

What is Future Strategy for Telecom Players toward Mobile Web 2.0?
: Focusing on Mobile Web 2.0 as an Platform Strategy



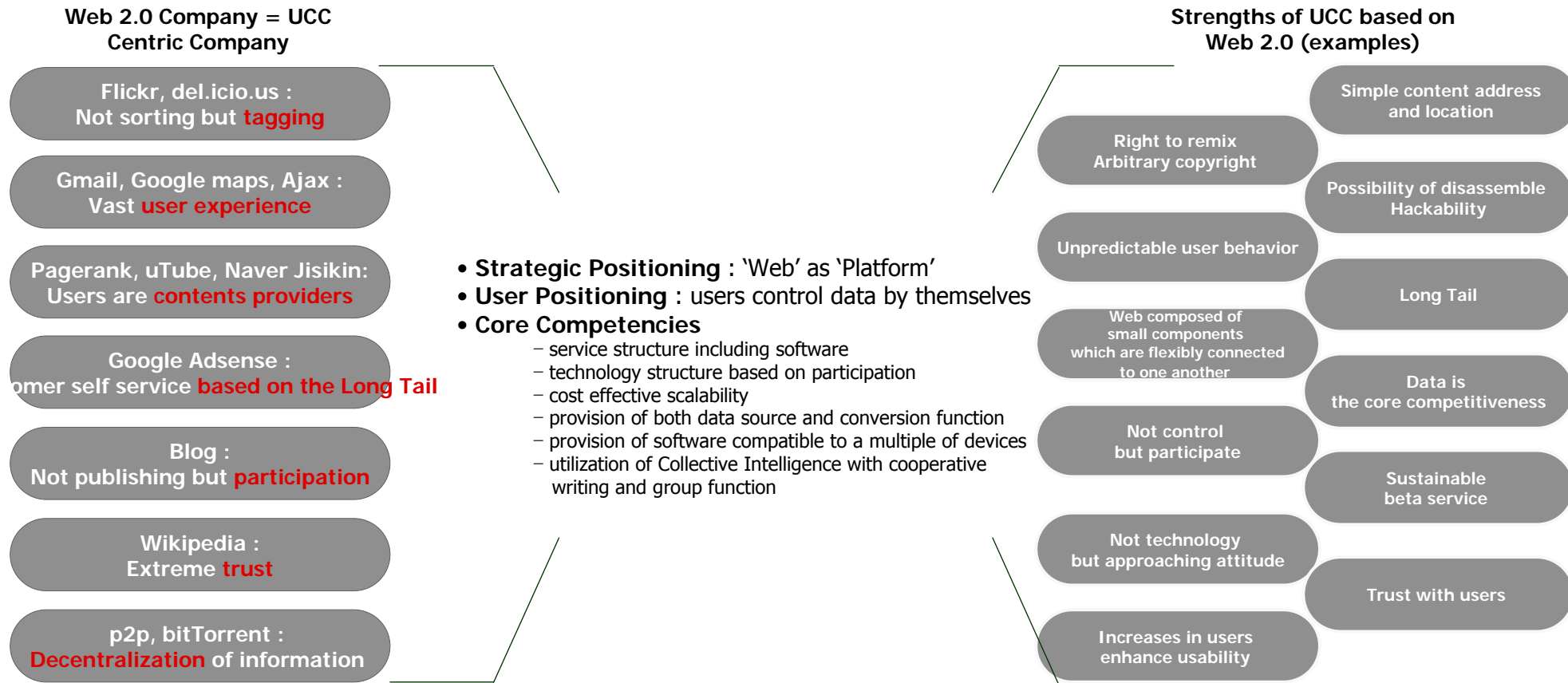
5th, March 2008

Agenda

- I. Mobile Web 2.0 Market Forecast**
- II. Terminal Vendor Movement toward mobile web 2.0**
- III. Portals movement toward mobile web 2.0**
- IV. Implication**

The concept of Web 2.0, which is driving popularity of UCC, launched as 'Web' develops as a platform. Core competency of UCC centric companies and services proves that UCC is a sophisticated platform rather than just contents thanks to a variety of strengths of UCC based on web 2.0.

