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Faculty of Arts and Social Sciences

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Elite: A One Stop Solution for Ridesharing, Fuel Delivery, and On-Demand Mechanic Services in Bangladesh

FAHIMA ISLAM

Computer Science & Engineering Department, American International University-Bangladesh Dhaka, Bangladesh,

23-50251-1@student.aiub.edu

***Abstract*— In Bangladesh, ineffective ridesharing services, drawn-out refueling procedures, and restricted access to reliable mechanics present driven problems for urban mobility and vehicle maintenance. The Elite App, an integrated mobile solution created to provide three main services home-based fuel delivery, verified mechanical support, and on-demand ridesharing through a single platform, is presented in this report. A survey-based study involving 142 participants, primarily students and professionals, was conducted using structured questionnaires to gather insights into transportation habits, refueling needs, and mechanical service preferences. More than 86% of respondents indicated interest in on-demand maintenance and fuel delivery, indicating a high demand for dependable, reasonably priced, and easily accessible mobility services, according to quantitative analysis. Convenience, reliability, and service accessibility were given precedence over price by the respondents. The results highlight the need for safe, AI-enhanced service delivery while confirming Elite App's possibility in tackling inefficient urban transportation. To guarantee widespread adoption and long-term sustainability, recommendations include incorporating predictive diagnostics, offering flexible pricing, and providing future support for vehicles.**

I. INTRODUCTION

A. Background Information:

Urban transportation and vehicle maintenance in Bangladesh present significant challenges for commuters and car owners. Although ride-sharing services are now a popular option, customers usually must deal with lengthy waiting times, security issues, and uneven service quality. Similarly, refueling at conventional gas stations frequently results in time waste, particularly in places with a high population density. Furthermore, locating a trustworthy mechanic for maintenance and repairs is still a difficult task that frequently forces consumers to deal with unreliable service providers who have not been verified. These inefficiencies result in wasted time, inconvenience, and uncertainty hampering the seamless mobility and maintenance of vehicles in modern urban life. The growing demand for quick, safe, and reliable solutions demands the integration of advanced technologies and service models to enhance user experience. These issues collectively contribute to inefficiencies and frustrations for vehicle owners and users. According to the Greater Dhaka Sustainable Urban Transport Project, Bangladesh lacks a modern mass transit system, leading to congestion and inefficiencies in urban transportation [1]. Furthermore, data from the Urban Road Network Dataset highlights the complexity of Dhaka's Road infrastructure, which contributes to delays and unreliable commuting experiences. These everyday transportation and vehicle maintenance frustrations highlight a gap in integrated solutions that could streamline mobility, ensure service reliability, and save time [2].

B. Overview:

This report focuses on addressing these relevant problems by proposing a seamless mobile application, the "Elite" app has been developed to combine three essential services into a single platform:

1. On-Demand Ridesharing: Providing users with a safer and more budget friendly experience, optimized with smart routing and trusted drivers.

2. Home-Based Fuel Refilling: Allowing users to request fuel refills at their location, removes the need for time-consuming visits to fuel stations.

3. On-Demand Mechanic Services: Ensuring verified and professional mechanics are available at the user's convenience for maintenance and emergency repairs.

II. METHODOLOGY

A. Description of the Solution:

The Elite app is designed to enhance urban mobility by organizing ridesharing, fuel refilling, and on-demand mechanical services into a single platform. The solution is designed for both car owners and non-car owners, ensuring accessibility and efficiency for all users.

To determine whether this combined service model is possible according to what the users want, a research study was conducted through structured data collection, focusing on transportation habits, refueling needs, and vehicle maintenance concerns.

B. Methods Used:

Data was collected through an 11-question survey using Google Forms. The questionnaire covered key aspects such as:

- Ride-sharing usage and challenges

- Fuel refilling difficulties and time constraints

- Demand for on-demand mechanical services
- Pricing expectations and service reliability concerns

The survey was distributed online via social media (Facebook, Microsoft Teams) and direct outreach, ensuring accessibility for a wide range of respondents. Participants had (May 5 to May 20 of the year 2025) 14 days deadline to provide thoughtful responses.

