RESEARCH ARTICLE OPEN ACCESS

On Road Vehicle Breakdown Assistant

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ABSTRACT:
On Road Vehicle Breakdown Assistance (ORVBA) is going to be a good solution for the people who seek help in the remote locations with mechanical issues of their vehicle. Users of the On Road Vehicle Breakdown Assistance will be the registered public and they will be getting connected with the particular mechanic through the trustworthy On Road Vehicle Breakdown Assistance (ORVBA) system. Because only the legally licensed and approved mechanics are enlisted in the **On Road Vehicle Breakdown Assistance (ORVBA) Finder Project**. Also they are under monitoring by the ORVBA system for not charging any extra service fee from the users as every user is updating their feedback about the availed service through ORVBA system.

Keywords : Car Repair Service Providers, Car Breakdown, Car Breakdown Service Station Locator System Road Safety , Intelligent Vehicle .

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I. INTRODUCTION

Modern vehicles today have advanced driver-assistance systems integrated to their electronics and manufacturers refresh their car models to add more of these features into their cars. Early advanced driver-assistance systems include electronic stability control, anti-lock brakes, lane departure warning, adaptive cruise control and traction control. These systems can be affected by mechanical alignment adjustments. This has led many manufacturers to require electronic resets for these systems, after a mechanical alignment is performed.

When it comes to car breakdown, it could mean more than just the car's technical defects as it could lead to injuries and fatalities because getting out of the car to check for breakdowns can be very dangerous especially on a highway as people are driving very fast. Based on Federal Highway Administration statistics (United States), there are approximately 4,000 fatalities and almost 60,000 injuries from roadside crashes. In this event, it is best to seek for the professional's help which is the Car Repair Service Providers (CRSP) as they are more knowledgeable and for personal safety on the road as well. Contacting the Car RepairService Providers is the main concern at this point as the public has limited information to the providers.

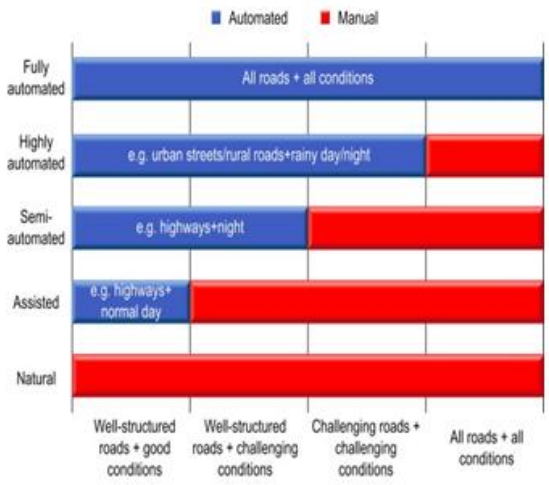

Figure 1: Graph of a vehicle system process

II. VEHICLE ASSISTANT

Advanced driver-assistance systems (ADAS), are electronic systems that help the vehicle driver while driving or during parking. When designed with a safe human-machine interface, they are intended to increase car safety and more generally road safety. ADAS systems use electronic technology such as microcontroller units (MCU), electronic control units (ECU), and power semiconductor devices.

Most road accidents occur due to human error. Advanced driver-assistance systems are systems developed to automate,adapt and enhance vehicle systems for safety and better driving. The automated system which is provided by ADAS to

the vehicle is proven to reduce road fatalities, by minimizing the human error. Safety features are designed to avoid collisions and accidents by offering technologies that alert the driver to potential problems, or to avoid collisions by implementing safeguards and taking over control of the vehicle. Adaptive features may automate lighting,provide adaptive cruise control and collision avoidance, pedestrian crash avoidance mitigation (PCAM), incorporate satnav/traffic warnings, alert driver to other cars or dangers, lane departure warning system, automatic lane centering, show what is in blind spots, or connect to smartphones for navigation instructions.

