

Chapter 2

Real–Time Applications of Ubiquitous Computing on Heterogeneous Next Generation Networks

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ABSTRACT

Pervasive is also acknowledged as ubiquitous computing, which incorporates connecting all objects in the surroundings through its functionalities. When it is connected it will integrate as a single system and all together work as a whole single unit. It is used for computer capacity as an embedded device and is used for communication. It communicates well and achieves the dropping of end users' need to communicate with computer. This pervasive computing is used in various areas in the real world. Today, people have a smart watch which connects with smart phones and receives many notifications from the office employees while not at work. As this, there are

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many examples in the real world of pervasive computing. In this chapter the authors are going to know about the pervasive computing origin, which are the places where pervasive computing is used and how it is working with heterogeneous network and also with the future generation network.

INTRODUCTION

Communication is one of the important and mandatory parts in every minute life. This communication is done through many customs. One such mores is through computer and internet. In this current era even that of using computer is also gone with invent of new technologies. That new technology is already in use but now it is familiarizing. That is embedding the computers, communication technologies, IOT devices with the environment. When we use computers and laptops we will strict to a particular place to work with, but when Pervasive computing or it is known as Ubiquitous computing we can use it anywhere anytime.

Pervasive computing additionally known as ubiquitous computing it can included with any device, anywhere at any time, with any data format, over any network, and with the ability to transfer tasks from one computer to another is all part of ubiquitous computing. These devices have evolved to include Laptops, notebooks, Smartphones, tablets, wearable devices and sensors. Devices like Radio frequency identification (RFID)tags, wearable computers, embedded systems, mobile devices, middleware, and software agents are all commonly associated with ubiquitous computing. Systems supporting ubiquitous computing are able to gather, process and share data; moreover, they are able to adjust to the activity and context of the data. The key components of ubiquitous computing are context awareness, localized scalability, invisibility, and the effective and (Meshram, 2016) efficient utilization of smart places. The study on ubiquitous computing aims to make gadgets more transparent in their use.

What is Ubiquitous Computing?

The growing field of ubiquitous computing emerged as a study area in the middle of 1980s. Professor Mark Weiser of MIT initially coined the phrase in 1988. “Ubiquitous computing #1” and “Ubiquitous computing #2”, two brief notes written by Weiser, were published. He imagined a future in which desktop computers would no longer be used for computer power may be used with new quality in various domains, from industrial production to private everyday usage (Friedewald, 2011).

Three technologies merge to form pervasive computing (Geeks for Geeks, 2020):

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