

May 2009
Ajit Jaokar



FUTURETEXT

Search for Mobile 2.0

Ajit Jaokar

UK based - Hands on Publisher (futuretext) - Author (Mobile Web 2.0, Social Media Marketing, Open Mobile) - Chair: Oxford University's Next Gen Mobile Applications panel - PhD student UCL/UK

Recent and forthcoming talks include
Mobile world congress(2007,2008,2009), CEBIT,
Stanford University - MIT Sloan - Web 2.0 expo -
Ajaxworld Supernova - CNN money - BBC - Oxford
University European parliament

web2.0
workgroup



Global top 20 wireless blogger
According to fierce wireless
www.opengardensblog.futuretext.com



- IPTS workshop .. Seville
- Web search v.s. Mobile Search
- Mobile 2.0 v.s. Mobile

Overview

- Market dynamics of mobile search
- Mobile Search Business Models
- Elements of mobile context
- Emerging Trends in Mobile Search Market
- Mobile Search: Drivers, Barriers and Disruptive factors
- SWOT analysis for the EU

Conclusions

- Content will be metadata enabled.
- There will be too much digital information
- More information is being indexed
- Search is no longer historical but also covers the Social, Real time and Enterprise domains:
- A drive for reputation
- A drive for semantics The mobile device is unique in that it can automatically add semantic data to content captured on the phone
- The impact of Mobile: Increasingly user generated content , metadata enabled, captured at point of inspiration

- A greater emphasis and awareness of privacy
- Privacy backlash affecting personalization:
- Advertising leaning away from mass media:
- Different forms of content discovery: The 'search function' is being embedded into many applications like appstores (which search for applications).
- Recommendation engines: Search relates to recommendation (for instance peer recommendations are an input to reputation) especially with rise of social networks.
- Openness: In general, openness drives better search since more content is accessible and that content has better links (i.e. is referenced better)
- Deeper integration between devices, networks and services:

- The rise of appstores and Long tail content:
- Reverse search: A model where we find the source from the content – ex: Shazam(for music) and Tineye for images
- Discovery instead of search: The model tends to 'searchless' search and reverts the concept of search to an 'agent' which fetches information based on a set of parameters.
- Real time search: Search for content which is yet not indexed i.e. in real time

- Metadata enabled content captured from mobile devices at the point of inspiration:
- Real time information
- Community based organization of information:
- The ability to compute trust and reputation through online mechanisms:
- The acceptance or otherwise of profiling and behavioural targeting
- Privacy and anonymity including pseudo anonymity discussions

The factors causing a shift in the value chain used to predict future:

Content:

- Creation of content (as opposed to consumption of content):
- DRM
- Declining role of the traditional media

Services:

- Privacy and security concerns:
- Advertising:
- Long tail applications and services:
- Deep integration between the Web service, device and the network
- Social networks:

Standards

- Standards and the emergence of microformats as standards

The factors causing a shift in the value chain:

Devices:

- Emergence of new devices
- A greater role for Internet of things through the evolution and the dominance of the Browsers
- New interfaces like touch screens, 3D etc
- Devices are capturing Metadata:

Miscellaneous:

Innovation and evolution: A range of factors are leading to an innovation and evolution of the ecosystem. These include Google Gears/offline browsing, open source ecosystems, Widgets, Javascript enhancements(Chrome, JS libraries), Location including Cell id databases, SIM/Smart card web server, APIs (GSMA, OpenAjax, Bondi, Gears, RCS), Browser plugins(MS Silverlight, Mozilla,W3C), Social network APIs, Local web, Near Field Communications

The factors causing a shift in the value chain:

Evolution of the Networks: Cellular networks, IMS, LTE, Radio

Frequency Networks: such as Bluetooth, WiFi, WiMAX & Mesh, HSUPA and HSDPA

Network Operator application portals are declining:

Enablers are not tied to the network:

Networks are evolving to an IP ecosystem:

Chipset level changes

LTE, IMS and services which are tightly coupled to the network:

Emerging

Cloud computing

Sensor based interaction

Rich Presence

Asynchronous activation, background processing

The role of emerging markets:

The rise of the browser and web standards:

Advertising

- Advertising is increasingly growing more personalised and context aware especially driven by mobile devices
- Early winners like Admob may not necessarily be winners in the new ecosystem where targeted – more granular advertising is needed which may be platform specific (as opposed to platform agnostic).
- We are likely to see new players take up mobile advertising especially in more richer platforms like the iPhone
- We are likely to see advertising emerge along globally harmonised platforms like Nokia ad service, Android and the iPhone

Discovery

- Searchless search
- Twitter notifications
- Google alerts?

