

Technology



On the right track

EVER HEARD OF the catchphrase "Location, location, location?" It means finding the right place is a crucial factor in many business decisions.

This should not come as a surprise especially if it concerns real estate. Apartments in prime locations often demand much higher prices.

Determining the right area is critical because it has many implications – for example, whether it is a mecca for many potential customers, an anchor of political and economic stability and a tax haven.

When it comes to placing street advertisements, finding the best spot is key to drawing the attention of potential customers.

Being in the right place creates a lot of business opportunities. This is because different services can be provided depending on where you are.

This is called location-based services, or LBS. Services such as maps, shops and promotions can be customized given our current positions.

We can now pinpoint where someone is, using the Global Positioning System – that is, if he is outdoors. For GPS, satellites above the Earth transmit signals to the ground. The users, using cell phones or other specialized devices, are able to track down locations based on the signals received.

GPS is so powerful that it has been widely used for outdoor positioning and navigation.

It has already enabled many successful outdoor LBS and business opportunities, such as finding the closest petrol stations or restaurants while you are driving, or getting to the closest landmarks while touring a foreign city.

While GPS can provide outdoor locations, the satellite signals cannot penetrate indoors, such as finding friends in a mall.

Locating a user inside a building still presents a challenge to researchers. Indoor location tracking technology is still in its infancy.



Gary Chan

Why are we interested in indoor location? Statistics show that 90 percent of people's time is spent indoors. Indoor positioning thus offers significant business potential.

There are, in fact, many lucrative business applications for indoor LBS. With an indoor location capability, it would be easy to navigate various environments.

For example, in a mall you may find yourself asking the following questions: Where am I exactly? What is the closest restaurant I can go to? What are the shops that do promotions today and how can I get there?

These are some questions that pop up when we get stuck in an unfamiliar indoor environment.

We'll look into this some more next time.

• Gary Chan is an associate professor of the Department of Computer Science and Engineering, the Hong Kong University of Science and Technology