**Doc Type:**     **Working Group Document**
**Title:**          **Preliminary proposal for encoding the Mongolian Usgiin Solution in the SMP of the UCS**
**File No:**        **File-2**
**Source:**        **Z Code, M Code, J Code, C Code, S Code, A Code**
**Status:**         **Private entity contribution**
**Action:**         **For consideration by JTC1/SC2/WG2 and UTC**
**Date:**           **2020-02-14**
**Contact:**       **Chuck Namujila**

The report is consolidated by Chuck Namujila and vetted by Tiffany Namujila

## 1. Problem Statement

The major issues in Mongolian Phonetic script were discussed in the previous file "Preliminary proposal for encoding the Mongolian Usgiin Solution in the SMP of the UCS" submitted to Unicode on 25th Jan 2020 and revised on 30th Jan 2020. In summary, the phonetic solution violated Unicode Standard Chapter 2.2 by:

- Being unreadable in historic writing systems and breaking the "Universality" principle
- Creating Code Duplication and breaking the "Unification" principle
- Using FVS/MVS/Grammar logics and breaking the "Plain Text" principle
- Being unstable between versions and violating the "Stability" principle

As a result, popular websites like [qinggis.net](qinggis.net), [Bainu](Bainu), [Holvoo](Holvoo) are not using U1800 Phonetic Unicode Standard.

## 2. Objective

This document consolidated multiple proposals for the new codings (in new Unicode Block) for Mongolian Hudum and Todo scripts. Manchu script proposal is in progress and will be submitted in the next few weeks.

- Sincerely hope the Unicode Experts and Technical Committee to review, comment, and further improve any of the following proposals. Mongolian user community believes in Unicode expert's unbiased judgment, and we are entrusting the future of our beloved script at your good hands.

## 3. Writing Direction

Historically, the Mongolian script is a child system of Sogdian and Syriac systems, which are written from right to left. If the new coding follows the Syriac/Aramaic and Arabic methods, the new coding could leverage on the sophisticated Arabic software. Arabic world has huge populations and abundant with capital investments, so many vendors are developing software for the Arabic world. If the Mongolian script manages to leverage on Arabic systems, it could bring down the future development cost and software maintenance cost.

We would like to leave this important choice (writing direction: right to left or left to right) to Mr. Roozbeh Pournader to decide since he is the Unicode expert in Arabic scripts.

## 4. Financials

The development of new script might need certain investment capitals and financial support. If the Unicode membership fees and other financials are required, please feel free to let us know. We will raise enough capital for the future of our valuable scripts.

## 5. Database - Word Bank

We already built a database with 3 million Hudum Mongolian words/sentences and willing to provide to UTC.

# Part 1   Hudum Mongol Proposals

**Hudum Mongol Option 1: Z-56**

Z-56 solution uses the smallest components of Hudum Mongolian script and strictly followed the Unicode Standard chapter 2.2 Design Principles.

- The curve-joint part is decomposed into smaller components and does not require Opentype.
- Without Opentype support, these characters could correctly show the Hudum characters.
- With Opentype support, these characters could be much more beautiful.

Two characters Ga (ᠭ) and Ng (ᠩ) were un-split to keep the Mongolian tradition. We could remove these two characters if required.

| ellipsis-mo... | mongolian... | mongolian... | colon-mong | todosofthy... | sibesyllabl... | manchuco... | manchuful... | nirugu-mo... | a-mong | e-mong | i-mong | o-mong | u-mong | oe-mong | ee-mong |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ···· | · | ·· | : | —· | ( | ) | - | ˋ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ |

| na-mong | ang-mong | ba-mong | pa-mong | qa-mong | ga-mong | ma-mong | la-mong | ta-mong | da-mong | ja-mong | ra-mong | kha-mong | zra-mong | lha-mong | chi-mong |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | 6 | 5 | ᠊ | ᠊ | ᠊ | ᠊ |

| todolongv... | todoi-mong | todou-mong | todoue-m... | todoang-... | todopa-m... | todoqa-m... | todoma-m... | tododa-m... | todocha-m... | todotsa-m... | todowa-m... | todoka-mo... | todohaa-m... | todonia-m... | tododza-m... |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ᠊ | ( | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ |

| sibei-mong | sibeu-mong | sibeha-mo... | sibeda-mo... | sibehaa-m... | sibecha-m... | manchura-... | manchuzh... | aligalika-m... | aligalittha-... | aligalida-m... | aligalizha-... | todoaligali... | manchuali... | manchuali... | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | 6 | ᠊ | ᠊ | ᠊ | ᠊ | ᠊ | |

Sample text using the Phonetic IME (Input method editor):

# Hudum Mongol Option 2: FSZ-74

FSZ-74 is the medium option between Z-56 and Z-137. It combined the Curve-Joint characters.

