


Chapter 6

IloT Design Methodology and Its Applications

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ABSTRACT

Information and communication technology (ICT) is being used in industrialised countries to develop a range of cutting-edge services and apps that address the problems affecting sustainable communities and improve people's quality of life. Additionally, IoT improves interpersonal communication. Internet protocols, sensor networking, communication technologies, embedded systems, technology, pervasive computing, sensor, etc. are all included in the broad group of techniques known as the internet of things (IoT). Operational technologies (OT), information technologies (IT), robotics, auto augmenting systems, digital supply chain data management, and smart decentralised manufacturing are all seen as catalysts for this change. The provision of a digital tracking capability for source chain assets is the second example of a use scenario. The development of IoT, its frameworks, protocols, technologies, design process for IloT, its framework, and many applications are all covered in this chapter.

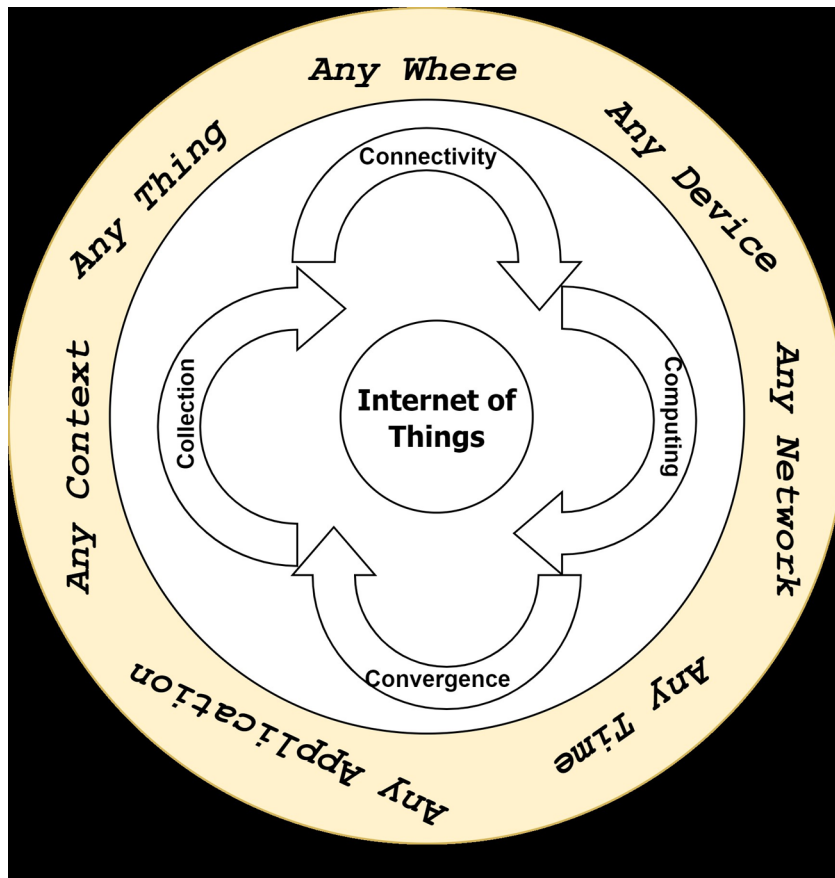
1. INTRODUCTION

Information and communication technology (ICT) is being used by us more frequently every day and contributes significantly to the growth of emergent information communities. ICT is being used in industrialized nations to create a variety of cutting-edge apps and services that address the issues facing sustainable communities and enhance people's quality of life. To advance Internet of Things (IoT) paradigm, several items are being connected in the present era employing foundational communication

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systems. IoT is a system of individually identifiable interconnected gadgets that provide services for smart computing. IoT objects are also referred to as “smart things” because they make logically carrying out daily tasks possible. Additionally, IoT helps people communicate better with one another. IoT is a broad category of techniques that includes Internet protocols, sensor networking, communication technologies, embedded systems, technology, pervasive computing, sensor, etc. These technologies ultimately support the economic development of the current community. The stipulation of seamless pervasive communication between things and people is the core initiative behind the Internet of Things (IoT). As seen in Figure 1, the fundamental concept of IoT may be thought of as a representation of numerous As and Cs (Gupta & Gupta, 2016). Any network, anytime, anywhere, any device, etc., are examples of the As that represent the idea of ubiquity or globalization in Figure 1, while the Cs (i.e. convergence, computing, connectivity, etc.), represent the key IoT features.

Figure 1. The notion of Cs and As in the IoT



1.1 Growth of IoT Concept

The idea of pervasive computing over modern gadgets has been around since the initial 1980s itself. In Carnegie Mellon University, a Coke appliance is capable to describe its inventory of cold beverages

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