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Improving Passenger Safety Through Automated Real-Time Validation of Driver

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Abstract: Our driver verification application aims to establish a secure and trustworthy platform for connecting customers, drivers, and service providers. Upon registration, drivers undergo a comprehensive verification process, including police verification, to ensure their legitimacy and adherence to safety standards. Customers can confidently request rides knowing that only verified drivers are part of the service. By incorporating essential security measures and privacy controls, the application strives to safeguard sensitive user data and ensure confidentiality throughout the platform. Our driver verification system serves as a reliable bridge between customers, drivers, and service providers, fostering a safe and efficient ride-hailing ecosystem. Through this application, we aim to promote transparency, accountability, and reliability while delivering an exceptional user experience for all participants involved.

***Keywords**: AES, Security, Secure, Verify, Application, Safety*

1. Introduction

The helping application while in going in expressway, expect we getting a disaster essentially expeditiously competent call nearby crisis vehicle by using this application else can prepared to draw nearby petrol bunk nuances and subsequently nearby lodgings then the vehicle start accept got ended at the same time the explorer can utilize this application to get the studio else the repairman to start the beginning. Above all the repairman, petrol, bunk, lodgings and crisis vehicle should enrol in this application. After the support of manager the organizations gatherings can start their knowing works here. The client can contact clearly the expert, salvage vehicle while they in fight. With the help of this application the client can get the nearby lodgings and oil bunk nuances considering the region. Hidden Question Language (SQL) is used for getting to, controlling, and talking with the informational collection

2. Literature Survey

The authors of "Self-Sovereign Identity for Trust And Interoperability In The Metaverse" (SiemGhirmai , Daniel Mebrahtom and MoayadAloqaily) [1] With the advancement in computing power and speed, the Internet is being transformed from screen-based information to immersive and extremely low latency communication environments in web 3.0 and the Metaverse. With the emergence of the Metaverse technology, more stringent demands are required in terms of connectivity such as secure access and data privacy. Future technologies such as 6G, Blockchain, and Artificial Intelligence (AI) can mitigate some of these challenges.

The authors of Smart Contracts Technology(The Pratham Patel , Cleorbete Santos) [2] This work begins with an explanation of fundamental concepts about Bitcoin and Blockchain and then explores the main definitions of smart contracts in the updated literature, demonstrates some categories of smart contracts, explores the most widely used platforms that support smart contracts, and gives greater prominence to the Ethereum platform for its more robust characteristics regarding the creation and storage of this type of contract. It then concludes by demonstrating the advantages of smart contracts in relation to traditional contracts, as well as addressing their legal validity.

In this paper, "Smart Contracts: Legal Considerations" [3] we analyze the value of smart contracts and blockchains as an alternative to traditional contractual obligations. In particular, we start by exploring some of the advantages of these technologies, specifically the immutability of blockchains and automated contract remittance. We also discuss two critical shortcomings of decentralized smart contracts, namely regulatory uncertainty and a lack of confidential execution. With these issues in mind, we next explore how American legislators have begun to address smart contracts and blockchains.

"Paradigm Shift from Paper Contracts to Smart Contracts"[4] The ambiguity and complexity of the traditional legal contracts have motivated the study and exploration of a better and advanced contract known as blockchain-based smart contracts. A smart contract is a

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self-executable contract where the terms of the agreement between the involved parties are directly written into the lines of code that resides in the distributed ledger technology known as the blockchain. Obtaining a better understanding of smart contracts to overcome the fundamental issues of traditional legal contracts is vital for the successful and faster dispute settlement process without the intervention of any third-party mediators like courts, banks, lawyers, etc. In this paper, we present a comprehensive overview of the key features of the paradigm shift from traditional paper contracts to smart contracts.