- This is the refined version from the Sainbilig code, which was created by Mr. Sainbilig in 2012. Millions of internet writings were created using Saibilig code until the Phonetic code finally receive the USP10.dll package from an unknown (security risk) third party vendor in 2005.
- This code chart also picked up some essential elements from FangZheng 6.0, which was created by Mr. QiDeHua in 1990. Fang Zheng 6.0 was widely used in Publishing houses for many years.

Mongolians are extremely familiar with Saibilig code and FangZheng 6.0



Early samples of FangZheng 6.0

# Hudum Mongol Option 3: Z-137

Z-137 is the matric combination of Z-56, without creating any code duplication.

This code chart is designed by Z-team Mr. Surgalt (ᠰᠤᠷᠭᠠᠯᠲ) and considered most of the possible combinations of Mongolian structured characters.

| glyph96 | glyph97 | glyph98 | glyph99 | glyph100 | glyph101 | glyph102 | glyph103 | glyph104 | glyph105 | glyph106 | glyph107 | glyph108 | glyph109 | glyph110 | glyph111 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ◆ | ◆◆ | •••• | ⫶ | • | •ᠩ | ── | ─• | �. | ⹀ | ᠷ⹀ | ᠷ⹀ | ᠩ⹀ | ⟨ | ⟩ | ⟪ |

| glyph112 | glyph113 | glyph114 | glyph115 | glyph116 | glyph117 | glyph118 | glyph119 | glyph120 | glyph121 | glyph122 | glyph123 | glyph124 | glyph125 | glyph126 | glyph127 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⟫ | ( | ) | [ | ] | ▪ | ᠍ | ᠊ | ᠍ | ᠊ | ✓ | ᠫ | ᠵ | ᠫ | ᠲ | ᠯ |

| glyph128 | glyph129 | glyph130 | glyph131 | glyph132 | glyph133 | glyph134 | glyph135 | glyph136 | glyph137 | glyph138 | glyph139 | glyph140 | glyph141 | glyph142 | glyph143 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ |

| glyph144 | glyph145 | glyph146 | glyph147 | glyph148 | glyph149 | glyph150 | glyph151 | glyph152 | glyph153 | glyph154 | glyph155 | glyph156 | glyph157 | glyph158 | glyph159 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ |

| glyph160 | glyph161 | glyph162 | glyph163 | glyph164 | glyph165 | glyph166 | glyph167 | glyph168 | glyph169 | glyph170 | glyph171 | glyph172 | glyph173 | glyph174 | glyph175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ |

| glyph176 | glyph177 | glyph178 | glyph179 | glyph180 | glyph181 | glyph182 | glyph183 | glyph184 | glyph185 | glyph186 | glyph187 | glyph188 | glyph189 | glyph190 | glyph191 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ |

| glyph192 | glyph193 | glyph194 | glyph195 | glyph196 | glyph197 | glyph198 | glyph199 | glyph200 | glyph201 | glyph202 | glyph203 | glyph204 | glyph205 | glyph206 | glyph207 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ |

| glyph208 | glyph209 | glyph210 | glyph211 | glyph212 | glyph213 | glyph214 | glyph215 | glyph216 | glyph217 | glyph218 | glyph219 | glyph220 | glyph221 | glyph222 | glyph223 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ |

| glyph224 | glyph225 | glyph226 | glyph227 | glyph228 | glyph229 | glyph230 | glyph231 | glyph232 | glyph233 | glyph234 | glyph235 | glyph236 | glyph237 | glyph238 | glyph239 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ |

| glyph240 | glyph241 | glyph242 | glyph243 | glyph244 | glyph245 | glyph246 | glyph247 | glyph248 | glyph249 | glyph250 | glyph251 | glyph252 | glyph253 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | ᠌ | | |

