

Smart Phone Ad hoc Network (SPAN) for e-health application

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High Mountain Scenario

A travel agency organizes the climbing on Kilimanjaro. As the agency make reasonable policy, they equip the guide and the participants with sensors that measure health parameters (heart rate, pressure, body temperature, etc.) in order to monitor the people's health.



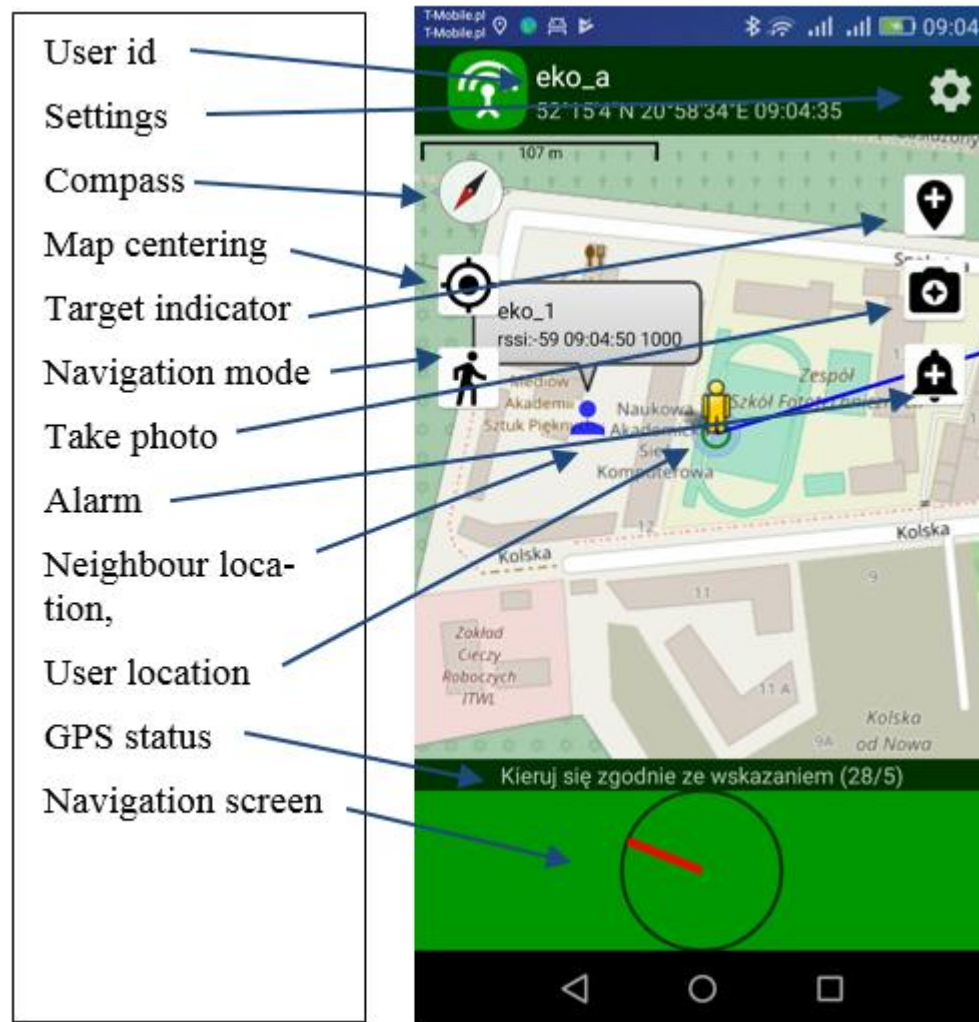
High Mountain Scenario

The guide - leader is equipped with a satellite mobile phone and can exchange information with the agency and rescue teams. The communication between the guide and the participants is organized using BLE and SPAN network.



Each participant is equipped with a smartphone and the health sensor. The sensor is connected to the smartphone by BLE (in connected mode).

NASK SPAN solution



- A mobile application for Android operating system that can be used to create an ad hoc network formed by people.
- The Bluetooth Low Energy (BLE) (short-range P2P) communication protocol is used to create mobile network. People can exchange messages (for example various health parameters). They see one another on their mobile phones.

NASK testbed

Phones:

Phone	Samsung A3	Huawei Y6	Wiko SUNNY
OS	Android 7.0	Android 5.1.1	Android 6.0
Battery	2350 mAh	2200 mAh	1200 mAh
Processor	Samsung Exynos 7870 1.6Ghz	Qualcomm Snapdragon 210 1.1 GHz	Cortex A7 1.3GHz
Bluetooth	4.2	4.1	4.0

Sensors:

- Polar H7 Bluetooth Smart 4.0 heart rate sensor



Our experiments

