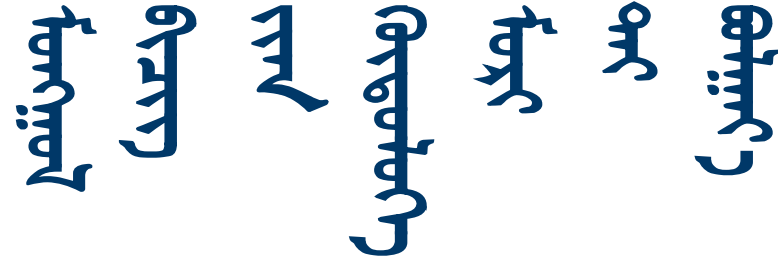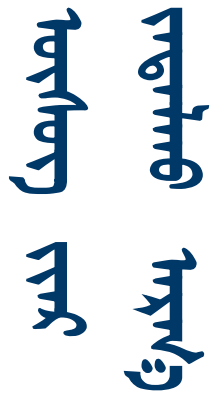# The Proposal

Dual-Track Strategy

The Simplified Mongolian Solution – Unicode

Simple, Stable, and Searchable

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Executive Summary

Objective	To apply separate Usgiin (ᠥᠰᠥᠭ γсгийн 音素) Unicode Blocks as the secondary options for: • Hudum Mongolian script (128 code points) • Todo Mongolian script (128 code points)
IT Investment	Self-sponsored & Zero Dollar investment from Government
Project Value - IRR	Unlimited, national strategic project
Project Timeline	1 ~ 2 years
Scope	Out of Scope: • The U1800 Phonetic Mongolian Solution In the Scope: • The New Usgiin (ᠥᠰᠥᠭ γсгийн 音素) Solution • Hudum and Todo Mongolian scripts
User Community Support	10 thousand users signed up for an alternative solution in 2019

1-1. Problem Statement

The phonetic solution violated at least 4 out of 10 rules from Unicode Standard Chapter 2.2 Architecture Design principles:

- Violates "Universality" principle and the scripts are unreadable in historic writing systems
- Violates "Unification" principle, creates Code-Duplication, and become un-searchable
- Violates "Plain Text" principle and depends on FVS/MVS/Grammar rich text logic
- Violates "Stability" principle and becomes un-stable between versions

Known Facts:

- U1800 Phonetic script documents written in Microsoft word 2010 are showing DIFFERENT characters in Microsoft word 2016.
- Popular websites like www.qinggis.net, www.Bainu.com, www.Holvoo.net are NOT using U1800 Phonetic Unicode Standard.
- Government websites like XinJiang Daily News, XinJiang Mongolian Broadcasting web are NOT using U1800 Phonetic Unicode Standard.

1-2. Problem Statement – "MVS/FVS" and "NNBSP"

- Visible foreign characters like "MVS" greatly demoralizes the Mongolian Users, in Red
- Invisible characters like "NNBSP" creates a lot of wrongs words, in Orange

Source: www.President.mn/MNG using iPhone

1-3. Problem Statement – Dependency on Un-unified Grammar

- There are disagreements on Grammar rules across regions and academic streams.
  Academic stream A supports "Ail", while Academic stream B supports "Ayil"

