Filter and Constraints

Infrastructure

Sensors at the Client

GPS and A-GPS → GPS Receiver

WiFi → WiFi

WiFi → WiFi

Bluetooth Beacons → Bluetooth 4.0

Other Sender → Other Receiver

LEDs → Kamera

Magnetometer

Gyroscope

Accelerometer

Barometer

Radio

WiFi Fingerprint Map

Bluetooth Fingerprint Map & Beacon Locations

Floor Plan

Landmarks

Pedestrian Movement Model

absolute Position → 1.1 → absolute Position → 1.2 → absolute Position →

AP Locations

Signal Strength & APs → 1 → Signal Strength & APs → 2.1 → absolute Position →

EDP & TFDP → Signal Strength & APs → 2.1 → absolute Position

Signal Strength & UUID → Signal Strength & APs → 2.2 → absolute Position →

Signal Strength & X → 2.x → absolute Position →

absolute Position → 2.x → absolute Position →

LED Pattern Map

Magnetic Flux Map

Magnetic Field → 2.3 → absolute Position →

change of orientation

direction and accelerate → Sensor Fusion → movement vevtor / relative position → 3 → absolute Position →

old position

air preassure

Sensor Fusion

a

Fingerprinted Floor Plan

absolute Position → 4 → absolute Position →