Mobile AR Service Experiences with ScanSearch

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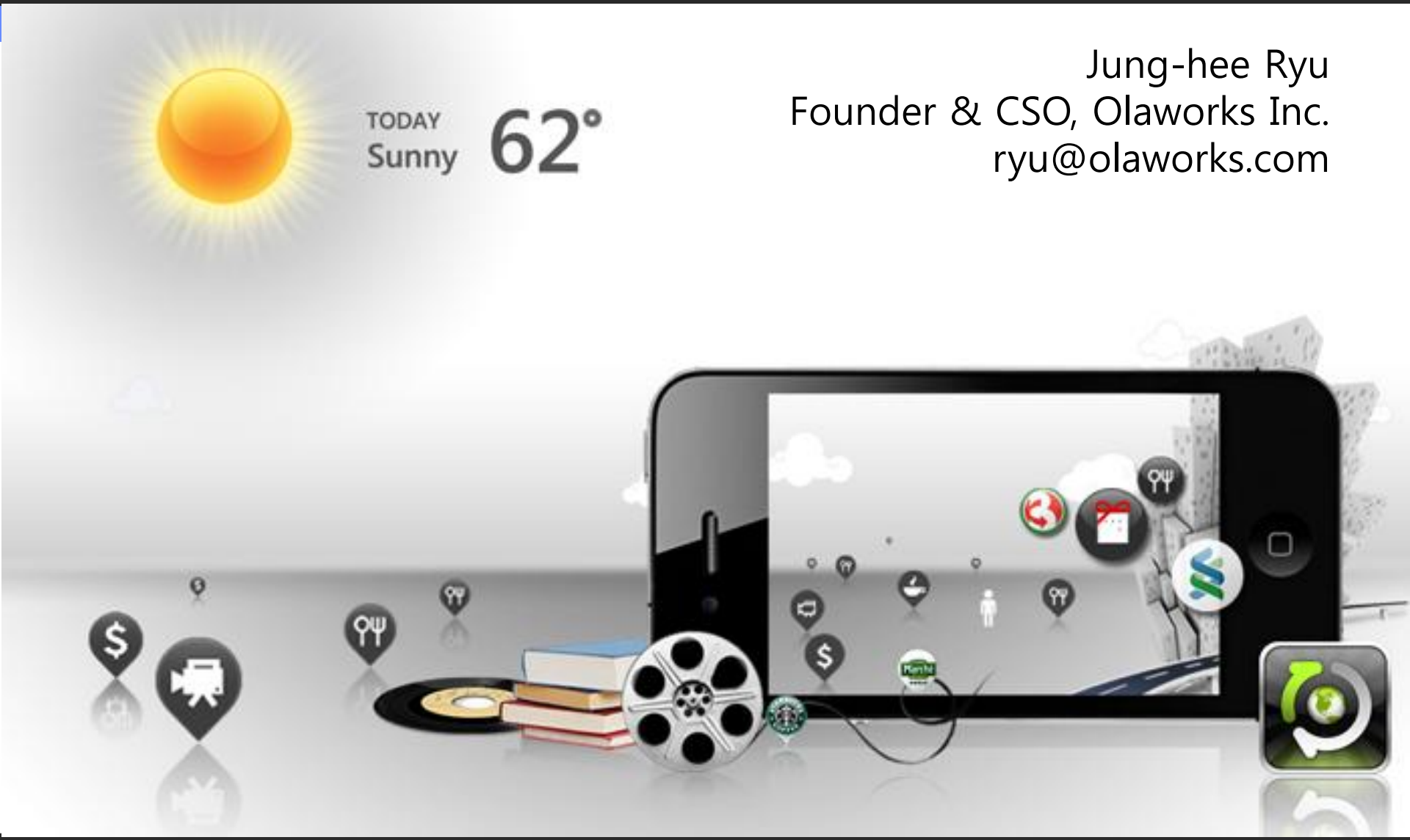


