

COMPUTER TECHNOLOGIES IN CARS

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Анотація

У статті розглянуті інноваційні комп'ютерні технології та перспективи їх подальшого розвитку.

Ключові слова: автомобільна промисловість, комп'ютерні технології, інновації, комп'ютерна діагностика, розробка, вдосконалення, безпека.

Abstract

The article is devoted to the innovative computer technologies and perspectives of their further development.

Keywords: automobile industry computer technologies, innovations, computer diagnostics , development, improvements, ,safety..

Introduction

The automobile industry is a very important area for developing computer technologies, and the role of computer technologies in the automobile industry is growing steadily.

Automobiles have come a long way since their beginning in the late 19th century. One of the major things that has helped automobiles to provide more safety and convenience is electronics. One of the best innovations that electronics have created in the performance of automobiles is the Electronic Fuel Injection. From the creation of the Electronic Fuel Injection (EFI , for short) to the popular Global Positioning System found standard in many cars today, the auto industry has revolutionized the way people travel from place to place. This device takes the place of the normal carburetor that has been the normal until recently. The EFI uses a completely different technology to supply power to the engine.

It is also necessary to mention computer diagnostics. Now computers in the cars constantly check the engine and its components to make sure it is always up to its optimum performance. The computers use many sensors to detect temperature, fluid levels and many other aspects of an engine's performance.. While this is a very convenient solution to many engine problems, it does require very expensive equipment, such as oscilloscopes, a digital volt-ohm meter, sensor stimulators and high-tech computers to determine problems. It also requires extensive knowledge about how to use the technology. Mechanics often need to go through training to use this method.

Another great innovation – all-wheel drive (AWD) – has been a great addition to automobiles. It means that all four wheels on the vehicle are receiving power from the engine rather than just two of them.

One more improvement in safety that electronics have provided is the airbags that are now standard in cars. Technically known as a Supplementary Restraint System (SRS), Air Cushion Restraint System (ACRS), or a Supplemental Inflatable Restraint (SIR), these provide a great deal of safety for the driver and passengers in a car.

The Global Positioning System (GPS) is a popular device that has made a splash in automobile electronics in recent years, too. These are basically electronic navigation devices that use satellites to monitor many aspects of an automobile

The next achievement in the development of new technologies is hybrid cars.

Hybrid cars use the computer and digital electronics to manage the change between the differing combinations of power sources.

With brilliant minds working in the auto industry, there are limitless possibilities to what the manufacturers will include in their products in the coming years.

Consumers now expect their connected digital lifestyles to extend into the car and their inside and outside worlds to be aligned. Automakers have responded to it, integrating new capabilities into the driving experience thanks to the innovative in-vehicle infotainment (IVI) technology. Today, capabilities like email, streaming music, and many other features and applications have become increasingly common. As a result, the technology that makes these functions possible has transitioned from being a

source of competitive differentiation for automakers into a standard feature found in virtually every car.

Automakers are beginning to deliver improved driving safety and convenience through the development of next-generation advanced driver assistance systems (ADAS). As cars grow more intelligent and more aware of their surroundings, consumers will expect increasingly sophisticated safety, security and convenience features and functions. These can only be delivered through the development of next generation ADAS technology. It promises to deliver unprecedented levels of safety and convenience. The sensors will be part of a larger constellation of technologies that include light detection and ranging (lidar), radar, advanced camera technologies, and GPS among others.

Reliability, security, and real-time decision making are non-negotiable necessities for the next generation of car technology. Over the past years, automakers have largely relied on a vehicle's IVI system to enable and deliver automotive innovation. But the reality is that current IVI systems do not offer the requisite processing abilities. And while IVI will continue to play an important role in the vehicle's ecosystem require a higher level of computing.

CONCLUSIONS

Though there are great achievements in the development of new technologies tomorrow's cars will require a higher level of computing not currently available in today's automobiles.

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