C. Selection of Participants:

A total of 142 participants contributed to the survey. The data was collected from a mixed group, including students and professionals/employees. However, most respondents (88.1% or 126 participants) were students.

The two primary user segments included:

- Car owners who need reliable fuel refilling and maintenance services.
- Non-car owners who rely on ride-sharing budget friendly solutions for their mobility needs.

Selecting this diverse pool of respondents ensured that the findings reflect both perspectives, helping shape an inclusive and effective service model.

D. Data Analysis Approach:

Survey responses were analyzed using quantitative methods to identify trends and preferences. Key metrics included:

- Usage patterns for ridesharing, fuel refilling and mechanical services.
- Common pain points faced by both car owners and non-car owners.
- The capacity to pay for transportation services that are included

Statistical analysis was conducted to derive meaningful insights, validating the efficacy and potential impact of the proposed app.

III. Results and Discussion

A. Analytical Result:

It could be observed from figure 1 that nearly half of the participants do not own a car in Bangladesh

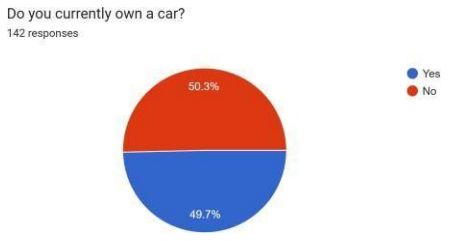

Fig1.Number of people owning a car in Bangladesh

Figure 2 indicates that a significant portion (over 60%) of users rely on ridesharing infrequently or never, demonstrating an opportunity to improve accessibility and reliability.

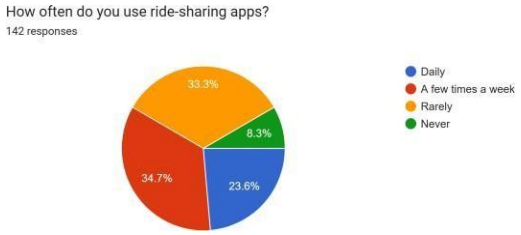

Fig2.Number of people Ride-Sharing usage

Figure 3 shows the convenience is the primary driver for users considering car rentals, followed closely by travel purposes.

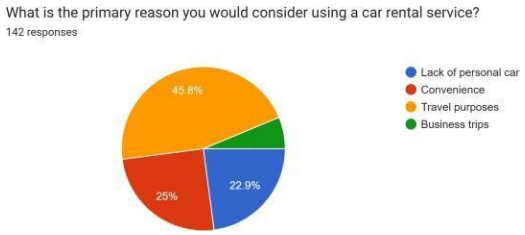

Fig3. Reasons for Considering a Car Rental Service

It can be seen from Figure 4 Over 86% of respondents showed interest in on-demand fuel refilling and mechanical services, validating the demand for such solutions.

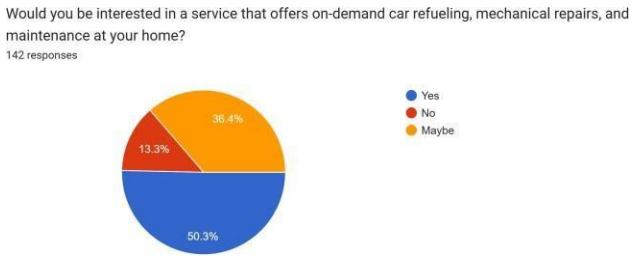

Fig4. Interest in On-Demand Fuel Refilling & Mechanic Services

Figure 5 helps in designing on-demand refueling schedules based on their needs.

