

Japan's mobile industry legacy and the future of mobile augmented reality  
A Position Paper for Mobile AR Summit @ MWC 2010

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Ever since the mobile internet was introduced as i-mode by NTT DoCoMo in 1999, Japan has always been at the forefront of mobile innovation. Camera, GPS, Books, Email, WiFi, QR Codes, App Store, NFC, go down the list of features that you've recently seen on handsets of the west or in a book written by a futurist. Its all there.

The legacy had been built by a mobile ecosystem carefully controlled by a benevolent dictator, or the mobile carriers as we know them. They spec'ed the handsets, made sure that they used open standards, distributed them and assured that whatever handset worked with any feature or function it was meant to handle. They also made sure that using the mobile internet didn't become a hefty burden on the wallet by introducing data flat rates, which over 40 of mobile internet users subscriber to. That is why over 85% of all mobile subscribers are on 3G or above and generate over 5 Billion USD in mobile content revenue annually.

But the tight knit mobile ecosystem has also had its downsides. Carriers were demanding with new functions and features, which pushed many mobile manufacturers into debt, eventually putting Mitsubishi's unit out of business and others such as NEC, Casio and Hitachi to merge or consolidate. Foreign manufacturers such as Nokia couldn't see the point in spec'ing their globally renowned handsets to a smaller market as Japan, and left the market to focus on others. Carriers also have not produced major platform innovations in the past few years that normally would have helped content providers catapult their creations into stardom. They have also have always held on to certain proprietary technology, such as GPS, and would require 3<sup>rd</sup> party vendors to sign off an NDA to use them for apps, which in turn has halted open creativity. Japan's mobile scene had lost much of its edge in the recent years.

Japan's mobile scene has changed dramatically with the introduction of the iPhone. For the first time ever, Japanese handset manufacturers were faced with real global competition in the domestic handset market, and individual developers and companies saw an opportunity to launch their creations worldwide. The mobile scene had changed forever.

Although the iPhone is rumored to have sold only around 2 million handsets domestically, it is by far the most sold for a single model, having roughly 2% of existing handset shares. Japan is also the only market experiencing over 300% growth for annual iPhone sales.

The iPhone opened up opportunities for the Japanese to learn from the outside, and also escape the complex development restrictions of apps that the domestic carriers possess with domestic carrier controlled handsets. This change in paradigm allowed the birth of Sekai Camera, TonchiDot's mobile augmented reality application.

Sekai Camera is by far the most well known of the very few AR apps on mobile in Japan. They've teamed with Spain's prestige apparel brand Loewe to demonstrate air-tagging their products at the Tokyo flagship store, worked with local governments to help with tourism in Saga prefecture and cities like Shibuya. They are working hard to bring AR to add excitement to events.

The largest advertisement agency Dentsu has also introduced iButterfly, a mobile AR coupon system which summons users to catch a virtual butterfly within the iPhone screen to get promotionals and advertisement nearby participating stores.

The outlook seems promising at first, but reality has it that mobile AR growth in Japan maybe hindered once again by the legacy of Japanese carriers.

Although the iPhone allows for developers to tie in location based information with visual information, the Japanese carriers forbid apps to tap into these functions for feature phones. Once again, they had kept crucial technology to themselves, halting open creativity. Another backlash is the lack of iPhones, Android and smartphones in the domestic mobile market that do not play by these rules. Single digit penetration is not enough to spawn creativity and competition among mobile AR apps yet.

But as smartphones increase in popularity, they should gradually grow into a breed that carriers cannot dismiss. And as mobile AR gains recognition on smartphones, the carriers themselves have been openly expressing their interest, and releasing prototypes of what could be their version of mobile AR apps.

KDDI, Japan's number two carrier by subscriber (with approximately 30% of the domestic handset market) released their version of mobile AR as a beta last year, and have conducted open experiments for the Snow Festival in Sapporo, and for a local town in Aomori. The experiments are neither as big nor outstanding as what Sekai Camera has accomplished so far, but can be considered an indicator as to what carriers can do.

It is by far too early to say where mobile AR in Japan is headed, but unless smartphone shares

in Japan reaches critical mass, and Japanese carriers release a mobile AR platform on which 3<sup>rd</sup> party application vendors / content providers can build on, Japan will not be able to keep up with international competition, and therefore loose its edge in mobile which once was its treasure.