2.1 The History of Vehicle Assistant

Early motorists were often capable of carrying out minor repairs themselves, but as automobiles became more complicated, it became more difficult to carry out successfully. Some early local motoring clubs tried to support their members by encouraging them to help each other. A rota of members who would help other members was kept and in some cases, cash was put aside to hire a tow vehicle if needed.

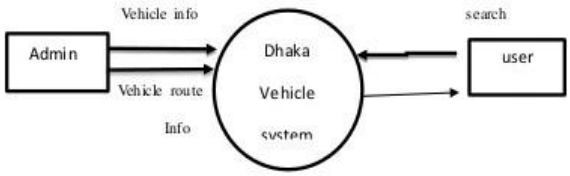

Figure 2: Flow of a vehicle system

The working of a vehicle system may be talked about as follows:

- ➢ Firstly we download the app.
- ➢ Then we make an ID .
- ➢ Now we tell that what we are .
- ➢ Then follow instruction which will told by the app .

Thus a web crawler will recursively keep on embeddings more up to date URLs to the database storage of the search engines. So ready to see that the major work of a web crawler is to embed unused joins into the frontier and to select a new URL from the frontier for encouraging preparing after each recursive step.

III. VEHICLE SYSTEM TECHNIQUES

The test vehicle technique has been used for travel time data collection since the late 1920s. Traditionally, this technique has involved the use of a data collection vehicle within which an observer records cumulative travel time at predefined checkpoints along a travel route. This information is then converted to travel time, speed, and delay for each segment along the survey route. There are several different methods for performing this type of data collection, depending upon the instrumentation used in the vehicle and the driving instructions given to the driver. Since these vehicles areinstrumented and then sent into the field for travel time data collection, they are sometimes referred to as "active" test vehicles.

3.1 Manual - manually recording elapsed time at predefined checkpoints using a passenger in the test vehicle;

3.2 Distance Measuring Instrument (DMI) - determining travel time along a corridor based upon speed and distanceinformation provided by an electronic DMI connected to the transmission of the test vehicle; and

3.3 Global PositioningSystem (GPS) - determines test vehicleposition andspeed by using signals from the Department of Defense (DOD) system of earth-orbiting satellites

Historically, the manual method has been the most commonly used travel time data collection technique. This method requires a driver and a passenger to be in the test vehicle. The driver operates the test vehicle while the passenger records time information at predefined checkpoints. Technology has automated the manual method with the use of an electronic DMI. The DMI is connected to a portable computer in the test vehicle and receives pulses at given intervals from the transmission of the vehicle. Distance and speed information are then determined from these pulses. GPS has become the most recent technology to be used for travel time data collection. A GPS receiver is connected to a portable computer and collects the latitude and longitude information that enables tracking of the test vehicle. Each of these test vehicle techniques is described in detail in the following sections of this chapter. The following elements are included for each technique: overview, advantages and disadvantages, cost and equipment requirements, data collection instructions, data reduction and quality control, and previous experiences.

IV. WHAT CAN I CHANGES

Wecan change in every project . Because all project can not perfect so we can change or add or modify in any project if that changes is valid .

4.1 Backup Camera

A **backup camera** (also called a **reversing camera** or **rear-view camera**) is a special type of video camera that is produced specifically for the purpose of being attached to the rear of a vehicle to aid in backing up, and to alleviate the rear blind spot. It is specifically designed to avoid a backup collision. The area directly behind vehicles has been described as a "killing zone" due to associated accidents. Backup cameras are usually connected to the vehicle head unit display.

Figure 3: Backup camera navigation.

4.2 Automatic Parking

This article is about a feature for a vehicle to parrk itself.For the automated parking lot, see Multi-storey car park Automated parking.

Figure 4: Demonstration of the automatic parking system

Automatic parking is an autonomous car-maneuvering system that moves a vehicle from a traffic lane into a parking spot to perform parallel, perpendicular, or angle parking. The automatic parking system aims to enhance the comfort and safety of driving in constrained environments where much attention and experience is required to steer the car. The parking maneuver is achieved by means of coordinated control of the steering angle and speed which takes into account the actual situation in the environment to ensure collision-free motion within the available space.

