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<td>Author(s)</td>
<td>Cha, Virginia</td>
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MULTILINGUAL WEB

Asian Information in the New Media

By

VIRGINIA CHA
Multilingual Web: Asian Information in the New Media

Speaker:
Ms. Virginia Cha
CEO, Star+Globe Technologies, Pte. Ltd.
1 International Business Park
The Synergy, #09-02
Singapore 609917
Email: virginia@starglobe.com.sg
Phone: 665-6968, fax 665-7912
http://www.starglobe.com.sg

Theme

- Multilingual Web Site and WAN Relationship
- Business Considerations for Multilingualism
- Technological Considerations for Multilingualism
- Tools Available to Build & Utilize Multilingual Applications on the Web
- A Case Study: C3
- Finally, a Demo
Multilingualism and WAN

- Network of geographically dispersed computers -- and people
- Globalization of Businesses
- Extending Globalization into the New Media
  » Opportunities to grow content reach
  » Opportunities to reach into new communities of interest
  » Opportunities to transact business in new markets

New Media presents a unique challenge for Globalization

Business Considerations

- Opportunity: Asian IT industry
- Opportunity: PC Growth
- Opportunity: Privatization of ISPs in Asia
- Opportunity: WWW and New Media
- Opportunity: Increased intra-asia trade
- Opportunity: Reaching into different ethnic markets and community of interests
Business Considerations

- Enable Asian businesses to grow into new markets
- Gain economies of scale
- Costs:
  » Information translation/input into multiple languages
  » Publishing and refreshing information

Technological Considerations

- Publishing info in multiple natural languages
  » tools to create web pages
  » effective handling of multiple internal codes
  » native input vs translated input
  » consistency and accuracy of info content
- Retrieval and Access of ML info
  » display in web browsers and input methods
  » search and index
  » directory service
Technological Considerations

- National Character Sets
  » GB, BIG5, HZ, JIS, KSC, ISO2022, etc.
  » Unicode
- Unicode = universal code set
  » 16-bit character set for ML text
  » 65,536 characters and 150 languages
  » plain text format (no esc, fonts info)
  » superset of existing national code sets
  » simplifies program logic

Tools Available

- Tools to input/display
  » S+G's WinMASS, Twinbridge, Chinese Star
- Tools to manage ML Web site
  » S+G's Language Server
  » S+G's MLSearch
- Tools to convert code sets to GIF files
- Existing browsers have some limited browsing capability
- Tools to create Web applications
### Example ML Web Applications

- Brochureware for Asian MNC
- Product catalog and order/fulfillment
- Publicity, announcements, newsletters
- Customer surveys
- Tech support/Help text
- News Delivery
- Directory Services

### Central Chinese Content Service (C3)

http://www.c3s.org.sg/
Background

- National Project between NCB & ISS
- Funded by NCB & NSTB
- Developed by ISS
- Technologies by ISS & Star+Globe
- Launched by PM Goh with Singapore ONE on 9 Jun 97
- http://www.c3s.org.sg/

Objectives

- Promotes pervasive use of Chinese Internet
- Promotes Singapore as an Information Hub
- Promotes Asian Content Creation
  One-stop directory service to worldwide Chinese Internet information & resources
  »A productivity technology tool-suite for Chinese input
  »Provides a jump-start vehicle to leverage on Chinese Internet
  »Chinese “Yahoo!”
Objectives

- Promote pervasive use of Chinese Internet
- Support Singapore as a Chinese Information Hub
  - Encourage Chinese Internet users
  - Encourage local Chinese content
  - Facilitate Chinese community to leverage on Internet
  - Facilitate organizations to reach out to the Chinese Internet users & vice versa
  - Facilitate value-added activities with social & economic impact to flourish

Features

- Content Highlights
  - 8 main categories with sub-categories
  - 2,000 categorized sites, with descriptions
  - Category of local Chinese web-sites (30 sites)
- Simplified & Traditional Chinese
- Search Engine (mixed English and Chinese terms)
- Chinese input mechanisms
  - Handwriting, HanYuPinYin streaming
- Chinese Text-to-Speech Generation
- Yellow Page / White Page Directory Services
- Advertisement/Announcement Mechanism
- Bulletin Board, User Chat Mechanisms
Achievements

- Top 4 site of 60 S-ONE sites
- World's First Chinese Directory Service of its kind
- Since S-ONE launch, 90,507 hits (avg 913 hits per day)
- Multilingual (Chinese) Technology Showcase
  » Several ISS technologies made robust & first debut
- Won the 'Best of Asia Pacific Award' in Oct 97
- Feedback and Spurred Interests:
  » Chinese community realizes Internet through C3
  » Industry interests to license C3 deployed technologies (e.g. IIPL)
  » Industry interests to set up Chinese sites (e.g. DBS Bank, CDAC, SFOCA)

Technology Components

- Language-Sensitive Web-Crawler
  semi-automatic sourcing for Chinese Internet content
- Text Categorization
  semi-automatic categorization of content
- Database Gateway
  organizes and manages the content
dynamic generation of C3 web pages
  » 8 main categories with sub-categories
  » > 2,000 categorized sites, with descriptions
  » Category of local Chinese web-sites (30 sites)
Technology Components

- **Multilingual Language Server (S+G Product)**
  Simplified or Traditional Chinese browsing
- **Multilingual Search (S+G Product)**
  mixed English & Chinese search
- **Tool-suite for faster Chinese input**
  » Handwriting (S+G Product), PinYin streaming
- **Text-to-Speech**
  Chinese speech synthesis
- **Specialized Directory Service (S+G Product)**
  » Yellow Page / White Page
  » Advertisement / Announcement

C3 Demo