Source: Liang JinBao 《蒙古文正字法与蒙古文编码》
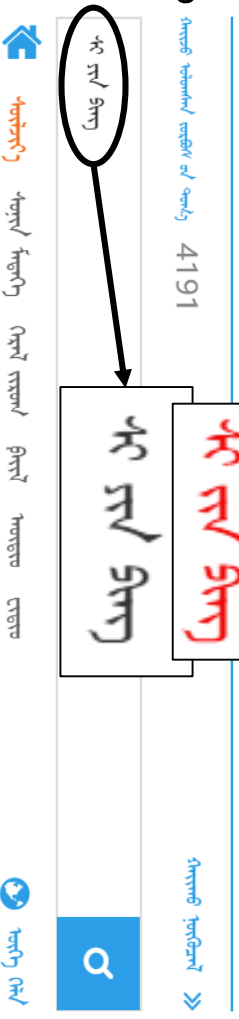
1-4. Problem Statement – Cybersecurity Phishing Risk
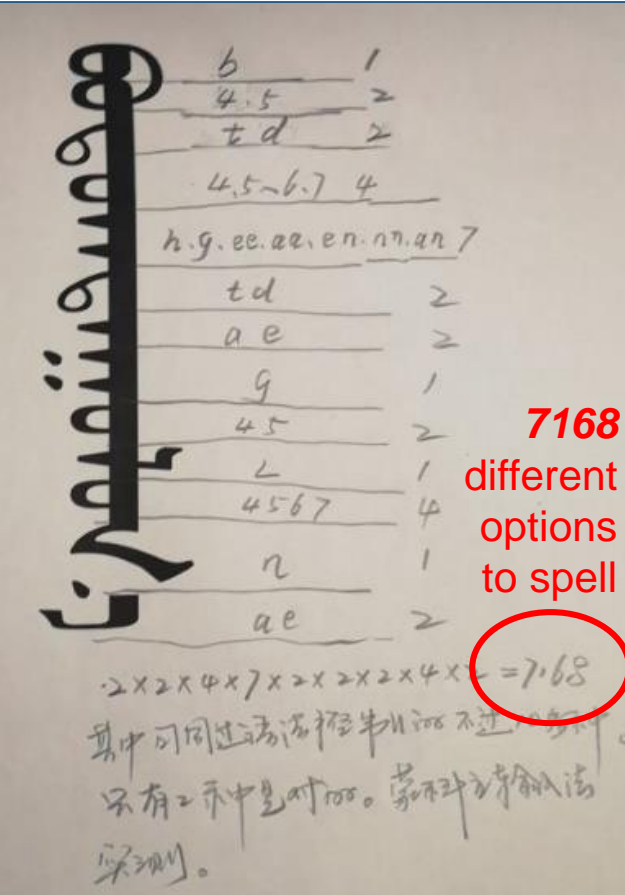
- Phishing risk for using "Yin" to replace "Jin"

http://mongol.ttcy.com
2020-01-13

http://www.mgyxw.net
2019-11-05

http://www.mgyxw.net
2019-11-05

http://www.nmgdj.gov.cn
2019-12-06

http://www.joloo.cn

1-5. Problem Statement – Code Duplication

There on 6 sets of code duplication in current Phonetic solution

1. a/e/n
2. e/o
3. h/g
4. i/y/j
5. o/u
6. t/d

7168 different options to spell

1-6. Problem Statement – OpenType Dependency

Python Anaconda Spyder is not supporting the Phonetic solution.

(Note: This is one of the most popular Artificial Intelligence, machine learning software)

2. Urgency: Time is running out – Decreasing User Number

The Mongolian language is classified as one of "Endangered language in China" by UNESCO.
- Statistics shows the Mongolian user number deceased from 3.2 million in 1994 to 1.7 million in 2016.
- By straight line forecasting, the user numbers will be ZERO by 2036 in China domain.

