Future advancements, according to Medicab, will be centered on ongoing

enhancement and adjustment to changing healthcare requirements. Future improvements are anticipated to incorporate state-of-the-art technologies, like sophisticated artificial intelligence (AI) for even more effective route optimization, ongoing user feedback systems for continual improvement, and possible expansions to encompass a wider spectrum of medical services. Cooperation with new developments in healthcare, such as remote monitoring or wearable technology, may improve Medicab's functionality even more. By implementing these proactive tactics, Medicab hopes to maintain its standing as an adaptable and dynamic healthcare transportation provider and maintain its leadership in the development of emergency medical services.

CHAPTER-10
CONCLUSION

In conclusion, the envisioned project MediCab, an ambulance service inspired by the user-centric models of Ola and Uber, represents a transformative leap in the realm of emergency medical services. The integration of on-demand principles, cutting-edge technology, and a commitment to regulatory compliance converges to create a service that not only optimizes response times but also prioritizes user experience and accessibility during critical moments.

MediCab's user-friendly mobile application, incorporating GPS-based location tracking and real-time communication, aims to redefine the way individuals access emergency medical transport. The project's foundation in regulatory compliance ensures a lawful and ethical operation, instilling confidence in users and establishing a benchmark for safety and quality care during transit.

The proposed technology platform, meticulously designed for scalability and adaptability, underscores the project's commitment to continuous improvement and readiness for future advancements in healthcare technology. The strategic partnerships with healthcare institutions, insurance providers, and local authorities further enhance the service's integration into the broader healthcare ecosystem, contributing to improved patient outcomes.

As we envisage the realization of MediCab, it is not merely an ambulance service but a beacon of innovation, a lifeline woven into the fabric of everyday technology, and a symbol of responsiveness during moments of distress. This project signifies a paradigm shift, demonstrating that the principles of efficiency, transparency, and user-centricity can be seamlessly applied to the critical domain of emergency medical services, ultimately contributing to a safer and more accessible healthcare landscape for communities at large.

In the end of the envisioned project, MediCab appears not just as an ambulance service but as a transformative solution inspired by the user-centric ethos of Ola and Uber. This convergence of creativity, availability, and effectiveness marks the beginning of a new chapter in emergency medical services, changing the conventional model and creating a service that sits at the crossroads of innovative technology and compassionate healthcare.

MediCab is the epitome of user-centricity at its core. The design philosophy aims to reduce the complexity involved in obtaining emergency medical transport, drawing inspiration from successful ride-hailing models. The project's signature feature, the user-friendly mobile application, provides clarity in the midst of emergency situations. These days, people in medical emergencies can quickly seek help by tapping on their cellphones.

The integration of GPS-based location tracking within the technology platform is a pivotal element, revolutionizing the way emergency medical services are dispatched. This feature not only allows users to pinpoint their location accurately but also empowers the dispatch system to identify the nearest available ambulance rapidly. The real-time nature of this tracking system is not merely a technological nuance; it is a lifeline that drastically reduces response times, ensuring that help reaches those in need swiftly.

Transparency and real-time communication are the cornerstones of MediCab. The software aims to not only dispatch ambulances but also to provide users with information and comfort during the entire procedure. Providing real-time updates on the positions of vehicles, anticipated arrival timings, and any relevant information improves an open and trustworthy communication channel. When it comes to emergency medical services, this function becomes consoling to people in stressful situations where uncertainty and fear are widespread.

Regulatory compliance is a linchpin in the project's success. In navigating the complex legal landscape governing emergency medical services, MediCab not only ensures adherence to existing regulations but also proactively anticipates and prepares for potential changes in the regulatory framework. Collaborating with legal experts and healthcare professionals, the project establishes protocols and training programs that not only meet industry standards but set a new benchmark for lawful and ethical operations.

The technology platform, a culmination of meticulous planning and innovation, is not static; it is designed for scalability and adaptability. As the service grows and potentially expands into new regions, the platform remains flexible, ready to embrace advancements in healthcare technology and cater to the evolving needs of emergency medical services.

Strategic partnerships with healthcare institutions, insurance providers, and local authorities form a symbiotic relationship that enhances the integration of MediCab into the broader healthcare ecosystem. These partnerships not only contribute to the effectiveness of the service but also strengthen its ties within the community, ensuring a collaborative approach to improving patient outcomes.

In conclusion, MediCab is not just a project; it is a vision realized. It symbolizes a commitment to efficiency, transparency, and user-centricity in the critical domain of emergency medical services. As the sirens of MediCab echo through the streets, they carry not just the promise of prompt medical care but also the embodiment of a new standard—an emblem of responsiveness, accessibility, and innovation in healthcare. This project, inspired by the success stories of Ola and Uber, sets a precedent for the seamless convergence of technology and compassion, reshaping the narrative of emergency medical services and forging a path towards a safer, more accessible future for communities around the globe.

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APPENDIX-A

PSUEDOCODE

Drivers App:

Receiving ambulance request
function driverReceiveAmbulanceRequest() {
showPendingRequestsOnMap();
acceptAmbulanceRequest();
}

Navigation to user location
function driverNavigateToUserLocation(userLocation) {
calculateRoute(userLocation);
displayNavigationInstructions();
}

Completing ambulance request
function driverNavigateToUserLocation(userLocation) {
calculateRoute(userLocation);
displayNavigationInstructions();
}

Updating availability status
function driverUpdateAvailabilityStatus(status) {
updateAmbulanceStatus(status);
notifyControlCenterAboutStatusChange(status);
}

Receiving updates
function driverReceiveNavigationUpdates() {
checkForRouteUpdates();
displayUpdatedNavigationInstructions();
}

Users App:

Requesting ambulance
function userRequestAmbulance(location, urgency) {
showAvailableAmbulancesOnMap(location);
confirmAmbulanceRequest(location, urgency);
}

