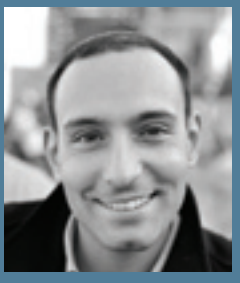
Transforming mobile phones into navigation systems



Location-based services and navigation company, Geolife, develops applications that transform mobile phones into turn-by-turn navigation systems. CEO, Peter Atalla, explains why he believes the future of navigation lies in the mobile.

The sheer size of the mobile phone market globally is astonishing: around 4 billion people worldwide use a mobile phone – approximately two thirds of Earth's population.

Location-based services on the mobile phone therefore represent a huge opportunity, which is now beginning to be realised, particularly as more and more phones are now available with GPS built in. Whilst traditionally all mobile phones have tended to have different operating systems, location-based services developed to work with Nokia, Windows Mobile, Blackberry and iPhone handsets will currently cover 90% of the market for GPS handsets.

It is now possible to do everything that you would expect from a Satellite Navigation unit on the mobile phone. For example, you can type in an address, postcode or point of interest from an onboard database and route to it. You can also access familiar features such as safety cameras and traffic information. The difference is, once you reach your destination, you can take your mobile with you and still continue to use this functionality, all at a fraction of the cost of a traditional in-car solution.

Extending navigation to 'mobile like' devices

Recent navigation breakthroughs on the iPhone platform in particular have further extended the breadth of products on which navigation and location services are possible.

US-based Apple applications specialist, Posimotion, recently created a hardware device called G-Fi, essentially a personal GPS router. This device connects to an iPod touch using WiFi and then enables navigation applications to transform any iPod touch into a turn-by-turn 'satnav' device.

This adds navigation capability to a further 20 million devices around the world. As different electronic products converge it is certain that navigation and location capabilities will be added to more and more devices.

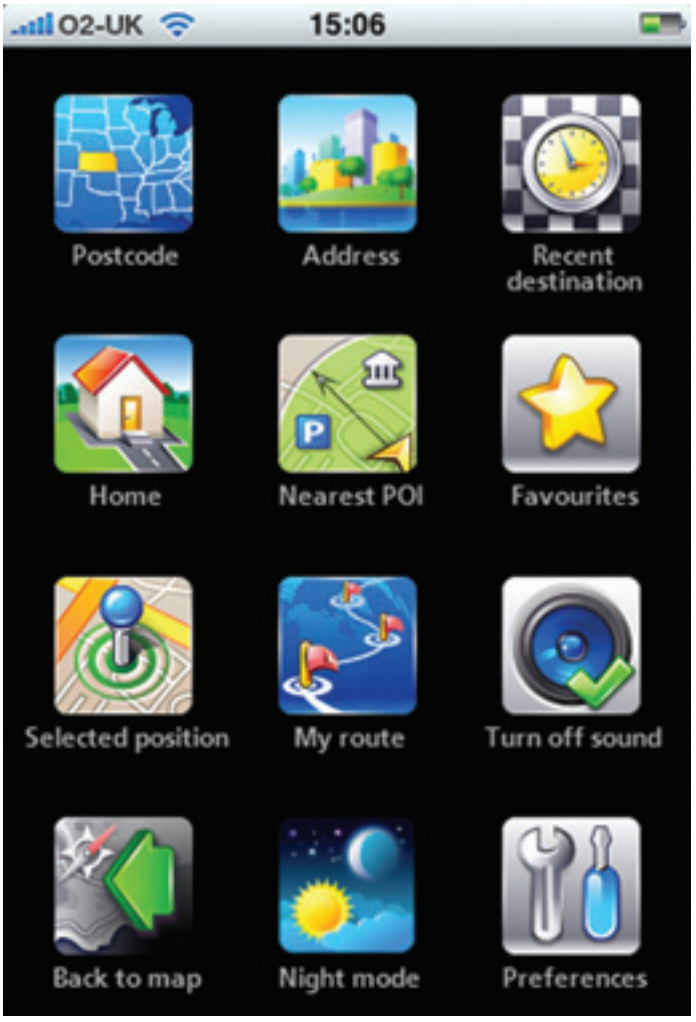
GPS capabilities and turn-by-turn navigation

It is important to stress the difference between GPS capabilities and turn-by -turn navigation. Currently many phones with GPS capabilities come with mapping applications installed. The iPhone, for example, comes with Google Maps installed.

