

National Committee for Standardization of Khmer Script in Computers (NCSKSC)

**The Seminar on Enhancement of the International
Standardization Activities in Asia Pacific region**

ISO/IEC JTC1:IT (SEISAR-AP/IT)

Hosted by:

**Center of International Cooperation for Computerization (CICC), Japan
National Electronics and Computer Technology (NECTEC), Thailand.**

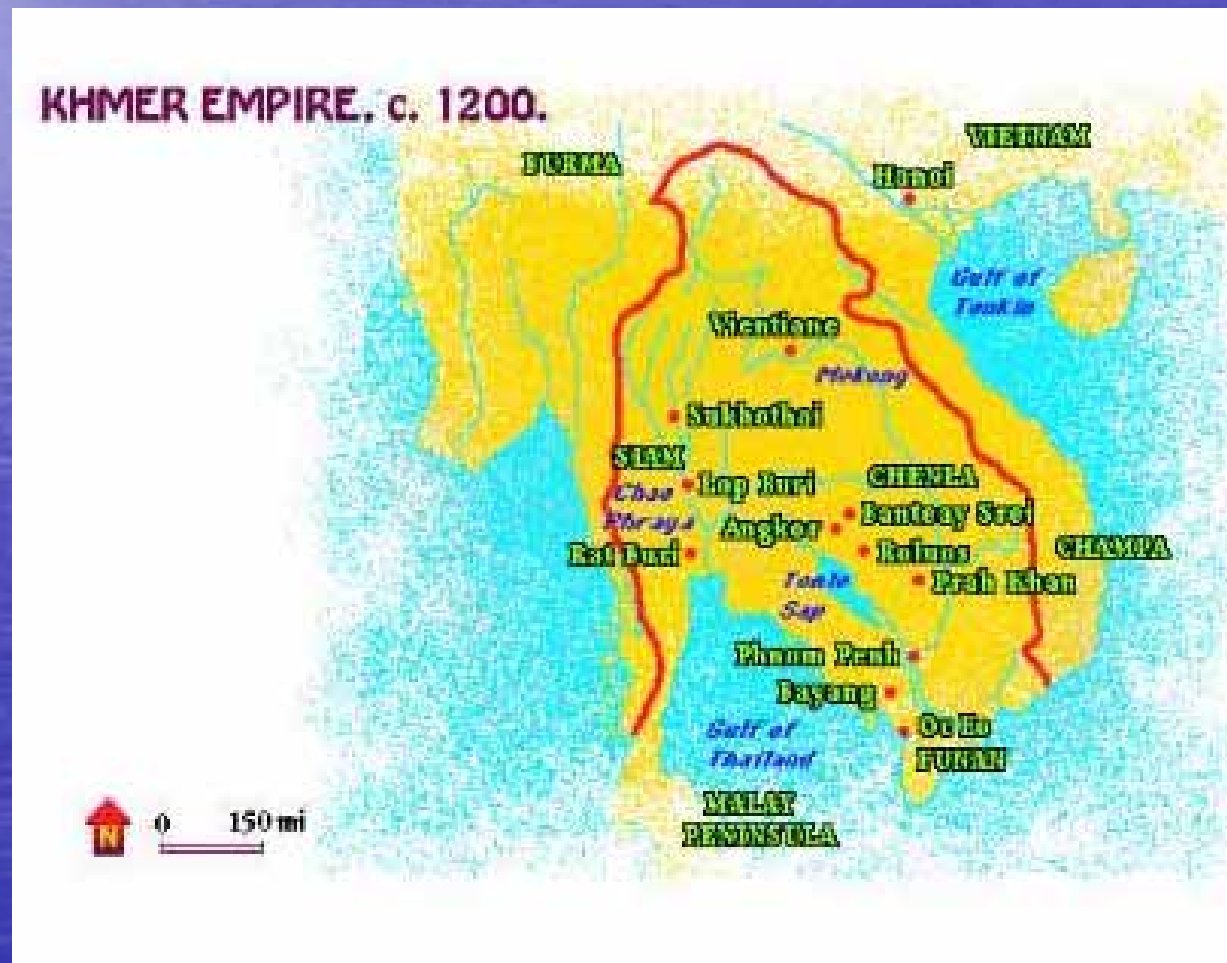
Sofitel Central Plaza Hotel, Bangkok, THAILAND

