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Digi-Workshop

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Abstract: A Paper reviewing 'Digi-Workshop' webapp- a new idea aiming at fully digitalising our vehicle servicing process and easing our lives in that regard.
The review paper concisely explains this new concept which could greatly enhance or experience with regards to servicing our ICE vehicles.

Index Terms - Digi-Workshop, Vehicle Servicing, VoIP, IoT, Digital Workshop, Digitising

I. INTRODUCTION

- **For those of us who own vehicles, we all must have gone to service our vehicles at least once in our lives. For the most part the experience is extremely tedious, time consuming and not very efficient.**
- **Especially in these pandemic times when maintaining physical distance is such crucial for the society, how about developing a system which makes the total process digital, convenient, time efficient and hassle free?**
- **This proposed Digital System would enable getting one's vehicle serviced with them sitting in their house's convenience and monitoring the vehicle being serviced whilst them getting to talk to the service-men and being assured of the work being done to the vehicle.**

II. LITERATURE SURVEY: -

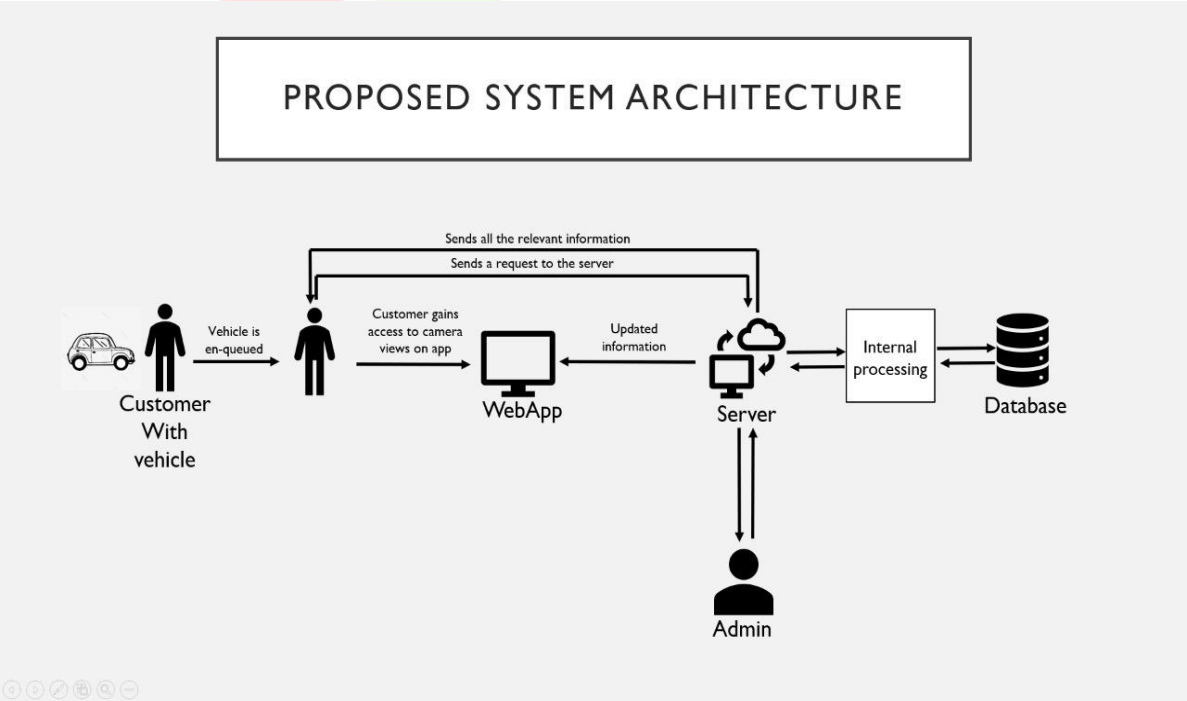
- This is a very new and novel idea and incorporates many features like video calling using VoIP, Internet messaging, IoT integration, etc.
- In our research, we found no such literature which already existed for such a system. Although we did find a proprietary service, similar to what we are aiming to offer but on a larger scale.
- Its name is 'With You Hamesha' app by 'Mahindra' which has both a web app as well as specialised apps for platforms like Google's Android and Apple's iOS.
- It tries to accomplish the same thing which we are trying to but is limited only to the users of Mahindra automotives and to its own proprietary workshops and doesn't try to offer as much features as we plan to.

