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RIDE SHARING APPLICATION

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Abstract

"The Ride Sharing Application project is dedicated to crafting a specialized social media platform tailored for individuals seeking ride-sharing opportunities, with the goal of fostering connections among travelers and collectively alleviating transportation costs. By seamlessly integrating ride-sharing functionality with social media elements, Social Ride Share not only prioritizes efficient transportation but also actively encourages social interactions among users, providing a user-friendly interface for swift engagement in carpooling services. Positioned as a proactive response to contemporary transportation challenges, Ride Share offers a more interconnected, streamlined, and sustainable approach to travel. Ride-sharing application, powered by the ASP.NET MVC framework with C#, have undergone a paradigm shift, reshaping urban mobility, sustainability, and economic dynamics. These applications, constituting the Social Ride Share project, aspire to establish a dedicated social media platform for individuals seeking shared rides, fostering connections among fellow travelers, and collectively curbing transportation costs. The integration of ASP.NET MVC not only ensures a user-centric experience with features like seamless user registration and intelligent ride-matching algorithms but also provides a robust backend foundation for secure and personalized interactions, managing user profiles, authentication, and authorization. In a pioneering approach, Social Ride Share intertwines ride-sharing with social media, promoting not only efficient transportation solutions but also encouraging social interactions among users. The framework's scalability further propels the growth of the ride-sharing ecosystem, stimulating economic development and creating new avenues for driver income. By actively encouraging carpooling

and optimizing passenger distribution, these applications contribute significantly to congestion reduction, fuel conservation, and greenhouse gas emission mitigation, championing sustainability"

I.INTRODUCTION

In an increasingly interconnected world where convenience and efficiency are paramount, ride-sharing applications have revolutionized the way people commute and travel. These platforms offer a convenient means for individuals to connect with nearby drivers, facilitating seamless transportation experiences. However, existing centralized ride-sharing systems come with their share of limitations, ranging from opaque pricing structures to concerns regarding data privacy and scalability during peak demand.

To overcome these challenges and pave the way for a more equitable, transparent, and user-centric ride-sharing ecosystem, the proposed project aims to develop a decentralized ride-sharing application. By leveraging cutting-edge technologies such as blockchain, peer-to-peer networking, and smart contracts, this innovative solution seeks to redefine the ride-sharing landscape.

This introduction sets the stage for exploring the existing shortcomings of centralized ride-sharing platforms and outlines the objectives of the proposed project to address these limitations. By embracing decentralization, transparency, and user empowerment, the envisioned ride-sharing application endeavors to provide a more efficient, secure, and equitable transportation solution for users and drivers alike.

In the wake of rapid urbanization and evolving transportation needs, ride-sharing applications have emerged as transformative agents in reshaping the way individuals navigate urban environments. This paper delves into the dynamic landscape of ride-sharing, with a particular focus on applications powered by the ASP.NET MVC framework with C#, exemplified by the innovative Social Ride Share project. As urban congestion, environmental concerns, and the quest for more economical travel solutions continue to grow, the integration of ride-sharing functionalities with social media elements becomes a compelling avenue for

exploring enhanced urban mobility and connectivity. Within the Ride Sharing Application, users have the opportunity to actively engage and collaborate for sustainable mobility. The platform allows users to create detailed ride listings, including essential information such as departure location, destination, date, time, available seats, and any specific preferences or requirements they might have. This user-friendly interface facilitates effortless ride planning and coordination. Moreover, the application encourages interaction by enabling users to connect with fellow members, fostering friendships and follower relationships. Users can stay updated with each other's ride activities, posts, and updates, building a sense of camaraderie while embracing an eco-conscious approach to travel. The integration of an in-app messaging system further streamlines communication, providing a seamless way for users to discuss schedules, plan routes, and share costs for their shared journeys. In addition to its core features, the Ride Sharing Application stands as a beacon of innovation in the transport sector. The application serves as a digital bridge, connecting individuals beyond just ride-sharing by fostering a sense of shared

responsibility., the Ride Sharing Application transforms into a powerful tool for both cost-effective travel and meaningful contributions towards a sustainable planet. Join us in this digital movement, where every shared journey is a step towards a brighter, greener future.

