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New Rapid Localization Platform is Faster, Privacy-Protected, and not Reliant on GPS

RICHMOND, Virginia – (date) –

A Virginia Commonwealth University inventor has developed a better localization platform that may change how we find friends in crowded places, Uber drivers in busy cities, and even dates.

Localization technology allows a group of devices to know:

- Where they are in relation to one another
- What direction each is going in
- How fast each is going

“Think of this technology like a swarm of bees,” says inventor, Wei Cheng. “The bees all know where the other bees are, and where they’re going.”

What’s different about Cheng’s approach is that positioning is greatly expedited. Let’s take an example, where one cell phone signal needs to send location-based information to another cell phone signal.

“Normally, the message transmission can’t begin until both signals have been located in the same coordinate system,” says Cheng, “and this is difficult if one, or both, are on the move.”

This is important, explains Cheng, because if just one of the signals moves to a new location, this will trigger a relocalization. Which means that the positioning message wouldn’t have even been sent out.

“My approach reduces localization time,” says Cheng, “and sends out the message as soon as the first device acquires the location of the other, even if they’re moving.”

Besides faster positioning, Cheng’s invention also requires less energy consumption, enhances location privacy, improves location accuracy, and does not require a GPS signal to work.

According to VCU Licensing Associate, Brent Fagg, this new technology would be useful in a variety of industries, including vehicle networks – like trucking and taxi services – underwater networks, social networks, even the military.

“GPS isn’t always available, and military vehicles are often on the move,” says Fagg. “Which means the localization procedure is constantly being repeated. This new technology would mean shorter localization times, fewer delays, and a reduction in location information leaks, all things that I’m sure are important to the military.”

The rapid localization platform can easily be incorporated into any smart device – cell phones, drones, IOT connected devices, etc. And because it isn’t reliant on GPS, it works where GPS devices cannot.

“Imagine being able to easily find a friend at a concert, or a Lyft driver at the airport, or even your Tinder date in a crowded bar,” says Fagg. “We’ve already come up with numerous ways to use this platform, and I doubt we’ve even scratched the surface.”

About VCU and the Rapid Localization Platform

This new localization approach was developed by Wei Cheng and the VCU Computer Science Department. It greatly improves upon existing technology, as it speeds up positioning, increases privacy, and is not reliant on GPS.

Research Link:

<https://drive.google.com/drive/folders/1FVaXFd5hoCti1aWatY0UBn53b-FtCOLa>