Future business models

- Evolution of advertising to a more context aware, granular model
- Recommendation engines
- Discovery
- Premium for real time alerts

Types of search:

- 1)Vertical search
- 2)Mobile search
- 3)Context aware search
- 4)Real time search
- 5)Local search
- 6)Social search
- 7)Semantic search
- 8)Build your own search engine(Google custom search engine.)
- 9)Reverse search(shazam,tineye)
- 10)Multimedia search engines: (blinkx)
- 11)On device search
- 12)P2P search
- 13)Cloud search
- 14)The Internet Of Things(search for)
- 15)Perspective-based search

- 16) Human-powered Search – Mahalo
- 17) Swarm Intelligence search engines(logical patterns)
- 18) Visual search – Nokia Point and Find
- 19)The mobile address book
- 20)Conventional web search

Based on the above analysis, the key disruptive trends appear to be:

- Discovery instead of search
- Recommendation engines
- Internet of things and search engines based on IOT
- Search engines based on the increasing use of context
- Social search and
- Real time search
- Privacy and management of privacy

Key drivers and barriers are

- Walled gardens (barrier)
- De-Coupling network and services(driver)
- Location(driver)
- Regulation(both)
- DRM(barrier)
- Reputation(driver)
- Internet of things(driver)

Factors – near term (2009 – 2012) – Based on LTE adoption + Olympics + Recession

Factor	Notes
The debates of Open and closed take place	A balance is reached – with most ecosystems leaning to Open but also co-existing with situations that need a closed ecosystem
Search becomes context aware	Driven largely by mobile devices
We see the role of search expanded from textual search to real time search and social search	These are already strong trends today
Privacy and personalization debates are conducted and resolved	A phase dominated by discussion and legislation

Factors – Short term (2012-2015)

Factor	Notes
Most of the technologies we indicate above enter a phase of maturity and user acceptance	
Non textual search gains in importance	This is driven by increasing processor, storage and bandwidth capability
The Internet of things becomes deployed	The recession may be a driver to the Internet of things and machine to machine communication especially in
Augmented reality search	The technologies underpinning augmented reality already exist. As they become mainstream, we will start to see more impact in daily life

Factors – Long term (Beyond 2015)

Factor	Notes
Elements of semantic search becoming common	Inspite of industry optimism in some quarters, semantic search will take some time to take off because it needs a change in user behavior to add semantics to data
Discovery/Agents is an important part of search	i.e. content is fetched by agents
P2P search becomes important	Ultimately, the client server nature of the Web will lean to a more scaleable Peer to Peer ecosystem
Search becomes ubiquitous	Search becomes a part of the service and no longer a distinct element

SWOT analysis	
<p>Strengths</p> <ul style="list-style-type: none"> ⑩ Multicultural background ⑩ Very strong culture of mobile ⑩ Strong history of co-operation and collaboration – ex GSM ⑩ Privacy(our laws) - regulation 	<p>Opportunities</p> <ul style="list-style-type: none"> ⑩ Internet of things debate. ⑩ Liberate data allowing European companies to create new services ⑩ Make it easier for existing players(Telecoms Operators) to share and use data within statutory frameworks (current discussion is aimed at new entrants)
<p>Weaknesses</p> <ul style="list-style-type: none"> ⑩ Web Search mostly dominated by Global companies 	<p>Threats</p> <p>A closed ecosystem (since search needs links and references to make it valuable)</p>

Thanks!

ajit.jaokar@futuretext.com

www.futuretext.com

www.opengardensblog.futuretext.com

Publishing

Workshops

Consulting