



Revolutionizing Parking: Smart Parking

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PROBLEM STATEMENT

Smart parking solutions, utilizing automated barriers and software, can provide realtime information on available parking spaces to both city officials and drivers. Setting the right price for parking based on demand and optimizing occupancy is the best approach.

The primary objective of the solution should be to equip city administrators with an effective .parking management tool that can predict, manage, and finance parking in cities. An app should be developed to allow citizens to conveniently reserve parking spots and make payments based on dynamic pricing.



INTRODUCTION

Parking is an essential part of our daily lives, but it can often be a frustrating and time-consuming experience. With the rise of urbanization and the increasing number of vehicles on the road, finding a parking spot has become a major challenge for drivers. In this presentation, we will explore the current parking challenges and how smart parking solutions can address these issues. We will also discuss the benefits of smart parking, implementation and maintenance, case studies, and the future of smart parking.

EXISTING PROBLEMS AND DISADVANTAGES

Traditional parking systems often face several challenges that can impact their efficiency and user experience. Some of the common problems include:

- Limited Space Management
- Manual Payment Process
- Traffic Congestion
- Lack of Real-Time Information
- Security Concerns
- Environmental Impacts
- Difficulty In Parking Guidance
- Inconvenient User Experience





LITERATURE REVIEW

The advent of smart parking applications has introduced innovative solutions to tackle these challenges and enhance the overall parking experience by improving in the following factors such as

Space Optimization and Efficiency , Digital Payment Systems , Traffic Flow and Congestion Management , Enhanced Security Measures , Real-time Information Accessibility , Environmental Impact and Sustainability , User Experience and Accessibility.

The literature reviewed demonstrates that smart parking applications have emerged as effective solutions to the challenges faced by traditional parking methods.

PARKING SLOTS

- Optimization of capacity
- Special Permits
- Online payments
- Loading/unloading areas
- Taxis/public transport
- Disabled
- Parking guided systems



PUBLIC AREAS

- Emergencies/availability
- Revenues
- Special permit detection
- Disabled parking places
- Electric vehicle recharging places