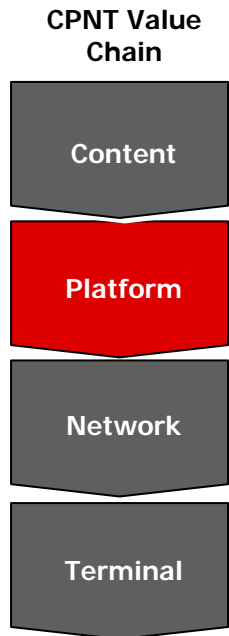
UCC = Platform, UCC ≠ Contents



In the future market, conventional CPNT value chain of MNO will be dismantled. Competitive advantage in the wired and wireless convergence market will be obtained by players which win the hegemony battle over business platform linked to UCC platform. As of now, global portals and terminal providers are engaged in the cut-throat competition surrounding platform

Dismantlement of CPNT Value Chain due to Rise of MNO, and Emergence of UCC Platform

.....> Expansion Direction
(business scope)
.....> Expansion Direction (M&A)



- Global portals secure content pool based on searching engine and large DB and then expand its M&A to other platform segment.
- Google and MS are the prime example. They are active in share purchasing and M&A of providers of other platforms, which are compatible to PC based Internet + Portable Devices. They are focused on taking over providers of UCC platforms compatible to all platform Biz (MS-Facebook, Google-Youtube, others).

(W)ASP	FMC	Broadcast	Mobile Finance	Logistics	Location/Distribution	Education	Health
Music Game LBS	Portal VoIP D-Home	Mobile TV IPTV	M-Finance M-Payment M-Transfer	M-AD M-commerce	Sensor (RFID)	E-Learning	U-Health
UCC Platform							

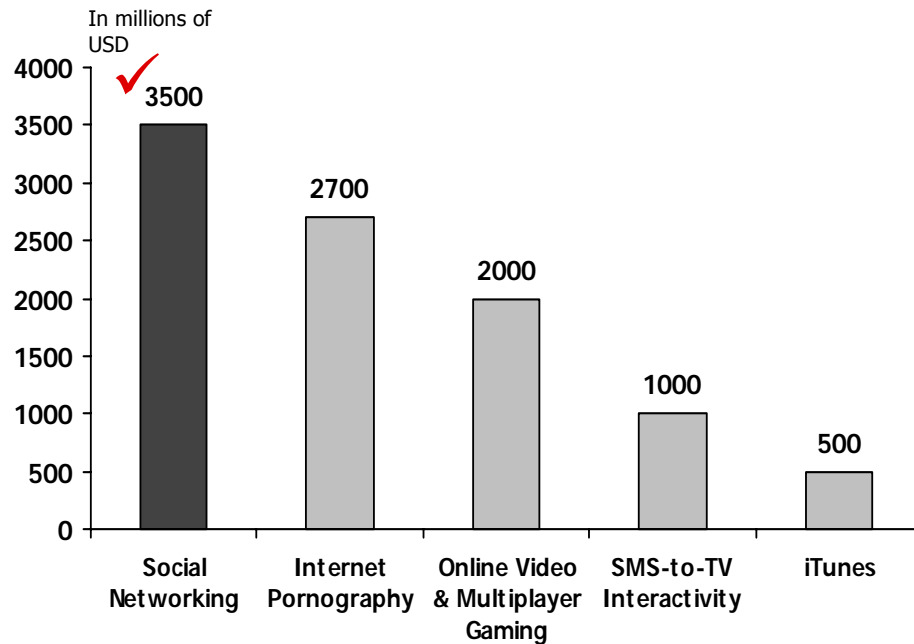
- UCC plays the role of "Platform Under Platform." The platforms operated by MNOs are losing their competitiveness, following emergence of specialized platform companies and M&A of global portals. UCCs are being linked to almost all business platforms, encouraging participation of users and being utilized as the infrastructure of new income generation.



- Handset vendors are increasing their influence on terminals, the channel between users and contents. They are also pursue share purchasing and M&A of other platform providers in order to make a variety of services available with their handsets.

SNS takes the largest share in the Web 2.0 market while video clip UCC is growing with accelerated speed every year. Mobile UCC, in particular, is 15 times smaller compared to online UCC (as of 2007), but it will grow to reach USD 57 billion by 2010 with reducing the gap with online UCC market

