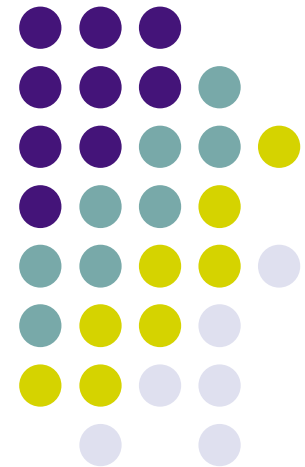


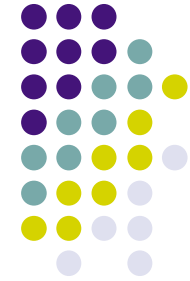
Internationalization and IDN

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Disclaimer



Opinions expressed in this presentation
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Language and Script

- A language is a way human interact
- A script is the written form of a language

- Many languages share the same script
 - e.g. Latin scripts, Arabic scripts, Han Ideographs

- Some languages uses more then one script
 - e.g. Japanese, Korea, Malay



Localization

- Localization involves customizing or tailoring a ‘system’ for a particular region
 - e.g. China localization, Japanese localization
- Localization involves not just dealing with scripts, but also languages, local norms and convention
 - e.g. currency, metrics, time format, etc
- In software terms, we refer these as [POSIX] “locale” (e.g. en_US, en_UK) and on the Internet, we refer these as [RFC 3066] “Languages Tags” (e.g. en-us, en-uk).



Globalization

- Internationalization
 - Customizing a ‘system’ to handle multiple *scripts*
- “Multilingualization”¹
 - Customizing a ‘system’ to handle multiple *languages*

WSIS Declaration of Principles

48. “The Internet has evolved into a global facility available to the public...and ensure a stable and secure functioning of the Internet, taking into account **multilingualism.**”

¹ “multilingualization” does not exist in the dictionary incidentally



Unicode ISO/IEC 10646

- Unicode provides a unique number for every character, no matter what platforms, programs and languages.
- Embraced by all major vendors (Apple, HP, IBM, Microsoft, SAP, ...), Open Source Community (Linux, FreeBSD, ...)
- But Unicode is a script-based character repertoire,

There is a disjoint between what the policy makers (and users) want and technology can deliver.

Internationalized Domain Names



华人.公司.cn

華人.商業.tw

高島屋.会社.jp

삼성.회사.kr

三星.회사.kr

الاهرام.م

viagénie.qc.ca

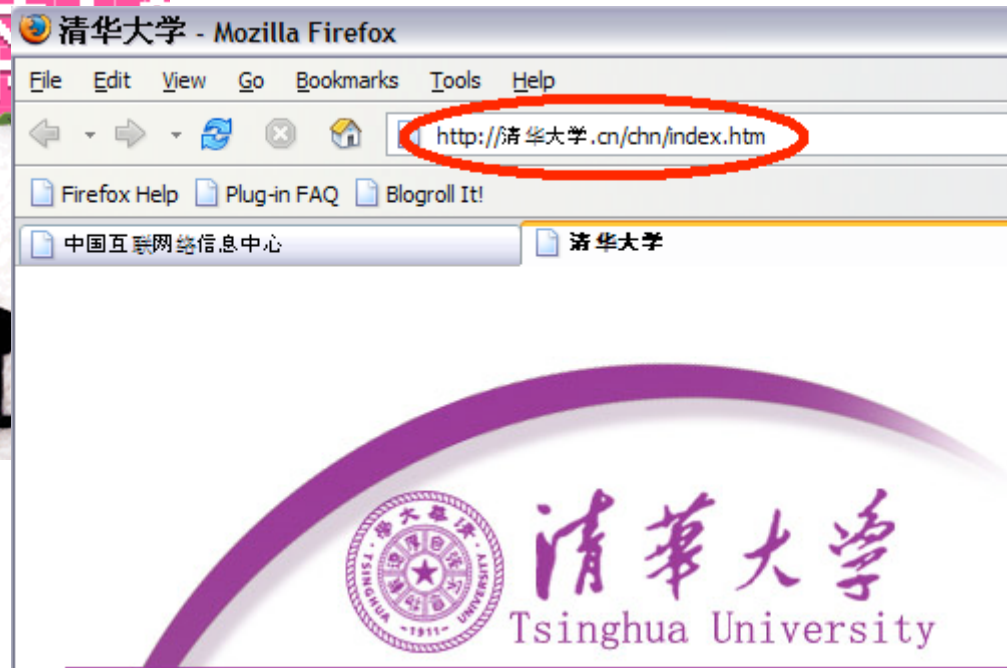
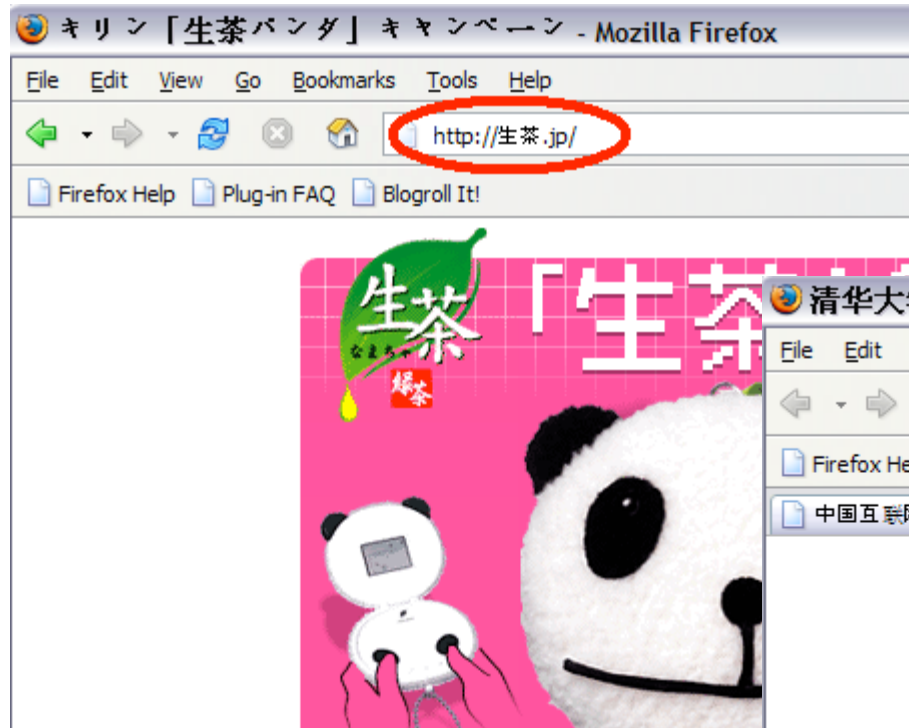
ישראל.קום

