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SUMMARY

Building on the results of MWG2 (see MWG/2-14) the goals of the meeting were focused on improving the phonetic model through reviewing: 1) progress made on new glyph shaping rules that simplify the font model, 2) the properties and behavior of Mongolian punctuation and format controls, 3) detailed specifications that can provide a framework for interoperable implementations, and establish next steps towards the goal of enabling user communities to easily input, display, and exchange modern text in the Mongolian script.

Time was spent on understanding the Unicode approval process, reviewing documentation needs for variant selectors and variation sequences, reviewing Mongolian format controls, and a refined phonetic model (MWG/3-N7). Detailed specification needs of the Mongolian script were presented, as well as a case study and an OpenType demo. Inner Mongolia presented the progress that they have made on new glyph shaping rules (MWG/3-N11). The Unicode Consortium reported on the updates affecting Mongolian that were made in Unicode Version 12 and the initial specification document (MWG/3-N8) that can serve to enable interoperable implementations. Mongolia focused on the documentation of variation sequences (MWG/3-N3 and MWG/3-N4) and presented an analysis of format control characters (MWG/3-N5).

After review of the refined phonetic model proposal, the working group decided that the character disunification proposed in MWG/3-N7 is not a good idea to pursue at this time. Such disunification would be a significant set-back to the current progress achieved by Inner Mongolia on their font specifications.

For a full list of documents presented at the meeting see Mongolian WG3 documents.

Close collaboration between the Unicode Consortium, Mongolia, and Inner Mongolia of China through mutual liaison relationships has proved very beneficial. We will build on these relationships to establish interoperable implementations that enable exchange of modern text written in the Mongolian script.

AREAS OF SIGNIFICANT INTEREST

These areas of significant interest need more detail before implementation can begin:

SI1. NNBSP. Inner Mongolia and Mongolia think NNBSP is very problematic and should not be used.

SI2. MVS. It was generally agreed that the behavior of MVS needs to be clearly specified. Options will be studied, including cursive joining and collation behavior.

SI3. Open source shaping rules and test sets. It was generally agreed that open source shaping rules and test sets would be broadly beneficial. More preparatory work needs to be done.

SI4. **Effect of FVS**. It was generally agreed that it needs to be specified that whether the effect of FVSes should be independent or dependent from context. This needs to be analyzed.

MEETING RESOLUTIONS

The working group endorsed the following resolutions:

MR1. Format control characters. To address concerns that were raised regarding Mongolian format control characters as currently implemented, clearer specifications for the behavior and use of Mongolian format control characters need to be agreed to and documented.

MR2. Comprehensive documentation. In the interest of interoperable implementations, a better mechanism for documenting comprehensive encoding guidelines for text representation and shaping rules for text rendering needs to be developed. Using Unicode Standard code charts for such documentation cannot provide the necessary level of detail. In the interest of interoperable inplementations, the better mechanism of a Unicode Technical Note (UTN) will be used to document comprehensive encoding guidelines for text representation and shaping rules for text representation.

MR3. FVS display. FVS must be visible by default. They are only invisible when they have effect on the display of text. Recommendations need to be made on specific FVS behavior.

MR4. Nirugu or ZWJ. Either nirugu or ZWJ may be used to show stand-alone forms and abbreviations.

MR5. Nirugu and ZWJ inside words. The specifications need to clarify the behavior of ZWJ and nirugu regarding when they are used inside a word, whether 1) they are transparent to, 2) block, or 3) participate in orthographic context for shaping.

MR6. Positional mismatching. Positional mismatching in the documentation of Mongolian variants (for example, for variants used in separated suffixes) needs to be corrected.

ISSUES TO BE ADDRESSED

Several issues were raised that require further study. The following was agreed:

1. **Compound words**. Liang Jinbao will propose a solution to this issue for the next working group meeting. See the background document: *Summary of alternative encoding solutions to re-syllabified compound words* ([MWG/3-N19](#)).
2. **MVS.** Liang Hai and Liang Jinbao will investigate new rules for MVS, to establish if it can be used in place of NNBSP.

ATTENDEES

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- Andrew Glass (Unicode Consortium /Microsoft)
- Roozbeh Pournader (Unicode Consortium / WhatsApp)
- Liang Hai 梁海 (Unicode Consortium)
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- Liang Jinbao 梁金宝 (Mongolian language Research and Application Center of Inner Mongolia Autonomous Region)
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- B.Narantsogt (Translator, American Center of Mongolian Studies)
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GROUP PHOTO