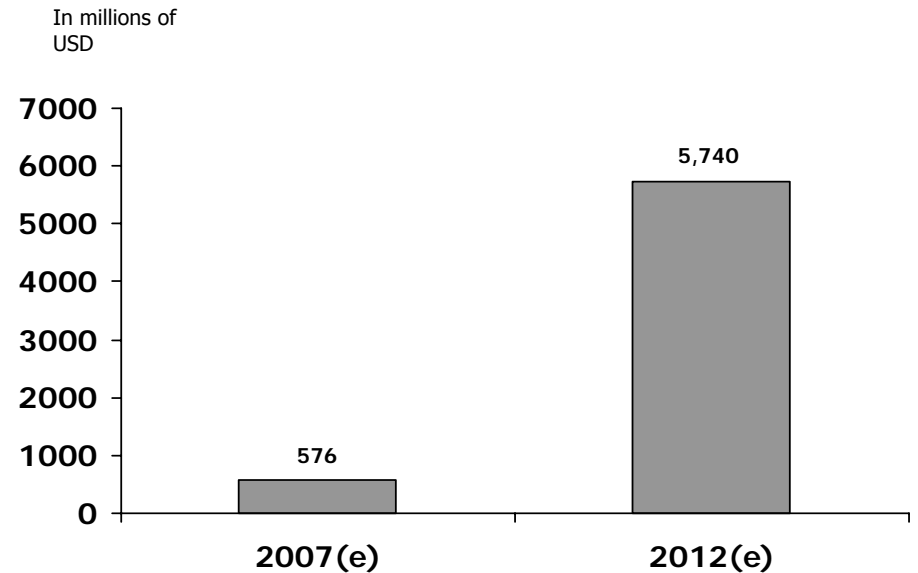
Online UCC Market Size



Source: International Herald Tribune, Informa Report. The graph above shows market size of 2005.

- Informa report of International Herald Tribune assumed that SNS market stood at USD 35 billion in 2005.
- SNS market value is highly evaluated compared to other categories and price of M&A in the SNS segment is also much higher than others.

Mobile UCC Market Outlook



Source: International Herald Tribune, Informa Report.

- Mobile UCC market is still much smaller than online UCC with posting USD 5.7 billion as of end of 2007.
- But it will grow 10 times to reach USD 57.4 billion by 2012.

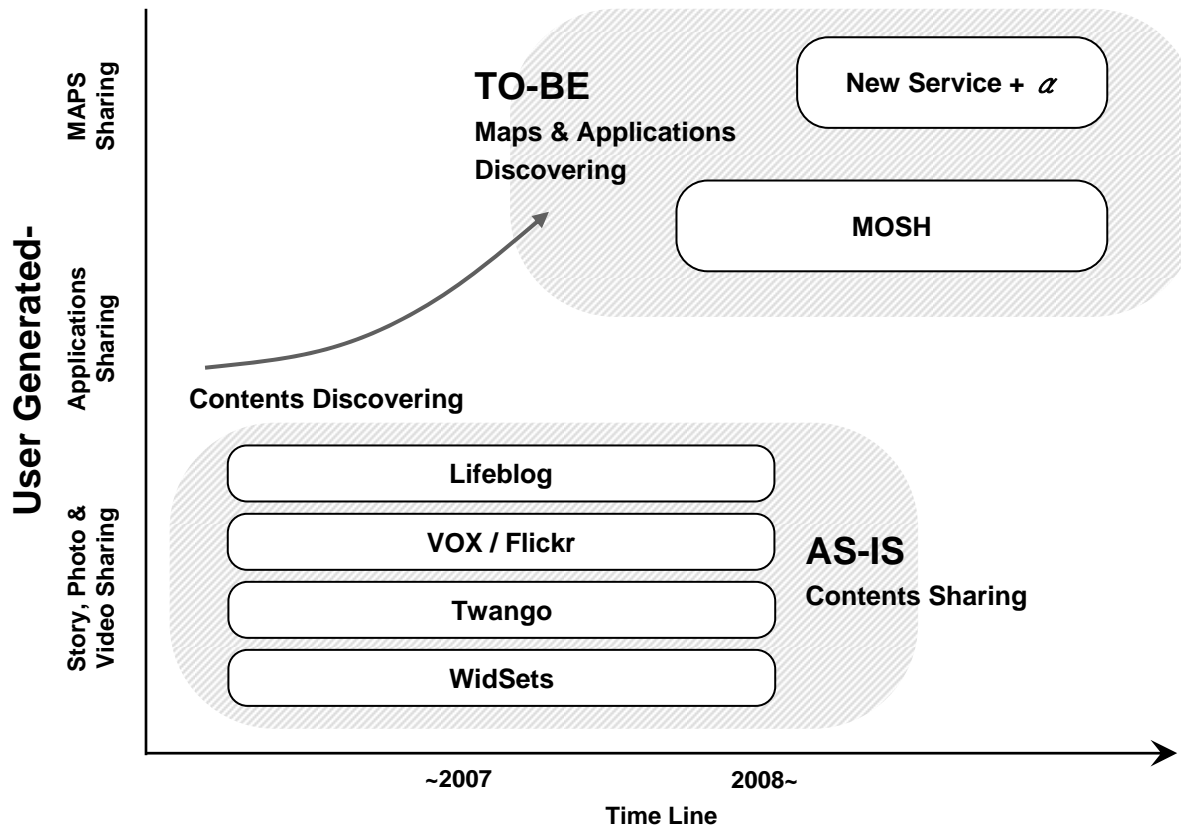
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UCC based services of Nokia have been content sharing such as blog, media, photo, and video and, now, they are evolving into application and MAPS sharing