October 6 – 9, 2004

CHEA Sok Huor, NCSKSC Member

Introduction

- ◆ **Constitution of the Kingdom of Cambodia, article 5:**
Official Language and Script are Khmer Language & Khmer Script
- ◆ **Khmer language is spoken in different dialects:**



Khmer Script

Appendix: Evolution of Khmer Script

VALEUR EN SANSKRIT.	ka	kha	ga	gha	na	ta	tha	ja	ja	na	ta	tha	da	da	na	pa	pha	ba	bha	ma	ya	ra	la	va	pa	ra	sa	ka
VALEUR EN KHMER MODERNE.	ka	kha	ko	khô	no	ca	cha	co	chô	no	ca	cha	co	chô	no	pa	pha	po	phô	mo	yo	ro	lo	vo	po	ro	so	ka
Type I...	ក	ខ	ក	ក្រ	ណ	ត	ត្រ	ក	ក	ណ	ត	ត្រ	ត	ត	ណ	ប	ប	ប	ប	ម	យ	រ	ល	វ	វ	វ	វ	ក
Type II...	ក	ខ	ក	ក្រ	ណ	ត	ត្រ	ក	ក	ណ	ត	ត្រ	ត	ត	ណ	ប	ប	ប	ប	ម	យ	រ	ល	វ	វ	វ	វ	ក
Type III...	ក	ខ	ក	ក្រ	ណ	ត	ត្រ	ក	ក	ណ	ត	ត្រ	ត	ត	ណ	ប	ប	ប	ប	ម	យ	រ	ល	វ	វ	វ	វ	ក
Type IV...	ក	ខ	ក	ក្រ	ណ	ត	ត្រ	ក	ក	ណ	ត	ត្រ	ត	ត	ណ	ប	ប	ប	ប	ម	យ	រ	ល	វ	វ	វ	វ	ក
Type V...	ក	ខ	ក	ក្រ	ណ	ត	ត្រ	ក	ក	ណ	ត	ត្រ	ត	ត	ណ	ប	ប	ប	ប	ម	យ	រ	ល	វ	វ	វ	វ	ក
Type VI...	ក	ខ	ក	ក្រ	ណ	ត	ត្រ	ក	ក	ណ	ត	ត្រ	ត	ត	ណ	ប	ប	ប	ប	ម	យ	រ	ល	វ	វ	វ	វ	ក
Type VII...	ក	ខ	ក	ក្រ	ណ	ត	ត្រ	ក	ក	ណ	ត	ត្រ	ត	ត	ណ	ប	ប	ប	ប	ម	យ	រ	ល	វ	វ	វ	វ	ក
Type VIII...	ក	ខ	ក	ក្រ	ណ	ត	ត្រ	ក	ក	ណ	ត	ត្រ	ត	ត	ណ	ប	ប	ប	ប	ម	យ	រ	ល	វ	វ	វ	វ	ក
Type IX...	ក	ខ	ក	ក្រ	ណ	ត	ត្រ	ក	ក	ណ	ត	ត្រ	ត	ត	ណ	ប	ប	ប	ប	ម	យ	រ	ល	វ	វ	វ	វ	ក
Type X...	ក	ខ	ក	ក្រ	ណ	ត	ត្រ	ក	ក	ណ	ត	ត្រ	ត	ត	ណ	ប	ប	ប	ប	ម	យ	រ	ល	វ	វ	វ	វ	ក

Note:

Type I: Pre-Angkor period. Type VI: Angkor period. Type IX: Post-Angkor period.

WWW. Issues

↕ Consonants (35) and Subscripts (34):

Inheritance Problems

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.....
.....
.....

↕ Dependent Vowels (23):

.....
.....