The fonts are carefully built based on different combinations of Curve (ᠲᠣᠭᠣ) and Tail (ᠰᠡᠭᠦᠯ ᠮᠥᠷ); as a result, the OpenType feature is no longer required. It also created a small box at Medium form to avoid code duplication.

| glyph194 | glyph195 | glyph196 | glyph197 | glyph198 |
|---|---|---|---|---|
| ᠌ | ᠌ | ᠌ | ᠌ | ᠌ |
| Initial form | Medium form | Curved Medium Form | Final Form | Curved Final Form |

# Hudum Mongol Option 4: J-74 Code

J-74 Code is designed by Mr. JiranNaima (ᠵᠢᠷᠠᠨᠨᠠᠢᠮ᠎ᠠ) from the Ordos region.
- This solution requires OpenType support.
- Without OpenType, the curved combination will show the separate characters.
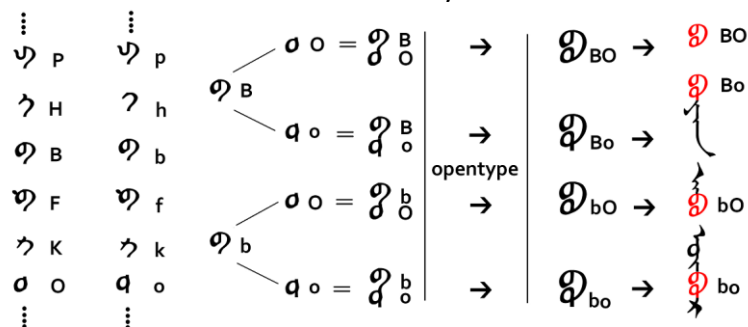
The designer would like to highlight that:
- The first group of 26 characters will create the initial forms of Mongolian script.
- The second group of 26 characters will create medium forms.
- And the rest of the characters composite the final forms.

The grouping of 26 Mongolian characters is following the same pattern of English/Latin 26 characters.

| .notdef | space | birga-mong | ellipsis-m… | mongolia… | mongolia… | colon-mong | mongolia… | todosofth… | sibesyllabl… | manchuco… | manchufu… | nirugu-m… | zero-mong | one-mong | two-mong |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⟨?⟩ | | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ |

| three-mong | four-mong | five-mong | six-mong | seven-mong | eight-mong | nine-mong | a-mong | e-mong | i-mong | o-mong | u-mong | oe-mong | ue-mong | ee-mong | na-mong |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ |

| ang-mong | ba-mong | pa-mong | qa-mong | ga-mong | ma-mong | la-mong | sa-mong | sha-mong | ta-mong | da-mong | cha-mong | ja-mong | ya-mong | ra-mong | wa-mong |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ |

| fa-mong | ka-mong | kha-mong | tsa-mong | za-mong | haa-mong | zra-mong | lha-mong | zhi-mong | chi-mong | todolongv… | todoe-mo… | todoi-mong | todoo-mo… | todou-mo… | todooe-m… |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ |

| todooue-m… | todoang-… | todoba-m… | todopa-m… | todoqa-m… | todoga-m… | todoma-m… | todota-m… | tododa-m… | todocha-… | todoja-mo… | todotsa-m… | todoya-m… | todowa-m… | todoka-m… | todogaa-… |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | - | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ≡ | • | : | ⟨glyph⟩ |

The OpenType feature is used in Curve-Joint characters only. Demonstration as below:



The final 7 characters will be used for textbook teaching purposes.

| todoga-mong | todoma-mong | todota-mong | tododa-mong | todocha-mong | todoja-mong | todotsa-mong |
|---|---|---|---|---|---|---|
| ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ | ⟨glyph⟩ |

The beautiful punctuation marks even covered the 5-Line (first in below chart), which is used in the primary school teaching purpose. Pupils will like this 5-Line symbol/character.

| todoya-mong | todowa-mong | todoka-mong | todogaa-mong | todohaa-mong | todojia-mong | todonia-mong | tododza-mong | sibee-mong | sibei-mong | sibeiy-mong | sibeue-mong | sibeu-mong | sibeang-mong | sibeka-mong | sibega-mong |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ≡ | • | : | • ᠎ | ⟨glyph⟩ | ⟩⟩ | • • • • | ⟨glyph⟩ | ⟨glyph⟩ | ( | ) | ⟨ | ⟩ | « | » | ⟨glyph⟩ |

The designer strongly suggest to have his code direction from right to left, following the Arabic approach, if this code gets selected.