Tracking ambulance
function userTrackAmbulance(ambulanceID) {
trackAmbulance(ambulanceID);
displayAmbulanceETA(ambulanceID);
}

Checking ambulance status
function userCheckAmbulanceStatus(ambulanceID) {
ambulanceStatus = getAmbulanceStatus(ambulanceID);
displayAmbulanceStatus(ambulanceStatus);
}

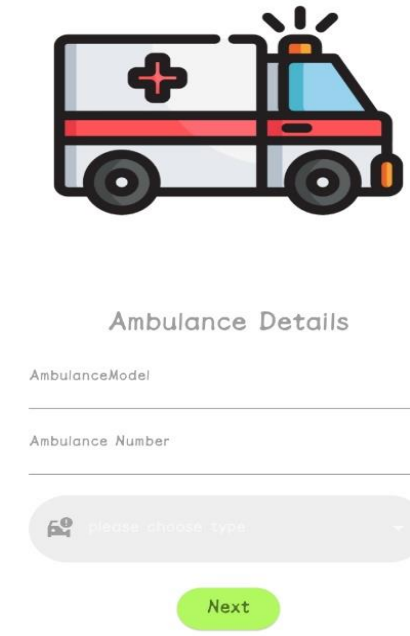
Making payment
function userMakePayment(patientID, amount) {
processPayment(patientID, amount);
displayPaymentConfirmation();
}

