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Industry Trends of Smart City Platform

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Abstract: In this study, we will discuss the smart city platform and deployment environment as a new type of future city, attracting attention to the central technology of ICT and the trends in smart city commercialization which is built in 34 cities around the world. In order to enable the smart city deployment project, policy enforcement is required based on the government-led mid-term plan to take into consideration the execution environment of each branch. In particular, the context-aware service platform requires policy support that can dramatically improve the service. In addition explain that the value of smart city service platform and standardization trends.

Key words: Smart city platform, SNS, web-app, government 3.0, high-tech city, cloud computing, big data analytics, u-City, smart city contents, OSMU service, smart city standards

INTRODUCTION

Based on IoT (Internet of Things), the smart city platform industry is spreading to users through SNS (Social Network Services). This facilitates the dissemination and utilization of the web-app by diversifying the content of the service. In particular, the situation is going to dramatically improve the service through the service platform (Se-Hwan, 2015). In this study, we will discuss the smart city platform and deployment environment as a new type of future city, attracting attention to the central technology of ICT and the trends in smart city commercialization which is built in 34 cities around the world.

SMART CITY PLATFORM

With a gradual implementation of an open-source government 3.0 environment, it requires a more convenient and secure residential/living/working space. This smart city construction is a new type of future city as an intelligent city incorporating an IoT technology that is gaining attention to the pivotal technology of ICT technology in urban administration, education, transportation, culture and residential life. In the center of smart city proliferation, IoT technology are positioned. This means that you will want to build a futuristic, high-tech city where you can freely use the ICT technology in a web-service environment that is conveniently accessible from anywhere with internet access (Anonymous, 2015).

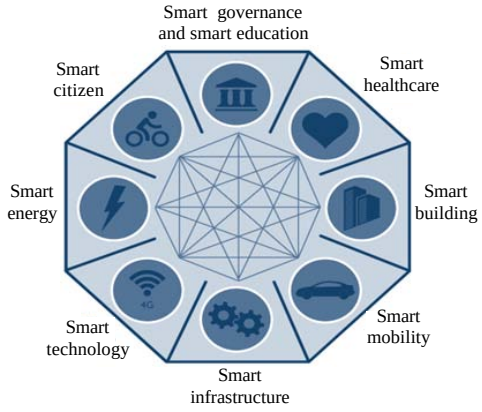

Fig. 1: User-engaging smart city platform concepts

We can collect traffic conditions in real time, providing faster and safer traffic to your driver. In real-time, the city's various environmental conditions (such as temperature and humidity, micro-dust/yellow sand/carbon dioxide concentration, etc.) can be detected to provide optimum temperature control information for residential and building.

To do this, we attach sensors to gather urban environmental information all over the city and build the smart city platform that leverages an IoT network, cloud computing systems and big data analytics technologies, based on sensing information (Fig. 1).

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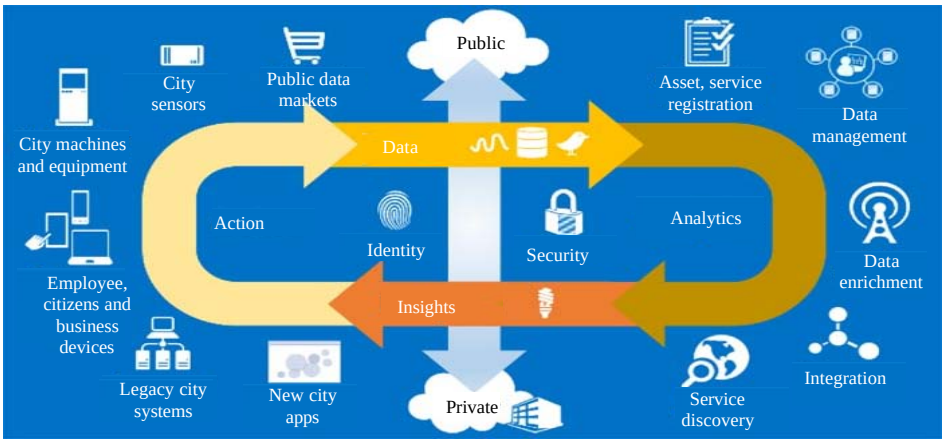

Fig. 2: User-engaged smart city deployment environment

Fig. 3: Smart city commercial service cases in the United States

SMART CITY DEPLOYMENT ENVIRONMENT

With an IoT technology, smart city should be able to accommodate web-based paradigms such as HTML5/SNS/Web3.0/ IoT/big data analytics technology/cloud computing systems. By adopting these advanced technologies, it is the pursuit of value that can improve the quality of life through efficient service of public information, advanced urban transport operating system and service enhancement of residential residents. In order to build a smart city and intercity construction environment that pursues efficiency and value, we need the following basic approach strategies (Sung-Jin, 2016; Anonymous, 2016) (Fig. 2):

- Openness requires a secure and continuous innovation strategy to build an enhanced digital infrastructure
- We need to leverage sensing information to collect city environment information to build a user-engaging, intelligent infrastructure