ASP .NET MVC

ASP.NET MVC, developed by Microsoft, is a powerful web application framework that follows the Model-View-Controller (MVC) architectural pattern. It facilitates the creation of dynamic and maintainable web applications by separating components into distinct Model (data and business logic), View (user interface), and Controller (handling user input) elements. Offering advantages such as clean separation of concerns, testability, and URL routing, ASP.NET MVC promotes organized and modular code development. With support for multiple view engines and integration with popular front-end frameworks, it caters to diverse developer preferences and project requirements. Leveraging the broader ASP.NET ecosystem, MVC provides access to a rich set of libraries, tools, and security features, making it a versatile choice for web development, ranging from small-scale

projects to enterprise-level solutions. Its extensibility, responsiveness to various front-end frameworks, and commitment to modern web development practices contribute to its widespread adoption in the development community.

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II. LITERATURE REVIEW

1. Revealing the Misuse of Motorcycle Ride-sharing Applications using Extended Deterrence Theory Approach, Muhammad Teguh Brillian; Yudho Giri Sucahyo; Yova Ruldeviyani; Arfive Gandhi, This study determines the influence of security countermeasures on perceived sanctions which impacts the misuse intentions of ride-sharing applications by motorcycle taxi rider. The research model was built using eight hypotheses as adopted from Deterrence Theory. The data were collected using questionnaires that were distributed directly to the motorcycle taxi rider in ride-sharing. There are 198 samples obtained and processed using the Partial Least Square Structural Equation Modeling (PLS-SEM) method. This study found that severity of sanctions perceived and moral beliefs of motorcycle taxi rider have a significant negative impact to the misuse intentions of mobile application.

The certainty of perceived sanction does not have a significant relationship with the intention of motorcycle taxi rider to misuse the mobile application. Furthermore, it revealed that security countermeasures have a significant positive impact with the sanctions perceived and the moral beliefs of motorcycle taxi rider.

2.UiTM Share Ride: Requirements Validation, Design and Development of a Campus Ride-Sharing Mobile Application,Kamalia Azma Kamaruddin; Nur Rozliana Mohd Rozlis,The excessive number of cars entering university campus and limitation of parking areas have resulted in difficulty of finding parking spaces for many university staff and students. It is a typical issue occurring in most of university campuses all around the world. Carpooling or ride-sharing is viewed as the practical approach to solve this problem. The suggestion to share rides will lessen the amount of vehicles entering university campuses thus reducing parking space problem and decrease fuel emission for a cleaner and healthier environment. Thus, development of a campus ride-sharing mobile application will be a good medium for university staff and students to share their

rides and solve this pressing issue in many campuses. This research has attempted to validate the system requirements for UiTM Share Ride mobile application, followed by designing and developing the mobile application using Android platform for UiTM's staff and students. Four phases have been undertaken in order to complete the research, which are preliminary study, requirements validation, user design, and followed by application construction. The outcome is a UiTM Share Ride mobile application, which can manage ride sharing requests among passengers and drivers in UiTM communities that will eventually solve the issue of congestion in the university campus.

III.EXISTING SYSTEM

In the existing system for a ride-sharing application, users typically rely on centralized platforms like Uber or Lyft to connect with nearby drivers for transportation. While these applications offer convenience and accessibility, they come with several disadvantages. One drawback is the lack of transparency in pricing, where surge pricing during peak hours or high demand can lead to significantly higher fares for users.

Additionally, centralized control over user data raises privacy concerns, as users may be wary of sharing personal information with a single entity. Moreover, the existing system may face scalability issues during peak demand, resulting in longer wait times and reduced service availability.

IV. PROPOSED SYSTEM

The proposed system for a ride-sharing application aims to address the limitations of the existing system while offering several advantages. Firstly, the proposed system utilizes decentralized blockchain technology to provide transparency in pricing and reduce reliance on intermediaries, enabling fairer and more predictable fare structures for users. By decentralizing control over user data through blockchain-based identity management systems, the proposed system enhances privacy and security, giving users greater control over their personal information. Additionally, the proposed system incorporates peer-to-peer (P2P) networking and distributed computing techniques to improve scalability and ensure reliable service delivery even during peak demand periods. Furthermore, smart contracts deployed on the blockchain facilitate automated and

transparent transaction processing, reducing friction and enhancing trust between users and drivers. Overall, the proposed system offers enhanced transparency, privacy, scalability, and efficiency, making it a more attractive and user-centric solution for ride-sharing services.