III. PROPOSED SYSTEM: -

- We envision an app which would map out various service centres and workshops, both local and OEM, nearby customer's location.
- The compatible service centres would have two queues, one for the incoming vehicles due to be serviced and the second for the outgoing successfully serviced vehicles.
- The queues would contain an appropriate number of cameras connected directly to the server of the app we plan to build. This would ensure the monitoring of the vehicles in the queues by the customer at all times.

- On the main platform where the vehicle is to be serviced, there would be multiple fixed-point cameras which would give a 360° view of the current vehicle on the platform. We may even develop mechanical frame solutions for local workshops to affix cameras in case there is no proper structure to affix the cameras.
- There also would be a free-flowing camera in the form of a smartphone in one of the servicemen's hands. This particular serviceman would act as an administrator and would pan the camera according to the customer's request.
- The proprietary app on the smartphone would also enable the customer to talk to the administrator live as their car is being processed and get live verbal feedback to their queries.
- This would assure the vehicle owner that their vehicle is being serviced properly and no malpractices are being subjected to their vehicle.
- When the customer agrees to all the terms and conditions of the service station as well as the estimated cost of servicing, they would be given access to the view of various cameras at the service station.
- When the customer's vehicle goes to the main servicing platform, the customer is notified via notification or through personalized calls.
- Once the customer acknowledges the notification, the free-flowing smartphone camera and the server side app is enabled which also activates real time talking feature.
- Once the car is done being serviced and the customer is satisfied, another notification is sent to the customer and after acknowledgement the talkback feature is disabled.
- The system would also include native payment methods which could be a native wallet system, some other wallet systems, UPI payment options, et cetera.
- A bill would be generated after successful servicing and bill payment and sent to the customer via the app and e-mail which can be stored for future reference.
- A small convenience fee would be charged to the customer to opt for this service.
- A pickup and drop service could also be incorporated for another menial fee, so that the customer could have the option of choosing the convenience of not even stepping out of their house and getting their vehicle serviced and brought back.
- Data collection and analysis can also be done for targeting the right customer base and maximising profits and relevant advertising can also be done on the app.
- This could be both a product as well as a service and the earning means could be the commissions as well as the advertising.

IV. ARCHITECTURE DIAGRAM: -



V. Advantages: -

- Customer's convenience is unparalleled.
- Live monitoring and real time talking ensures full customer assurance and peace of mind.
- Hassle-free, COVID-appropriate and time saving.
- Data Analysis could help the workshops to maximise profits and target the right customer base and can also help cater customer-specific requirements better.
- Customers can also avail better offers than elsewhere by the system getting them good deals from different vendors depending on their profile.

VI. CONCLUSION:-

This proposed system is a novel idea and if pursued properly and thoughtfully, has full potential to be the next big thing in the digital world. It would revolutionarise the way people service their ICE vehicles and would make their lives easier and better.

VII. AUTHOR CONTRIBUTIONS: -

- The core idea of this paper is the intellectual brainwave of one of the authors namely Mr. Parth Prasad which was given thorough support and inputs by all other teammates namely Mr. Rohan Aherrao, Mr. Krishna Patel and Mr. Anuj Wagh.

- We all are pursuants of our bachelor of engineering degrees from Savitribai Phule Pune University and are fourth year students currently at the time of this publication.

- All the members have given intellectual inputs to enhance the idea even further and have actively looked for ways to better it.

- This paper is being published with the wilful happy consent of all the authors.

REFERENCES :-

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