

SMART CITY IMPLEMENTATION BASED ON IoT TECHNOLOGY

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Abstract: Internet of things (IoT) is an ecosystem of connected physical objects that can be accessible through the Internet. The 'thing' in IoT could be a person with a heart monitor or an automobile with built-in-sensor, i.e. objects that been assigned with an IP address and have the ability to collect and transfer data over network without manual assistance or intervention. The internet of things (IoT) allows objects to be sensed and controlled remotely across existing network infrastructure. According to the Gartner, 260 million objects will be connected by year 2020.the government and many companies have tried to make references with IoT in initial times.

Keywords: IoT, Internet of things, Smart City, Creative Economy, Sensor, Business Model

I. INTRODUCTION

The quality of experience using smart city applications highly depends on the availability of appropriate, accurate and trustworthy data. This also includes the availability of necessary data sources. Smart city infrastructures are using a variety of different information sources facing a divergent trustworthiness of information providers and their sensor equipment. In contrast to common simplified IoT sensor infrastructures, cities often utilize aggregated and reasoned information. Traffic data often resets upon only a subset of cars that are measured and is interpolated to offer a view of the whole situation. Due to the frequent unavailability of precise sensor data and a missing ground truth, there is a high need for evaluating data source reliability and determining the trustworthiness. Therefore, this work proposes a correlation model-based monitoring approach to evaluate smart city data sources.

to remotely monitor, manage and control devices, owing to the tremendous potential of these new applications. Moreover, IoT is helping these cities generate insights and actionable information from massive streams of real-time data. Recently, many local governments have been aiming to implement an IoT-based smart city through the construction of a test bed of IoT verification and an integrated infrastructure. This movement also corresponds to the creative economy that is emphasized by the government.

Smart traffic service

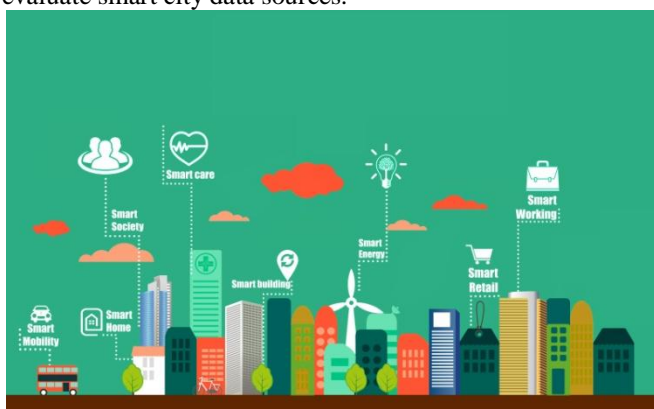
Major smart traffic services include smart parking services to prevent illegal parking and facilitate convenient parking, and smart safe crosswalk services. Smart parking refers to the construction of platform that enables real-time checking of available space and parking prices in areas that require parking and facilitation of reservation/payment through web and mobile connections. The smart safe crosswalk service can contribute to the prevention of pedestrian accidents by detecting pedestrians and alerting them and approaching vehicles through electronic display boards.

Smart street lighting

Analysts have cited smart lighting as one of the prominent smart city applications deliberated upon for quite some time now. The popularity of this application is related to its impressive early growth as well as its clear business case. The application is increasing its significance by reusing the lighting column as a communication hub.

Smart Garbage and Food Waste Management System

Waste collection is treated as a potential IoT service through which robustness and cost efficiency can be achieved. This system model assumes two kinds of trucks for garbage collection, the low capacity truck(LCT) and the high capacity trucks(HCT).HCT's reduce the waste collection operational costs by reducing the number of trips to the



II. SMART CITY IMPLEMENTATION MODELS BASED ON IOT

Internet of things (IoT) has transformed not only businesses, but also lifestyles across the world. The technology makes use of connectivity, big data, and analytics to enable Smart City projects all over the world. It has become much easier

dumps due to the high waste storage capacity of these trucks.

Smart Education Service

This service provides real-time, interactive high definition lectures. Teachers participate in lectures using the equipment in educational institutions. The high-definition (HD) services and Internet infrastructure make this service feel like face-to-face meetings.

Environmental detection

Most of the cities have couple of expensive monitoring stations for observing pollution or weather conditions. However, most of these can't be monitored in real time. New systems containing many more sample points have emerged over time.

Additionally, identifying the source of potential problems becomes easy, faster and more efficient as we leverage these systems. They also furnish invaluable data for planning. Basically, smart city residents will be able to monitor their environment in real-time.

Social and healthcare expense reduction

The objective of reducing expense has so far been realized in areas of social care and healthcare. To ensure that correct interventions are achieved at the optimal time without the expensive costs associated, it's important to maintain that these systems are backed up by remote sensing.

Smart social housing

The IoT-based systems exist today make it possible to introduce low cost monitoring to social housing. This in turn helps in providing utmost satisfaction to the tenants and also reducing the associated costs for landlords.

IoT Based interactive Industrial Home Wireless System

Interactive industrial home wireless system, energy management system and embedded data acquisition system can be developed based on IoT to display on web pages using GPRS, SMS, and E-mail alerts.

This device is essential for sensor data collection and controlling of the industrial home wireless sensor networks (WSN) in the Internet of Things (IoT) infrastructure.

III. CONCLUSION

This study is significant in outlining information about IoT, such as definition, market size and status of IoT, which has become a hot IT topic nowadays and in presenting applicable IoT business models to help business entities and research institutes participating in related projects build a smart city as part of the future vision of local governments by reflecting the new information paradigm of IoT. A limitation of this study, however, is the lack of available data in that hinders the required empirical analysis on the benefits of IoT technology. We hope that more research in this field will be conducted in the future.

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