V. CONCLUSION

In conclusion, the Ride Sharing Application project emerges as a trailblazing initiative that not only tackles the pragmatic challenges of contemporary transportation but also ingeniously integrates the vital component of social connectivity. By marrying the fundamental tenets of ride-sharing with the interactive dynamics of social media, the application transcends the boundaries of traditional carpooling services. Beyond its core functionality, the platform serves as a comprehensive solution, addressing pressing environmental concerns, providing cost-effective travel alternatives, and actively nurturing a sense of community among its users. The strategic decision to transition to C# and ASP.NET MVC for the backend underscores a commitment to a robust and scalable system. This technological shift facilitates the seamless implementation of

complex features such as real-time ride-matching, personalized notifications, and enriched social interactions. Not only does this transition align with prevailing industry standards, but it also fortifies the application's security, efficiency, and overall development lifecycle. The Ride Sharing Application not only redefines urban mobility but also embodies a visionary approach towards a connected, sustainable, and socially vibrant future. Its impact extends beyond the realm of transportation, setting the stage for innovative solutions that harmonize technology, community, and environmental consciousness.

VI. REFERENCES

1. Henao, A., & Marshall, W. E. (2019). The impact of ride-hailing on vehicle miles traveled. *Transportation*, 46(6), 2173-2194.
2. Rayle, L., Shaheen, S., Chan, N., Dai, D., & Cervero, R. (2014). App-based, on-demand ride services: Comparing taxi and ridesourcing trips and user characteristics in San Francisco. University of California Transportation Center (UCTC).
3. Zha, L., Yin, Y., & Xu, Z. (2018). Designing pricing strategies in ridesharing platforms: A bilevel optimization approach. *Transportation Research Part B: Methodological*, 117, 343-366.
4. Cohen, P., & Sundararajan, A. (2015). Self-regulation and innovation in the peer-to-peer sharing economy. *University of Chicago Law Review Dialogue*, 82, 116.
5. Hall, J. V., & Krueger, A. B. (2018). An analysis of the labor market for Uber's driver-partners in the United States. *ILR Review*, 71(3), 705-732.
6. A. Kurkovsky, "Sustainability of a growing higher education institution: a simulation approach to analyze the dynamics of campus parking lots", *Proceedings of the 2014 Annual Simulation Symposium*, pp. 13, 2014.
7. K. Abdullah, N. H. Kamis, N. F. N. Azahar, S. F. Shariff and Z. C. Musa, "optimization of the parking spaces: A case study of Dataran Mawar UiTM Shah Alam", *2012 IEEE Colloquium on Humanities Science and Engineering*, pp. 684-687, 2012.
8. R. B. Jadhao and J. M. Patil, "Recommendation system for carpooling and regular taxicab services", *2017 International Conference on Inventive Systems and Control*, pp. 1-8, 2017.

- 9.N. B. Zainuddin, L. H. Min, C. S. Twng and S. P. Khe, "Sustainable transportation scheme in university: Students' intention on bike sharing system: An empirical approach", *Journal of Global Business and Social Entrepreneurship*, vol. 2, no. 4, pp. 144-163, 2016.
- 10.U. Singh, D. Shinde, T. Sanap, N. Patil and R. Jadhav, "Mobile application for carpool system", *International Journal of Research and Scientific Innovation-IJRSI*, vol. 3, no. 4, pp. 98-102, 2016.
- 11.N. K. Sen, H. B. Chin and T. H. Siok, "Needs analysis of Malay students studying Chinese at UiTM", *2011 International Symposium on Humanities Science and Engineering Research*, pp. 24-29, 2011.
- 12.UK. Essays, Zonal parking studies in UiTM campus tourism essay, 5 2018, [online] Available:
<https://www.ukessays.com/essays/tourism/zonal-parking-studiesin-uitm-campus-tourism-essay.php?vref=1>.
- 13.N.A and Roslan, "Requirements engineering of UiTM share ride mobile application using Kano Model prioritization", *Universiti Teknologi MARA*, 2018.
- 14.T. Teubner and C. M. Flath, "The economics of multi-hop ride sharing", *Business Information Systems Engineering*, vol. 7, no. 5, pp. 311-324, 2015.