↕ Independent Vowels (13):

↕ Various Signs (21):

.....
..... } =

WWW. Issues

Inheritance Problems

➤ Number (10):

• • • • • • • • • •

➤ Digit Sign for Divination Lore (10):

• • • • • • • • • •

➤ Lunar Date Symbols (32):

• • • • • • • • • • • • • • • • • • • •

• • • • • • • • • • • • • • • •

➤ Khmer Currency Symbol (1):

TOTAL of 179 Characters

WWW. Issues

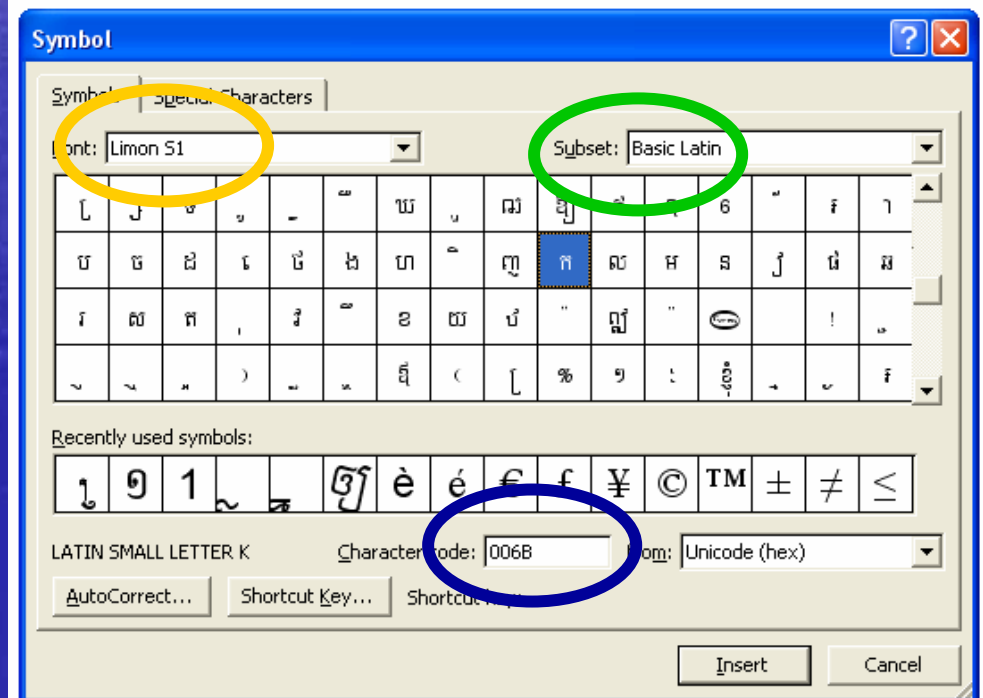
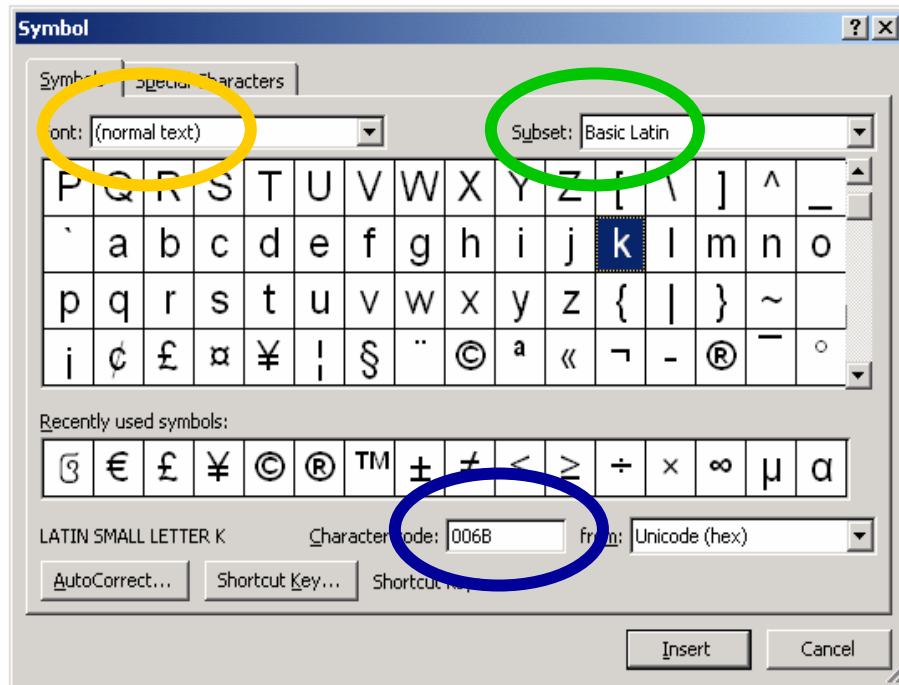
Technical Problems