Direct Benefits of a **SMART PARKING SOLUTION**



ROADS

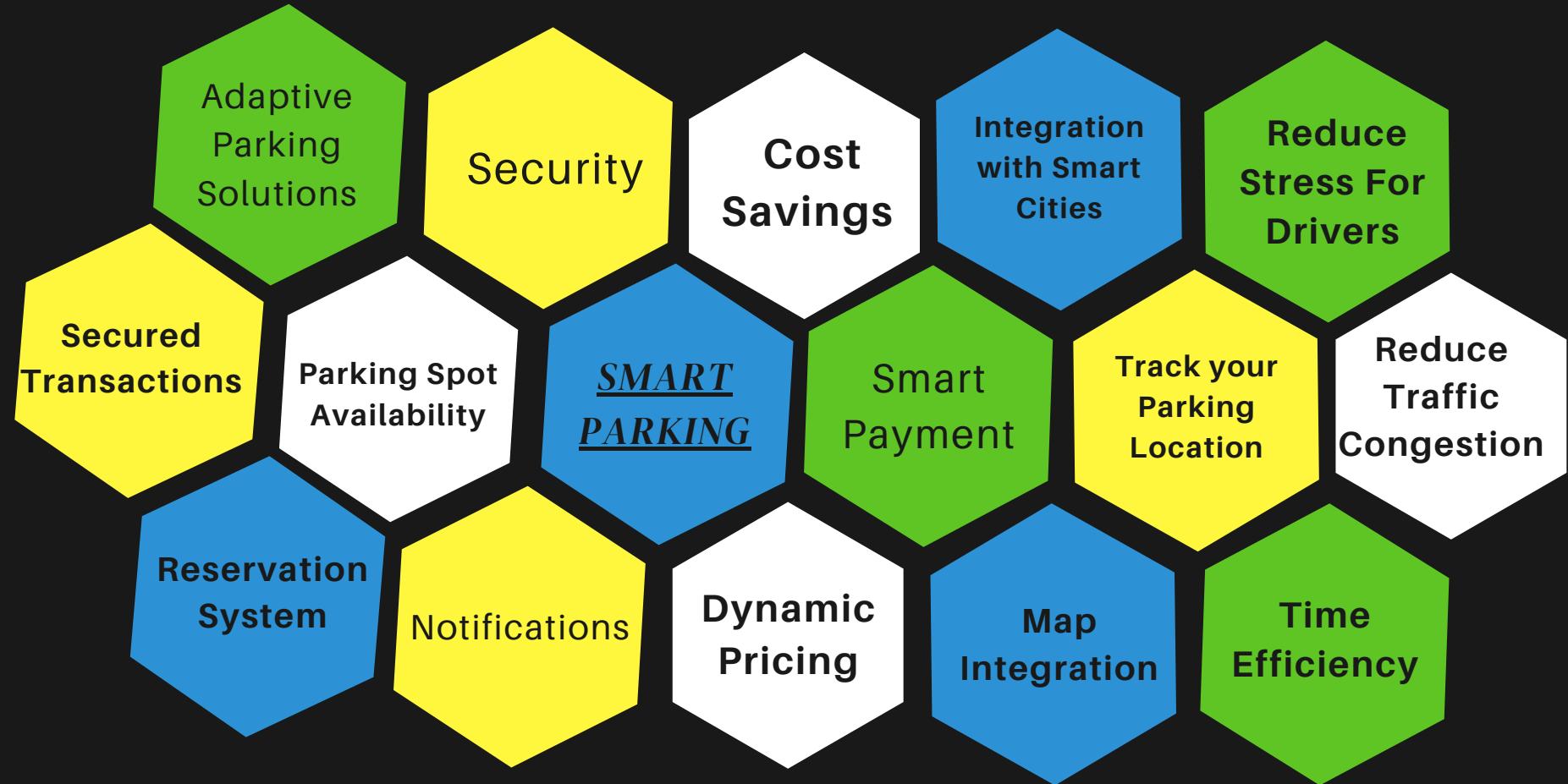
- Congestion
- CO2
- Noise



MALLS

- Pricing strategies
- Time spent looking for a parking space

SPECIFICATIONS OF SMART PARKING



TECHNOLOGY STACK



FRONT END

FRONTEND

FLUTTER



BACK END

BACKEND

FIREBASE



API

PARKLIO

Google Maps

SMART PARKING BARRIER LOCKS

Advancements in Smart Parking Barrier Locks

