Tongji-KNU Global Capstone Design Project (Proposal 1)

Project Title:

Beacon Localization Using Beacon Sensors with Drone

Project Period:

2016.3.1. ~ 2016.6.30. (4 months)

Project Advisor:

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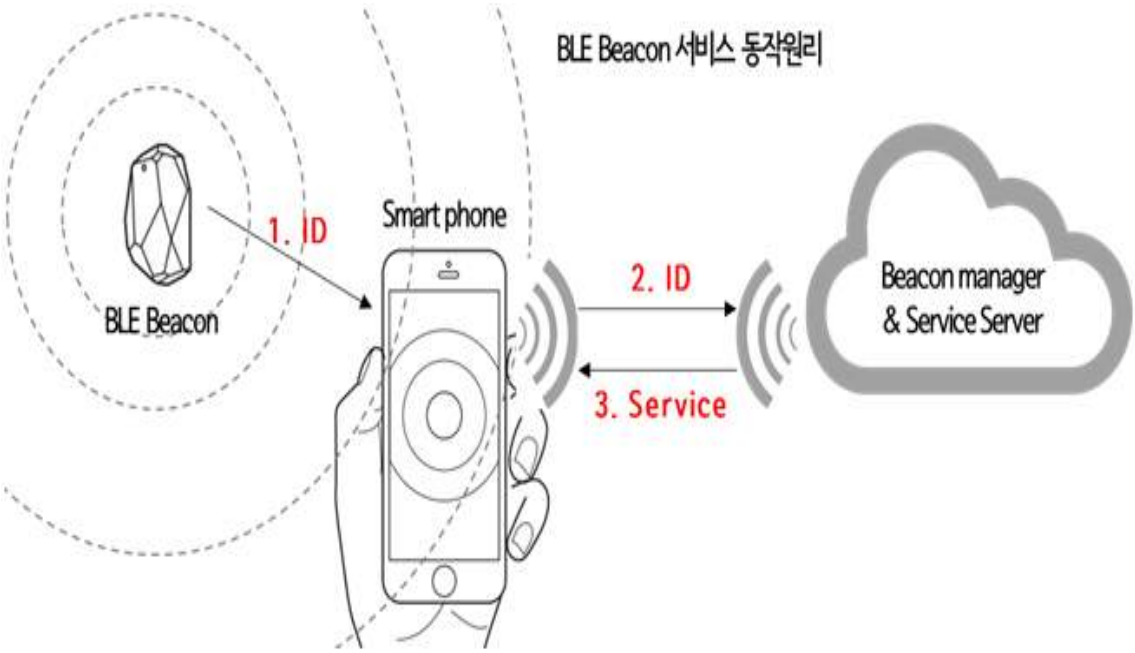
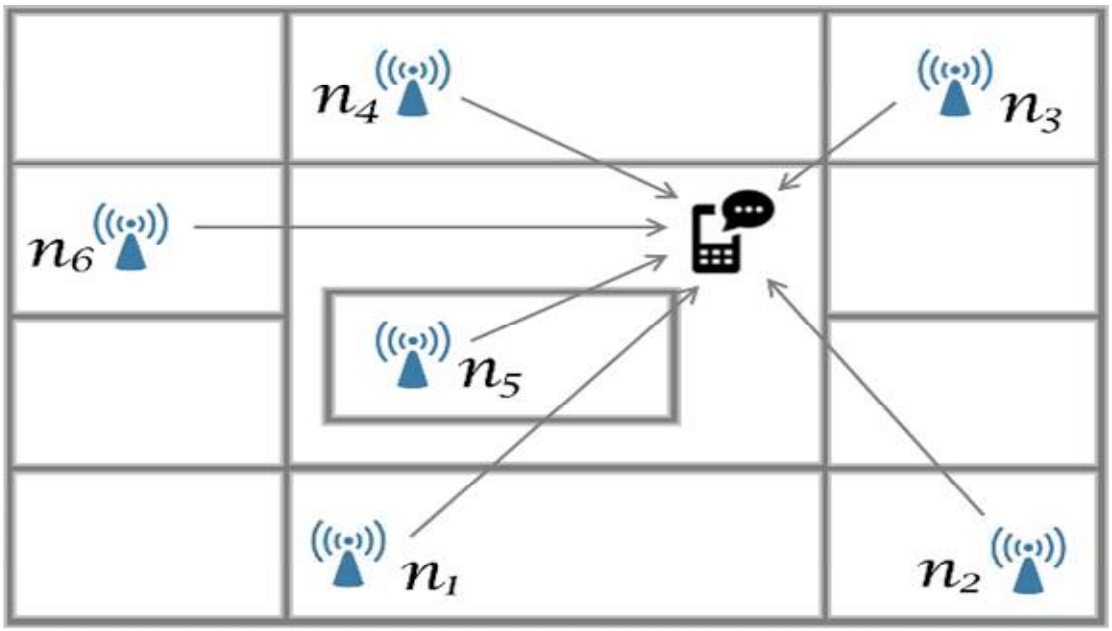
Background:

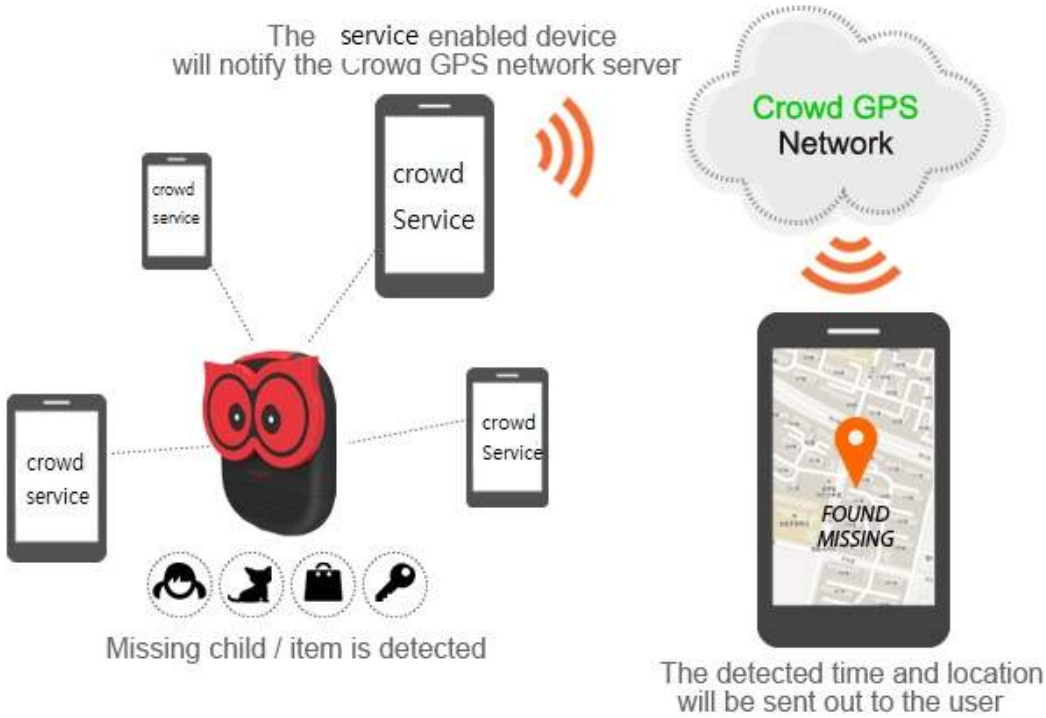
✧ Recently, the beacon-based technology is spotlighted to prevent missing children, pets and things



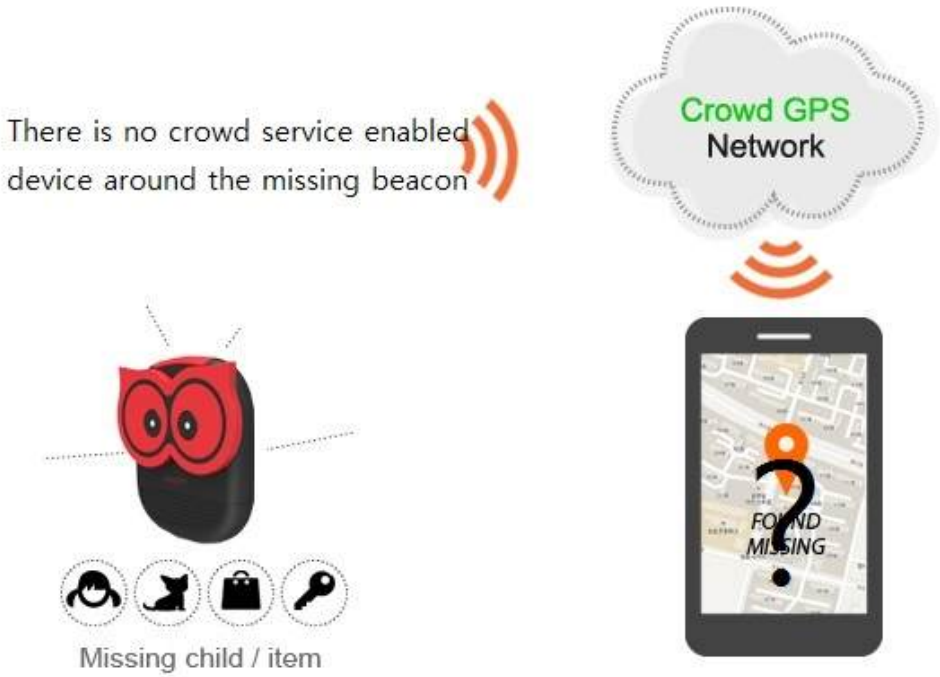
✧ Beacons technology can be used for indoor positioning because it can determine the location of a given target beacon in the number of meters away.



