Indoor Localization by Pattern Matching Method Based on Extended Database

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Abstract : This paper studied the CSS-based indoor localization system which is easy to implement, inexpensive to compose the systems, additionally CSS-based indoor localization system covers larger area than other system. However, this system has problem which is affected by reflected distance data. This problem in localization is caused by the multi-path effect. Error caused by multi-path is difficult to be corrected because the indoor environment cannot be described. In this paper, in order to solve the problem by multi-path, we have supplemented the localization system by using pattern matching method based on extended database. Thereby, this method improves precision of estimated. Also this method is verified by experiments in gymnasium. Database was constructed by 1 m intervals, and 16 sample data were collected from random position inside the region of DB points. As a result, this paper shows higher accuracy than existing method through graph and table.