Average losing 188 users per day
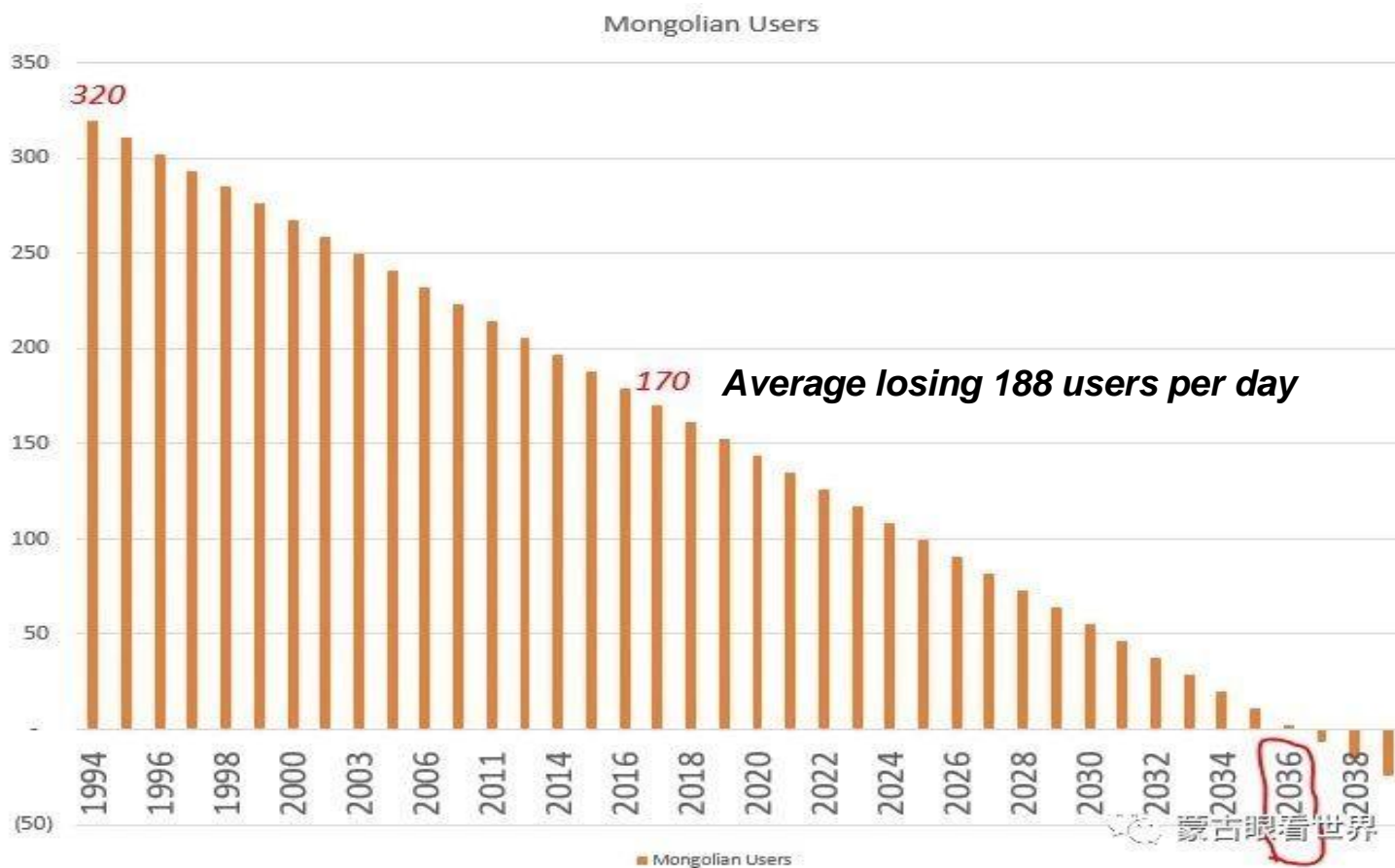
3-1. Architecture Design

Mongolian language is a Phonetic language, but the script should not violate Unicode Standard Architecture Design principles to keep the Phonetic feature.

- The underlying Unicode script should follow the Unicode Standard.
- The IME (Input Method Editor) could enable the Phonetic features.
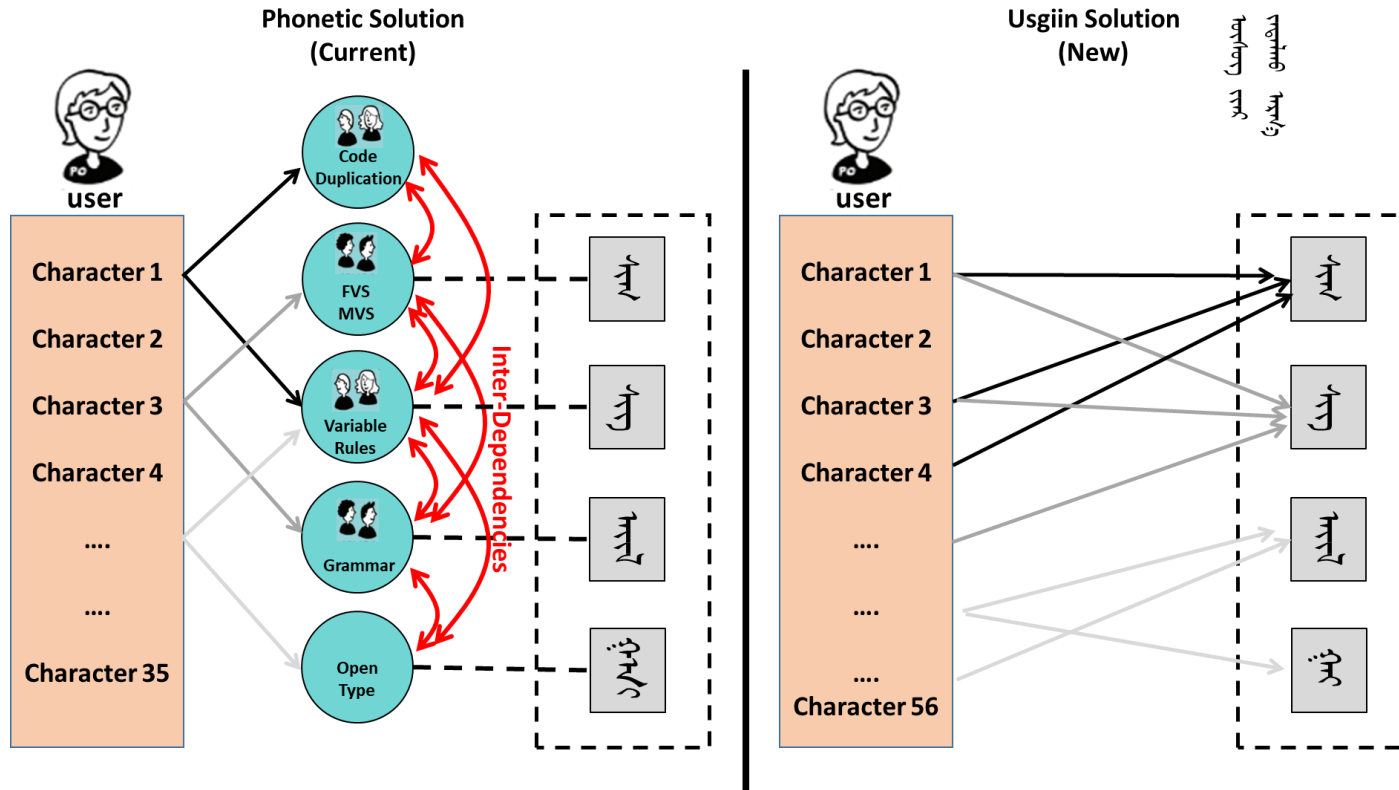
3-2. Architecture Design – Descoping