APPENDIX-B

SCREENSHOTS

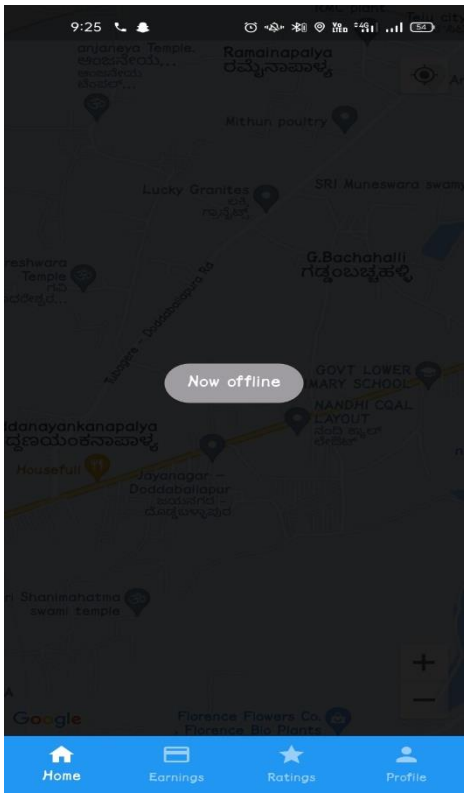
Driver's Login Page

Driver's Registration Page

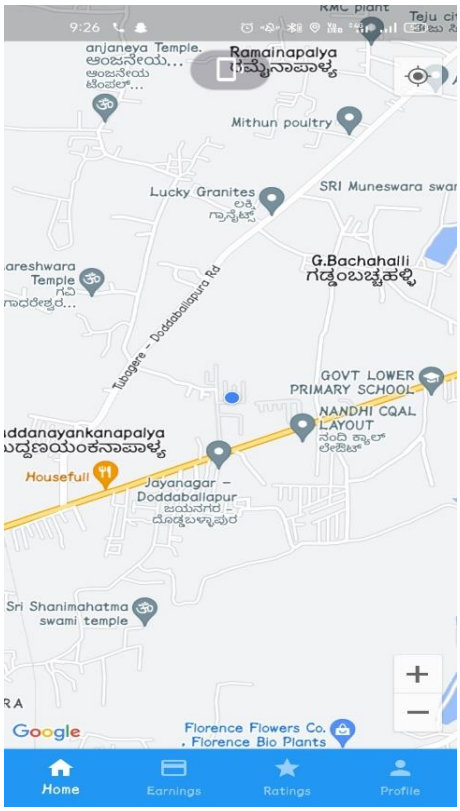


Ambulance Details Registration

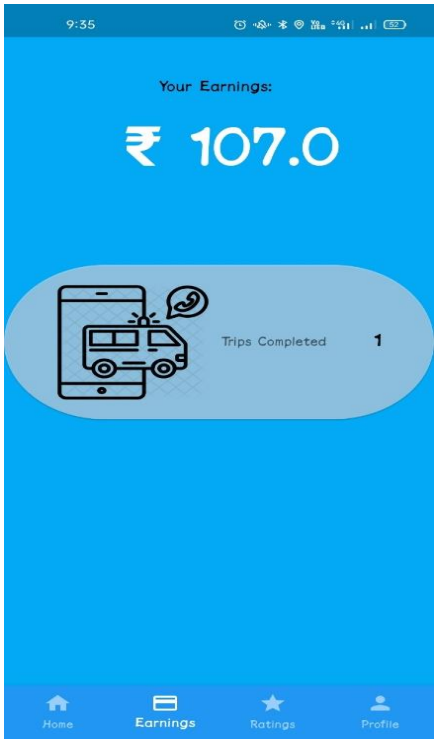
Selecting Ambulance Type



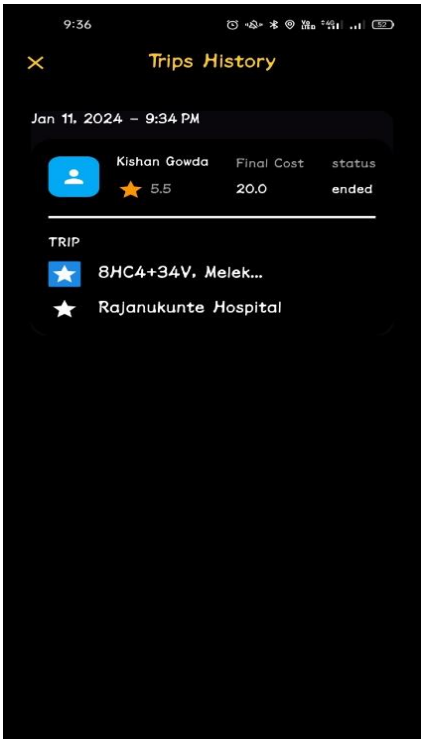
Driver’s Homepage Status Offline



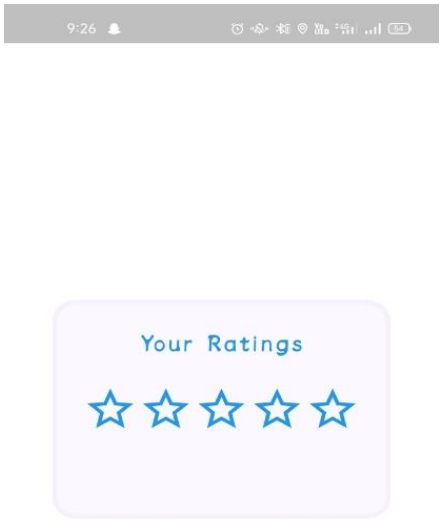
Driver’s Homepage Status Online



Driver's Earning Details



Driver's Trip History Details