Smart parking barrier locks are becoming increasingly popular in the parking industry due to their ability to improve efficiency and reduce congestion. Some potential advancements in this technology include:

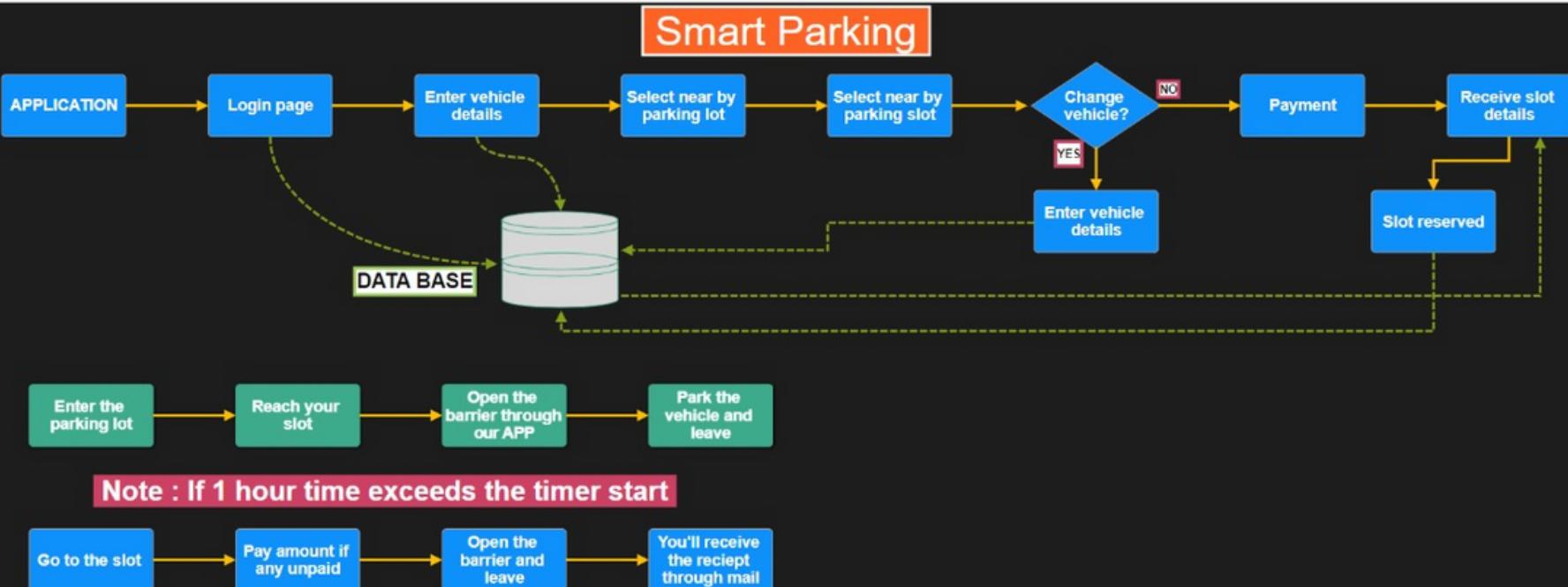
Integration with smart parking systems to provide real-time information on available parking spots and reduce wait times for drivers.