This is a great tool if you are in a city and you just need to find out the reference of a point of interest on a map. Of course, what Google Maps does not do is provide a full navigation experience. So, for example, you do not get the 'in 100 metres turn right' type experience with Google Maps which users of 'satnav' are familiar with and have come to expect.

Social Navigation

Understanding how people will use navigation and making it intuitive is critically important to fully realising the potential of mobile-based location services.



For example, one of the key findings for Geolife in the development of our Navmii service was that people often want to share their location with others but they may not know the precise address details of where they are.

Take the example of two people meeting at a coffee shop in London. It is unlikely either will know the exact address or postcode. With mobile phone navigation it becomes possible to send your location by integrating location services into the phone's address book. Someone could select a contact from their mobile phone address book and send their location to the other person's mobile in a click or two. The recipient can then get turn-by-turn directions to the sender's destination.

When this service is fully integrated into the mobile, it provides an incredibly compelling application for users, uniquely suited to the mobile – a device everyone has with them all the time.

The issues around privacy

Obviously, it is important that location sharing is permission based so people have the opportunity to choose whether or not to respond, because the user needs to retain choice and control.

Ensuring that people have to give permission to share their location every time it is requested – rather than once to continually share your location with someone - is a safeguard appropriate amongst friends and business colleagues.

In other scenarios, of course, this may not be the case. For example, services that enable parents to automatically track their children by requesting the location of the child's mobile phone, would not require the child's consent. You can even imagine placing a tracking device on a family pet to track them and be directed to their location if they are lost.

These services are what I describe as 'social navigation' – enabling people to use location information to keep track of friends, family and treasured possessions, and track, locate and meet wherever they are.

The future of the market

The relative success or failure of this generation of personal navigation will ultimately hinge, not on the technology, which is already proven, but on how it is sold. With maps changing as new roads are built, keeping services up to date with new mapping is a challenge.

To date, there has been a tendency to charge a subscription fee for ongoing use of navigation to cover the costs of new maps. Subscription is a significant barrier to entry and limits opportunities to sell location services. Vendors need to collect payment details and convince people to go online and keep paying. Nokia has recently pulled back from subscription models because they found that within six months they would lose a large percentage of the subscribers they have.

What works best is a one off cost, for which users get the software and map data. Additional, ongoing revenue may come from incremental opportunities such as optional service expansions, i.e. international maps, and potentially from third party location based marketing and advertising.

Google in the market

With the announcement on 28th October 2009 of Google's plans to offer turn-by-turn navigation free of charge on the Android mobile phone platform, the landscape of navigation services for mobile phones changed overnight. However, there are limitations to the capabilities of this new player. The service is not on board the mobile phone, meaning that the user is entirely dependent on the quality of the data connection to the mobile phone. When it is good, the service will work well but when it is poor, there will be issues.

More importantly, users who try to access the service outside of their home country will find themselves paying huge roaming charges to access data from the network. Since one of the primary opportunities to use the service may be in unknown foreign cities, this is likely to be a significant problem.

Nevertheless, Google's entry into the market will represent a significant change to current business models: most notably to the current two main suppliers of mapping – TeleAtlas and NavTeq – which will need to innovate new viable business models for the supply of mapping information.

Conclusion

As multiple functions converge onto a single mobile telephone handset, GPS is becoming as common as mp3 playback, gaming and digital cameras. The sheer market penetration of mobile phones and the strong personal association with 'your mobile' means personal navigation is a market sector that not only demands attention, but has the potential to dramatically alter the entire GPS landscape.

As GPS becomes a common feature on the mobile phone, providers and developers will need to focus on innovation that builds on the personal and social nature of GPS to differentiate services. The future for personal navigation is still to be mapped, but it is going to be a fascinating journey.

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