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PRESS REVIEW

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The GIS Lens

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http://www10.giscafe.com/blogs/gissanjay/2013/06/06/indoor-location-the-mobile-revolution-starts-now/

Indoor Location: the mobile revolution starts now

June 6th, 2013 by Sanjay Gangal

Article source: Christian Carle, CEO and founder of Pole Star

The future of mobile location-based services lies in its rapid adoption of indoor technologies

For more than 20 years, the use of global positioning system, or GPS, has been the gold standard for outdoor navigation. The satellite-based navigation system has become the indispensable tool for anyone to determine their location outside of a building, in a car, on motorways, in the street…

More recently, cell-phone manufacturers have added GPS capabilities to mobile devices which in turn, created new opportunities for existing location-based services (LBS) such as mapping and navigation. While the quick rise of smartphones, and the easy access to more context-aware information, has changed forever the way people live, travel and shop.

But as we rely even more on our smartphone for everyday life, the physical limitations of GPS, which doesn't work in indoor environments or between tall buildings in dense urban areas, are becoming a real challenge for the next generation of LBS applications. Simply put, for GPS to work, it requires a clear view of the sky, where a receiver has an unobstructed line of sight to satellites, meaning that all the mobile location-based apps, like navigation for example, won't work indoors, inside airports, malls, museums, subways, etc., which is where we actually need them the most, as we spend a majority of our time indoor. It also happens that 80% of

smartphone usage is done inside buildings, making an even stronger case for bringing location technologies indoor.

So, it shouldn't come to a surprise then, that, indoor location has gained a huge market traction in the past 2 years. First, in professional environments, with employees or equipment location services where indoor location improved efficiency and security. But also, in the broad consumer market where context-aware services have become a key differentiator to interact and engage with potential customers, as they get closer to a retail store, for example. Analyst firm ABI research predicts that by 2017, the indoor location technology market will reach $5 billion in revenues, represent over 200,000 installations of infrastructure equipment, including Wi-Fi hotspots, Bluetooth antennas, etc., and over 800 million branded applications downloads.

Indoor location technology has become such a huge market that it is actually bigger than its outdoor counterpart, if you include commercial buildings, where it helps consumers find their way to a store or to an item on their shopping list and much more. After the huge success of GPS, indoor location is today the next killer technology, reinventing the location services industry market, mobile advertising, app development and the entire mobile ecosystem itself. Indoor location is a true revolution that cannot be ignored anymore and paves the way for new and innovative services that will enable a smooth end-to-end user experience (from outdoor to indoor and vice-versa), better security, improved productivity and efficiency of mobile tools, and much more…

From early adopters to a mature market

In 2012, the indoor location market has finally reached maturity, overcoming its main technological barriers which drove, for the first time in its history, large scale deployments at airports, museums and malls. Here are the key milestones that made the tipping point actually happen:

- Installations of indoor location services became of excellent quality, available from numerous providers on the market today
- Indoor location apps are now mainstream for iPhone and Android devices, covering already about 80% of the smartphone market
- Because of the rapid market penetration and adoption of smartphones, indoor location services no longer require the use of a specific and separate mobile device, even in professional environments
- Low cost and easy to implement technologies are now widely available, making it easier for all sorts of venues, like shopping centres, airports, rail stations, subways or museums to integrate indoor location

technology in their respective mobile apps and bring real added value to customers

- Efficient tools and open software development kits (SDK) allow for any application developers to deploy themselves indoor location services, in their venue or their customers
- The fusion of multiple technologies, such as Wi-Fi, Bluetooth Low Energy and GPS, along with specific ones already integrated in smartphones (accelerometer, magnetometer, gyroscope, and pressure sensor acting as an altimeter) allowed to overcome the main technical barriers that prevented indoor location to be successful in the market. Today, it's finally possible to address 100% of an indoor venue, at a low cost and independently of their Wi-Fi network density
- Finally, the performance reached by indoor location technologies has now surpassed GPS for the outdoors. So much that indoor location today is more accurate than outdoor positioning, with an average accuracy of a few square feet compared to several tens of square feet for GPS

Indoor location promising use cases

Although the main purpose of indoor location is to assist users navigating within buildings such as airports, malls or exhibit centres, it also opens the gate for an innovation frenzy, creating new location-based applications, while improving existing ones, such as customer analytics, store optimization, proximity advertising, couponing, and CRM. And below are just some of the advanced applications that our customers are implementing.

- Indoor navigation is one of the primary application for indoor location, bringing users to a specific point of interest that they were looking for. It helps travelers to find their gate to catch their flights or train, convention attendees to find their conference room or a particular booth…and more
- Proximity advertising and location-based coupons are transforming mobile devices into a tool that drives buying behavior. Brands can now directly communicate with consumers, depending on their interest and location. A solution that is getting special attention from retail property owners who measure revenue by sales per square foot. These property owners are then able to sell in-app advertisements to retail store owners in their buildings, complimenting traditional billboards and catalog ads
- Location sharing, in conjunction with social networks, meets the demands of growing enthusiasm for social platforms. Users are able to identify contacts, physically close to them, connect with friends,

virtually or in-person. But more importantly, location-based social networks enable brands to benefit from viral marketing, increasing their visibility, not only to one but to multiple targets at the point of purchase

- Consumer behavioral analytics are the intrinsic value of a location-based application. These statistics help to better understand buyers' behaviors and the total customer experience. Similar to Internet analytics, location services are able to deliver data for the development of a tailored in-store customer experience

Indoor location brings e-commerce to the real world

In a digital world, where "show rooming" becomes the norm – with shoppers coming into a store to look for a product, then checks the price online and eventually buys it from a website – retailers are struggling to find ways to compete with e-commerce sites. Which, for years, were able to precisely target customers using advanced behavior marketing analysis and targeted messaging, with keywords and clics technologies.

However, indoor location has disrupted the status-quo, giving back to brick-and-mortars retailers the upper hand over digital commerce. With indoor location technologies it is now possible to know when a customer is inside a building, just like an e-commerce website knows when an Internet user is on its homepage. Store owners are now able to offer unique incentives to shoppers, bringing a strong value add component to their digital and CRM strategy. This enables a more efficient location-based marketing, sending consumers the right message, at the right place, at the right time, finally bringing e-commerce to the real world, in real time.

But linking the real and online worlds is literally just the tip of the iceberg, as indoor location technologies are forever impacting the way we live, shop, travel and interact with traditional and online commerce. Just like GPS started the location-based revolution, more than 20-years ago, Pole Star and the rest of the indoor location industry are about to do it all over again. Don't be left behind!

About Pole Star

Pole Star, created in 2002 and based in Europe (France -Toulouse & Paris) and the United States (Palo Alto, California), is the pioneer and world leader in indoor location. Pole Star mission is to deliver high performance, scalable and long lasting quality of service to venue owners or mobile solution providers anywhere in the world. With over 43 million square feet

covered by NAO Campus in 15 different countries, Pole Star already has an impressive customer portfolio including airports, malls, department stores, convention centers and museums. Pole Star relies on extensive and trusted worldwide partner network to propose a complete range of end-to-end solutions integrating Pole Star's flagship product, NAO Campus.

In 2012, Gartner ranked Pole Star as one of the most promising companies in the indoor location market ("Competitive Landscape: Indoor Positioning Technologies", Annette Zimmerman, November 8th 2012).

Tags: Indoor mapping