Use of artificial intelligence and machine learning algorithms to optimize parking allocation and reduce congestion.

Incorporation of biometric technology, such as facial recognition, to improve security and prevent unauthorized access to parking areas.



Smart Parking Flow Chart



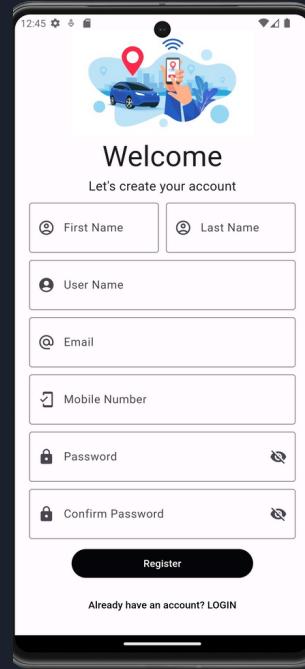
APP ICON



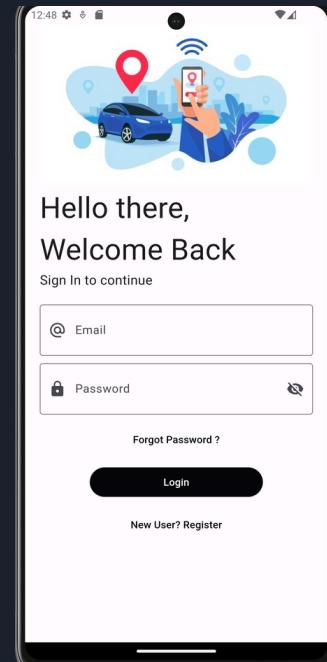
APP PAGES



Splash Screen

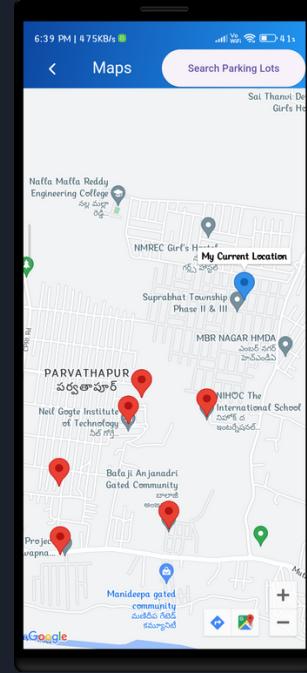
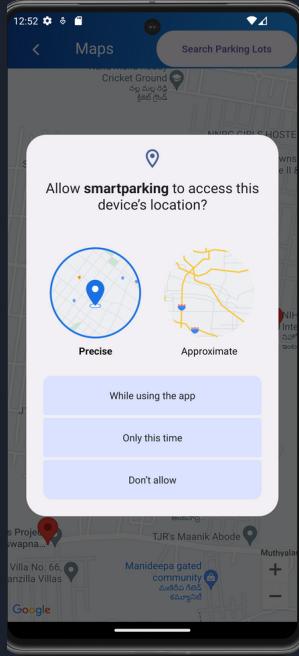
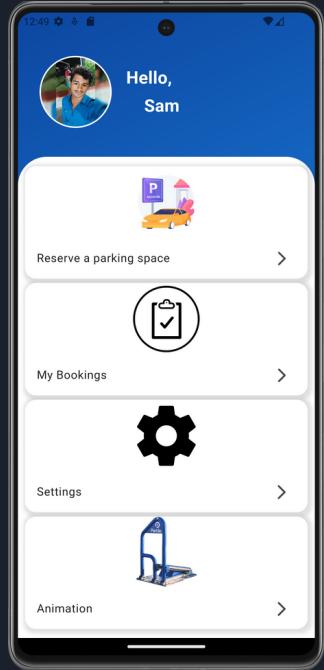