✧ Crowd GPS technology is a technique for positioning a target beacon in the outdoors using the smart phone of the members who subscribed the crowd GPS service.

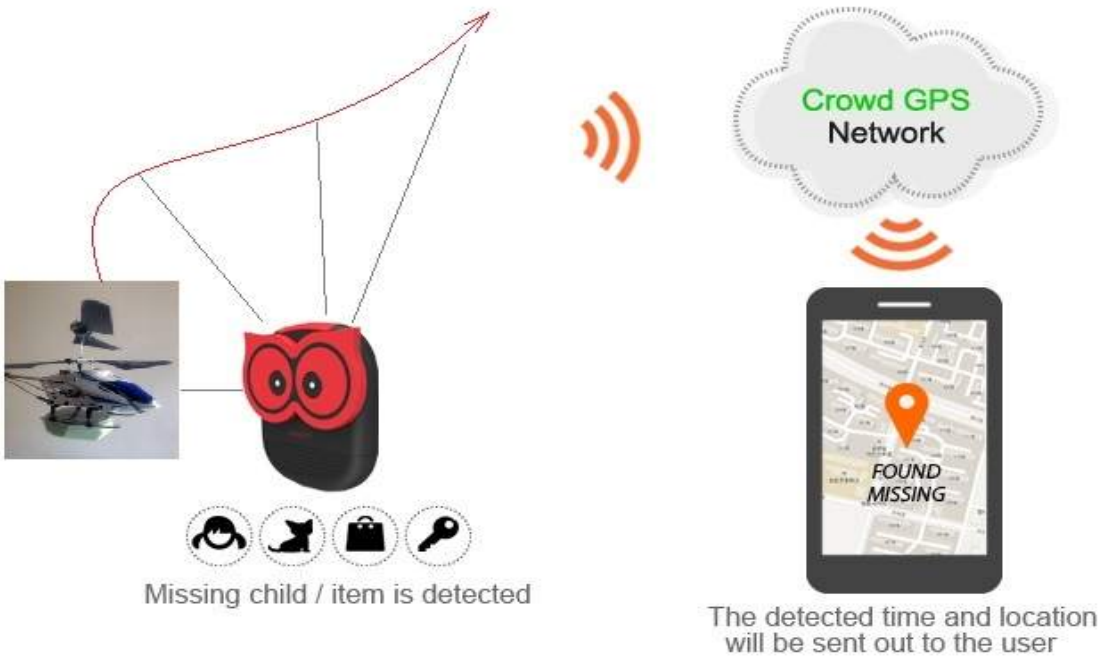


✧ When positioning using Crowd GPS system, if there are not any members around the target beacon then you can't identify the location of it.



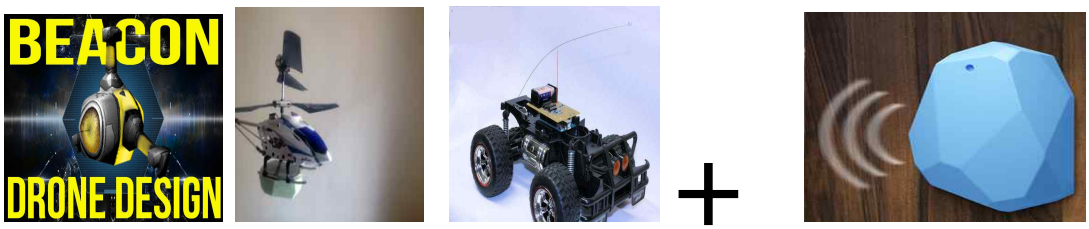
✧ If you have a portable beacon sensor which forms of drone or car,

- you can keep up with the moving target which equipped with a beacon.
- you could find missing children, pets of things equipped with a target beacon, by investigating a predictable area.



Project Objectives:

✧ Construction of a drone or a radio-controlled car which equipped with iBeacon sensor, which can follow a given iBeacon and can calculate the distance from a given beacon.



✧ If you want to locate a lost beacon, you could search expected area systematically using the developed mobile beacon sensor.

✧ Development of serve which can collect and can calculate the location of target beacon using the information collected by developed mobile type beacon sensor.

✧ Development of smart-phone applications which can view the location of given target beacons.

Project Schedule:

Each work will be done with on-line cooperation between KNU and Tongji students.

✧ 2016. 3. 15: Team Configuration (KNU 3~4 students, Tongji 3~4 students)

✧ 2016. 3. 30: Submission of detailed work plan from students (by KNU and Tongji)

✧ 2016. 4. 30: 1st report on project progress (in each school) and coordination

✧ 2016. 5. 30: 2nd report on project progress (in each school) and coordination

✧ 2016. 6. 30: final report on project progress (in each school) and coordination

✧ 2016. 7. : Presentation of Project Outcome in KNU-Tongji Workshop

Requirements (pre-requisites) for Students:

✧ Describe the requirements or pre-requisites for students to perform this project

✧ For example, C/C++ programing skills, Experiences on Linux, Open Source SW, etc

✧ Any other special requirements, if any.