SOCOM Technology Challenge

Locating objects

Key Challenge

Object

Locator 2
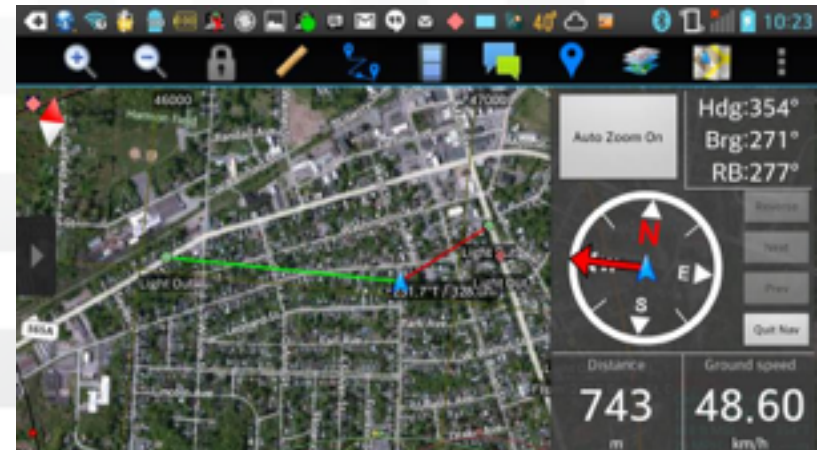
Or single user

Locator 3

Locator 1

Multiple images triangulated to correct Coordinate shown on map

With user feedback

Real Coordinates
for locating objects

How can we find the real coordinates of an object using a cell phone at a distance

Military Use

A U.S. Air Force AC-130 gunship attacked the hospital run by medical charity Doctors Without Borders in what U.S. Army Gen. John Nicholson called a "horrible tragedy." A preliminary investigation found the bombing was primarily the result of human error.

The airstrike was intended for a government building believed to be controlled by the Taliban, Gen. John Campbell, then-commander in Afghanistan, has said. But the electronic systems on the aircraft malfunctioned, and the crew relied on a description of the target, which the hospital building "roughly matched," Campbell said.

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Real Coordinates
for locating objects

How can we find the real coordinates of an object using a cell phone at a distance

Civilian Use

Incidents are reported to police, and fire with automated location but that is to the nearest cell tower. Accurate location is often confused by verbal descriptions coming from multiple sources

While wireless phones can be an important public safety tool, they also create unique challenges for emergency response personnel and wireless service providers. Since wireless phones are mobile, they are not associated with one fixed location or address. While the location of the cell site closest to the 911 caller may provide a general indication of the caller's location, that information is not always specific enough for rescue personnel to deliver assistance to the caller quickly.

Source: FCC guidelines to 911 callers

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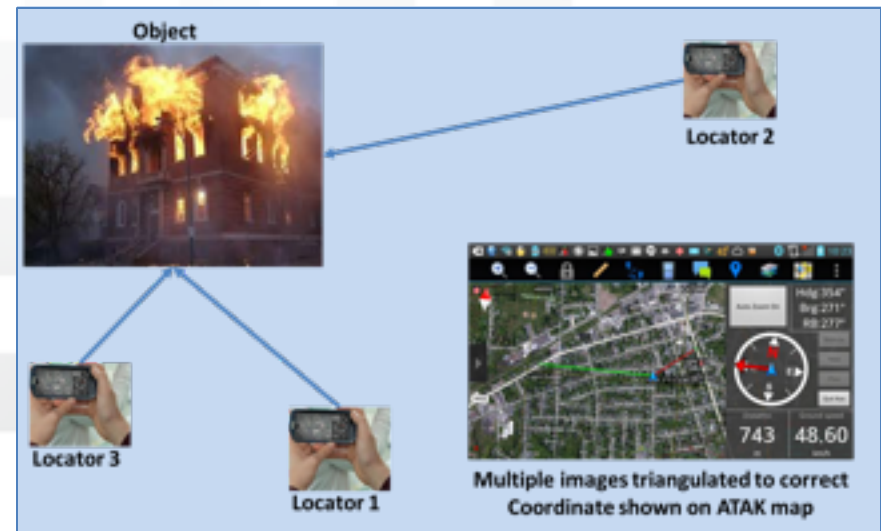INSTITUTE

Success Criteria

Ease of use (25 pts):
Novel interface that provides feedback to the user and reason to have App on phone

Speed (35 pts): Time to locate and display on a map

Accuracy (40 pts):
Circular probable error of location and proof of accuracy

Multiple images triangulated to correct
Coordinate shown on ATAK map

Prize

First Place: $400
Second Place: $200
Consolation Prize: Raspberry Pi 3