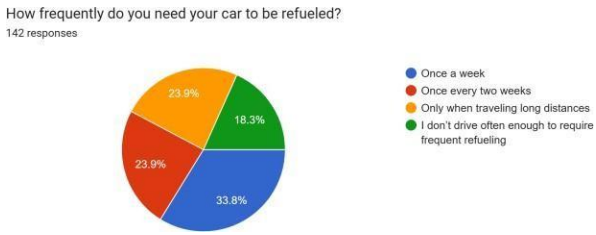

Fig 5. Frequency of Car Refueling

The data collected from the survey also shows in figure 6 engine checkups, oil changes, and tire replacements were the most requested services, emphasizing the need for mechanical availability through the app.

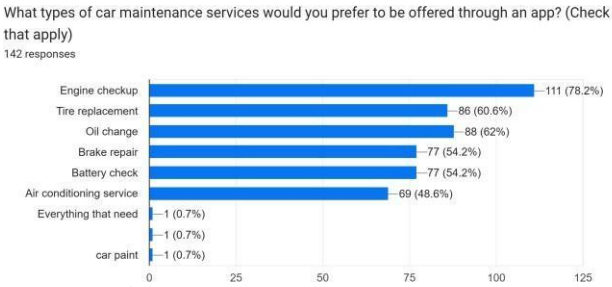

Fig 6. Preferred Car Maintenance Services

The pie-chart in figure 7 shows pricing below 500 BDT per day was the most preferred, indicating affordability is key.

Fig 7. Preferred Pricing for Car Rental Services (Including Fuel & Mechanic Services)

Figure 8 illustrates that service availability and trustworthiness ranked higher than cost, showing users value reliability and safety over price sensitivity.

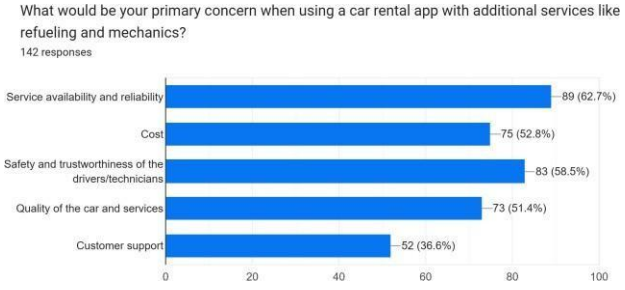

Fig 8. Primary Concerns When Using a Car Rental Service

B. Discussion:

The survey results confirm a strong demand for integrated urban mobility and vehicle maintenance services in Bangladesh. With nearly half of respondents not owning a car yet over 60% rarely using ridesharing, there is a clear gap in reliable and accessible transportation options. This suggests that existing ride-sharing platforms may not fully meet user expectations, creating an opportunity for a more efficient and user-friendly service.

The main reason people rent cars is still convenient, which emphasizes the need for adaptable and simple rental options. The overwhelming majority (86%) of respondents support on-demand mechanical services and fuel refilling, which further supports the feasibility of implementing a centralized platform that provides smooth fuel and maintenance support.

Refueling habits indicate that users prefer scheduled and need-based fuel delivery, allowing for an optimized service model that caters to their varying consumption patterns. Additionally, the necessity of trustworthy, easily accessible mechanical services to improve vehicle longevity and dependability is highlighted by the high demand for tire replacements, oil changes, and engine inspections.

Although affordability is important, trust and service availability were ranked higher than cost concerns, with most users preferring pricing below 500 BDT per day. This indicates that consumers place a high value on dependability and security when selecting transportation and auto repair services, so real-time service tracking and provider verification are crucial elements of the suggested Elite App.

All things considered, these results demonstrate that the Elite App meets customer needs by providing a complete solution to improve mobility, convenience of refueling, and vehicle maintenance effectiveness while resolving important issues with availability, affordability, and trust.

