

Bring Your Own Protection (BYOP): A Smart Network of Wearable Devices to Protect Large Crowds

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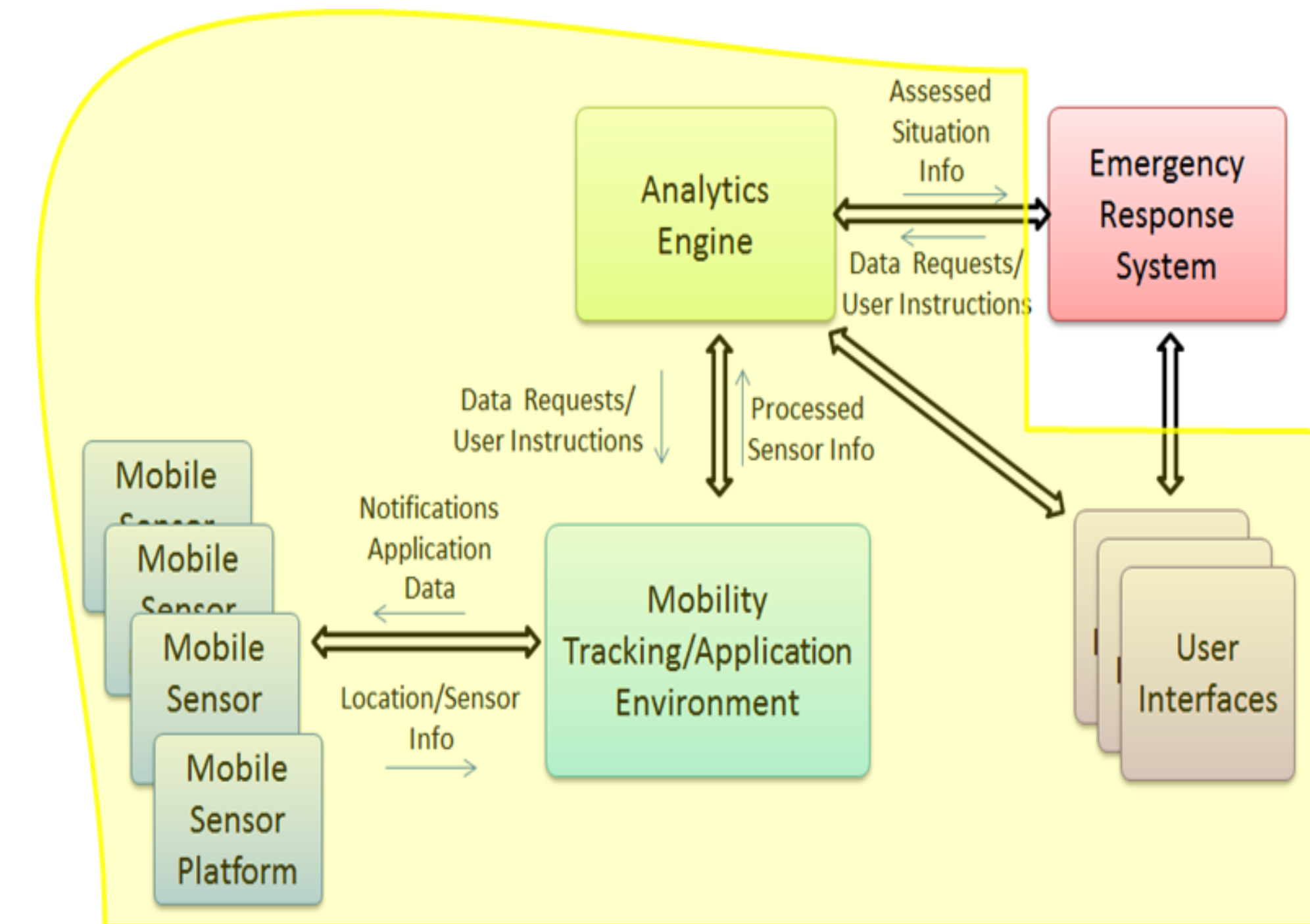
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Solution: BYOP

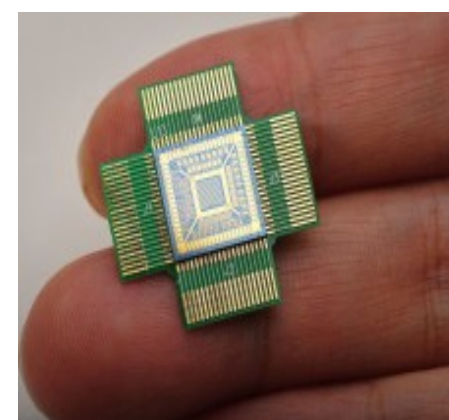
- Ubiquitous wireless sensor network (WSN) formed by wearable devices that contain CBRNE sensors
- Anyone, anywhere can join network
- Detectors continuously monitor presence of illicit materials
- Sensor outputs are fused to provide authorities with timely and reliable warnings
- System enables rapid prevention and/or response



BYOP System Concept of Operations

Problem

- Public venues where large crowds gather face threats to public safety by malevolent actors
- Current approaches to ensure public safety rely on expensive and obtrusive equipment and procedures
- Relative ease of access to Chemical, Biological, Radiological, Nuclear and Explosive (CBRNE) materials creates the potential for major safety challenges at large public gatherings



Electro-nanosensor developed by NASA Ames can be embedded in phone



Scosche's RDTX iPhone dongle

Smartphones with radiation detectors are now reaching market

Anticipated results

- Formal system architecture for BYOP Security as a Service (SaaS) system
- Prototype system that accepts inputs from simulated sensors, performs information security and prediction, and recommends actions
- Simulation and analysis of base case and several alternative scenarios
 - Sensor models
 - Atmospheric dispersion models
 - Information fusion method
 - Cybersecurity approach
 - Alerting and decision making strategy
- Prototype smart phone app