GLOBAL TREND OF SMART CITY COMMERCIALIZATION

We are planning to build smart city in 34 cities around the world and over 50% of the cities in Europe and the United States have occupied (Sung-Jin, 2016). In the United States, we are planning to invest $1.6 million in budget-based research and development related new technologies for smart city and urban construction projects. It is planning a break through budget investment for the US NSF (National Science Foundation), NIST (The National Institute of Standards and Technology), DHS (The Department of Homeland Security), the United States and other IoT related business counties (Anonymous, 2017). Global ICT major companies (such as Google, IBM, AT&T, Cisco and Intel) are actively participating in the smart city building business in the United States (Anonymous, 2015) (Fig. 3). Parkwhiz, Parkifi, Meterfeeder is a magnetic sensor installed in the parking lot, allowing the operator to save time via. a web service (Telensa) that informs empty parking space.

Gridcure and Semitech are providing smart grid services that can help reduce energy consumption and improve efficiency by analyzing the energy usage of buildings or residences.

THE VALUE OF SMART CITY SERVICE PLATFORM

Diversification of contents: The need for model development is being increased as smart urban management techniques are proliferating through the convergence of smart and urbanization (rethinking) paradigms. Through the establishment of smart city, the society is expected to establish an efficient communication base for citizens and to "share-safety-contribution". In addition, we expect to be able to provide a variety of service content by leveraging smart media that has been popularized to create an efficient urban management mode.

The value of the smart city platform is expanding to adapt to the paradigm shift including HTML5 Web Access standards, a variety of SNS tools, Web3.0 based on the municipal and open source-based government 3.0. This will allow you to maximize the dissemination and utilization of the inter-urban web-app.

OSMU services: In order to effectively provide the peripheral context-based tele-screen service, you must be able to provide OSMU (One Source Multi Use) service on a variety of platforms and devices. It features HTML5-based UI functionality and the ability to simultaneously support micro-services (the architectural approach used to continually provide priority services for a particular purpose). As various mobile devices and Operating systems are developed and released and the number of customers is also very diverse, companies are introducing the multi-channel development platform. The core of MCDP (Multi-Channel Development Platform) technology is its ability to take advantage of both the Bring your BYOD (Bring Your Own Device) policy and the OSMU service. The technology level of today's MCDP solution has reached a high level, implementing a web-made screen that can actually be driven by a variety of smart devices. It provides development practices that apply commercial technologies such as HTML5 web standards and Java scripts to enable web developers to reuse their developed sources and implement them for a variety of platform and application types.

SMART CITY SERVICE PLATFORM STANDARDIZATION TRENDS

Overview: The proliferation of smart city deployments using tele-screen content has enabled the industry ecosystem to pursue the common interests of both content creators, service providers and users. The proliferation of convergence media services contributes to a convenient and secure social establishment. TTA (Telecommunications Technology Association) is conducting research on the standardization of technology-based tele-screen service around the situation. Standardization by focus technology is specified as a functional structure and requirements technology for providing tele-screen service. A brief summary of the features of the tele-screen service technology is as follows (Anonymous, 2014):

Table 1: Tele-screen platform standardization goal

Years	Promotion objectives
2014	Drawn of tele-screen service requirements
	Development of tele-screen service structure, terminal, server profile standard
	Development of tele-screen service guidelines
2015	Development of tele-screen service metadata technology standard
	Development of user behavior information representation and transmission technology standard
	Development of inter-working technology standards between tele-screen server and smart devices
2016	Development of tele-screen advertising playback proof and effect analysis technology standards
	Development of technical standards for providing tele-screen based disaster alarm services
After 2016	Development of tele-screen contents deployment technology standards

Anonymous (2014)

- Providing interactive services through interaction with smart media devices and various sensors
- Provides a variety of multimedia services including stationary and portable screen advertisements, public information and disaster information
- Provides a situation-based terrain service for time, location, user characteristics and environment information

The goal of standardization: TTA's tele-screen service platform technology to promote domestic and international standardization aims to briefly summarize the clock is the same as in Table 1.

CONCLUSION

With the proliferation of urban infrastructure and urban development planning, the smart city deployment project has spread across the globe and has a ripple effect on a variety of industries. The smart city building business is a long-term budget, so, it needs to be driven by government. However, in the domestic case, each government department has difficulty in an efficient integrated operation that has been performed separately

for each project. In order to mitigate this, we need policy support that can develop key technologies early and dramatically improve our service. The domestic smart city building business is being promoted by aiming to build u-City. The gradual deployment model is a trend in Asia (such as Japan and Hong Kong) which is being converted to European (British, Dutch and Denmark) models (Anonymous, 2013). We need an institutional foundation that can improve the efficiency of the business by bench marking the superior business model of developed countries and integrating business management and project operations (Choi and Hong, 2017; Ryu and Lee, 2016). In addition in order to enable the smart city deployment project, policy enforcement is required based on the government-led mid-term plan to take into consideration the execution environment of each branch. In particular, the context-aware service platform requires policy support that can dramatically improve the service.

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