Sign Up



Sign in

APP PAGES



Dashboard

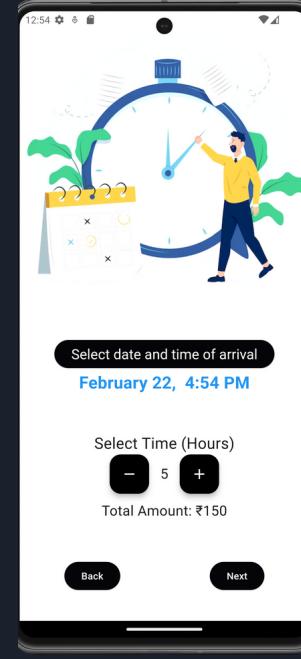
Permissions

Location

APP PAGES

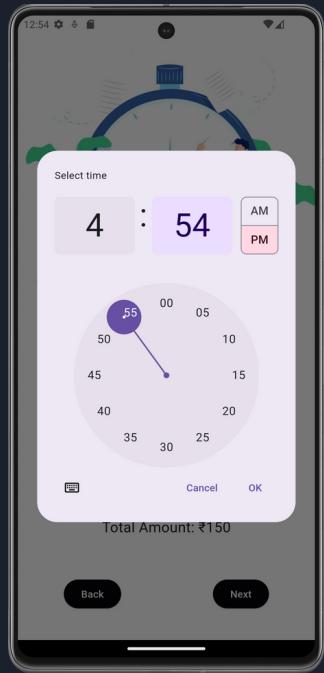


Parking slots

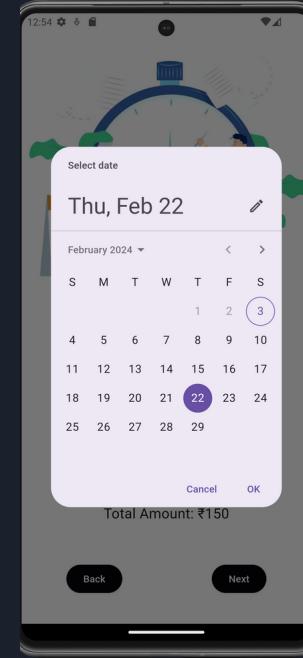


Date and No of Hours

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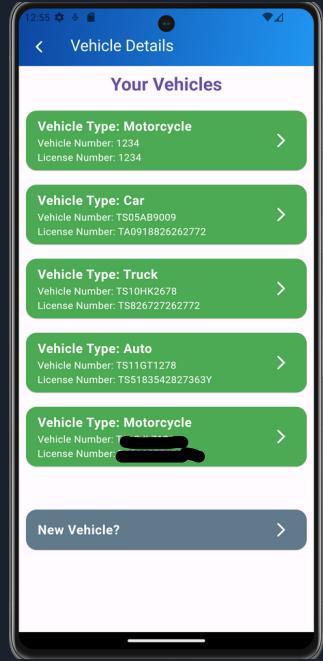
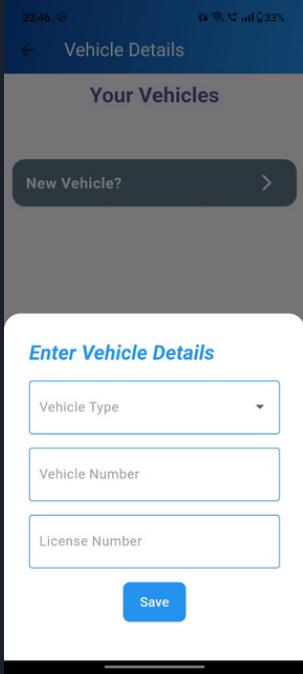


No of Hours



Date

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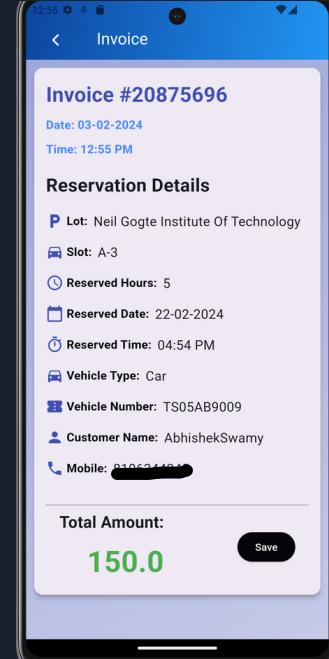
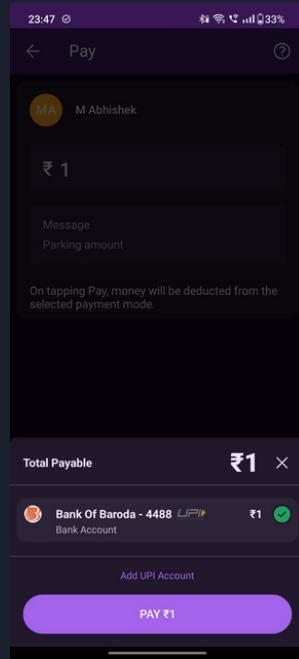
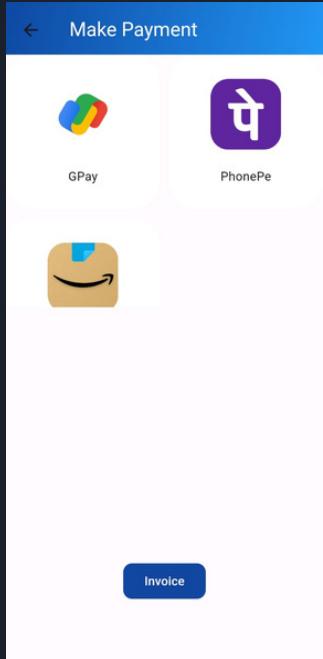