"A General Theory Of Digital Identity" [5] A formal representation of Digital Identity (D-ID) would provide support for the general structure of any D-ID, its information value, its security implication, its complexity assessment, and the optimal/minimum structure to create a complete mapping to build any D-ID without unnecessary redundant information and complexity. Our approach is to provide the ''minimum'' and axiomatic frame for any D-ID. We present a liminary formal description of D-ID, its formal construction, and the basis relationship to create any D-ID through its ownership relationships in a formal frame.

3. Existing System

AudiSSI is a self-sovereign identity system that allows users to manage their identities while ensuring privacy. It also provides an efficient way for service providers (SPs) to verify the qualifications of registered drivers.

Technique: Self-sovereign Identity (SSI)

This can be challenging for individuals who are not tech-savvy or may not fully understand the risks involved in handling their sensitive information.

4. Proposed System

Our driver verification application ensures a secure and trustworthy platform for customers, drivers, and service providers. Drivers undergo police verification and comprehensive checks for legitimacy, enhancing safety and trust in the service. Customers can confidently request rides with verified drivers.

Technique: AES algorithm,SQL Operation

SQL has a simple and intuitive syntax, making it easy to learn, even for beginners. Its declarative nature allows users to focus on specifying what data they want, rather than how to retrieve it, making it user-friendly and efficient.AES is a symmetric encryption algorithm with key sizes of 128, 192, or 256 bits. It has been extensively analyzed and scrutinized by cryptographic experts.

5. Design and Implementation

A. Java Server Pages

Java Server Pages or JSP for short is Sun's solution for developing dynamic web sites. JSP provide excellent server side scripting support for creating database driven web applications.

The Java Server Pages specification extends the Java Servlet API to provide web application developers with a robust framework for creating dynamic web content on the server using HTML, and XML templates, and Java code, which is secure, fast, and independent of server platforms.

B. MY SQL

MySQL served as the primary database management system. It provided a robust platform for storing, managing, and retrieving structured data efficiently.

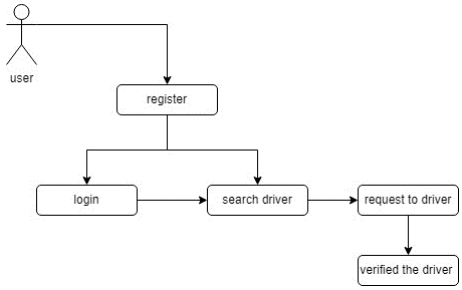
Through SQL queries, we could manipulate data seamlessly, enabling functionalities like data retrieval, insertion, updating, and deletion.

MySQL's support for transactions ensured data integrity, critical for our project's operations.

6. Modules description

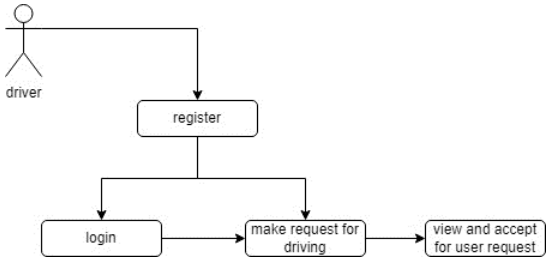
USER

Client need to enlist and login to open the application and make the solicitation to drivers for journey.it will ready to check the driver foundation through police headquarters.



DRIVER

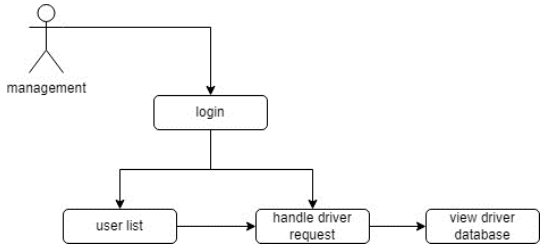
A driver is an individual responsible for operating a vehicle, ensuring the safe transportation of passengers or goods from one point to another. They possess the necessary skills and knowledge of traffic laws and regulations to navigate roads safely.