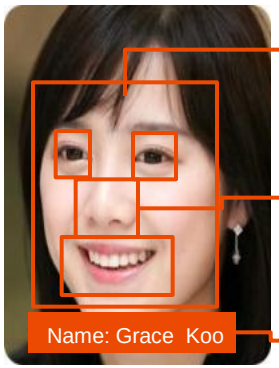
Olaworks overview

olaworks is a computer vision company with 35+ Patents

SKYLAKE Incuvesting Innovation

intel capital

Core technologies



Face Detection

Face Feature Detection (incl. Age, Gender and Emotion)

Face Recognition

Object Tracking

Image Matching

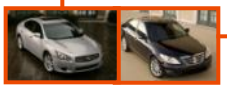


Image Similarity

Imaging and photo managing applications

LG Electronics

SAMSUNG 삼성디지털이미징

PANTECH

MOTOROLA intelligence everywhere

Designing The Future KDDI

ScanSearch: Computer vision and sensor based mobile search

ScanSearch is…

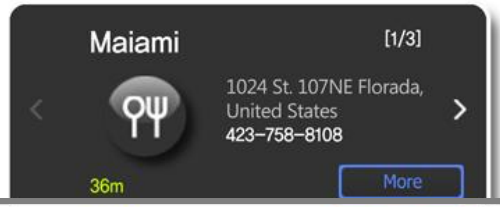
A mobile AR service providing product and local information based on **Olaworks' computer vision and sensing technologies.**

ScanSearch currently supports **iPhone, Andrioid** (Korean version only) and **Windows Phone 7** (US and European version).

ScanSearch currently supports four search categories.

NEARBY

Camera direct, Point of Interest at a glance!
ScanSearch display point of interest within 3 miles, recognizing local information.

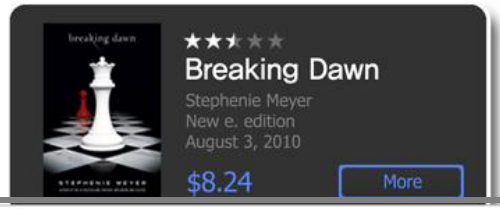


MOVIE

Movie Search based on computer vision technology
ScanSearch provide relevant information, by capturing movie poster scanning

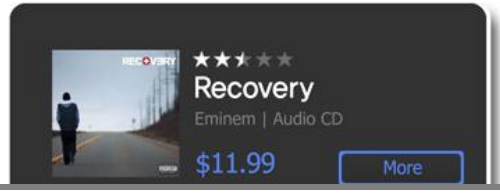
BOOK

Book Search based on computer vision technology
ScanSearch provide relevant information, by capturing book cover scanning



MUSIC

CD Search based on computer vision technology
ScanSearch provide relevant information, by capturing CD image scanning



Technologies for each search categories

User Query (Image, Location)	Olaworks Platform	Variety of Search Results
 Book, Movie Poster, CD label 2D object	Computer Vision technology - image matching - image similarity - crawler · indexer - search engine	Recommended info & place Product info & price comparison Similar product recommendation User review & other info sharing
 User Location (Latitude, Longitude)	Sensing Solution - GPS - AGPS (assisted GPS) - Digital Compass - Accelerometer	