**Register Your
Vehicle**

Select your vehicle

**Select the parking
slot**

APP PAGES

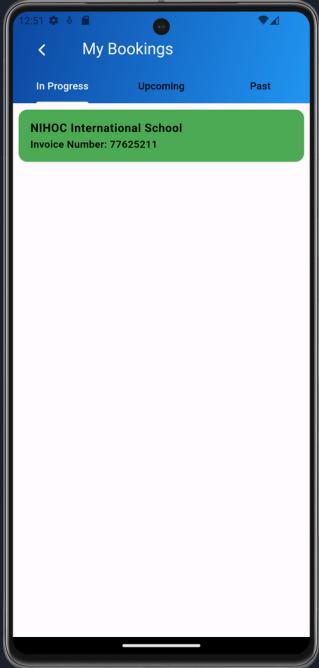


Payment
Gateway

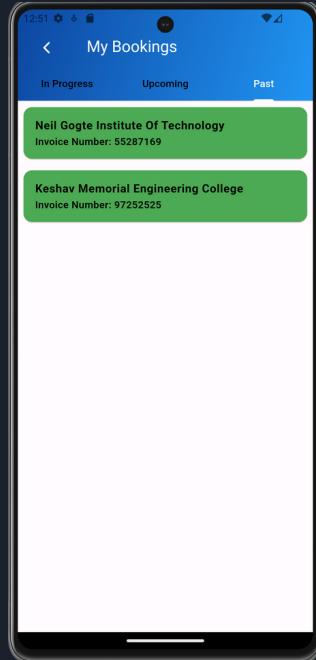
Final Payment

Invoice

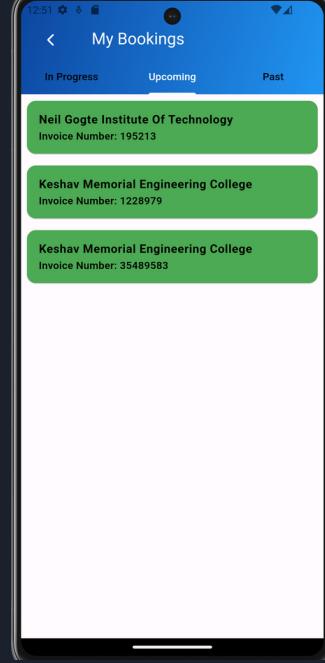
BOOKINGS PAGES



In Progress

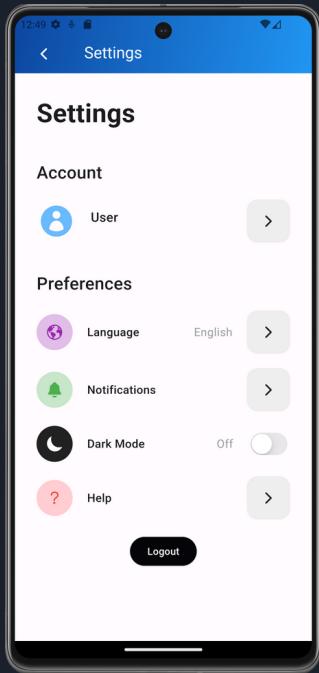


Upcoming

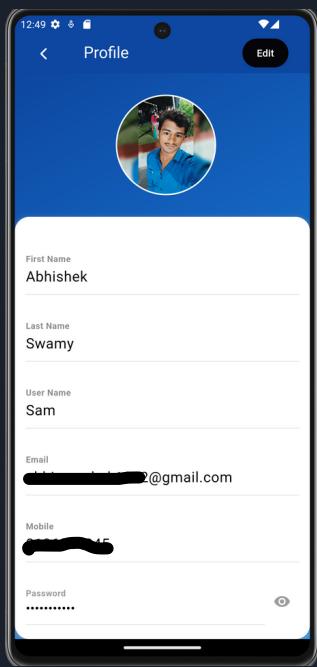


Past

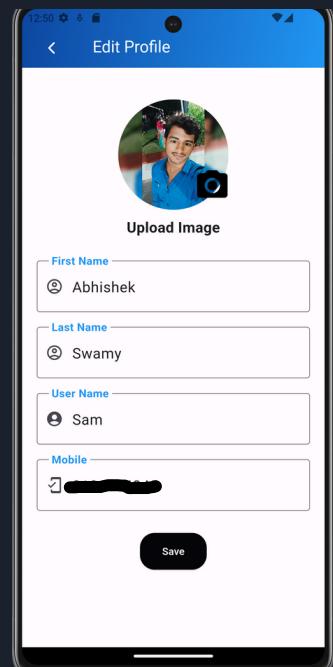
OTHER PAGES



APP Settings



Profile Page



Edit Profile



CONCLUSION and FUTURE SCOPE

In conclusion, the advent of smart parking applications represents a transformative solution to the persistent challenges faced by traditional parking methods in our society. Through the integration of cutting-edge technologies such as sensors, real-time data analytics, and user-centric interfaces, these apps have demonstrated their effectiveness in optimizing space utilization, streamlining payment processes, and improving overall traffic management.

The future of smart parking apps holds immense promise for continued innovation and widespread implementation. Research avenues could explore the long-term impacts of these technologies on urban planning, traffic patterns, and environmental sustainability.