Nokia's Sharing Platform and Service Roadmap based on UCC

Key Observation

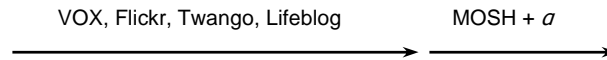


- Before launch of MOSH in late 2007, it only offered Lifeblog exclusively. Now, its photo & sharing services strengthening efforts are being made through alliance with Six Apart and Flickr.
- After 2007, following addition of WidSets platform, MOSH service was announced to improve conventional photo & video sharing services.
- SEEK, the application sharing function for developers, was added to MOSH, together with contents sharing. In addition, Nokia strives to address absence of SNS platform by taking over Twango.
- Later, it will progressively drive map searching, user generated maps & discovering functions for compatibility with map & navigation services after M&A with Gate 5 and Navteq.
- On top of that, conventional car-centric navigation and pedestrian navigation functions will be added, while map created by users will be reflected and interactive services will be highlighted.

UCC sharing development is being led by Beta Labs under Nokia Research Center, and the technology has been upgraded to version 3.0, up until now. On the other hand, various Mobile Web 2.0 technologies are being applied to Nokia UCC platform and handset

Development of Sharing Services based on UCC

Key Observation



Feature	Share Online 1.0	Share Online 2.0	Share Online 3.0
Image upload	√	√	√
Video upload *	√	√	√
Audio upload *		√	√
Add text to post	√	√	√
Save posts as draft	√	√	√
Browser view to person own photo album/blog	√	√	√
Sent items view	√	√	√
Upload image size (small, medium, original)	√	√	√
One Click upload **		√	√
Tagging *		√	√
Ability to change Privacy setting			√
Commenting in feeds *			√
Subscribing to feeds *			√

• VOX, Flickr, Twango, and Lifeblog are in operation and Share Online 2.0 is available. With introducing new services such as MOSH, various Mobile Web 2.0 technologies have been adopted with focus on sharing function.

• **Audio Upload**
Realize Nokia Audiobook Player function

• **Tagging**
Video clip tagging technology

• **Ability to change Privacy setting**
Strengthen privacy protection –share contents with those who want to do

• **Commenting in feeds**
Share comments of users about contents (like Nikoniko, the business model in Japan which allows users to make comments about video clips of YouTube and others)

• **Subscribing to feeds**
Subscribe to contents of specific users

* Service Provider Specific / ** Device / SW Specific

~2007 2008~

Each Nokia sharing platform targets different handsets according to consumer style, sharing level, user participation degree and whether supporting apps or not