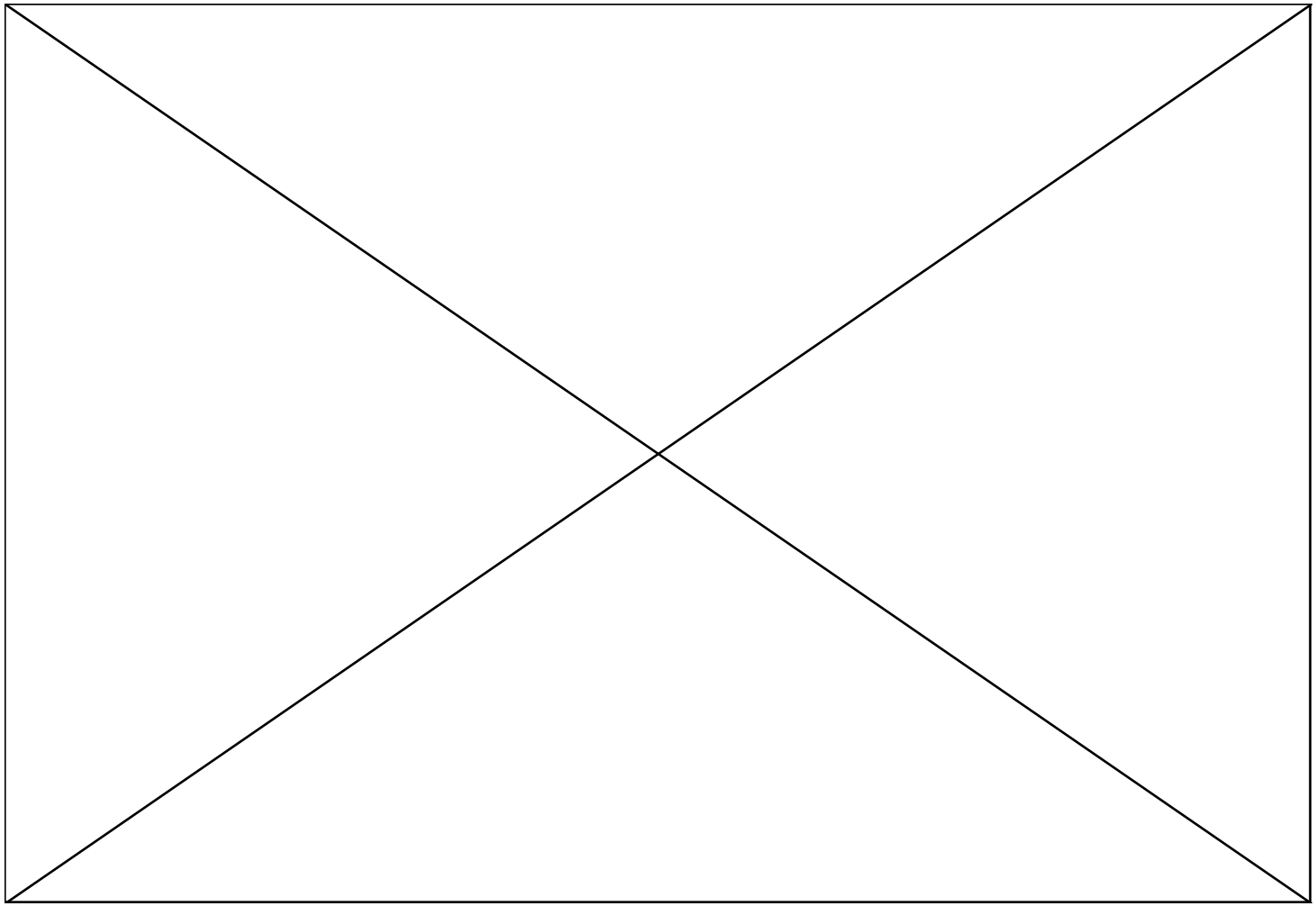
UX examples: Nearby

UX examples: Book

UX examples: Movie

UX examples: Music

User scenarios

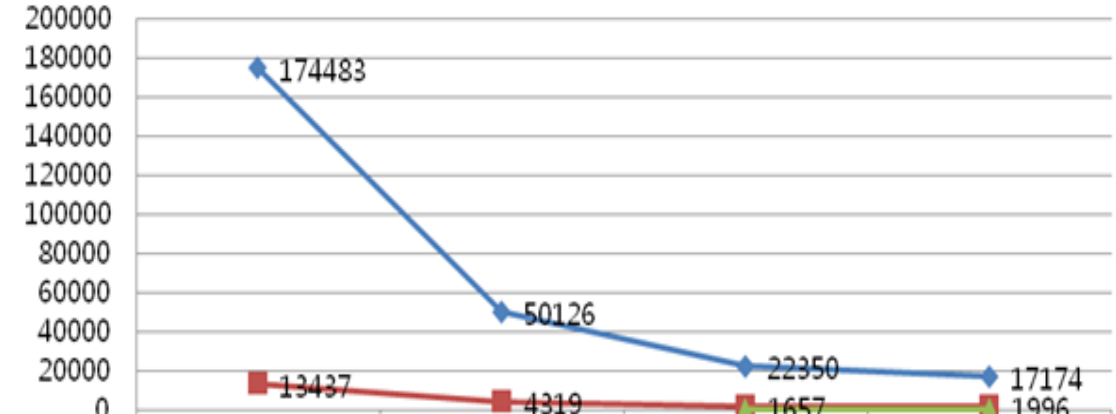


History: Successful launching @ 22nd March 2010

Korean version
for iPhone only.
(KR/US/HK app store)

Total 222,438 Downloads in first 10 days.
288,242 in 1 month.