# Hudum Mongol Option 5: C-235 Code

C-235 Code is designed by Mr. Cideltu from Beijing city.
Mr. Cideltu was the leading Technical expert for the FangZheng 6.0 and experienced in Publishing House techniques, Font designing, and IME input method creation. The below chart has three layers:

- Layer 1: These are the decomposition characters similar to Z-56.
- Layer 2: These are the combined characters similar to FSZ-74.
- Layer 3: These are the small components needed for textbook education purpose.

| .null | birga-mon... | birga-mon... | birga-mon... | birga-mon... | ellipsis-m... | mongolia... | mongolia... | colon-mo... | mongolia... | presentati... | presentati... | questione... | exclamatio... | presentati... | sibesyllabl... |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| zero-mon... | one-mong... | two-mong... | three-mon... | four-mon... | five-mong... | six-mong... | seven-mo... | eight-mon... | nine-mon... | nirugu-m... | .E80F_sma... | glyph27 | glyph28 | e-mong.E... | a-mong.E... |
| a-mong.E... | a-mong.E... | ee-mong... | i-mong.E8... | i-mong.E8... | o-mong.E... | o-mong.E... | ue-mong... | glyph41 | na-mong... | na-mong... | na-mong... | ang-mong... | ang-mong... | ba-mong... | pa_e-mon... |
| qa-mong... | qa-mong... | glyph85 | qa-mong... | qa-mong... | a-mong.E... | qa-mong... | qa-mong... | qa-mong... | ma-mong... | ma-mong... | ma-mong... | la-mong.E... | la-mong.E... | la-mong.E... | sa-mong.E... |
| sa-mong.E... | sha-mong... | sha-mong... | ta-mong.E... | ta-mong.E... | cha-mong... | ja-mong.E... | ja-mong.E... | ya-mong.E... | ra-mong.E... | ra-mong.E... | wa-mong... | glyph252 | glyph253 | glyph254 | tsa-mong... |
| za-mong.E... | haa-mong... | zra-mong... | lha-mong... | zhi-mong... | chi-mong... | a-mong.E... | ja-mong.E... | i-mong.E8... | i-mong.E8... | o-mong.E... | ba-mong... | ba-mong... | ba_e-mon... | ba_a-mon... | ba_ee-mo... |
| ba_i-mon... | ba_i-mon... | ba_o-mon... | ba_o-mon... | ba_na-mo... | ba_ga-mo... | ba_qa-mo... | ba_ga-mo... | ba_qa_e-... | ba_qa_e-... | ba_qa_i-m... | ba_qa_i-m... | ba_qa_oe-... | ba_qa_oe-... | ba_ma-mo... | ba_la-mon... |
| ba_sa-mo... | ba_sha-m... | ba_da-mo... | ba_ya-mo... | ba_ra-mo... | pa-mong... | pa-mong... | pa-mong... | pa_a-mon... | pa_a-mon... | pa_a-mon... | pa_a-mon... | pa_ee-mo... | pa_ee-mo... | pa_i-mon... | pa_i-mon... |
| pa_i-mon... | pa_i-mon... | pa_o-mon... | pa_u-mon... | pa_u-mon... | pa_u-mon... | pa_na-mon... | pa_ga-mon... | pa_ma-mon... | pa_la-mon... | pa_ra-mo... | qa-mong... | qa_e-mon... | qa_e-mon... | qa_e-mon... | qa_e-mon... |
| qa_ee-mo... | qa_ee-mo... | qa_i-mon... | qa_i-mon... | qa_i-mon... | qa_i-mon... | qa_oe-mo... | qa_oe-mo... | qa_oe-mo... | qa_oe-mo... | ga_na-mo... | freevstwo... | freevsthre... | vowelsepa... | ga_qa_e-... | ga_qa_e-... |
| ma_ma-m... | ma_la-mo... | la_la-mon... | sa-mong.E... | sha-mong... | ta-mong.E... | ta-mong.E... | da-mong... | cha-mong... | ya-mong.E... | ra-mong.E... | fa-mong.E... | fa-mong.E... | fa_e-mon... | fa_e-mon... | fa_ee-mon... |
| fa_i-mong... | fa_i-mong... | fa_o-mon... | fa_o-mon... | fa_na-mo... | fa_qa-mo... | fa_ma-mo... | fa_la-mon... | fa_ra-mon... | ka-mong... | ka-mong... | ka-mong... | ka_a-mon... | ka_e-mon... | ka_a-mon... | ka_a-mon... |
| ka_ee-mo... | ka_ee-mo... | ka_i-mong... | kha_i-mon... | ka_i-mong... | ka_i-mong... | ka_o-mon... | ka_o-mon... | ka_oe-mo... | ka_o-mon... | ka_na-mo... | ka_ga-mo... | ka_ma-mo... | ka_la-mon... | kha-mong... | kha-mong... |
| kha-mong... | kha_a-mo... | kha_a-mo... | kha_a-mo... | glyph172 | kha_ee-m... | kha_ee-m... | kha_i-mon... | glyph248 | kha_i-mon... | kha_i-mon... | kha_o-mo... | kha_o-mo... | kha_o-mo... | kha_o-mo... | glyph212 |
| kha_ga-m... | kha_ma-m... | kha_la-mo... | tsa-mong... | za-mong.E... | zra-mong... | zhi-mong... | na-mong... | ga-mong... | ma-mong... | la-mong.E... | sha-mong... | glyph190 | glyph191 | glyph192 | |

