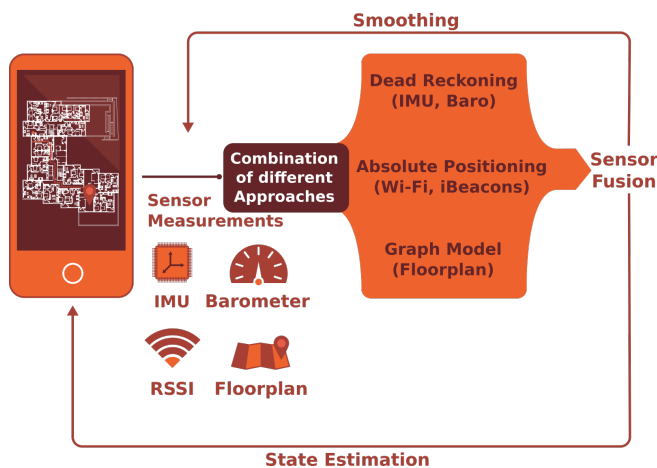


Multi Sensor Indoor Localisation

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Extended Abstract—NavIndoor is the indoor localisation and navigation system developed at the University of Applied Sciences Würzburg-Schweinfurt and the University of Siegen, Germany. It is a highly modular system fusing different sensors, namely Wi-Fi, iBeacons, barometer, step- and turn-detection. Additionally, extended knowledge provided by prior and past data is incorporate by natural walking paths and smoothing. Compared to many other systems, we avoid any time-consuming fingerprinting and calibration processes. Further, we do not need any prior information on the pedestrian's starting position. The system performs all calculations in real time on a commercial smartphone using a high number of samples for approximation. It is implemented in modern C++ using the Qt framework.



Keywords—IPIN Competition; Smartphone-based (on-site); Multi-sensor positioning