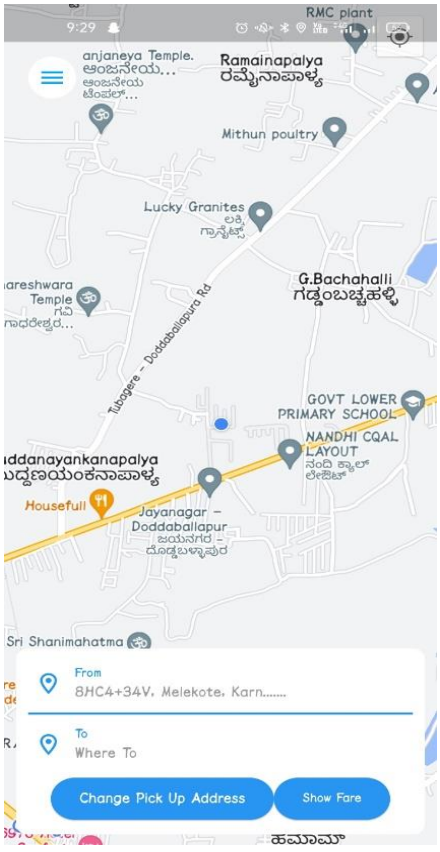


Driver's Ratings Details

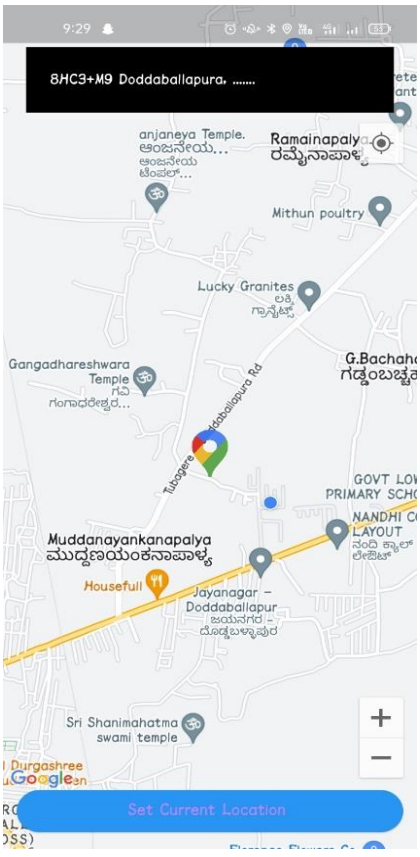
Driver's Profile page

User's Registration page

User's Login page

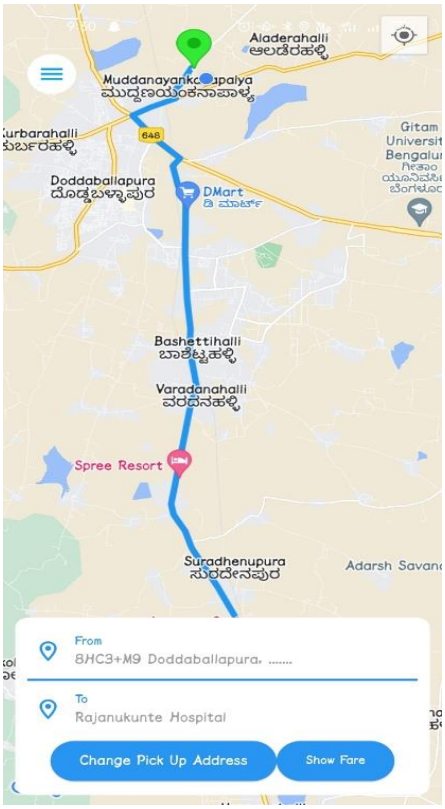


User's Homepage

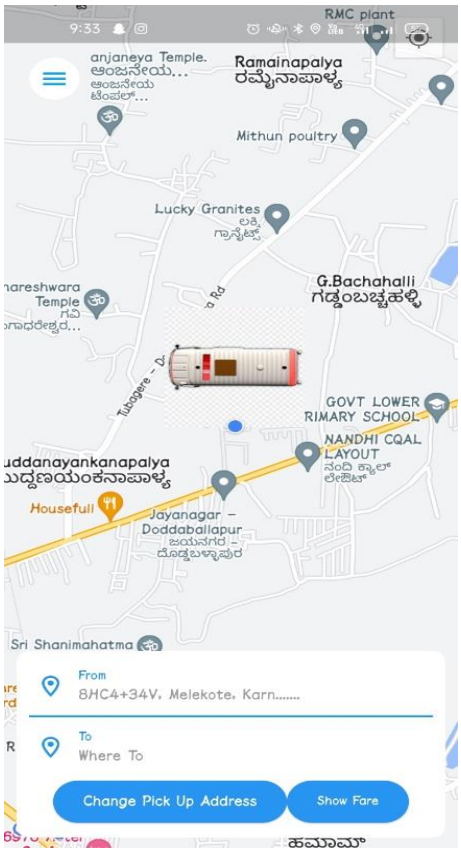


To Change Pickup Location

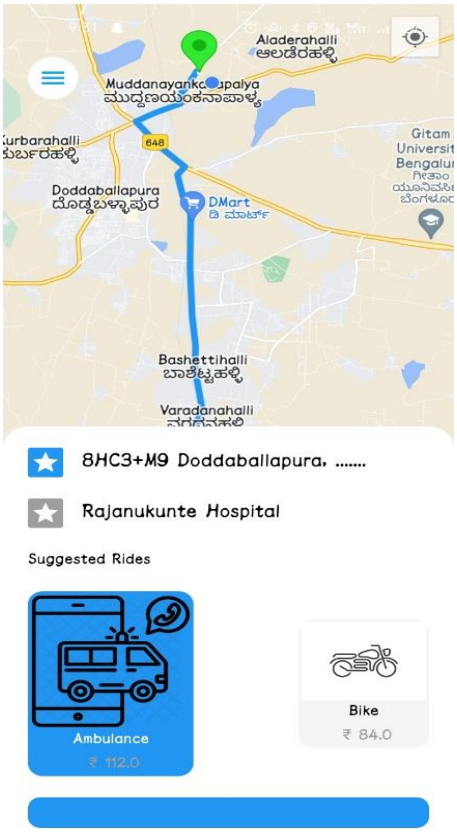
Searching Nearby Hospital



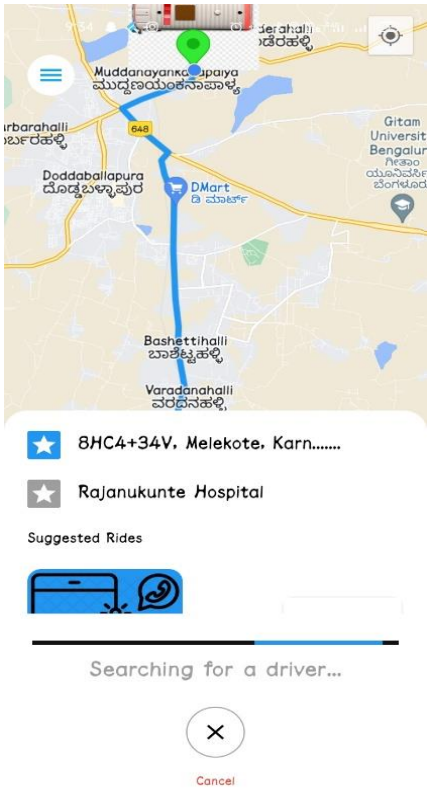
Enrouting to Desired Hospital



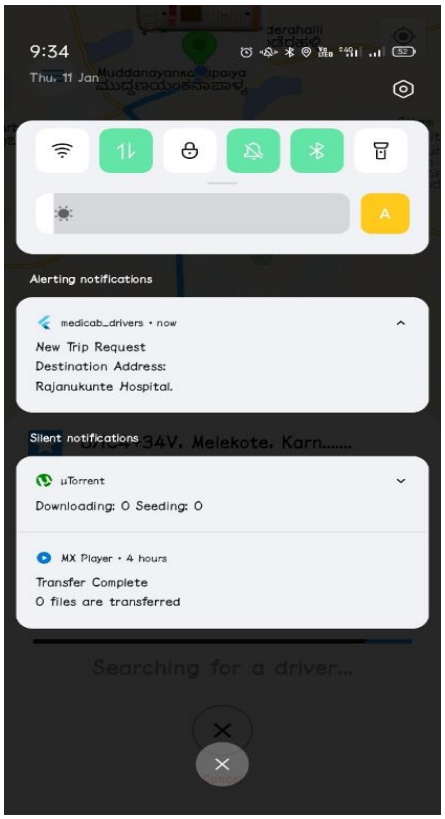