# Hudum Mongol Option 6: A-59 Code

A-59 Code is designed by Mr. AltanUul. The designer is a well-known Font designer in Inner Mongolia since year 2000.

- This code does not require OpenType support.
- Need an IME (Input method editor) and that's all.

| hha-ethi | hhu-ethi | hhi-ethi | hhaa-ethi | hhee-ethi | hhe-ethi | hho-ethi | hhwa-ethi | ma-ethi | mu-ethi | mi-ethi | maa-ethi | mee-ethi | me-ethi | mo-ethi | mwa-ethi |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sza-ethi | szu-ethi | szi-ethi | szaa-ethi | szee-ethi | sze-ethi | szo-ethi | szwa-ethi | ra-ethi | ru-ethi | ri-ethi | raa-ethi | ree-ethi | re-ethi | ro-ethi | rwa-ethi |
| sa-ethi | su-ethi | si-ethi | saa-ethi | see-ethi | se-ethi | so-ethi | swa-ethi | sha-ethi | shu-ethi | shi-ethi | shaa-ethi | shee-ethi | she-ethi | sho-ethi | shwa-ethi |
| qa-ethi | qu-ethi | qi-ethi | qaa-ethi | qee-ethi | qe-ethi | qo-ethi | qoa-ethi | qwa-ethi | glyph171 | qwi-ethi | qwaa-ethi | qwee-ethi | qwe-ethi | glyph176 | glyph177 |
| qha-ethi | qhu-ethi | qhi-ethi | qhaa-ethi | qhee-ethi | qhe-ethi | qho-ethi | glyph185 | qhwa-ethi | glyph187 | qhwi-ethi | qhwaa-ethi | | | | |

More information on the next page

The designer provided a sample list, shown below.

| | 1200 | 1210 | 1220 | 实例 | 1230 | 实例 | 1240 | 实例 | 1250 | 实例 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1200 | 1210 | 1220 Msp | 蒙文空格 | 1230 | | 1240 | | 1250 | |
| 1 | 1201 | 1211 | 1221 | | 1231 | | 1241 | | 1251 | |
| 2 | 1202 | 1212 | 1222 | | 1232 | | 1242 | | 1252 | |
| 3 | 1203 | 1213 | 1223 | 分解符 | 1233 | | 1243 | | 1253 | |
| 4 | 1204 | 1214 | 1224 | | 1234 | | 1244 | | 1254 | |
| 5 | 1205 | 1215 | 1225 | | 1235 | | 1245 | | 1255 | |
| 6 | 1206 | 1216 | 1226 | | 1236 | | 1246 | | 1256 | |
| 7 | 1207 | 1217 | 1227 | | 1237 | | 1247 | | 1257 | |
| 8 | 1208 | 1218 | 1228 | | 1238 | | 1248 | | 1258 | |
| 9 | 1209 | 1219 | 1229 | | 1239 | | 1249 | | 1259 | |
| A | 120A | 121A | 122A | | 123A | | 124A | | 125A | |
| B | 120B | 121B | 122B | | 123B | | 124B | | 125B | |
| C | 120C | 121C | 122C | | 123C | | 124C | | 125C | |
| D | 120D | 121D | 122D | | 123D | | 124D | | 125D | |
| E | 120E | 121E | 122E | | 123E | | 124E | | 125E | |
| F | 120F | 121F | 122F | | 123F | | 124F | | 125F | |

