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## **SUMMARY**

The goals of the meeting were 1) to learn more about the two different encoding models for Mongolian: phonetic and graphetic, 2) to compare them, and 3) to review proposed corrections to the current phonetic model. An in-depth look at the proposed graphetic model was presented. An intuitive approach to the sorting of graphetically encoded Mongolian text was presented along with demos. A comparison of the phonetic and graphetic models was discussed. Several presentations were made highlighting problems with the current phonetic model. Attendees were also introduced to [Graphite](#), an open source, programmable, Unicode-compliant smart-font technology and rendering system that is very useful for quick proto-typing.

Each model has its own advantages and disadvantages. Ultimately, the desired result is for Mongolian text to be sent to others and be rendered the same, without requiring use of the same font, application, or operating system. All participants in the working group agreed that the same set of standards and rules should be used in Mongolia, Inner Mongolia of China, and the rest of the world. The character encoding portion and basic character properties should be included in the Unicode Standard, and, as applicable, in ISO/IEC 10646. A stable, consistent set of rules followed by all countries will provide long-term benefit to all users now and into the future.

The representatives from Mongolia ICT and from Inner Mongolia of China agreed to cooperate on unifying and standardizing Mongolian glyph shaping rules. Badral Sanlig will provide information on historical variants.

It was decided that creating a Unicode Technical Note that would be a visual guide to the behavior of the Mongolian script would be very beneficial. Liang Jinbao and Kamal Mansour agreed to cooperate to create such a document on Mongolian script behavior.

Close collaboration between the Unicode Consortium, Mongolia, and Inner Mongolia of China would be very beneficial. To that end the Unicode Consortium and the Ethnic Affairs Commission of Inner Mongolia Autonomous Region, China have established a liaison relationship. This is in addition to the recently established liaison relationship between the Unicode Consortium and Mongolia ICT.

## **ISSUES WITH THE CURRENT PHONETIC MODEL**

Two papers highlighting critical issues with the current model ([MWG/2-N1](#) and [MWG/2-N7](#)) were presented by Inner Mongolia of China; two papers from two groups highlighting issues

([MWG/2-N3](#) and [MWG/2-N9](#)) were also presented by Mongolia. The three groups of presenters then identified their top three critical issues that need to be addressed.

A single document ([MWG/2-N13](#)) was created that collected all the issues that were discussed. It includes the prioritized critical issues noted in yellow highlighting, and also notes plans for further investigation of an improved graphetic model.

## MEETING RESOLUTIONS

The workgroup unanimously endorsed the following resolutions:

- There is agreement that the phonetic model should not be abandoned, as we cannot desert our existing user community.
- All attendees want to have a stable Mongolian encoding.
- Input methods, such as keyboards or IMEs, should not determine the underlying encoding model.
- We should not need to encode additional stylistic variants for historical texts.
- For NNBSF, further clarifications are needed and perhaps potential changes.
- We need one set of OpenType rules for rendering Mongolian text based on the current model. Having competing font standards is detrimental to the user community.

## ATTENDEES

- Jirimutu (吉日木图) (CEO Delehi Information Technology Co. LTD and Almas Software Co)
- Liang Jinbao (梁金宝) (Member of Ethnic Affairs Commission of the Inner Mongolia Autonomous Region, China)
- Bao Haishan (包海山) (Professor of Computer Science, Inner Mongolia University of Finance and Economics, China)
- Menghejiya (孟和吉雅) (Professor of Computer Science, Inner Mongolia University, China)
- Bai Chun (白春) (IT Section Manager and Sr. Editor, Inner Mongolia Daily, China)
- Badral Sanlig (CEO of Bolorsoft Font Co.)
- Jamyansuren Onolt (Consultant, Bolorsoft, former Lecturer at National University of Mongolia)
- Enkhdalai Baatar (Advisor, Communications and Information Technology Authority, Mongolia)
- Liang Hai (梁海) (Font Developer, individual member of Unicode Consortium)
- Shen Yilei (沈逸磊) (Individual Expert)
- Jo De Baerdemaeker (Multilingual Typeface Designer focused on Mongolian)
- Debbie Anderson (Head of Script Encoding Initiative, Dept. of Linguistics, UC Berkeley, HOD for USNB in ISO/IEC JTC1/SC2)

- Christopher Chapman (Senior Computer Scientist, Adobe)
- Peter Constable (Unicode Consortium Liaison to SC2/WG2, Microsoft Program Manager)\*
- Sharon Correll (Software Developer and Font Engineer, SIL International lead programmer for Graphite engine)
- Greg Eck (Greyson Translation Services)
- Andrew Glass (Senior Program Manager, Microsoft)\*
- Richard Ishida (W3C staff, facilitator of W3C group on Mongolian layout requirements and Mongolian variants)\*
- Ken Lunde (Senior Computer Scientist, Adobe, local host for Mongolian Working Group Mtg 2)
- Kamal Mansour (Linguistic Typographer, Monotype, worked on the Mongolian font)
- Lisa Moore (Chair, Unicode Technical Committee, Mongolian Working Group Mtg 2 organizer)
- Chieu Nguyen (Engineer, Google)
- Roozbeh Pournader (Internationalization Engineer, WhatsApp/Facebook)
- Ken Whistler (Unicode Technical Director, Editor of The Unicode Standard)
- Mukul Sharma, (Adobe)
- Ganbayar Gansukh (translator)
- Monica Ho (translator)

\* participated remotely

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