Nearby Available Ambulance



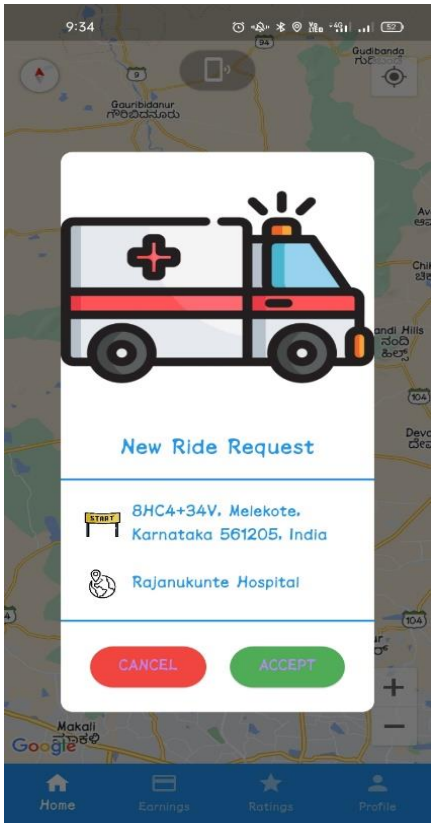
Choosing Ambulance



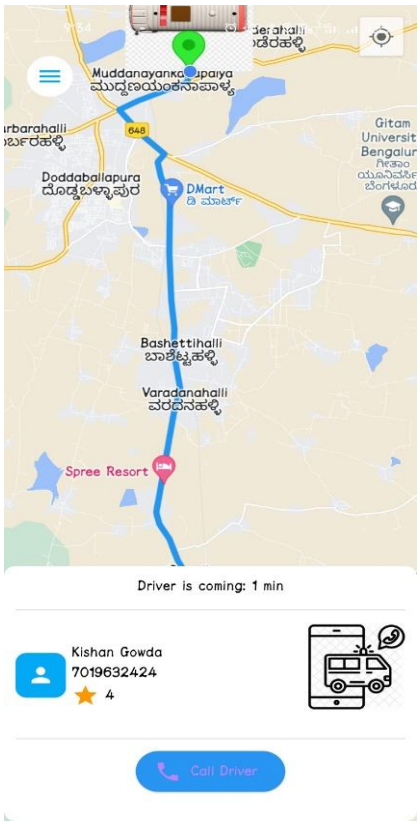
Searching for Nearby Ambulance



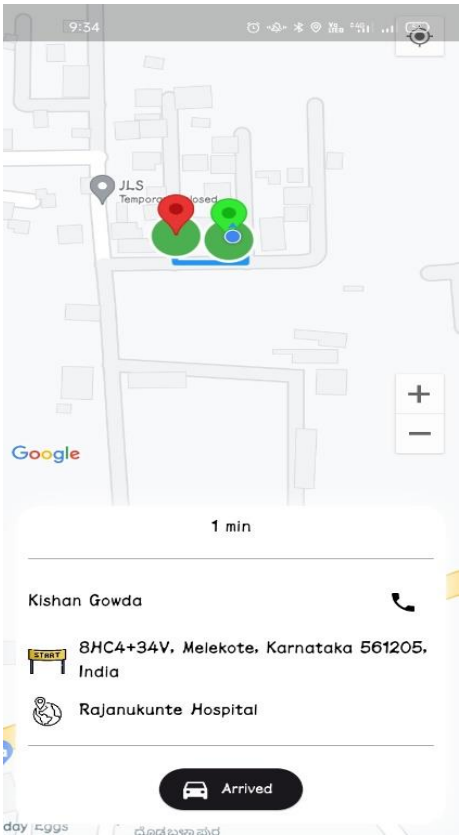
Notification Dialog



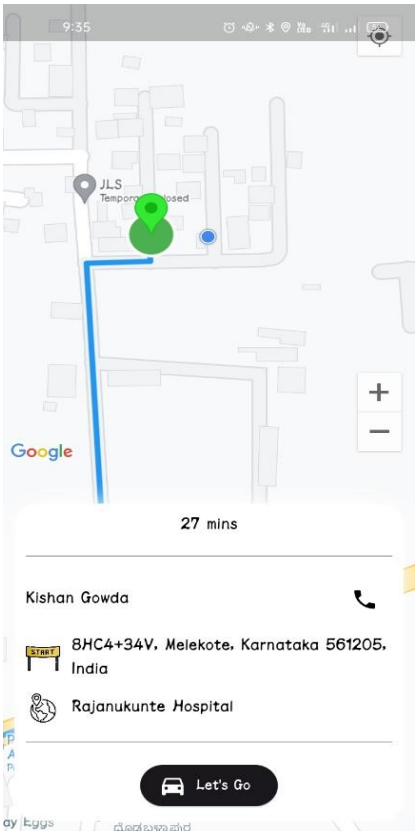
Ride Request in Driver's App



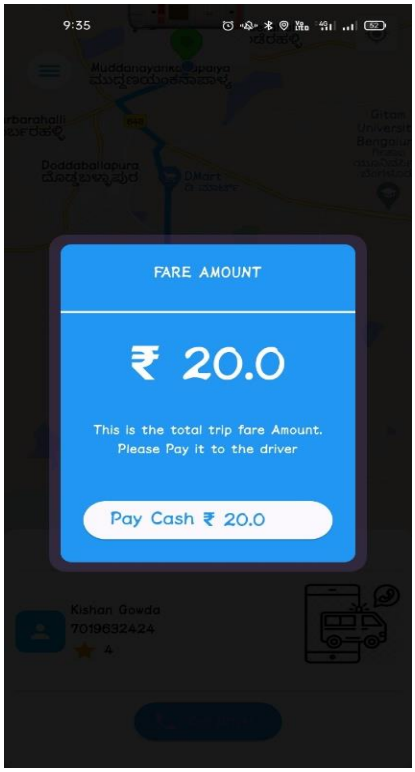
Accepted Driver's Info in User App



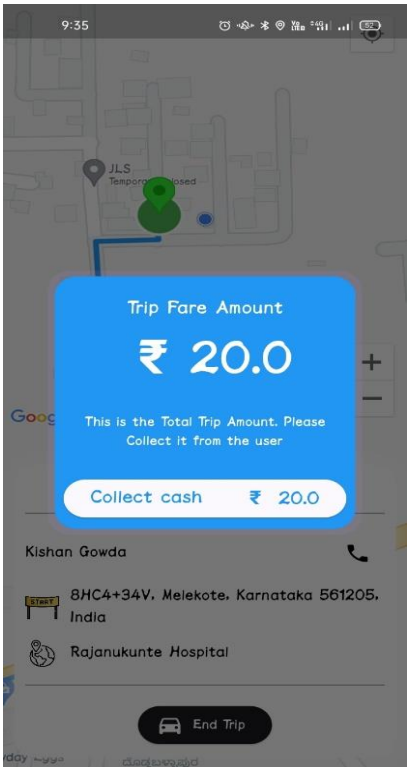
Route from Driver's location to User pickup location