# Part 2  Todo Mongol Proposals

## Todo Mongol Option 1: S-115 Code

The S code is designed by Mr.Sainbilig from the Dzungar region (Xinjiang).
Mr. Sainbilig is a talented Mongolian font creator and Input method creator, and his IME was most popular among Mongolian users from early 2003 to 2012.

- This code chart does not require OpenType.
- With Mr. Sainbilig's sophisticated IME input method, the below code could be loved by the user community.

| _.notdef.0... | _.notdef.0... | _.notdef.0... | _.notdef.0... | _.notdef.0... | _.notdef.0... | _.notdef.0... | _.notdef.0... | _.notdef.0... | _.notdef.0... | _.notdef.0... | tha-ethi | thu-ethi | thi-ethi | thaa-ethi | thee-ethi |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ᠃ | ••• | — | ~ | ※ | ⌈ | ⌋ | ( | ) | | | ? | ᠊ | ᠊ | √ | ᠌ |
| the-ethi | tho-ethi | thwa-ethi | cha-ethi | chu-ethi | chi-ethi | chaa-ethi | chee-ethi | che-ethi | cho-ethi | chwa-ethi | pha-ethi | phu-ethi | phi-ethi | phaa-ethi | phee-ethi |
| | | | | | | | | | | | | | 6 | 6 | |
| phe-ethi | pho-ethi | phwa-ethi | tsa-ethi | tsu-ethi | tsi-ethi | tsaa-ethi | tsee-ethi | tse-ethi | tso-ethi | tswa-ethi | tza-ethi | tzu-ethi | tzi-ethi | tzaa-ethi | tzee-ethi |
| | | | | | | | | | | | | | | | |
| tze-ethi | tzo-ethi | tzoa-ethi | fa-ethi | fu-ethi | fi-ethi | faa-ethi | fee-ethi | fo-ethi | fwa-ethi | pa-ethi | pu-ethi | pi-ethi | paa-ethi | pee-ethi | pe-ethi |
| | | | | | | | | | | | | | | | |
| po-ethi | pwa-ethi | rya-ethi | mya-ethi | fya-ethi | glyph85 | glyph86 | geminatio... | vowelleng... | geminatio... | sectionma... | wordspac... | fullstop-et... | comma-ethi | semicolon... | colon-ethi |
| | | | | | | | | | | | | | | | |
| prefacecol... | question... | paragraph... | one-ethi | four-ethi | two-ethi | three-ethi | five-ethi | six-ethi | seven-ethi | eight-ethi | nine-ethi | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... |
| | | | | • | | | | | - | | | o | oo | | |
| _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... |
| | | | | | | | | | | | | | | | |
| _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | _.notdef.1... | |
| | | | 0 | 9 | | | | | | | | | | | |

The designer provided a sample list shown below.

| | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 |
|---|---|---|---|---|---|---|---|---|
| 0 | 1300 | 1310 | 1320 | 1330 | 1340 | 1350 | 1360 | 1370 |
| 1 | 1301 | 1311 | 1321 | 1331 | 1341 | 1351 | 1361 | 1371 |
| 2 | 1302 | 1312 | 1322 | 1332 | 1342 | 1352 | 1362 | |
| 3 | 1303 | 1313 | 1323 | 1333 | 1343 | 1353 | 1363 | |
| 4 | 1304 | 1314 | 1324 | 1334 | 1344 | 1354 | 1364 | |
| 5 | 1305 | 1315 | 1325 | 1335 | 1345 | 1355 | 1365 | |
| 6 | 1306 | 1316 | 1326 | 1336 | 1346 | 1356 | 1366 | |
| 7 | 1307 | 1317 | 1327 | 1337 | 1347 | 1357 | 1367 | |
| 8 | 1308 | 1318 | 1328 | 1338 | 1348 | 1358 | 1368 | |
| 9 | 1309 | 1319 | 1329 | 1339 | 1349 | 1359 | 1369 | |
| A | 130A | 131A | 132A | 133A | 134A | 135A | 136A | |
| B | 130B | 131B | 132B | 133B | 134B | 135B | 136B | |
| C | 130C | 131C | 132C | 133C | 134C | 135C | 136C | |
| D | 130D | 131D | 132D | 133D | 134D | 135D | 136D | |
| E | 130E | 131E | 132E | 133E | 134E | 135E | 136E | |
| F | 130F | 131F | 132F | 133F | 134F | 135F | 136F | |