- Moving the Phonetic feature and Grammar/variable rules into IME (Input Method Editor).
- The new Usgiin Unicode encoding is plain text, simple/stable/searchable
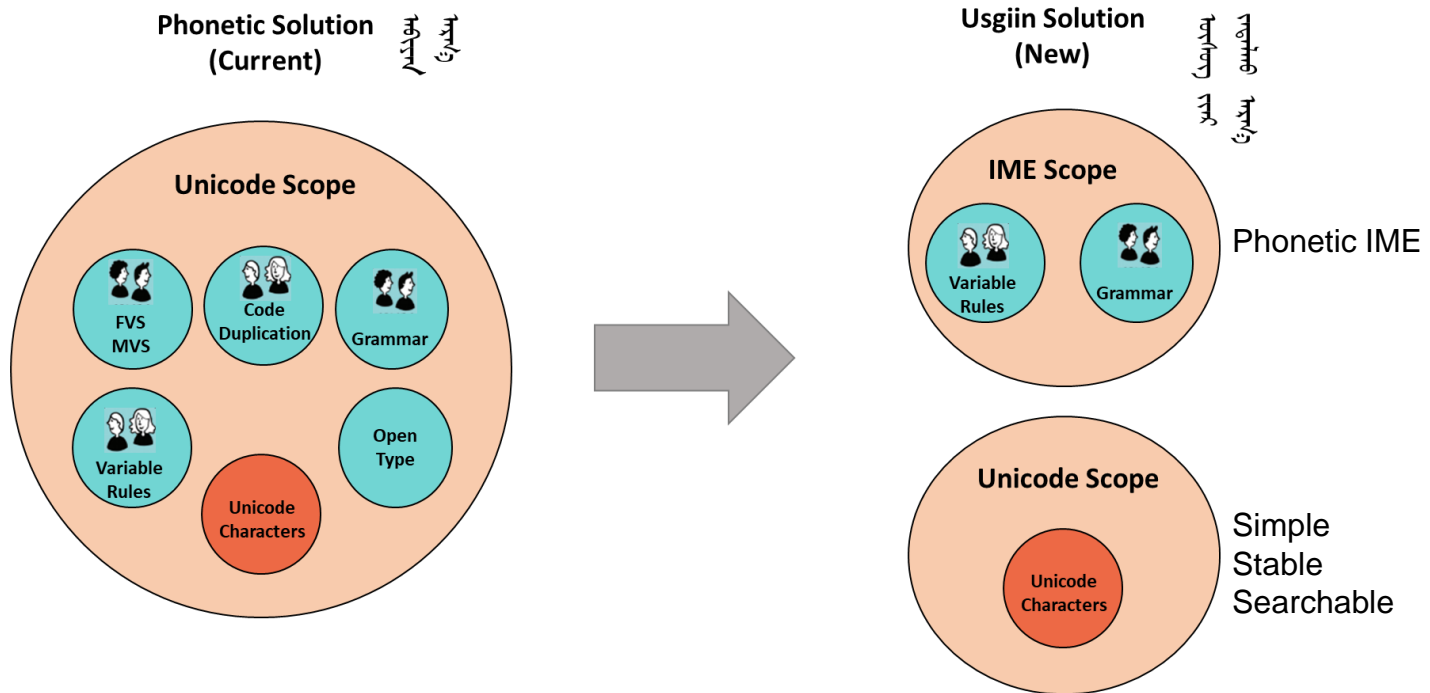
4-1. Recommendation - The Simplified Hudum Mongolian Solution