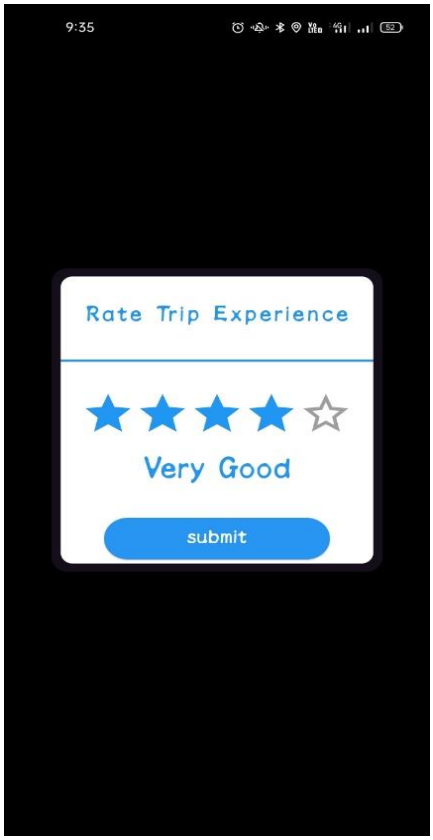
Route from User pickup Location to Destination



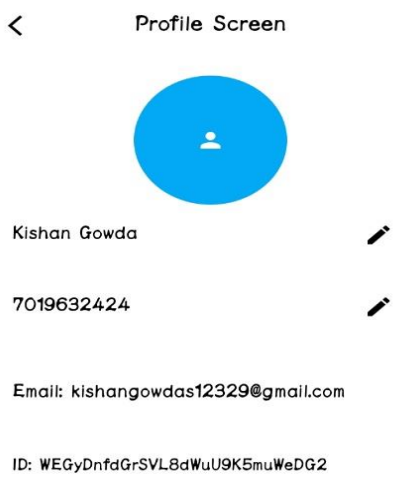
Fare Amount Dialog in User App



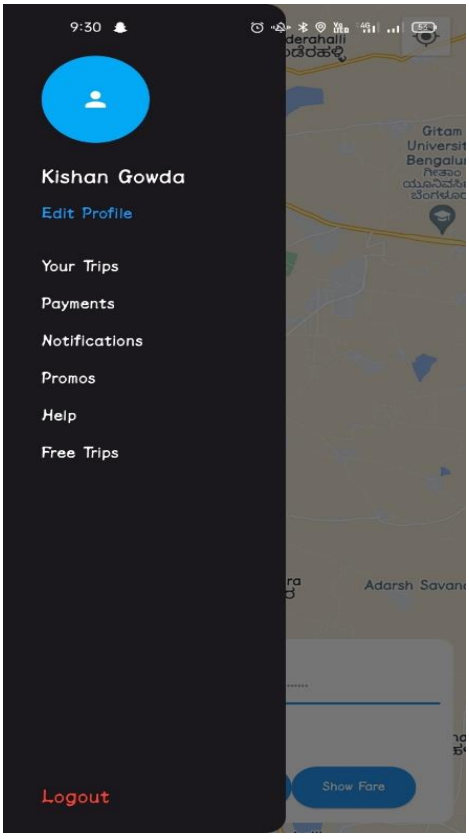
Fare Amount Dialog in Driver App



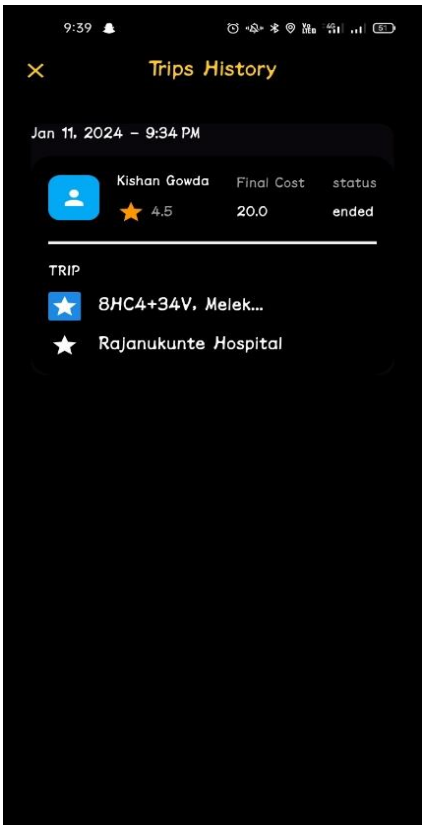
Rating Screen in User App



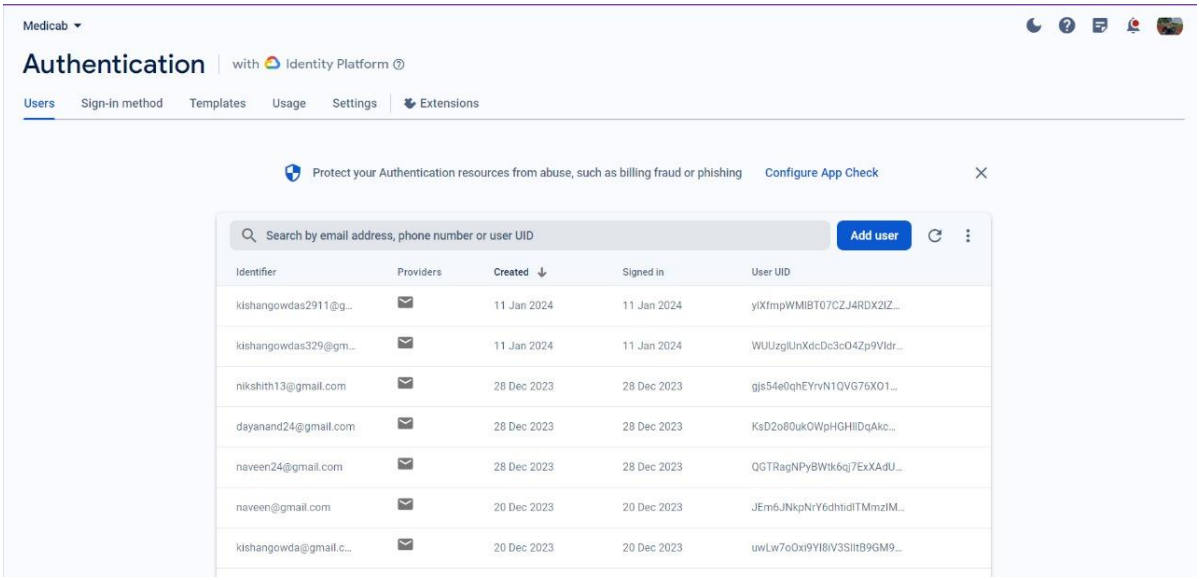
User Profile



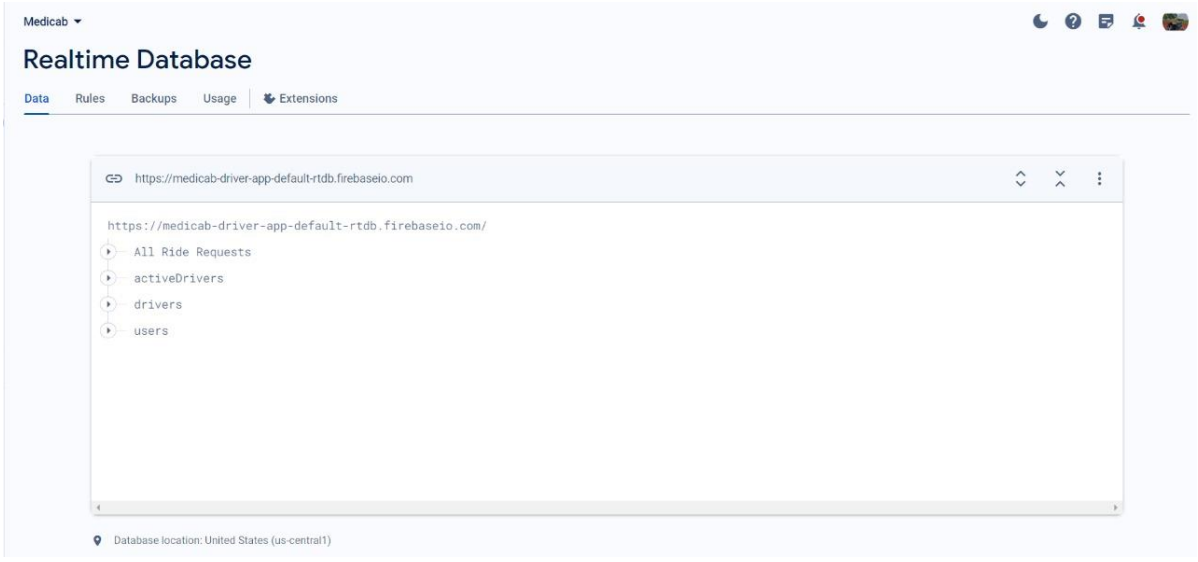
Drawer Screen in User App



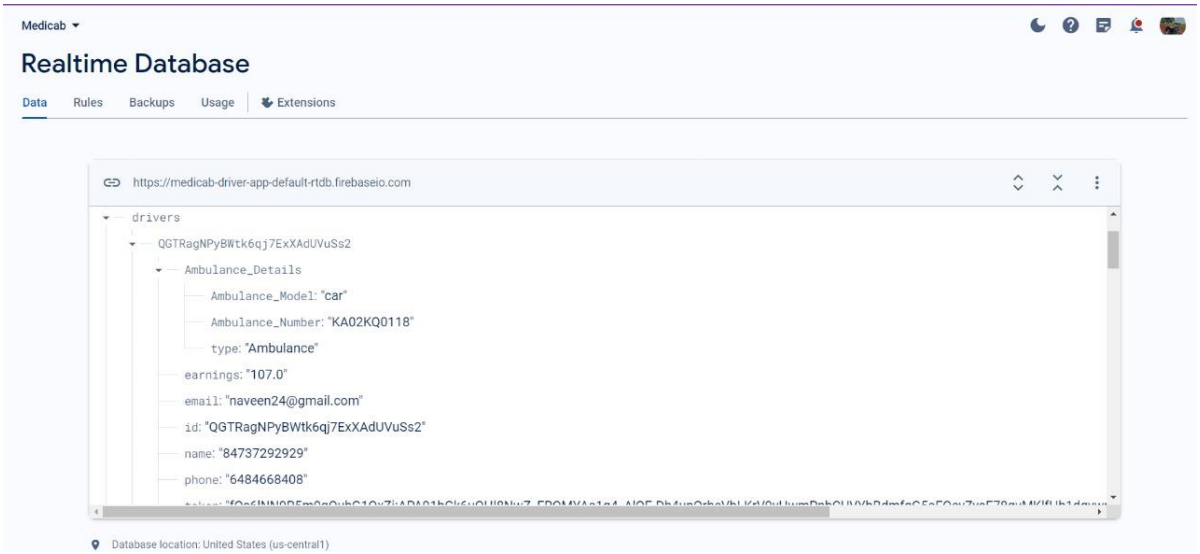
Trip History of User



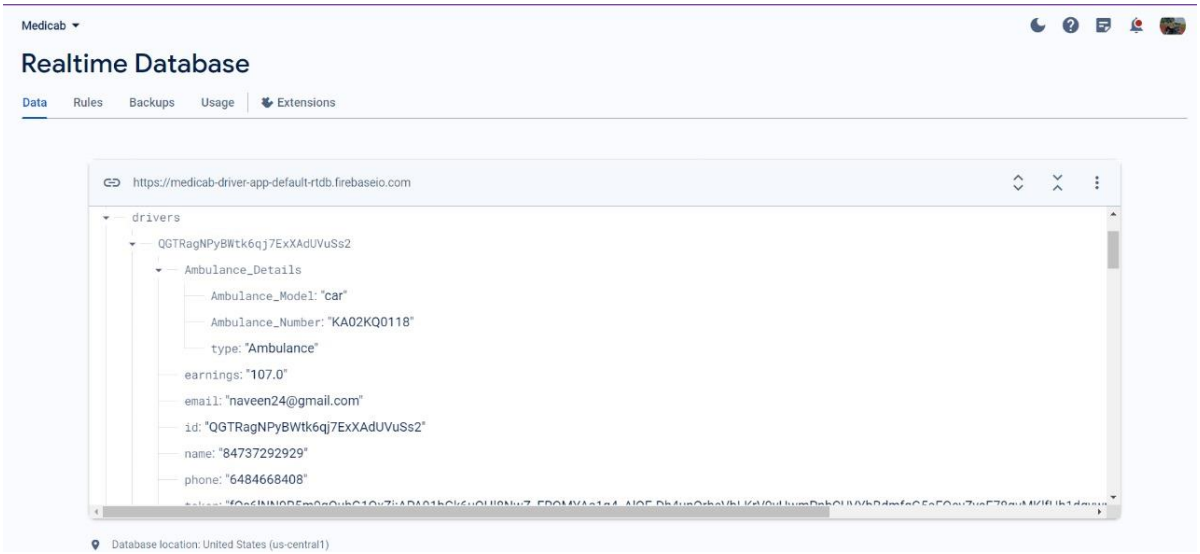