ทีเอชเน็ต.พาณิชย์.ไทย

現代.com

ヤフー.com

Example of IDN





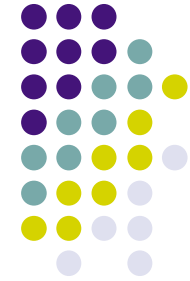
Significant of IDN

- Large number of population in Asia Pacific are not native English speakers
 - An English-only Internet is no longer viable
- Names are often used in DNS identifiers
 - Do you want to write your name in English?
- Matter of culture diversity and identity

WSIS Plan of Action

P23(o) “Governments, through public/private partnerships, should promote technologies and R&D programmes in such areas as translation, ... (snip)... **internationalized domain names**, content referencing as well as general and application software.”

Brief history of IDN



- 1998 Early research in IDN @ National University of Singapore
- 07/98 Asia Pacific Networking Group iDNS Working Group
- 02/99 iDNS Testbed lanuch across CN/JP/KR/TW/TH/HK/SG
- 11/99 IETF IDN Birds-of-Feather
- 01/00 IETF IDN Working Group formed
- 07/00 Formation of MINC, JET, AINC ...
- 03/01 ICANN Board IDN WG formed
- 11/01 ICANN IDN Committee formed
- 12/01 ITU-WIPO-MINC Symposium
- 10/02 ICANN IDN Workshop
- 12/02 ITU Plenipotentiary Resolution 133
- 03/03 **RFC 3454, 3490, 3491, 3492 published**
- 06/03 ICANN IDN Guidelines
- 05/04 RFC 3743 (aka JET CJK Guidelines) published





Software supporting IDN

- Mozilla 1.4/Netscape 7.1 (Win/Mac/Unix)
<http://www.mozilla.org/>
- Konqueror 3.2 (Linux)
<http://www.konquerer.org/>
- Safari 1.2 (Mac OS X)
<http://www.apple.com/safari/>
- Opera 7.20 (Win, Emb)
<http://www.opera.com/>
- Verisign i-Nav - Internet Explorer plug-in that provides IDN support.
<http://www.idnnow.com/index.jsp>



Are we done?

- Technical “imperfection”
 - Imperfection in the IETF IDN standards
- IDN Deployment
 - Lack of support of IDN particularly from Microsoft IE
- IDN Operation
 - Getting Registries to start IDN deployment
- IDN Policies
 - JET Guideline for CJK - RFC 3743

Consideration for Policy Makers



- IDN enables a non-English Internet user to use their **own native name**
- Culture and language = **National Sovereignty**
- It is important to develop sensible and well-thought policies on IDNs

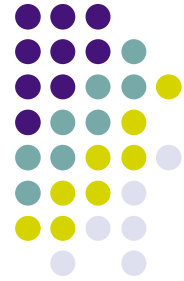
Consideration for Policy Makers



- Language is a difficult problem to tackle
 - Some language is written in multiple scripts
 - Some language share the same scripts
 - Some scripts are used across many regions
- Unlike other policies, IDN policies are likely to cross borders
 - JET took more then 2 years to develop CJK Guidelines

It is never too early to start!

Summary



- Internationalization,
 - There is a disjoint between what policy maker wants and the technology able to deliver.
 - The introduction of Internationalization to the Internet is very important to bridge the digital divide.
- IDN,
 - It is very sensitive when dealing with one's name. Policies are difficult and work should start as soon as possible. There are still many work to do.
 - Some of the ICT savvy countries already working on the issues but the developing countries are the one that really need to tackle this problem.

Culture, Language and National Sovereignty

No single (or international) group can claim they represent the “multilingual Internet” and able to solve the multilingual problem.

Only **you** know your own problem and in the position to solve them.

