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# INTERNET OF THINGS (IOT) APPLICATIONS AND CHALLENGES: A REVIEW

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***ABSTRACT***

*The idea behind the Internet of Things (IoT) is to connect various gadgets to the internet and one another to communicate several bits of information and data. The Internet of Things is revolutionizing many aspects of life, including how we drive, shop, and even acquire electricity for our houses. All around us, there are sophisticated electronics and sensors embedded. How we use these tools and how they exchange data and knowledge. An overview of various platforms, architectures, applications, and problems is provided in this study.*

***KEYWORDS:*** *Digital Internet-of-Things (IoT), IoT applications, personal health, IoT platforms, sensors*

## 1. INTRODUCTION

The Internet of Things (IoT), a ground-breaking paradigm, has emerged, enabling common objects to be connected to the internet and collect and exchange data. This review article provides a thorough analysis of IoT and the many sectors it serves. By closely examining its fundamental components, like connected devices and communication protocols, we can fully comprehend the underlying structure of IoT systems.

The Internet of Things (IoT) is a network of physically addressable devices with varying degrees of computing, sensing, and actuation capabilities that may collaborate and communicate with one another utilizing the Internet as their common platform [1]. The Internet is the name of the communication system that links people to information. The basic goal of the Internet of Things is to link things and people at any time or location via any network, method, or service. IoT will enable common gadgets to connect and access the internet in order to achieve a variety of goals. As of this writing, only 0.6% of potential IoT devices are thought to be connected [2]. But it's predicted that by 2020, there will be more than 50 billion internet-connected devices. Fig. 1 illustrates how the Internet of Things (IoT) "connected" various functions of devices and a network [3], whereas the Internet has evolved into a network of many devices rather than just a network of computers. The ability to transmit information online is now present in various gadgets, such as smartphones, cars, industrial systems, cameras, toys, structures, home appliances, and numerous other things. Regardless of their size, these devices can carry out intelligent reorganizations, tracking, placement, control, real-time monitoring, and process control and capacities. There have been a lot more devices in recent years that can connect to the Internet. Even if the popularity of wearable technology (watches, headsets, etc.) and the rise of smartphones have had the greatest commercial impacts on the consumer electronics industry, Only a small portion of a bigger trend toward the blending of the physical and digital worlds is linking individuals. In light of everything said above, it is projected that the Internet of Things (IoT) will continue to expand in terms of the variety of devices and capabilities it can support. It is difficult to define the IoT's increasing bounds because of the vagueness of the word "Things" [4]. While commercial success is still a long way off, For