Firebase Console Authentication



Firebase Console Realtime Database



Firebase Console Drivers Data



Firebase Console Userdata

APPENDIX-C

ENCLOSURES

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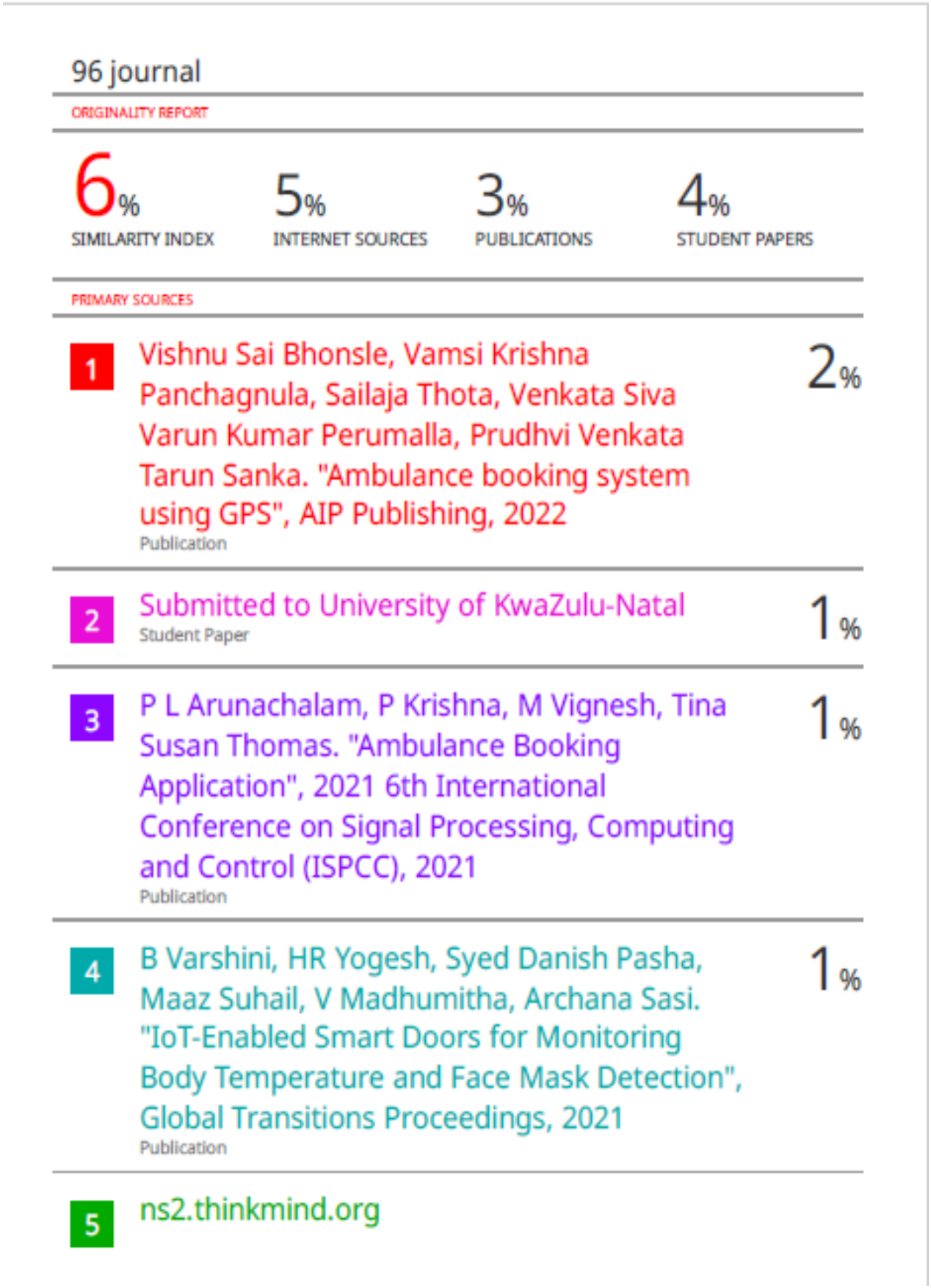

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SDG Mapping

The project work carried out here is mapped to SDG-3 Good Health and Well-Being.

MediCab's initiatives align with multiple Sustainable Development Goals (SDGs), contributing notably to Goal 3 (Good Health and Well-being) by enhancing healthcare accessibility through mobile medical services. By offering medical assistance to underserved communities, it addresses Goal 1 (No Poverty) and Goal 10 (Reduced Inequalities). Through the use of sustainable transport, it supports Goal 11 (Sustainable Cities and Communities). The provision of healthcare education also contributes to Goal 4 (Quality Education). Overall, MediCab's innovative approach integrates seamlessly with the SDGs, fostering inclusive healthcare, reducing inequalities, and promoting well-being in marginalized populations.