



## Design and Development of Indoor Positioning System

By Khan, Muhammad Irshan

Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | For Portable Devices | Indoor positioning and navigation in smart phones has become possible with the availability of good processors, sensors and connectivity in smart phone. The development of a system that utilizes these technologies for indoor positioning has been discussed. This system integrates wifi positioning, inertial sensors&apos; data and buildings&apos; map information for indoor navigation. Micro electromechanical systems (MEMS) based gyroscopes and accelerometers, have been used for providing pedestrian dead reckoning; and a Bayesian filter based on Monte Carlo simulation (particle filter) has been designed for integration of wifi positioning, pedestrian dead reckoning and buildings&apos; map information for indoor navigation. This filter provides the state of the user estimated as a weighted mean of the approximated distribution obtained from particle filter. The positioning system has been built with XSENS MTW IMU, Acer ICONIA tablet running MATLAB. The developed system provides indoor positioning with mean square error within 1 meter, the error value of less than 2.5 m 95% of the time with the consistency of 96.86%. | Format: Paperback | Language/Sprache: english | 160 gr | 220x150x6 mm | 108 pp.



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