'AS-IS' Sharing Platform

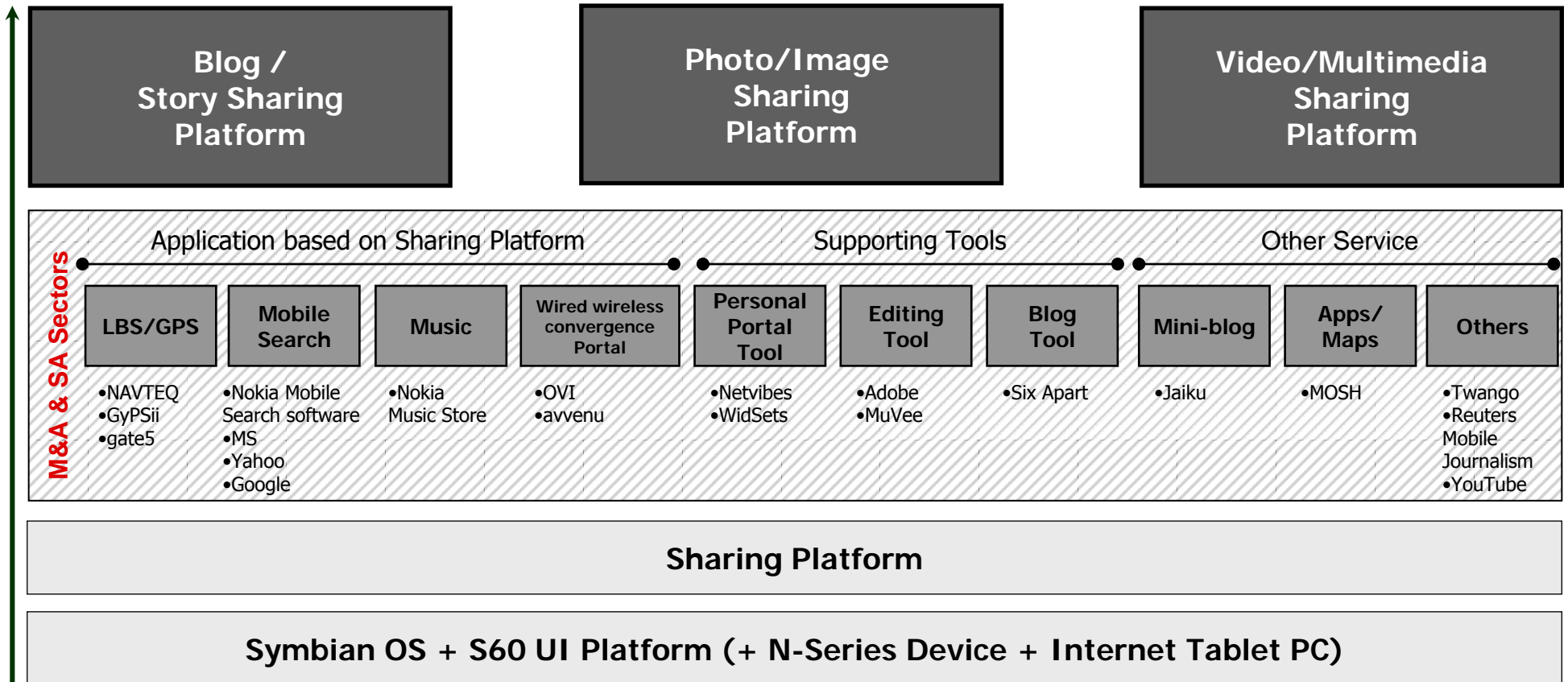
	User participation degree	Whether supporting apps or not	Compatible handset	Sharing Level
WidSets	Low	N/A	S60	Story rearrangement and composition
Lifeblog	High	Suite	S60	Story, Photo, Video
Flickr	Medium (collaboration)	N/A	N-Series	Story, Photo
VOX	Medium (collaboration)	N/A	N-Series	Story, Photo, Video
Twango	High	Suite	N-Series	Story, Photo, Video
MOSH	High	Suite	N-Series	Story, Photo, Video, Apps, Maps

Service Overview

<u>Service Overview</u>	<u>Type</u>	<u>UCC Making Tool Support</u>
<ul style="list-style-type: none"> Make layers of idle screen, story service of media groups, Mobile RSS Reader 	<ul style="list-style-type: none"> Story Sharing 	<ul style="list-style-type: none"> Support only the function to deliver conventional story of media groups with idle screen
<ul style="list-style-type: none"> Blogging and making history with everyday lives 	<ul style="list-style-type: none"> Photo & Video Sharing 	<ul style="list-style-type: none"> Realize with handset and PCs through application download
<ul style="list-style-type: none"> Blogging through alliance, photo sharing, community 	<ul style="list-style-type: none"> Photo Sharing 	<ul style="list-style-type: none"> Support only conventional photo upload of Flickr
<ul style="list-style-type: none"> Blogging through alliance, video sharing, community 	<ul style="list-style-type: none"> Photo & Video Sharing 	<ul style="list-style-type: none"> Support only photo and video clip editing tools of VOX
<ul style="list-style-type: none"> M&A for video clip sharing and solution to absence of SNS platform 	<ul style="list-style-type: none"> Photo & Video Sharing 	<ul style="list-style-type: none"> Realize with handset and PCs through application download
<ul style="list-style-type: none"> Application sharing and community beyond photo & video 	<ul style="list-style-type: none"> Photo & Video, Applications Sharing 	<ul style="list-style-type: none"> Realize with handset and PCs through application download