- ◆ Ad hoc use of Khmer fonts on borrowed Latin Unicode locations
- ◆ Unable to share files and slow down the progress of Localization in WWW.
- ◆ Driven by the Government Administration reform policies:
a Committee for Standardization of Khmer Script in Computer (CSKSC) was formed to resolve issues.

WWW. Issues

Technical problems

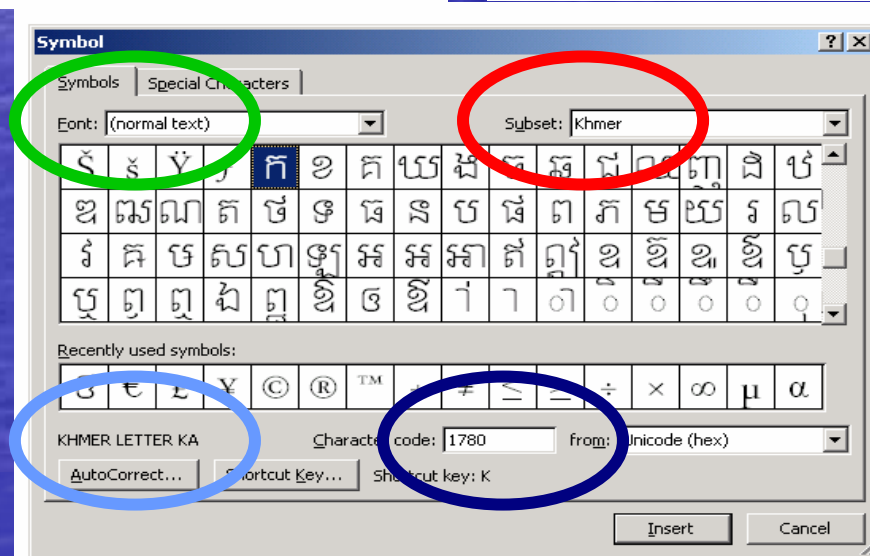
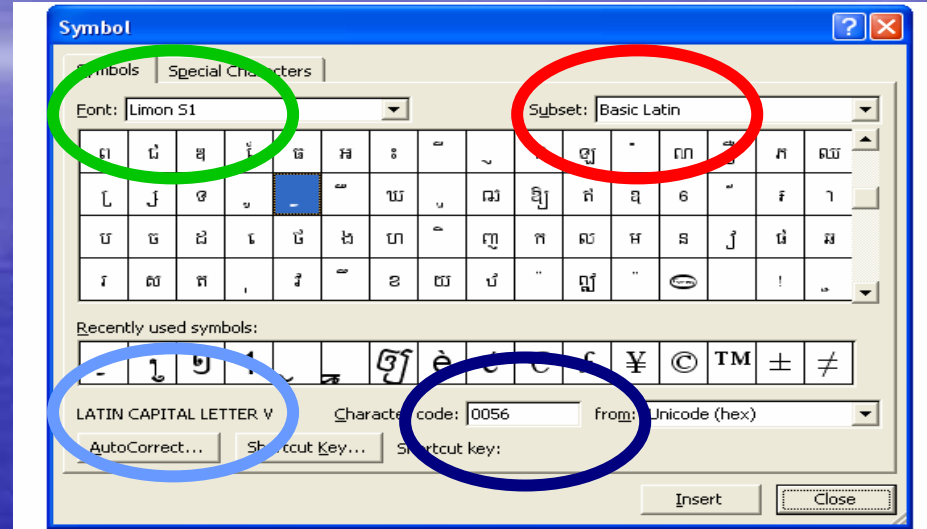
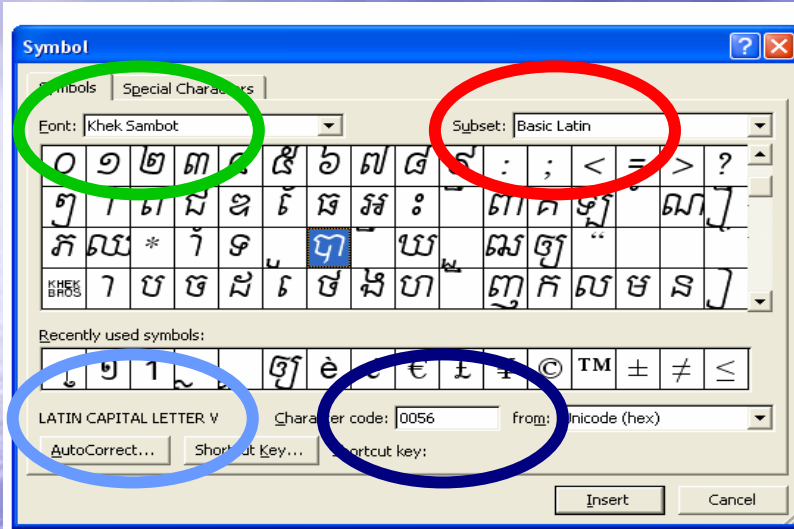
- ◆ Ad hoc use of Khmer fonts on borrow Latin Unicode Locations