4.3 Navigation System

An **automotive navigation system** is part of the automobile controls or a third party add-on used to find direction in an automobile. It typically uses a satellite navigation device to get its position data which is then correlated to a position on a road. When directions are needed routing can be calculated. On the fly traffic information can be used to adjust the route.

Dead reckoning using distance data from sensors attached to the drivetrain, a gyroscope and an accelerometer can be used for greater reliability, as GPS signal loss and/or multipath can occur due to urban canyons or tunnels.

Mathematically, automotive navigation is based on the shortest path problem, within graph theory, which examines how to identify the path that best meets some criteria (shortest, cheapest, fastest, etc.) between two points in a large network.

Automotive navigation systems are a crucial for the development of self-driving cars.

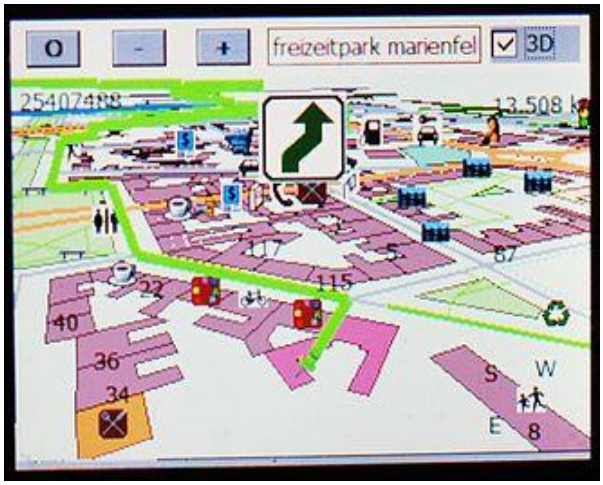

Figure 5: Navigation System

The car is an example of a nonholonomic system where the number of control commands available is less than the number of coordinates that represent its position and orientation.

One of the first assistance systems for car parking was manual. It used four jacks with wheels to raise the car and then move it sideways into the available parking space. This mechanical system was proposed in 1934, but was never offered on any production model.

4.4 Rain Sensor

A **rain sensor** or *rain switch* is a switching device activated by rainfall. There are two main applications for rain sensors. The first is a water conservation device connected to an automatic irrigation system that causes the system to shut down in the event of rainfall. The second is a device used to protect the interior of an automobile from rain and to support the automatic mode of windscreen wipers. An additional application in professional satellite communications antennas is to trigger a rain blower on the aperture of the antenna feed, to remove water droplets from the mylar cover that keeps pressurized and dry air inside the wave-guides.

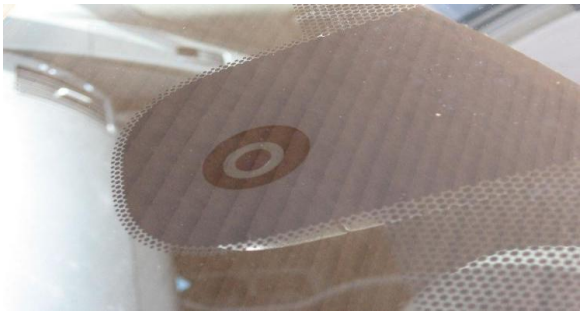

Figure 6: Rain Sensor System

V. ADVANTAGE

6.1*Enhanced Safety Measures with Instant Vehicle Location*

Unfortunately, drivers don't get to choose where their vehicles break down. Best case scenario, they reach a relatively safe area and comfortably call an on-call mechanic or tow truck. Worst case, they're left stranded on the side of the road, with nowhere safe to wait for help.Either way, a breakdown is rarely a part of a great day. However, the response time and care of the roadside service vehicle can certainly turn things around. A speedy response to emergency calls such as these is crucial for establishing a positive customer-care reputation. This is why having access to a GPS tracking system is so beneficial for your business.