Having recognized SNS (Community) based services as sharing platform in 2006, Nokia pursues M&A with others and integrates a variety of service platforms obtained through M&A into UI platforms and handsets

Nokia's Sharing Platform and Application Integration



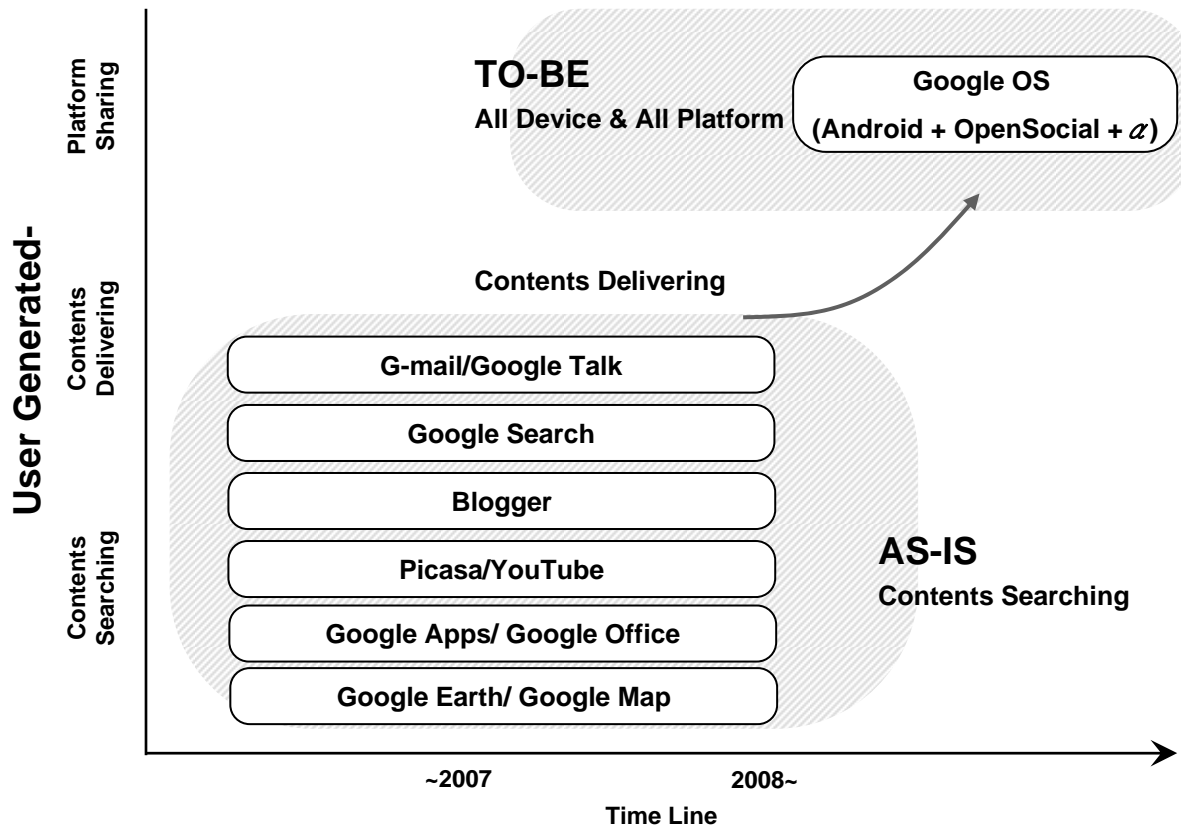
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UCC based services of Google are poised to deliver contents such as blog, media, photo, video, map, and application with PC and other mobile devices based on searching technology of the company