Average Ratings = 4½
★★★★½

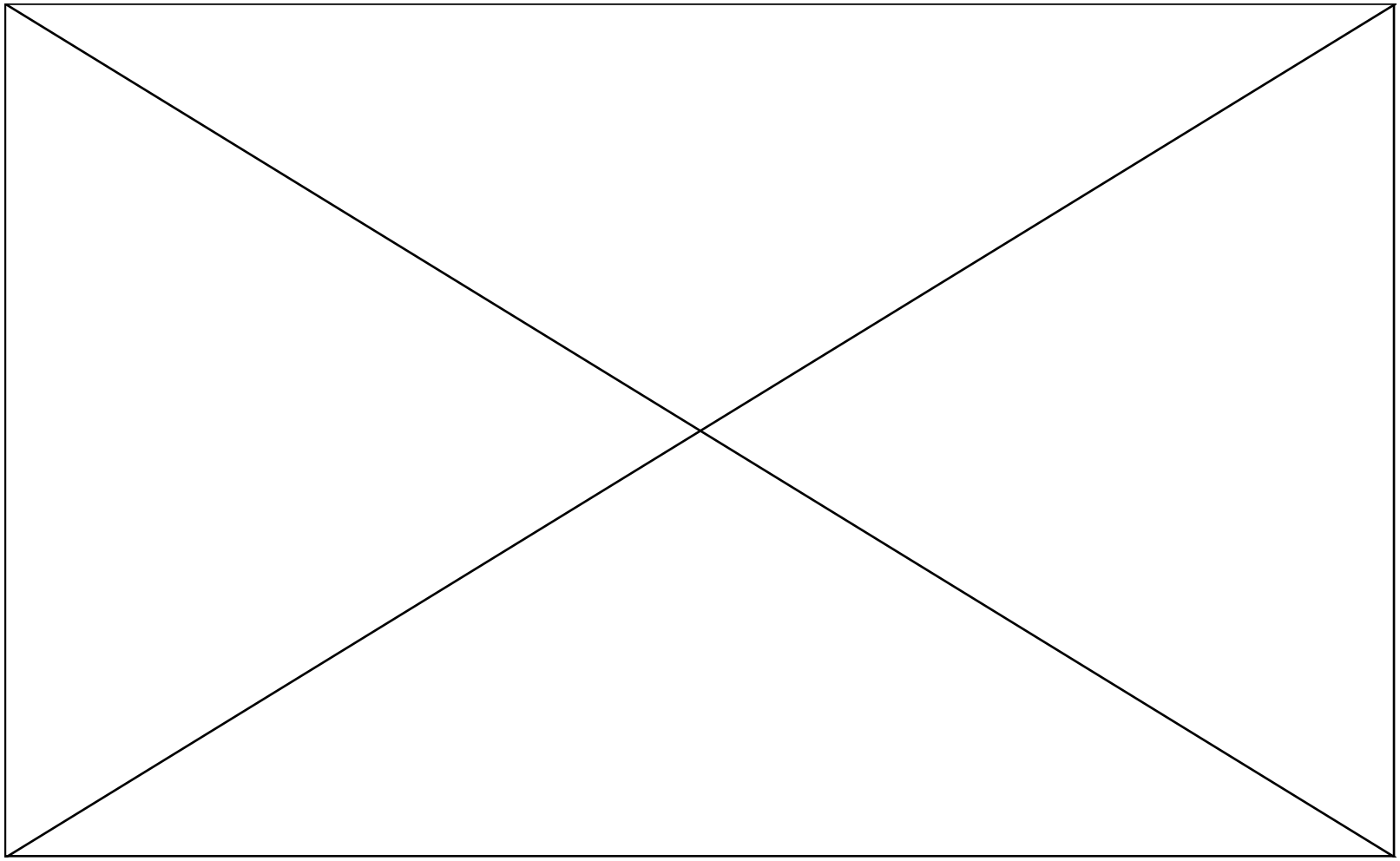


	3/22~3/28	3/29~4/4	4/5~4/11	4/12~4/18
korea	174483	50126	22350	17174
US	13437	4319	1657	1996
HK			53	119

History: LG Optimus series pre-install @ 24th May 2010

Starting from Optimus Q,
the LG's flagship Android phone for Korean market

LG Optimus Q TV commercial



Currently we are making a business ecosystem in KR.

