

Chapter 5

Internet of Things in Real Life: Applications

Abhijeet Chandrakant Dabre

Smt. Kashibai Navale College of Engineering, India

Sandesh Shivaji Mahamure

Smt. Kashibai Navale College of Engineering, India

Snehal Pandurang Wadibhasme

Smt. Kashibai Navale College of Engineering, India

ABSTRACT

This chapter specifically with Internet of Things (IoT), initially presents what exactly it is? It's just a smart route to improving daily life activities by connecting devices to widely used Internet. Then gradually put a view on history, which closely talked about traditional ways of communication mechanisms, moving forward it touches the current ideology of IoT. Further in this chapter authors discussed different aspects of IoT which was explained by different philosophers and it clears the idea of how to introduce, how to learn and how to launch IoT in different sectors (such as education, power generation, water management, road safety, automobiles etc). The practicality of the knowledge explains the usefulness of IoT and also explains how it impacts on the overall growth of the country and why every individual attracted towards this smart network of things. At the end, this chapter accomplished with the need of IoT in developing countries, how IoT provides efficient solutions to overcome upcoming challenges and finally briefs about why it is recommended.

INTRODUCTION

Internet of Things (IoT) is not an updated version of Internet and not the technology which is developed for the small span of time. Basically, IoT is same as the Internet with modification in the communication where Human-Human, Human-Things, and Things-Things have easily occurred. In other words, IoT is a network of anything and now onwards actual things came into the picture. The thing is any object or entity which has Sensing, Computation, and Communication facilities enabled with it. Sensing considers

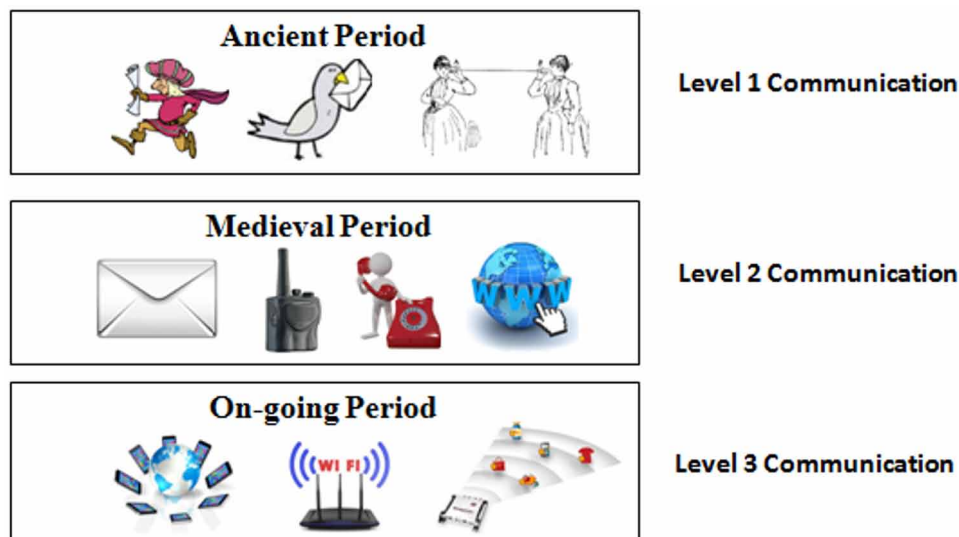
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information which will obtain in a similar fashion as it from human/animals body sensors. There are five well-organized sensors named as sight, smell, hear, taste and touch. Don't you think that these sensing capabilities will establish inside a non-living object? The answer is obviously Yes! Because skies will not always be the limit, there is something beyond it and for sure that is IoT. Nowadays, things capture sensing capabilities in them which ultimately helps to reach the future goals with ease shown by Rhee S. (2016, April). Hence such things are popularly called as 'smart things'. It is possible to connect each with every (EwE) using IoT. IoT also works on the same framework on which Internet is working with a little modification in the connectivity protocol. After the birth of IoT, the World connects each other very closely and it is reflected in Figure 1. Information sharing between things makes everyone's life easy.

In India, public access Internet was launched by Videsh Sanchar Nigam Limited (VSNL) on 15th August 1995 same the day of Independence. During the process of building ERNET (Education and Research Network) Nakajima T. et.al. Team (2002, August) works passionately and an Internet brought to the India. According to TRAI (Telecom Regulatory Authority of India) recently there are 302.35 million Internet subscribers in India. Figure 2 states pie chart and statistics data provided by TRAI on 15th August 2015, in the relation with information of last 2 decades Internet made 31% population of India as Internet-friendly. Then it is much obvious that IoT will encrust remaining 69% population in very less number of years. IoT is networks of smart things, where things make everything happen in less amount of time for the human. The impact was so immediate hence, more and more people curious about IoT and indulge with developers to create platforms for IoT enable devices to access it in real life. IoT acting as a third way of communication system because things can communicate with each other depending on the surrounding situations.

Consider an example; someone wants to go for a long drive with friends but don't know where he puts the keys (keys of the car is a smart thing). Then, instead of looking each every place as it requires a large amount of time. Simply search the keys using smarter way i.e., track the location of keys on a smartphone. The idea behind this work is sensor attached to the keys notifies its location on web application and that is installed as an application program on the phone. Just think what if there is no provision

Figure 1. Layered communication



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