Chapter 1
Waste Management System for Smart City Using IoT

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ABSTRACT

In the present scenario, sensors place a major role for implementing smart devices. Internet of Things (IoT) is an advancement of sensors which can communicate with non-communicate things (devices). Many of the developed counties are using smartness in creating and communicating devices using IoT. In India, major challenges focus on how and where to implement smartness. Hence, authors found some different areas like healthcare, education, transport, water, energy, communication, security & safety, citizen services, and so on. All these areas are covered by a smart way using recent technology (IoT) in smart cities concepts. Various technologies like IoT, Big Data, and cloud computing are used for constructing smartness in the form of devices. In this Chapter, authors focus on a smart waste management system using IoT. They provide various smart bin construction technology, advantages, standards and challenges in detail. It is very useful to the reader to understand the various method of waste management in smart cities development using IoT.

INTRODUCTION

In the introduction part, start with overview of smart city services followed by waste monitoring and management.

Nowadays government have started many tasks for improving cleanliness in our nation. Peoples also got somewhat awareness about clean their surroundings as much as possible. Regarding this various positive movement are take over towards smart implementation of waste management. In many of the citied we can found wastes throw outside because of overloaded dustbins. Normally it will create unhygienic for the people and also it crate bad smell.

SMART CITY MODEL

Definition of smart city is the ability of a city focus on multiple aspects. One more definition is identifying the special characteristics for development of city. Giffinger et al., (2007) proposed a model of city characterized by six fields, which is derived from smart connection of self-decisive, self-reliant citizens and institutions. The term smart is used for education of its inhabitants. Furthermore, smart city represent the gap between the city government administration and its people. Smart cities are further discuss the use of modern technology, industry, education, participation, technical infrastructure which improve urban traffic.

Six Aspect Operations of Smart City

Giffinger et al., (2007) proposed six factor for smart city characteristics 1. Smart Economy: It mainly focus on productivity flexibility of the labour market includes national and international market. 2. Smart people: It will not focus on the education or qualification of the people belong to the city. It main objective is based on the quality of social interactions regarding integration. 3. Smart Governance contains the aspect of political participation, public and social relationship. Smart Mobility objectives are provided information and communication technology, modern and sustainable transport systems. Smart environment describes pollution, Environment monitoring and protection. Finally, Smart Living contains quality of life as culture, health, safety, housing, tourism, etc.

Figure 1. Characteristics of Smart City (Giffinger et al., 2007)
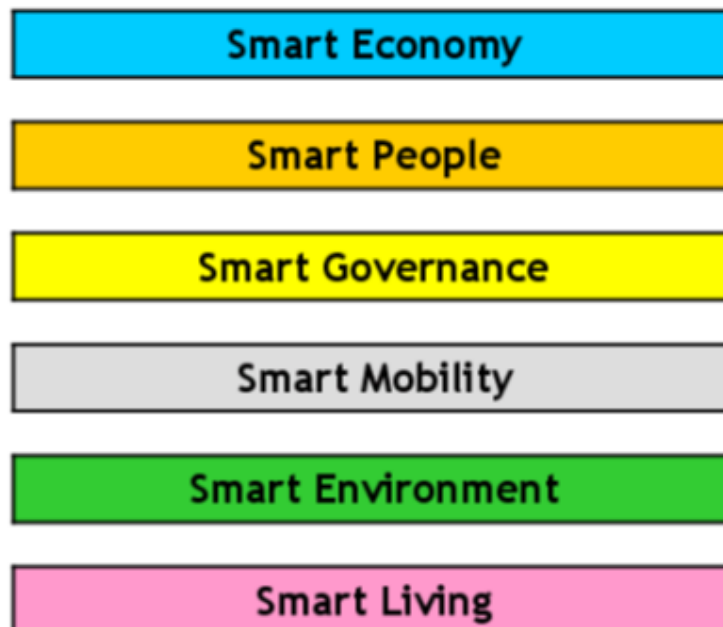
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