POI database from **Korea Telecom**

Credit card discount info from **KB Card**

Part-time job search from **Incruit**

ATM location from **IBK Bank**

Book info from **Aladdin**

Music info from **KT Music**

And much more…

800,000+ unique users and still growing
250,000+ information request/day

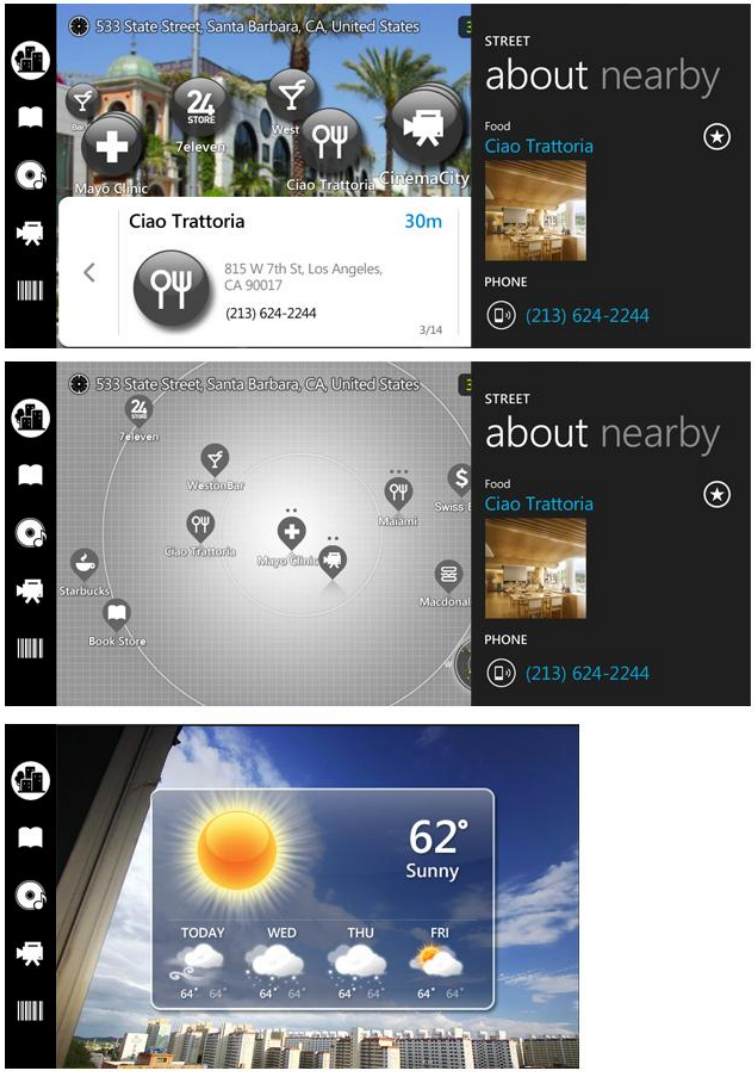
Evolution to the new platform and worldwide market