WWW. Issues

Technical problems

- ◆ Unable to share files or advancing localization in WWW.



Unicode Standard, Version 4.0

- ❖ Acceptable Khmer Script Standard adopted by the Unicode Consortium. Publication in the Unicode Standard Version 4.0 book.
(WWW.unicode.org/standard)
- ❖ Cooperation is open with international institutes to develop application programs using Khmer Script Standard.

Khmer Word Processing

- ◆ Khmer Script Unicode Standard is active in Microsoft Office 2003 & SP1 and can be used in Word, Excel, Front Page, Access, Outlook, PowerPoint, and Publisher with driver installed.
- ◆ Continuous cooperation with Microsoft to complete Khmer "SMART" Word Processing functionalities.
- ◆ Cooperate with International Development Research Center (IDRC), Canada and Pan Asia Networking (PAN) Program.

Long-term Localization Projects

Three year Participation of Local Language Computing with six countries:

Bangladesh, Bhutan, Laos PDR, Nepal, Sri Lanka, and Cambodia

Assisted by:

- ◆ International Development Research Center (IDRC), Canada
- National University of Computing and Emerging sciences (NUCES), Pakistan
- ✓ Center for research in Urdu Language Processing (CRULP), Pakistan

Long-term Localization Projects

- ◆ PAN Localization Project focuses on the following three objectives:
 1. To develop human resource capacity in the region for developing local language computing
 2. To raise current levels of technology for Asian Language
 3. To advance policy for local language content creation and access across Asia