IV. Conclusion

A. Summary:

To conclude, Bangladesh's urban transportation and vehicle maintenance issues lead to several inefficiencies, such as lengthy wait times for ridesharing, delayed refueling, and trouble finding reliable mechanics. These problems cannot be solved by a single solution; however, an integrated platform such as Elite App could offer verified mechanical services, on-demand ridesharing, and home-based fuel refilling, increasing user accessibility and dependability. The results highlight the need for technology-driven interventions by demonstrating a high demand for reliable, reasonably priced, and effective mobility services. The Elite App can close current gaps and improve urban mobility for both car owners and riders by putting real-time tracking, AI-powered service optimization, and cost-effective models into practice.

B. Limitation:

Elite provides a thorough approach, but there might be some difficulties. Implementation may be slowed by initial setup expenses, logistical limitations, and regulatory approvals. Furthermore, solid collaborations with fuel suppliers, mechanics, and transportation authorities might be necessary to guarantee service availability in every location. To ensure that all users, including professionals and students, can take advantage of the service without facing financial hardship, pricing models must strike a balance between affordability and operating costs. To evaluate actual adoption challenges, more research and pilot projects are required.

C. Suggestions:

These are some suggestions to improve the Elite App including on-demand roadside assistance, flexible subscription pricing models, and predictive AI-based diagnostics for vehicle maintenance. Future additions might include localized service centers, refueling stations with an emphasis on sustainability, and charging stations for electric vehicles. Campaigns to raise public awareness of the advantages of smart mobility services would also encourage adoption and guarantee that Bangladesh's urban transportation system becomes more technologically advanced, accessible, and efficient.

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We are also grateful to all the participants who took the time to complete our survey and contributed valuable insights into this project.

REFERENCES

[1] Asian Development Bank, "Greater Dhaka Sustainable Urban Transport Project," Project Overview, 2025. [Online]. Available: https://www.adb.org/projects/42169-013/main

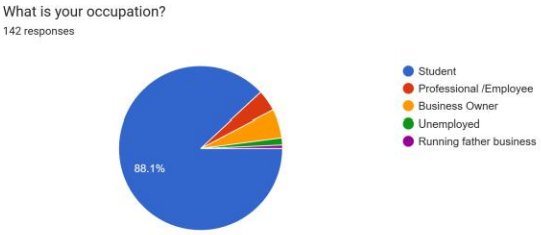
[2] TUMI Datahub, "Urban Road Network Data – City of Dhaka," Dataset, Apr. 2024. [Online]. Available: https://hub.tumidata.org/dataset/urban_road_network_data_dhak

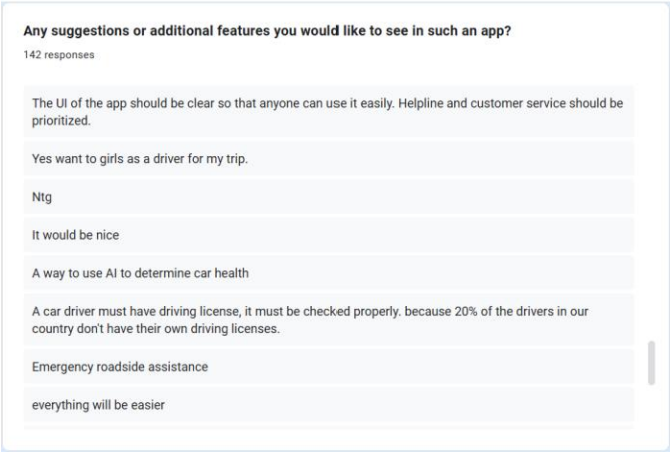
[3] E. F. Vasechkina and V. D. Yarin, "The Dangers of Rideshare Apps," *Journal of Transportation Safety*, vol. 35, no. 4, pp. 345-359, 2021. [Online].Available: The Dangers of Rideshare Apps - Byars Wright [Accessed: 04-May-2025]

[4] T. Smith, "On-Demand Gas Delivery: Apps Fuelling Up," *International Journal of Smart Mobility*, vol. 22, no. 3, pp. 199-215, 2022. [Online]. Available: On-Demand Gas Delivery: Apps fuelling up | Jungleworks. [Accessed: 15-May-2025].