MANGEMENT

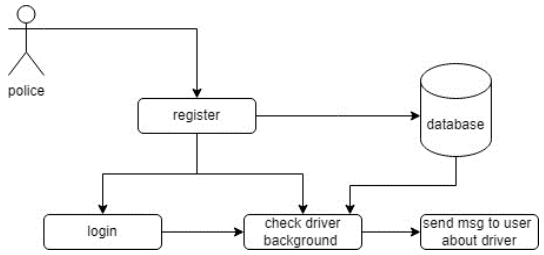
Management is the process of coordinating resources, people, and activities to achieve organizational goals

effectively and efficiently. It involves planning, organizing, leading, and controlling activities within an organization. Effective management ensures that resources are allocated wisely, tasks are delegated appropriately, and goals are achieved in a timely manner.

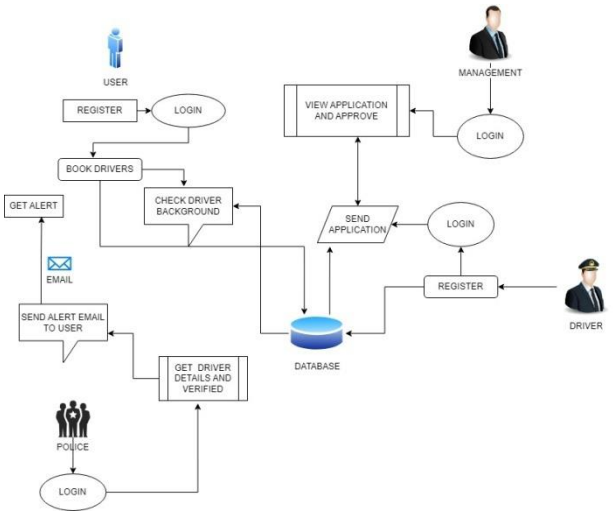


POLICE

Whether it's directing traffic or apprehending criminals, the police play a vital role in maintaining the smooth functioning of society, including ensuring the safety of cab drivers and their passengers.



7. System Architecture



The systems architect establishes the basic structure of the system, we propose a Hash code Solomon algorithm and a we can put a small part of data in local machine and fog server in order to protect the privacy. Moreover, based on computational intelligence, this algorithm can compute the distribution proportion stored in cloud, fog, and local machine, respectively. Through the theoretical safety analysis and experimental evaluation, the feasibility of our scheme has been validated, which is really a powerful supplement to existing cloud storage scheme.

8. Conclusion

In conclusion, our driver verification application stands as a robust solution designed to elevate the ride-hailing experience by prioritizing security and trust.

Through rigorous verification processes, including police checks, we establish a secure platform where customers can confidently connect with verified drivers.

This commitment to safety not only enhances the overall user experience but also promotes transparency, accountability, and reliability in the ride-hailing ecosystem.

By safeguarding sensitive user data and ensuring strict adherence to safety standards, our application serves as a dependable bridge, fostering a secure and efficient environment for all stakeholders involved—customers, drivers, and service providers alike.

9. FUTURE ENHANCEMENTS:

- Implementing a real-world(cloud) database system.
- Improving the efficiency of protocols, in terms of number of messages exchanged and in terms of their sizes, as well
- Implement using two are more algorithm.

References

[1] C.C.Macadam,"Understanding and demonstrating the human driver", Vehicle syst.Dyn,vol.40,no.1,pp.101-134,Jan.2003

[2] M.Plochi and J. Edelmann, "Driver models in auto elements applicaton",Veh.Syst.Dyn.,vol.45, no.7/8 pp.699-741,2007

[3] F.Biral,D>Bortoluzzi, V.Cossalter and M.Da Lio, "Trial investigation of bike move capabilites for assessing dealing with",Vehicle Syst.Dyn.,Vol.39,no.1,pp.1-25,2003

[4] D., G. ., Ramar, A. ., Karpagam, S. ., J., S. ., S., R. ., & P., S. . (2024). Sign Language Recognition Using Convolutional Neural Network. International Journal of Intelligent Systems and Applications in Engineering, 12(17s), 329–337.

