SPIRIT Indoor Positioning for Smartphones (without beacons and tags)

Indoor location and positioning is the next big thing. But today precise indoor positioning hardly works. There is no satellite (GNSS) signal under the roof, yet over 75% of all internet connections happen indoors. Wi-Fi-based indoor positioning accuracy of 10-20 meters does not satisfy the needs of LBS and LBA markets.

SPIRIT Navigation developed infrastructure-free precise indoor navigation software with 1 meter accuracy for smartphones/tablets, using multiple data sensors fusion (pedestrian dead reckoning + Wi-Fi + geomagnetic fingerprinting + map matching +...), sophisticated extraction of useful info, plus filtration by Particle filter.

Features
- Workable on existing smart phones and tablets, e.g. Nexus 4
- Android 4.3+ support now, other mobile OS’s support coming soon
- Displaying position on Google Indoor Maps

Technology
SPIRIT Navigation technology of precise positioning indoors consists of:
- Application for integration of positioning-useful data inside smartphone/tablet from: internal sensors, radio signals and other navigation-helpful sources
- Application for gathering necessary data to describe indoor venues creating special indoor map layer

The real time track inside the mall on Android handset

Screenshots below show trajectories collected during walk in shopping mall Afimall (Moscow) and in Hall 6 of MWC-2014 (Barcelona). Trajectories are displayed correspondingly on Google Map (left) and on the official plan of MWC (right).