Breaking news
@ 11th October:
ScanSearch is pre-installed in Optimus 7, the first Windows Phone 7 smartphone from LG

ScanSearch for Windows Phone 7

The world's first mobile AR application which supports Windows Phone 7

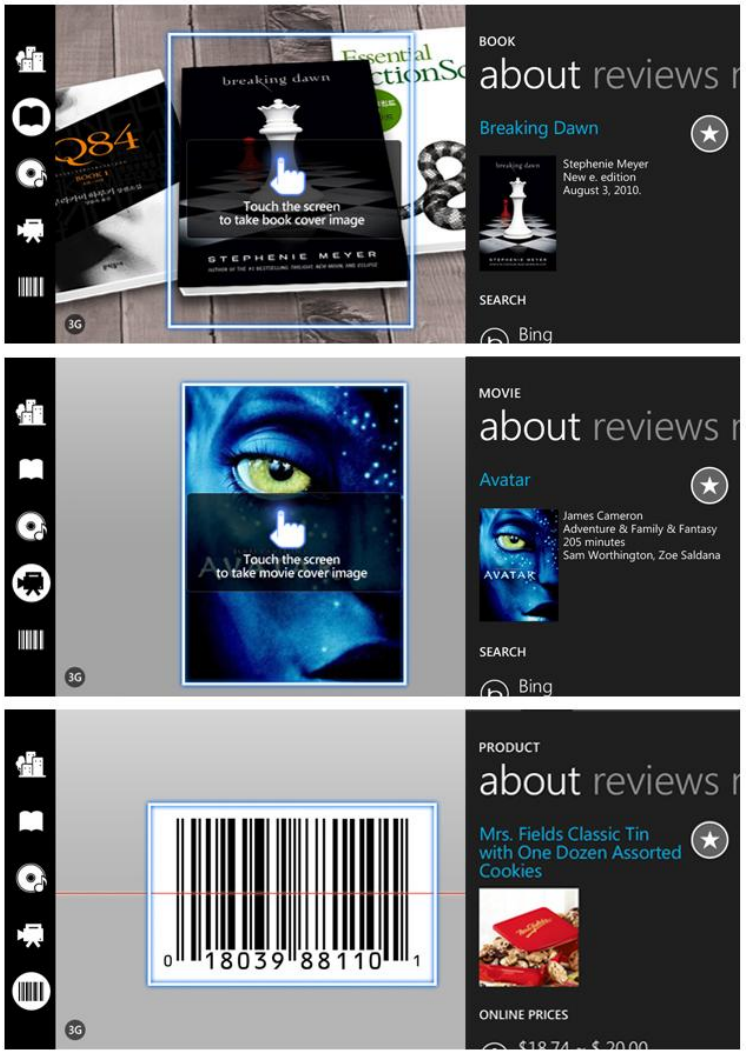
Refined UX
for seamless integration
with WP7's
Metro UI concept



ScanSearch for Windows Phone 7

Including nearby, book, movie, music and product search features

Supporting image databases for the US market



Issues on Mobile AR services: OS dependency

iOS, Android, Windows Phone 7, Symbian, Blackberry OS, Palm OS, Maemo, Limo, Bada,…

Different development environments.
OpenGL vs. Silverlight.
Objective-C vs. Java vs. C#.

