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Dynamic navigation indoor map using wi-fi fingerprinting mobile technology (Article) (Open Access)

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Abstract

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This paper presents the exploitation of Wi-Fi signals sensors using fingerprinting method to capture the location and provide the possible navigation paths. Such approach is practical because current smartphones nowadays are equipped with inertial sensors that can capture the Wi-Fi signals from the Wi-Fi's access points inside the building. From the comparative study conducted, the AnyPlace development tool is used for the development of dynamic navigation indoor map. Its components, namely; Architect, Viewer, Navigator and Logger are used for different specific functions. As a case study, we implement the proposed approach to guide user for navigation in Sunway Pyramid Shopping Mall, Malaysia as floor plan as well as using Google Maps as the base map for prove of concept. From the developer point of view, it is observed that the proposed approach is viable to create a dynamic navigation indoor map provided that the floor plans must be generated first. Such plan should be integrated with the SDK tool to work with the navigation APIs. It is hoped that the proposed work can be extended for more complex indoor map for better implementation.

SciVal Topic Prominence

Topic: Indoor Positioning System | Received Signal Strength | Wi-Fi

Prominence percentile: 99.561

Author keywords

Base map | Dynamic navigation | Floor plan | Indoor map | Wi-Fi fingerprinting

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