Google's Sharing Platform and Service Roadmap based on UCC

Key Comments

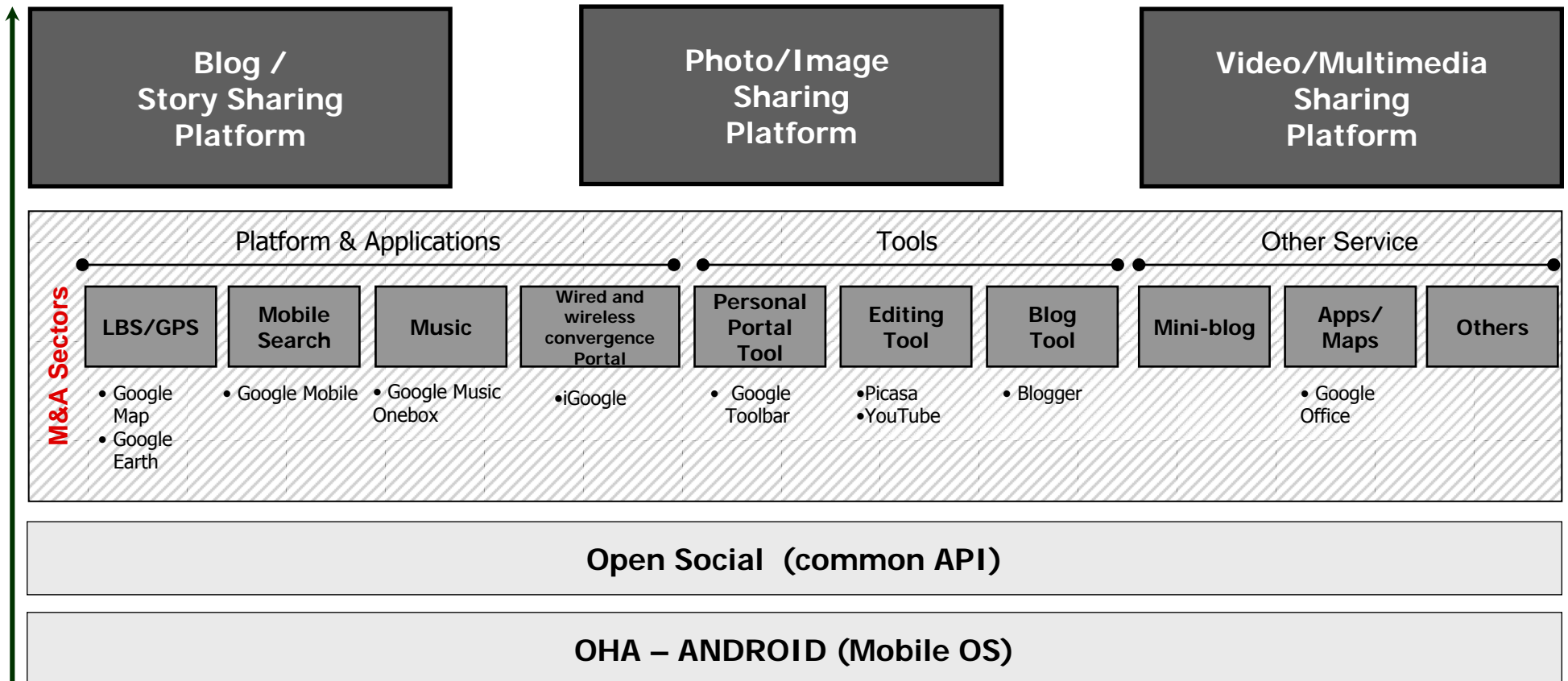


- Google's goal is to deliver contents with a variety of devices and platforms by obtaining them with its searching power.
- Key Biz-model of the company is providing contents to a variety of platforms while generating advertisement revenue with adWords and adSense.
- To secure contents, Google took over Blogger in 2003 and then Picasa and YouTube, which are capable of content sharing.
- Recently announced Open social and Android are a part of its strategy to offer the contents it secure to a variety of devices and platforms.
- Open social will loosen social network of SNS to enable Google to have the tool to search and share the data and eventually to have the leadership in the SNS market.
- Android shows Google's intention to have a strong influence in the mobile industry. When 700Mhz is secured and handset with Android is released, Google will have a strong power in the market.

Source : Company, ROA Group Analysis

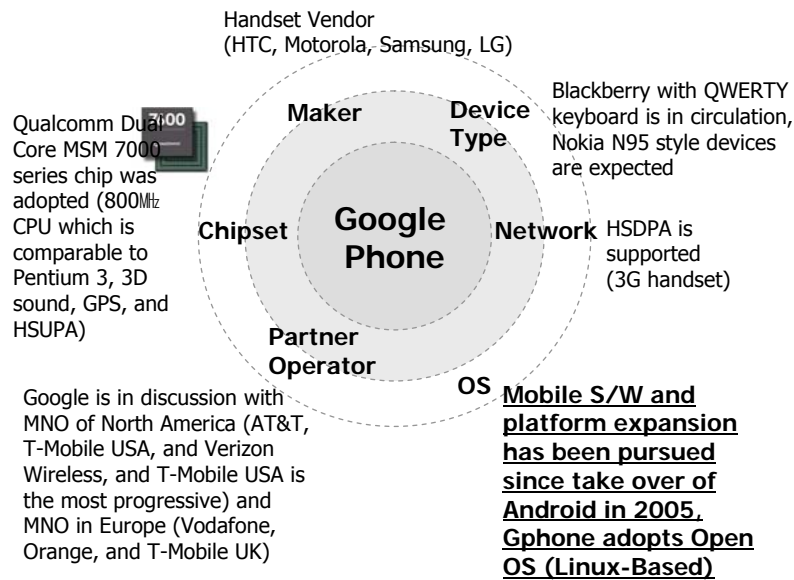
Google aims at offering a variety of contents based on its searching technologies to users and pursues M&A in that direction. Since 2004, it has been developing and adopting Web 2.0 services such as blog, photo sharing, and video clip sharing