[5] M. A. Harrison, "Top 15 Car Maintenance Apps: Enhancing Vehicle Longevity with AI," *Automotive Technology Review*, vol. 18, no. 7, pp. 445-460,2023.[Online].Available: Top 15 Car Maintenance App - AUTOsist, Drivvo, Fuelly, & More [Accessed: 25-May-2025].

APPENDIX





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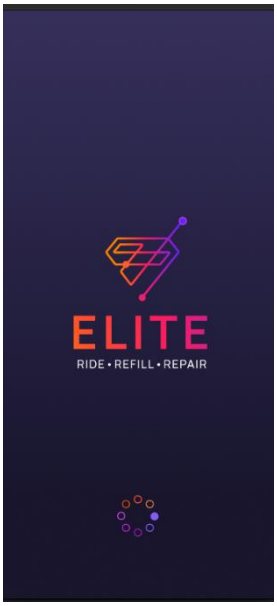

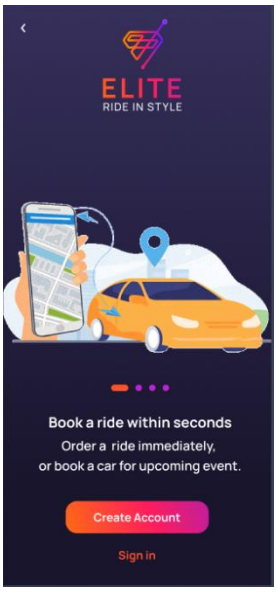
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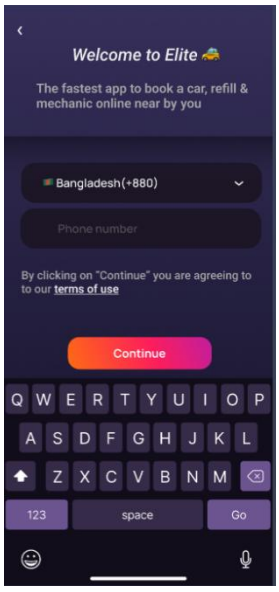
RIDE IN STYLE
Book a ride within seconds
Order a ride immediately,
or book a car for upcoming event.
Create Account
Sign in


Welcome to Elite
The fastest app to book a car, refill & mechanic online near by you
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Phone number
By clicking on "Continue" you are agreeing to to our terms of use
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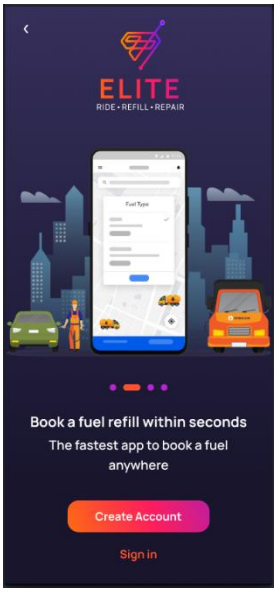
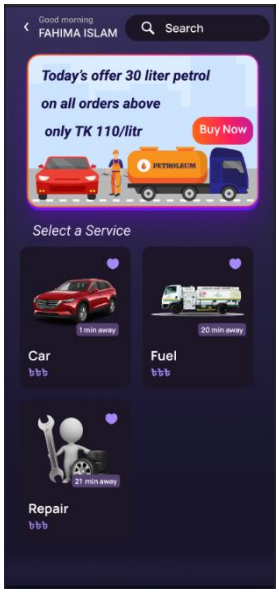

