

LOCATEME112

LIFESAVING TECHNOLOGY



An Air Corps pilot has developed a new lifesaving application to enhance the efficiency of air ambulance operations.

Co-ordinated by the National Aeromedical Co-ordination Centre, LocateMe112 is now available to the HSE, An Garda Síochána, the Coast Guard and other emergency service providers. Report by Sgt Wayne Fitzgerald.

Since its introduction late last year LocateMe112 is proving to be a great success. In the first two months of 2015, the system has been used successfully on five different occasions.

I went to Baldonnel to meet with Air Corps Press Officer Captain Brendan O'Dowd and the developer of the new system, Lieutenant Colin Gallagher, a heli pilot with BE (Electrical & Electronic) and MEngSc degrees.

The new system is so well regarded that it has been integrated into the HealthAtlas AeroMedical application system developed by the Health Intelligence Unit of the HSE and OpenApp, and is helping to save lives.

Lt Gallagher said: "Getting the exact location has always been a problem for primary response, where ground ambulance crews and the helicopter are tasked simultaneously to a distressed 999 caller.

LocateMe112 takes advantage of current technology to provide an exact location within minutes."

PINPOINTS EXACT LOCATION

An ST segment myocardial infarction (STEMI) is the deadliest and most common form of heart attack in the industrialised world.

The STEMI requires urgent medical

treatment and for the best outcome sufferers need to be receiving treatment at a cardio clinic within 90-minutes. (This period is often referred to as the 'Golden Hour'.)

Evacuating a patient by air instead of by road can be a decisive factor in making the 90-minute target. However, an effective air ambulance response also depends on knowing the exact location of the casualty. To this end Lt Colin Gallagher developed LocateMe112 to pinpoint the location of the casualties.

LocateMe112 enables the GPS chip on an emergency caller's smartphone to be activated remotely by a link contained in an SMS text message, which rescue services can then use to pinpoint the exact location of the injured person.

The key feature of LocateMe112 is that it does not require the installation of an app; the only requirement is that the caller has a smartphone with its location services (GPS) turned on.

While Lt Gallagher's system is not unique, he used an Open Source code and developed his system for trial by the Air Corps. Lt Gallagher continued: "Once the concept was developed and running it was then handed over to the Health Intelligence Unit of the HSE, and mounted on their mapping system (like a plugin), so

that there was only one port of call for 999 operators and pilots."

The Air Ambulance from No 3 Ops Wing is often tasked by the National Aeromedical Co-ordination Centre (NACC) to attend 999 calls with directions given for roads, which are harder to follow by air. This difficulty was identified by the then EAS Detachment Commander, Comdt Phil Bonner, who set Lt Gallagher with the task of finding a technical solution to help locate the patients/casualties quicker.

GEOLOCATION APPLICATION

With a knowledge of satellite navigation and direction finding on mobile devices, Lt Gallagher set about developing a geolocation application programme interface (API), in his own time, using W3C software technology. This was based on HTML5 coding, as used by modern browsers on smartphones.

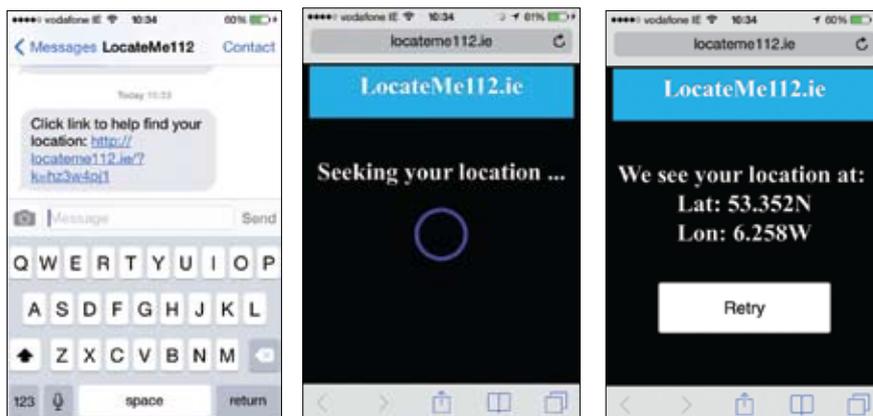
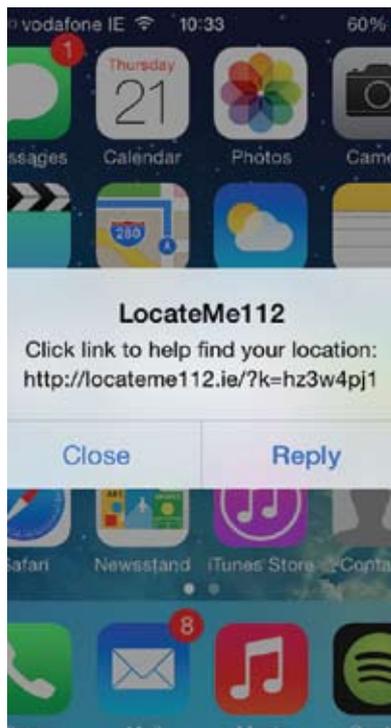
Lt Gallagher added, "It doesn't have to be the patient's phone; it can be a relative or anyone at the scene, like a first responder." He tested LocateMe112 by running it off his own home server for six months, and by using friends and family in

EXAMPLES OF 'LOCATEME112' IN ACTION

These examples reveal how LocateMe112 has been used in the past few months:

- A family of four got lost in Cratloe Woods, Co Clare, in August 2014. Mountain rescue teams tasked by NACC were unable to locate the family, but a rescue heli from Shannon used LocateMe112, which was on trial at the time, to locate the father's phone and direct the ground rescue team to the location.

- In the same month a doctor at the scene of a STEMI in Co Roscommon called for an ambulance on his week-old smartphone (a present from his daughter). The STEMI call was put through to the NACC desk operator who sent him the text from LocateMe112 and dispatched a heli. This was able to locate the patient and get him to the nearest hospital in Galway within 40 minutes. The doctor said the patient would have died where it not for the heli's rapid intervention.



remote locations to accept the message he would locate them every time.

When a person in distress calls 999 the operator goes through a series of questions to determine what assistance is needed. If a heli is required the call is passed to the NACC desk which initiates the LocateMe112 message to get the caller's location.

When the caller receives the text message and clicks on the link the coding behind the link does three things concurrently: it looks for the last cached location on the phone prior to the call; it activates the GPS chip which takes three minutes to fully activate; and it carries out cell mast triangulation.

A typical call will take three minutes to locate the position of the phone to within ten feet. As the general location will be identified immediately the heli can be dispatched without delay and LocateMe112 will provide the exact location en route – by saving valuable time from the initial call to the heli's arrival.

The new system is a source of huge pride to the Air Corps, and according to Capt O'Dowd, it's great to see LocateMe112 being used so successfully by so many users.

"It is innovations such as this application and people like Lt Gallagher that help the Air Corps develop and expand," he concluded.

Article courtesy of Sgt Wayne Fitzgerald, Editor of An Cosantóir (the Defence Forces magazine).

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