Latest Technology in Embedded Systems

Nowadays, the world is becoming more and more digital, connected and automated. It is an essential part of electronics. If you talk about technology, you think about a mobile, laptop, computer, and cameras, etc. But you never think or talk about an embedded system that is running them. It is a part of a larger device and provides a particular function. Hence it is named as embedded systems.

Embedded System

Embedded System is the combination of both hardware and software that is used to perform a specific task. It is defined as a way of working, organizing and performing tasks according to the set of rules. The main characteristics of an embedded system are speed, power, size, accuracy, reliability, and adaptability. When this system performs the operations at high speed, then it is used for real-time applications. A set of rules or code embedded into the Microcontroller but by using this only limited range of problems will be solved.

Latest Technology in Embedded System and Applications

Embedded system and applications are severely increased. The latest technology in Embedded System and Applications such as

- ✓ Artificial Intelligence
- ✓ Augmented Reality and Virtual Reality
- ✓ Deep Learning
- ✓ Embedded security
- ✓ Cloud Connectivity

➢ Artificial Intelligence

Artificial Intelligence creates intelligent in machines and it is a branch of computer science. Recent days it is an essential part of the technology Industry. It acts like humans when they have abundant information relating to the world. AI can be defined as the enabling of a machine to perform the logical analysis, obtain knowledge and adapt to an environment that varies. This technology is already being used in many applications such as self-driving cars, chatbots, personal voice assistant and super smart computing intensive.

Moreover, Artificial Intelligence is building intelligent systems with decision-making abilities. However, AI requires the use of hardware components to build truly intelligent machines. This is exactly where the relation between AI and embedded systems becomes so essential. The truth about Artificial Intelligence is more complex than it seems.

➢ Virtual Reality and Augmented Reality

Virtual Reality technology in an embedded system that allows the user to interact with an environment that exists in a computer. Virtual reality is a way to generate realistic

images, sound, and other sensations. VR with higher resolution will challenge available display and processor technology. On the other hand, augmented reality is the latest innovations in the electronics industry.

- **Deep Learning**

It represents a rich and yet unexplored embedded systems market that has a range of applications from image processing to audio analysis. Even though, the developers are mainly focused on cloud connectivity and security. It is emerging as the latest trend in an embedded system.

- **Embedded Security**

With the rise of the Internet of Things, the focus of developers and manufacturers is on security. The advanced technologies for embedded security will emerge as crucial generators for identifying devices in an IoT network, and as microcontroller security solutions that isolate security operations from normal operations.

- **Cloud Connectivity**

Getting embedded systems connected to the internet and cloud can take weeks and months in the traditional development cycle. Consequently, cloud connectivity technology is an important future market for embedded systems. These technologies are designed to simplify the process of connecting embedded systems with cloud-based services by reducing the underlying hardware complexities.

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