**Todo Option 2: M-149 Code**

M Code is designed by Mr. Minzai from Dzungar region (Xinjiang).
Below is Mr. Minzai's short article (Translation in the next page)

# 解决托忒文国际编码的唯一出路就是自立门户单独申请托忒文国际编码

## 作者： 明再

（一）蒙古文国际编码与托忒文编码蒙古文国际编码是个没有文字字体支持虚拟编码所以无法使用。蒙古文国际编码是一个通过 FVS MVS 变形的虚拟假像组成的虚像编码。蒙古文是个音标文字这是事实，但是每个字符都有词首、词中、词末、独体变形字体。蒙古文国际编码根本就没有字符的词首、词中、词末、独体等实像和字体支持，所以蒙古文国际编码是个虚拟假像组成的虚像编码。形成了无法使用现象。

（二）托忒文字文字排序错误,蒙古文国际编码只考虑胡杜木文字排序问题,没有考虑托忒文字排序。

（三）搜索问题：现有的蒙古文国际编码是多种文字混合体，是混合编码（胡杜木文字、托忒文字、满族文字、文锡箔文字聚在一起），所以无法确认是那一种文字字符，搜索托忒文字出来的是胡都木文字或者满文，我个人建议不能公用一个字符和一个编码，公用一个字符和一个编码给搜索带来不可挽回的麻烦……

（四）蒙古文国际编码的托忒文古代文字和现代古代无法解决，各方面考虑现在的蒙古文国际编码的确无法使用也无法接受。根据托忒文字用户是否接受使用现有的蒙古文国际编码结果还是等于零。
- 新疆日报蒙文网址：http://mongol.xjdaily.com/
- 新疆蒙古语广播网：http://www.xjmglr.com/

新疆日报蒙文出版和各个出版部门用的是方正、蒙科立、赛音等其它托忒编码。这些网根本没有使用蒙古文国际编码，对于托忒文用户来说它的存在毫无意义！

（五）现代托忒文、古代托忒文、嘎立格等托忒文必须的问题无法解决。根据以上情况，托忒文必须自立门户单独申请托忒文国际编码，托忒文字不应该和胡杜木文字、满族文字、文锡箔文字等文字混在一起，文字搜索，单词排序等问题无法实现，特别是现代托忒文、古代托忒文、嘎立格等托忒文必须的问题无法解决。所以请国际编领导小组解决托忒文字编码问题为盼。

# The only way to survive is to apply Unicode block independently for Todo Mongolian Script

## Written by MinZai
### Translated by Chuck Namujila

Firstly, the U1800 Phonetic solution is lack of characters and using virtual artifact control-format characters (FVS MVS), so it is difficult to be widely used. The Mongolian script is indeed Phonetic based, but each phonetic character has its Initial, Medium, Final, and Isolate characters. The Phonetic solution did not cover all Mongolian characters and used artificial virtual features. Thus, the Phonetic solution is challenging to adopt.

Secondly, the sorting for Todo Script is wrong. The U1800 Phonetic solution only considered sorting for Hudum Mongolian script and did not cover the sorting feature for the Todo Mongolian script.

Thirdly, the current Phonetic Unicode solution mixed many different scripts, including Hudum script, Todo script, Manchu Script, and Xibo scripts. So it is difficult to identify which character belongs to which script. The search result for Todo script always shows either Hudum or Manchu script and rarely shows Todo script. I personly suggest we should split each script into different Unicode blocks and avoid unnecessary confusion.

