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## Service Plans for Indoor Spatial Information

Ahn Soonmyoung<sup>a</sup>, Sim Miyoung<sup>b</sup>, Go Jongsik<sup>c</sup>, Kim Kamlae<sup>d</sup>, Choi Yunsoo<sup>e\*</sup>

<sup>a</sup>chung-ang aero survey, 146-1, Tongil-ro, Jongno-gu, Seoul, Korea

<sup>b</sup>chung-ang aero survey, 146-1, Tongil-ro, Jongno-gu, Seoul, Korea

<sup>c</sup>chung-ang aero survey, 146-1, Tongil-ro, Jongno-gu, Seoul, Korea

<sup>d</sup>chung-ang aero survey, 146-1, Tongil-ro, Jongno-gu, Seoul, Korea

<sup>e</sup>the University of Seoul, 163, the University of Seoul-ro, Dongdaemun-gu, Seoul, Korea

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### Abstract

Recently, flow of spatial geographical information field is showing a tendency of being gradually extended from outside space to indoor one and evolved rapidly by grafting with latest IT/mobile technology.

Build-up of indoor spatial information is at its beginning stage at home and abroad but its detailed case of presenting working method and utilization field for using it systematically is considered to be limited. Under this situation, in this study, diversified utilization service methods based on build-up technology for constructing spatial space information is intended to be explored.

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### 1. Introduction

People usually spend most of their time (80% based on a day) indoor. However, spatial information has been constructed and served based on outdoor so far in reality. All the devices including smart phone are operated based on outdoor geographical information. Recently, based

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<sup>a</sup> Corresponding author. Tel.: +82-2-730-0018; fax: +82-2-732-0999.

E-mail address: [ahnsm@applemap.co.kr](mailto:ahnsm@applemap.co.kr)

on IT enterprise such as Apple, Google, indoor spatial information is constructed and served. In addition, in domestic case, NAVER portal discloses indoor map service.

Our government is also constructing indoor spatial information. In case of MOLIT, 3D based indoor spatial information is constructed through laser survey. In case of MPSS and Seoul Metropolitan City, based on architectural drawing, 2D and 3D indoor spatial information is constructed.

In this study, a case study for indoor spatial information being constructed at home and abroad will be performed. In addition, optimal build-up, service method is intended to be presented by analyzing build-up method that is different depending on build-up and service mode.

## 2 . Build-up case of indoor spatial information

At present, indoor spatial information is under promotion by representative overseas enterprises. Its typical case is ‘Google Indoor Maps’ and Google map is provided through android based smart phone. In addition, indoor spatial information service is under operation in total 15 countries including the USA, UK, Japan based on app. 10,000 pcs. of indoor map. Following Fig. 1 shows indoor spatial information service screen of Google.

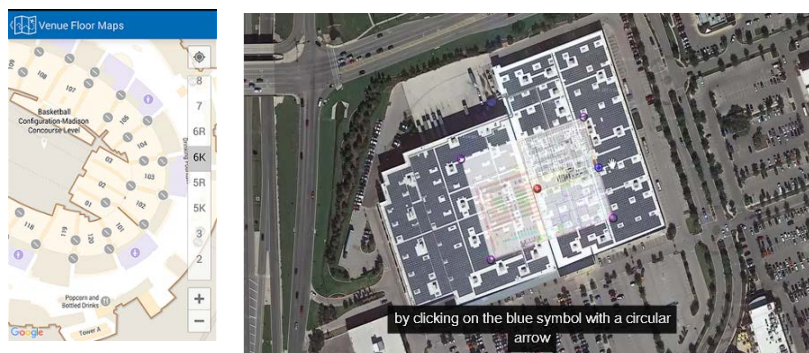


Fig. 1. Google Indoor Maps

In addition, in case of Apple as a typical enterprise, eco-system through ‘iBeacon’ is under creation. They started service at City Field that is home ground of US ML NY Metz by using BLE Beacon (iBeacon) as super precise location positioning technology. And in LA Dodgers ground also, iBeacon is installed and its service is provided. Following Fig. 2 shows a case of iBeacon.



Fig. 2. iBeacon of MLB

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