Different marketplaces and policies.

Different user experiences.

Compatibility issues for various Android smartphones.

Many platforms means more complexity.
More complexity means more money.
More money means lower ROI!

Issues on Mobile AR services: Internationalization

The simplest one: **Language barrier**

Second simplest one: **Different metrics (Meter vs. Mile)**

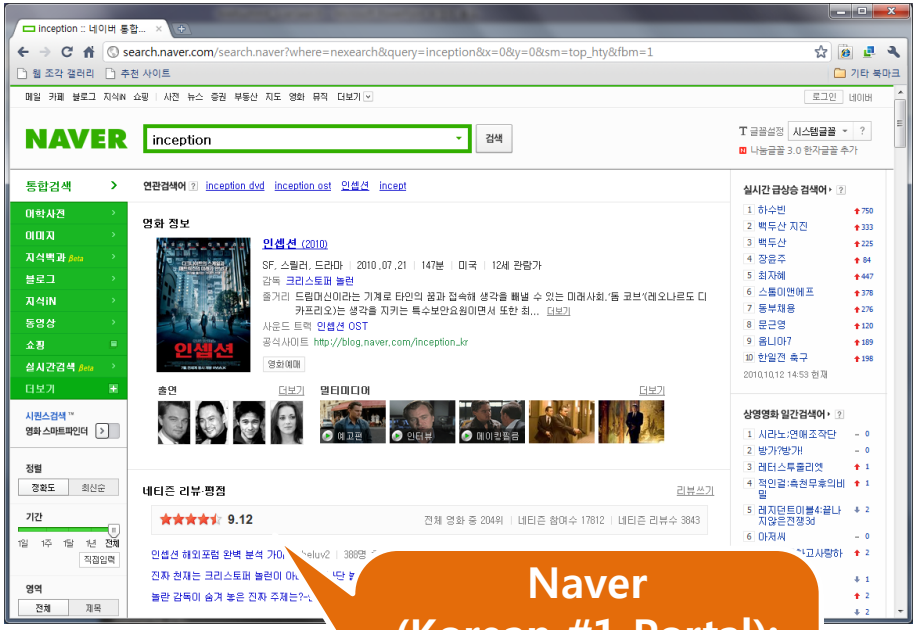
More difficult problems: **Different user demands (Asian megalopolis vs. US and EU cities)**

Seoul: Dense POIs, Walker-centered

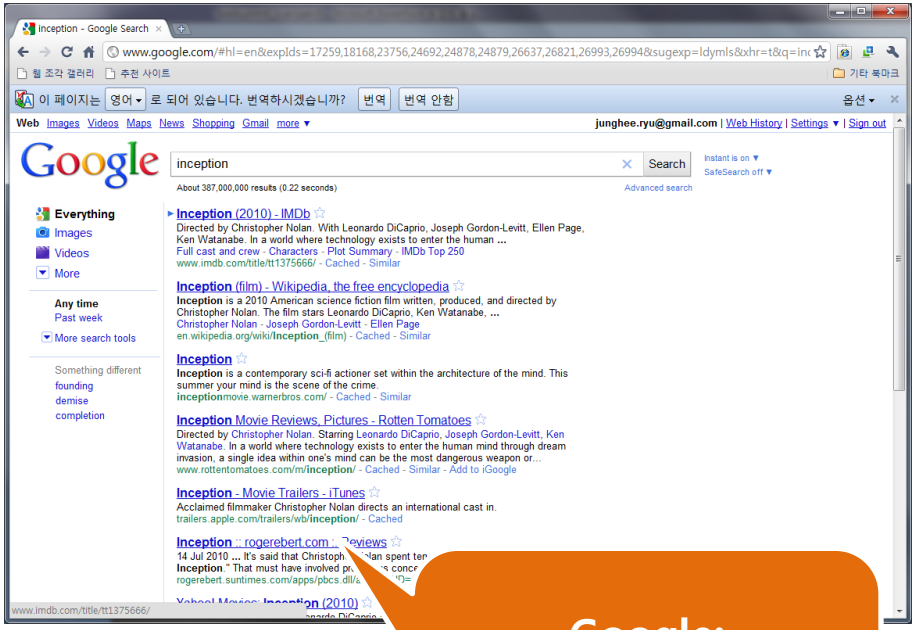
Chicago: Sparse POIs, Driver-centered

Issues on Mobile AR services: Internationalization

Different user behaviors on information search
(Korean integrated search vs. Google's simple search UX)