Fourthly, the Phonetic Unicode solution did not fix the problems in Ancient Todo and Modern Todo scripts. In all respects, the current Mongolian international code is indeed unusable and unacceptable. Usage of the Phonetic Unicode Standard by the Todo User community is almost Zero.

- Xinjiang Daily News Mongolian web:    http://mongol.xjdaily.com/
- Xinjiang Mongolian Broadcasting web:  http://www.xjmglr.com/

The Xinjiang Daily news and all Xinjiang publishing houses are using either FangZheng, MengkhGal, or SainBilig codes for Todo scripts. None of these websites are using the Phonetic Unicode Standard, and the Phonetic Unicode Standard is meaningless for the Todo user community.

Lastly, the problems in Modern Todo, ancient Todo, Galig, must be fixed. We concluded that the only way to survive is to apply Unicode block independently for Todo Mongolian Script, and separate our code from Hudum, Manchu, and Xibo scripts. The sorting for Todo must be fixed too.

We sincerely hope that the Unicode experts could help fix the problems in the Todo Mongolian script. Thank you.

The below chart fixed the sorting problem and covered all characters of Todo scripts.

| ja-ethi | ju-ethi | ji-ethi | jaa-ethi | jee-ethi | je-ethi | jo-ethi | jwa-ethi | ga-ethi | gu-ethi | gi-ethi | gaa-ethi | gee-ethi | ge-ethi | go-ethi | goa-ethi |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

| gwa-ethi | glyph97 | gwi-ethi | gwaa-ethi | gwee-ethi | gwe-ethi | glyph102 | glyph103 | gga-ethi | ggu-ethi | ggi-ethi | ggaa-ethi | ggee-ethi | gge-ethi | ggo-ethi | ggwaa-ethi |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

| tha-ethi | thu-ethi | thi-ethi | thaa-ethi | thee-ethi | the-ethi | tho-ethi | thwa-ethi | cha-ethi | chu-ethi | chi-ethi | chaa-ethi | chee-ethi | che-ethi | cho-ethi | chwa-ethi |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

| pha-ethi | phu-ethi | phi-ethi | phaa-ethi | phee-ethi | phe-ethi | pho-ethi | phwa-ethi | tsa-ethi | tsu-ethi | tsi-ethi | tsaa-ethi | tsee-ethi | tse-ethi | tso-ethi | tswa-ethi |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

| tza-ethi | tzu-ethi | tzi-ethi | tzaa-ethi | tzee-ethi | tze-ethi | tzo-ethi | tzoa-ethi | fa-ethi | fu-ethi | fi-ethi | faa-ethi | fee-ethi | fe-ethi | fo-ethi | fwa-ethi |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

| pa-ethi | pu-ethi | pi-ethi | paa-ethi | pee-ethi | pe-ethi | po-ethi | pwa-ethi | rya-ethi | mya-ethi | fya-ethi | glyph171 | glyph172 | geminatio... | vowelleng... | geminatio... |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

| sectionma... | wordspac... | fullstop-et... | comma-ethi | semicolon... | colon-ethi | prefacecol... | question... | paragraph... | one-ethi | two-ethi | three-ethi | four-ethi | five-ethi | six-ethi | seven-ethi |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

| eight-ethi | nine-ethi | ten-ethi | twenty-ethi | thirty-ethi | forty-ethi | fifty-ethi | sixty-ethi | seventy-ethi | eighty-ethi | ninety-ethi | hundred-... | tenthousa... | glyph205 | glyph206 | glyph207 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

| sebatbeit... | mwi-ethi | mwee-ethi | mwe-ethi | sebatbeit... | bwi-ethi | bwee-ethi | bwe-ethi | sebatbeitf... | fwi-ethi | fwee-ethi | fwe-ethi | sebatbeit... | pwi-ethi | pwee-ethi | pwe-ethi |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

| tonalyizet-... | tonalderet... | tonalrikrik... | tonalrikrik... | tonaldifat... | tonalkena... | tonalchire... | tonalhidet... | tonalderet... | tonalkurt-... | glyph234 | glyph235 | glyph236 | glyph237 | glyph238 | glyph239 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |

# Part 3   Manchu Proposals

Manchu Proposal in progress.   -   Pending Unicode to revert back on other proposals.