ELITE
RIDE • REFILL • REPAIR
Book a fuel refill within seconds
The fastest app to book a fuel anywhere
Create Account
Sign in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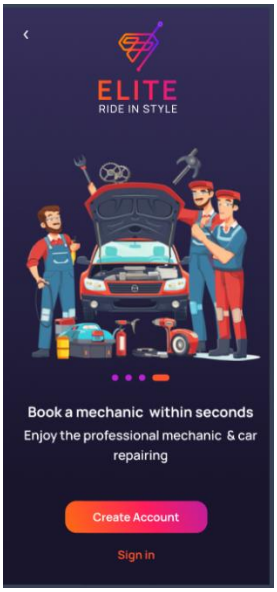
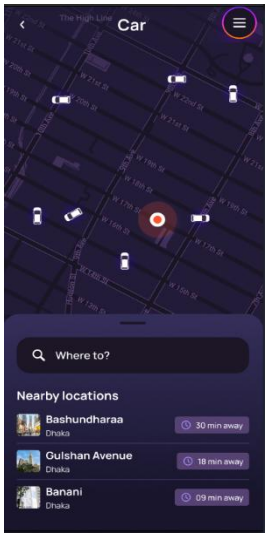
Today's offer 30 liter petrol on all orders above only TK 110/litr
Buy Now
Select a Service
Car
Fuel
Repair


ELITE
RIDE IN STYLE
Book a mechanic within seconds
Enjoy the professional mechanic & car repairing
Create Account
Sign in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Gulshan Avenue
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18 min away
Banani
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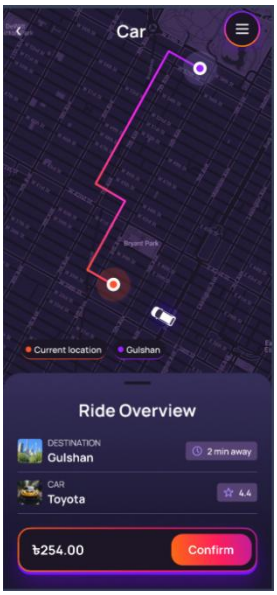
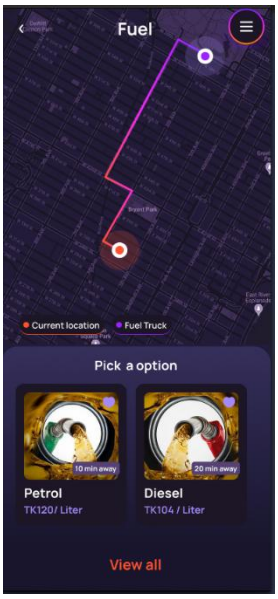
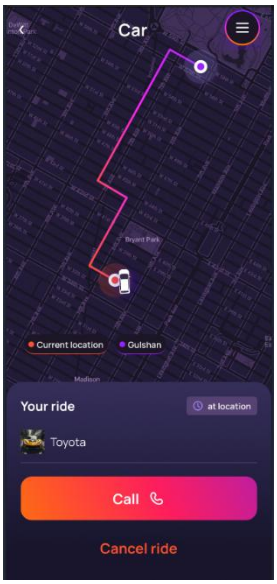
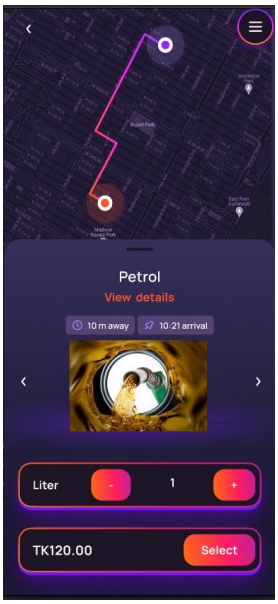
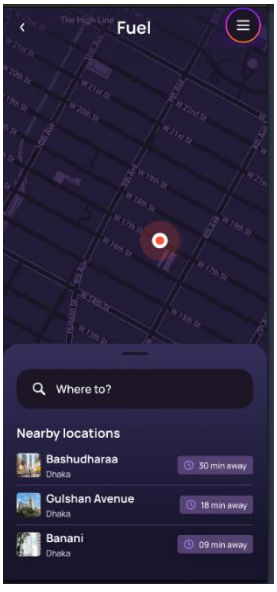
09 min away











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