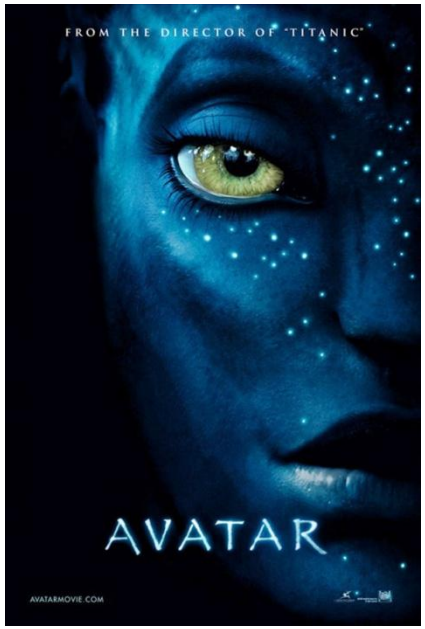
Naver (Korean #1 Portal): All-in-one summarized search results

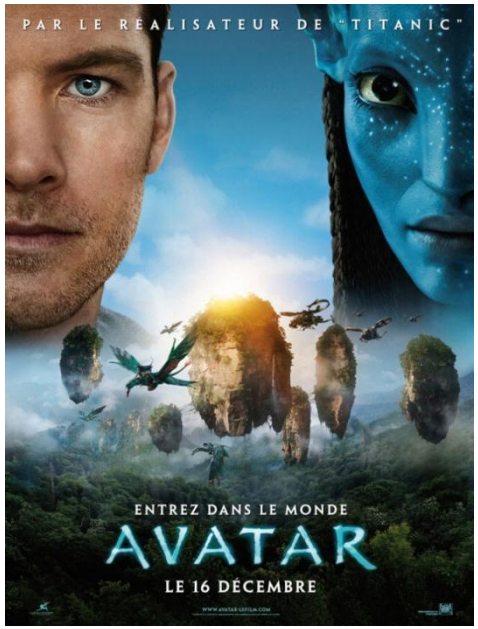


Google: Simple list of web pages

Issues on Mobile AR services: Internationalization

Different but not mutually exclusive databases
(Some products come from overseas,
but there also exist local products)





Issues on Mobile AR services: Business development

Mobile AR means **connecting off-line with on-line**.

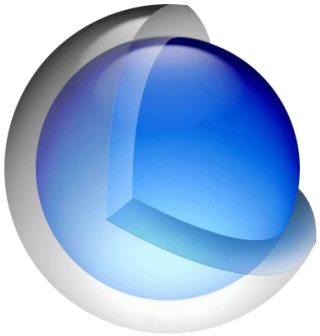
Business developments for MAR must include **off-line companies**.

Banks, credit cards, retailers, book stores, movie theaters, newspapers, magazines, coffee shops,...

But these business areas are not so much globalized yet. Hence you must contact the players in **every markets you want to enter.**

Can the open API and/or web-based backend be the solution?

Lessons we learned



Firstly, **design the core architecture of your service** not to be modified by UX redesign for different OSs.

Do **NOT** design your service based on **a specific region and culture**.

It means, **focusing on user researches** with many users from different environments as you can.

We need **international standards** to exchange local and object information, for the rapid adaptation of business applications.

This standards must be **simple** as major off-line companies can handle easily.

Thank you for listening!

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