

A Route Guidance System for Car Finding in Indoor Parking Garages

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Abstract : This paper presents a route guidance system for car owners to find their cars in parking garages. The presents system comprises a positioning-assisting subsystem and a car-finding mobile app. The positioning-assisting subsystem mainly uses the iBeacon technology for indoor positioning. The car-finding mobile app guides car owners to their cars based on a non-map navigation strategy. This study also designs a virtual coordinate system to support identifying the locations of parking spaces and iBeacon devices. We use Arduino and Android as the platforms to implement the proposed positioning-assisting subsystem and car-finding mobile app, respectively. We have also deployed the system in a parking garage in our campus for testing. Experimental results verify that our system can efficiently and correctly guide car owners to the parking spaces of their cars.

Keywords : guidance, iBeacon, mobile app, navigation

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