6.2 *Improved Customer Service with Estimated Time of Arrival Data*

There is nothing worse than being stranded on a deserted highway, with no knowledge of if or when help will arrive. Or at least that's what it feels like when you're in that situation.Waiting can be an excruciatingly long and stressful experience when unexpected car troubles occur. If your customer has real-time tracking data of their rescuer's ETA removes just a bit of the anxiety that comes with mechanical failure. Providing an accurate ETA allows customers to feel more in control of their circumstances. There is even a benefit for those customers who don't use the various apps and technologies available to track your trucks themselves.

6.3*Increase Your Company's Bottom Line by Monitoring Vehicle Use*

Aside from providing telematic location tracking data, GPS units are also able to calculate the various ways in which vehicles are used by your fleet drivers.**Use each vehicle's GPS system to monitor how your vehicles are being used.** Gather information on whether they're driven after hours, if the vehicle has been idling for too long, or are near to reaching their maximum number of stops.By keeping track of these aspects of vehicle use, you can protect your employees from overwork. In doing so you also protect your vehicles from accidental damage outside of company time. This helps your fleet stay in good repair and assist more people with their car troubles, which in turn positively affects your bottom line.

6.4*Prepared for Roadside Assistance in Real-Time*

Modern fleet management systems with GPS technology allows managers to send pertinent information directly to dispatched vehicles, addressing any changes or delays in real-time.**Roadside assistance companies enabled with this technology can give their drivers updates on what is specifically needed for any job**. This can include towing needs, delivery of emergency fuel, new tires to replace a flat, a jumpstart for a worn out battery, winching, and even locksmith services.With access to this information, drivers can plan ahead and prepare for any job given to them quickly and efficiently. Preparation is key when it comes to handling emergency situations in the most effective way. If given the right information your team will be empowered to provide the best service to your customers.Use your GPS system to maximize your services, and work better than ever before. By going this extra mile for your customers, you can rest assured that your business will profit in the roadside assistance industry, giving your company a reputation that people trust.

VI. FUTURE SCOPE

At least initially I would not anticipate any differences in how conventional and driverless vehicles would be treated from a lessor perspective. This is due to the fact that they would be leased through the same dealership channels to the same group of end users. Along similar lines, the technology will play a role because essentially all of the driverless systems currently available are

retrofit into an existing vehicle platform or architecture. However, I do foresee the potential for differences from a leasing and/or purchasing perspective down the road. For instance, as driverless systems become better and more powerful there will be less human input per mile driven. This could translate to longer vehicle life or less wear and tear when vehicles are utilised on an autonomous basis primarily as opposed to being driven by a human more often than not. This could result in extended vehicle lifespans and ultimately higher residual values which are good for leasing consumers.

Interestingly there were a handful of states years ago that asked the same type of questions pertaining to automotive leasing when the idea was gaining popularity. Said differently, should the driver be held accountable in the event of the accident, or the owner of the vehicle, the leasing company? Ultimately, and rightly so, those holdout states opted to make the driver the responsible party. I understand this is not a perfect analogy due to the greater difference of who is actually in control of the vehicle as opposed to simply how the financing arrangements were set up, but many new issues come to light any time there is a significant difference to the standard or norm.

VII. CONCLUSION

In this **Road Vehicle Breakdown Assistance Finder** management report in php paper, we presented the design and implementation of android application called Road assistance system, with which mobile users can get travel related service information they need anytime and anywhere. The system provide information query of the Fuel stations, Hospitals, Service station details, and the importance services for the travelers like Flat tyre service provider details and tow service provider details based on the user's location. The system is a combination of smart phone and web services and will help tour and life for user. Tow service details can be accessed from the application, which is stored in the server as part of the broader roadside assistance service. Positioning support (GPS), highlights the user's current position on the map. The built application successfully provides ease of access (one-touch access) for locating required services.

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