From HyperTEXT to HyperTEC

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Talk Outline

• Bing It On challenges
• From HyperText to HyperTEC (Touch-Entity-Context)
  • The O System - still in the labs
  • The Paper Metaphor and beyond
  • Better Intent understanding with HyperTEC ecosystem
• Q&A
Industry Landscape

online services

REAL-TIME

SOCIAL

LOCAL & MOBILE COMMERCE

SEARCH

vertically integrated competition

DEVICES

PLATFORMS

SERVICES
The Natural UI (NUI) – the next frontier
Re-organize the web for task completion

SEARCH AS GATEWAY

WEB OF THE WORLD

movie concert cafe hike beer furniture travel
The Bing It On Challenge
Bing is already pretty good

We still need to be more disruptive beyond the search box as we know today
The O System Demo
HyperText-defined Web Today

- Hypertext is more than two decades old
- Pointing and clicking (browsing) is the web interaction metaphor
- Web publishers define web page and users follow the structure
- Users stay within the walled garden of whatever is defined by the website
- Users have to remember URL or to search to find related websites
- Browsing and searching are two distinctive web activities today
  - Web search is user initiated
  - Browsing is website centric
Ionic Screen Protector Film CLEAR (Invisible) OR MATTE (Anti-Glare) for New MS MicroSoft Surface Tablet RT Windows 8 Tablet (3-pack) by CrazyOnDigital

$19.95 $5.85
In stock on November 20, 2012

Microsoft Surface with Windows RT 32 GB (Tablet only) by Microsoft

$999.99 $592.55
Only 3 left in stock - order soon.

More Buying Choices

$589.99 new (3 offers)
Web Browsing Behaviors

• Two existing verbs for the web
  • Browsing is a verb never changed since its inception
  • Search is independent of browsing to get out of the walled garden

• IE logs in two weeks:
HyperText-based web browsing today

- Browsing is the #1 web activity
  - Hypertext is the core concept defining the interaction model
  - The *point & click* interaction never changed since its inception
- However, browsing is **website-centric**, not **user-centric**
  - Users are in the walled garden of the website
  - There are many things users can’t click/explore
  - To access information beyond the walled garden is to search

Clicking a **product** on Amazon will only get what Amazon wants to show you, but

- *Ebay has a cheaper one*
- *Some negative reviews on Consumer Reports*
- *Your friends on FB recommend a different model*

Bing can bring the **richer web (topical-geo-social)** to you for better browsing
Introduce a Paper Metaphor
HyperTEC exploring tomorrow

• A new exploring metaphor centered around your intent
  • Break individual walled garden to access the richer web
  • Require no change from publishers
  • Works better if app developers support

• An iconic verb for intent-based exploring
  • Leverage intent-knowledge matching for task completion
  • Enhance the flow with the richer web at fingertips
  • Scale from contextual search to keyword search

**It taps into intrinsic human curiosity and comparison behaviors**

*People are used to exploring things from all angles*

*In today’s web, only objects that the website deems worthy enable this modality*

It helps to make interaction with the web more like interaction with the real world
The O System

Task

Intent engine

Service provider

Feature extraction

Task schema

Context

Input

Preference

Interaction
The scalability

- Top 500 websites cover ~50% traffic
- Target ~30% traffic
- Back off to search (~20%)

Website structure understanding
Entity & attribute understanding
Context-aware query reformulation

Diagram showing the percentage of explore session against Top N websites.
Multiple Variants Shipped
HyperTEC Extensions via schema.org

• HyperText extensions with user invisible tags
  • Search engines can make better use of these markups
• HyperTEC tags
  • Touch-enabled Entity and Contexts
  • Simple boundary tags/semantic schemas
  • Improved semantic understanding
• Next generation semantic web
  • Better intent understanding
  • Seamless touch and NUI
  • Beyond CPC-based commerce

```html
<div itemscope itemtype="http://schema.org/Movie">
<h1 itemprop="name">Avatar</h1>
<div itemprop="director" itemscope itemtype="http://schema.org/Person">
Director: <span itemprop="name">James Cameron</span> (born August 16, 1954)
</div>
<span itemprop="genre">Science fiction</span> <a href="../movies/avatar-theatrical-trailer.html" itemprop="trailer">Trailer</a>
</div>
```
Summary

• The traditional web interaction is based on pointing and clicking
  • In the Hypertext web, web publishers decide what show to visitors
• Browsing and search are two most dominant web activities
  • Mixed search and browsing are broadly used by the browser users
• The integrated search and browsing concept
  • Better intent understanding
  • Brings user experiences on tablets to a new level with the paper metaphor
  • HyperTEC is more than the paper metaphor with the HyperTEC ecosystem
Thank you!

Q&A