Z-55 solution is proposed by Z-team.

- Deposited into the smallest component.
- No grammar dependency, No code-duplication, No OpenType dependency, No FVS/MVS
- IME Input method will carry the Grammar & Variable Rules

birga-mong	ellipsis-mong	mongolianco...	mongolianful...	colon-mong	mongolianfo...	todosofthyph...	sibesyllableb...	manchucomm...	manchufullst...	nirugu-mong	freevsonecom...	freevstwocom...
✳	• • • •	♦	♦ ♦	⋮	◦ •	◦•	▬▬	≡	⊃:	◦:	◦:	◦:
freevsthreeco...	vowelseparat...	zero-mong	one-mong	two-mong	three-mong	four-mong	five-mong	six-mong	seven-mong	a-mong	e-mong	i-mong
(	)	⟨	⟩	⟪	⟫	[	]	•	••	▪	ˋ	┼
o-mong	u-mong	oe-mong	ue-mong	ee-mong	na-mong	ang-mong	ba-mong	pa-mong	qa-mong	ga-mong	ma-mong	la-mong
Γ	√	⊃	⊃	)	⌐	ℂ	⊏	∂	⊏	∂	Θ	⊏
sa-mong	sha-mong	ta-mong	da-mong	cha-mong	ja-mong	ya-mong	ra-mong	fa-mong	ka-mong	kha-mong	za-mong	haa-mong
┼	⌐	√.	6	5	⌂	⋈	⌂	⋈	(	ℂ	⨍	⨍
zra-mong	lha-mong	zhi-mong	chi-mong	todolongvow...	todoe-mong	todoi-mong	todoo-mong	todou-mong	todooe-mong	todoue-mong	todoang-mong	todoba-mong
⨍	⋈	⨍	⊥	⌐	⊃	⊹	⋔	N	⍨	⍨	N̈	Ⴥ
todopa-mong	todoqa-mong	todoga-mong	todoma-mong	todota-mong	tododa-mong	todocha-mong	todoja-mong	todotsa-mong	todoya-mong	todowa-mong	todoka-mong	todogaa-mong
⊃	⊐	⊐	⊃	⊼	⌐	⧂	⌂	⊼	⊼	⊕	⋃	ˋ

Objectives:
- **Moving away the Grammar problems from Unicode**
- Removing Code duplication

4-2. Recommendation - The Simplified Todo Mongolian Solution

Mr. Sainbilig proposed the S-105 simplified Todo solution

- Deposited into the smallest component.
- IME method will be developed on Microsoft Windows, Mac, iPhones, and Android.

4-3. Recommendation - The Simplified Manchu Solution

To be updated after Hudum Mongolian and Todo scripts are approved by UTC.

5. Other Information

The simplified solution is to reduce the pressure on Phonetic solution development, buying more time and protecting the user community, until Phonetic solution solves the existing problems.

Different blocks for different scripts are suggested: Hudum script, Todo Script, Manchu script, Xibo script are all different and suggest to encode in **Separate** blocks.

IME (Input Method Editor) methods will be developed in separate projects to support the Simplified solution. The development ownership is NOT on Unicode.

OpenType is Optional:
- Without OpenType support, the simplified solution will ensure the accuracy.
- With OpenType support, the simplified solution Glyph will be gorgeous.

Z team is willing to offer a database with 3 Million Mongolian word/word-group records.

6. Q&A

Thank you