Google's Sharing Platform and Application Integration

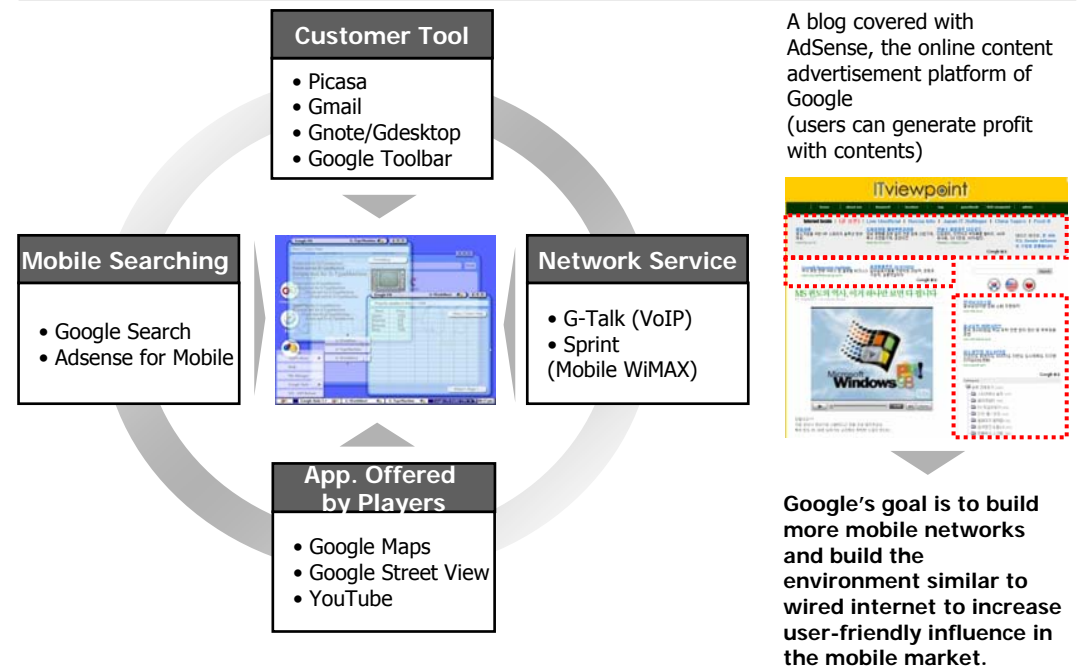


Google regards securing the upper hand in the platform and application. To dominate web 2.0 and mobile web 2.0 as well in the long term basis, the company has not choice but to aggressively involve in mobile world and OHA based on mobile linux, Android OS is now rising in the market as hot potato

Google Android OS's Ecosystem



Google's Goal throughout Android Ecosystem



Rumor about Alliance for More Google



- Google's biggest interest in the mobile business is to secure large customer base as it did in pursuing internet business. There has been a rumor that Google would work with Symbian, the smartphone developer, to achieve the goal.
- In late 2006, Google made Google Maps compatible to Symbian OS.

Google's Major Services and Platform Partners



- Companies progressive in adopting Google's services and platform



- Companies prepared for active partnership with Google regarding network and others

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IV. Implication

Telecom Player, mobile operators which are losing their competitiveness to terminal vendors and portals in the UCC platform segment of CPNT Value Chain in particular, are required to recognize Mobile Web 2.0 as the platform for creating 'New Service Value' and to have a strategic approach toward it

Root of Mobile Web 2.0 to Become a Good Platform' : Insight from case studies

"Bargaining Power"

- Economy of Scale, Economy of Scope

"Structuralized Ecosystem"

- Concretized and Continuous developed

"Interaction"

- Between Device and User

"Open Walled Garden"

- Walled Garden, But Opened