Long-term Localization Projects

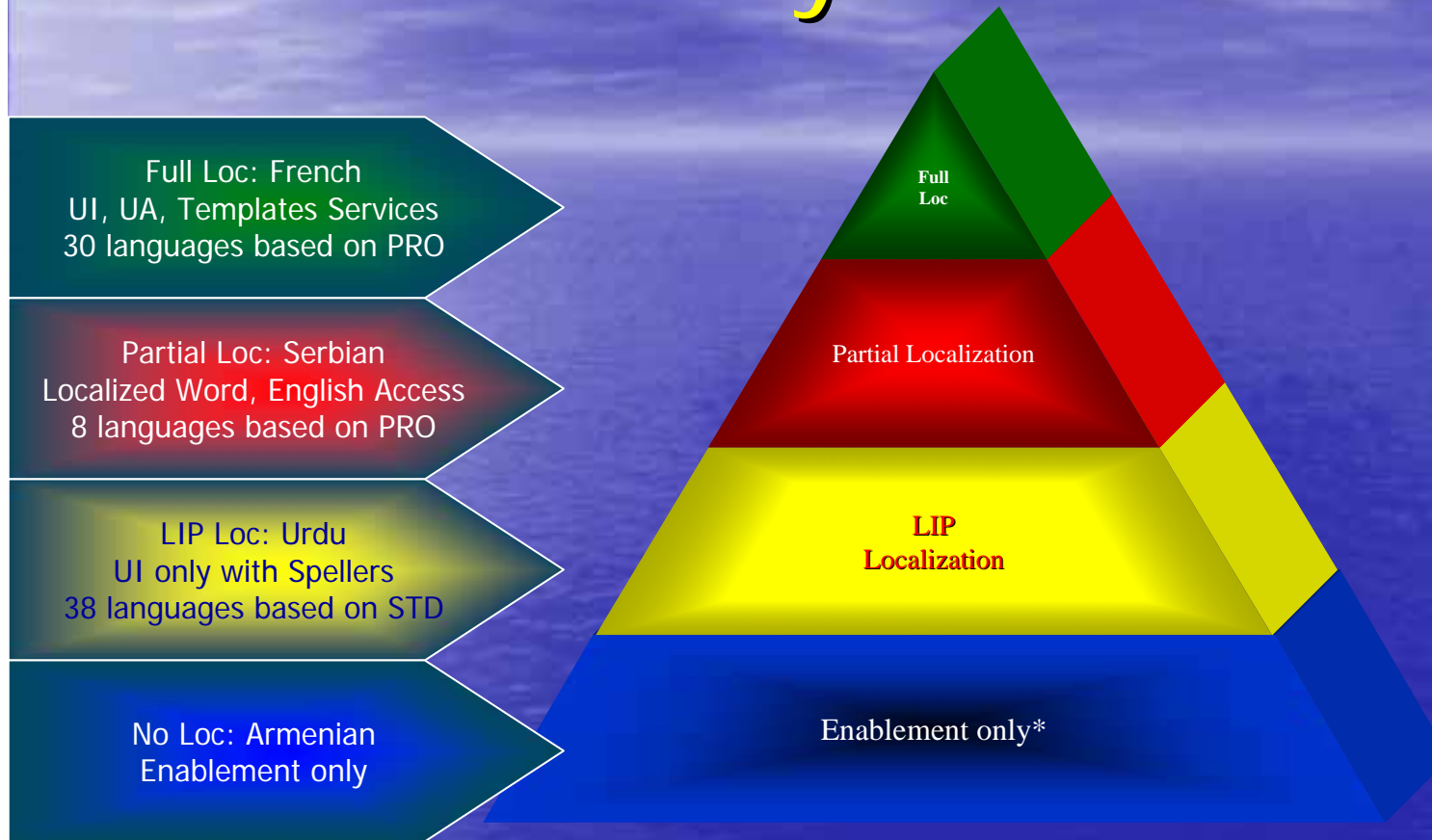
- ◆ PAN Localization Cambodia Projects are:
 - Collation/Sorting Sequence (Instigation...)
 - Handheld Device Interface in Khmer
 - Interface Translation Terminology
 - Lexicon/Spell Checker
 - *Mapping and Migration tool from Existing Code Charts to Unicode (Audition ...)*
 - Normalization sequence

Long-term Localization Projects

◆ Localization Interface Pack (LIP), Microsoft

Letter to Microsoft Corporation, Invitation to include Khmer script into the Microsoft Language Interface Pack (LIP) from V. Chairman of Committee for Standardization of Khmer Script in Computer, dated August 30, 2004

Localization Pyramid of Microsoft



*providing input/display support in addition to proofing tools when possible.

A photograph of a vast blue ocean under a bright blue sky with wispy white clouds. The sun is shining from the left, creating a shimmering reflection on the water's surface.

THANK YOU !