[5] P.Cisek,"Cortical component of activity determination: The affordance contest speculation",Philos.Trans.Roy.soc.london A Math Phys.Sci,Vol.362,no.1485,pp.1585-1599,2007.

[6] L.Cattaneo and G.Rizzolatti,"The mirror neuron - f.ramework".Curve.Neurol.,vol.66,no.5,pp.557-560,2009

[7] S.Hurley, "The common circuits model(SCM):How control reflecting and reproduction can empower

impersonation thought and mindreading", Behav.Cerebrum Sci.,vol.31,no.1,pp.1-22,Feb.2008

[8] D.M.Wolpert,K.Doya and M.Kawato,"A bring together computational system for engine control and social connection",Philos.Trans.Roy.Soc.London A Math .Phys .Sci.,vol .3 58,no.1431,pp.593-602,Blemish.2003.

[9] G.Hesslow,"The ongoing status of the reenactment hypothesis of cognizance",Cerebrum res.,vol.1428,pp.593-602,Blemish.2003

[10] G.Hesslow,"Cognizant idea as reenactment of conduct and insight", Patterns Cogn.Sci.,vol.6,no.6,pp.242-247,jun.2002.

[11] J. Decety and J. Grézes, "The force of reproduction: Envisioning one's own and other's way of behaving", Mind Res., vol. 1079, no. 1, pp. 4-14, Blemish. 2006.

[12] A. Meltzoff, "Figuring out the expectations of others: Re-institution of planned acts by 18-month-old youngsters", Create. Psychol., vol. 31, no. 5, pp. 838-850, 1995.

[13] Y. Demiris, "Expectation of goal in mechanical technology and multi-specialist frameworks", Cognit. Process., vol. 8, no. 3, pp. 151-158, Sep. 2007.

[14] Mohan, A., Prabha, G. and V., A. 2023. Multi Sensor System and Automatic Shutters for Bridge- An Approach. International Journal of Intelligent Systems and Applications in Engineering. 11, 4s (Feb. 2023), 278–281.

[15] Prabha , G. , Mohan, A. , Kumar, R.D. and Velrajkumar, G. 2023. Computational Analogies of Polyvinyl Alcohol Fibres Processed Intellgent Systems with Ferrocement Slabs. International Journal of Intelligent Systems and Applications in Engineering. 11, 4s (Feb. 2023), 313–321.

[16] Lavanayaprabha, S. Mohan, A. Velrajkumar, G., Mohammedharoonzubair, A Study On Structural Behaviour Of Ductile High-Performance Concrete Under Impact And Penetration Loads, . Journal of Environmental Protection and Ecology., 2022, 23(6), pp. 2380–2388.`

[17] Vidhya Lakshmi Sivakumar, A.S. Vickram, Ragi Krishnan, Titus Richard, "AI-Enhanced Decision Support Systems for Optimizing Hazardous Waste Handling in Civil Engineering," SSRG International of civil Engineering. Vol 10, 2023.

[18] Mohan, A., Dinesh Kumar, R. and J., S. 2023. Simulation for Modified Bitumen Incorporated with Crumb Rubber Waste for Flexible Pavement. International Journal of Intelligent Systems and Applications in Engineering. 11, 4s (Feb. 2023), 56–60.

[19] R.Gopalakrishnan, Mohan, "Characterisation on Toughness Property of Self-Compacting Fibre Reinforced Concrete", Journal of Environmental Protection and Ecology 21, No 6, 2153–2163 (2020)

[20] Mohan, A., Dinesh Kumar, R. and J., S. 2023. Simulation for Modified Bitumen Incorporated with Crumb Rubber Waste for Flexible Pavement. International Journal of Intelligent Systems and Applications in Engineering. 11, 4s (Feb. 2023), 56–60.