Proposal to create open source OpenType tables for modern Mongolian
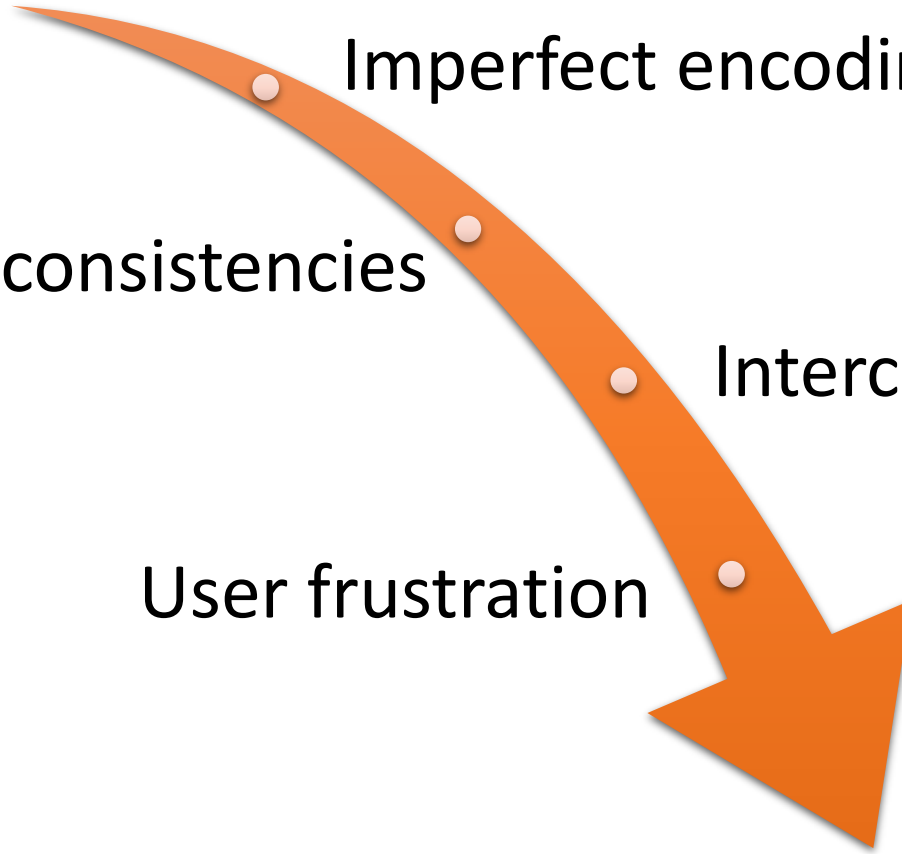
Andrew Glass

Complex orthography

Imperfect encoding model

Font inconsistencies

Interchange difficulties

User frustration

Decreasing user interest

Mongolian orthography is complex. The existing encoding contributes to a cascade of issues that affect adoption of the script.

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We are working together to address these issues. In this presentation I want to make a suggestion to help with fonts.

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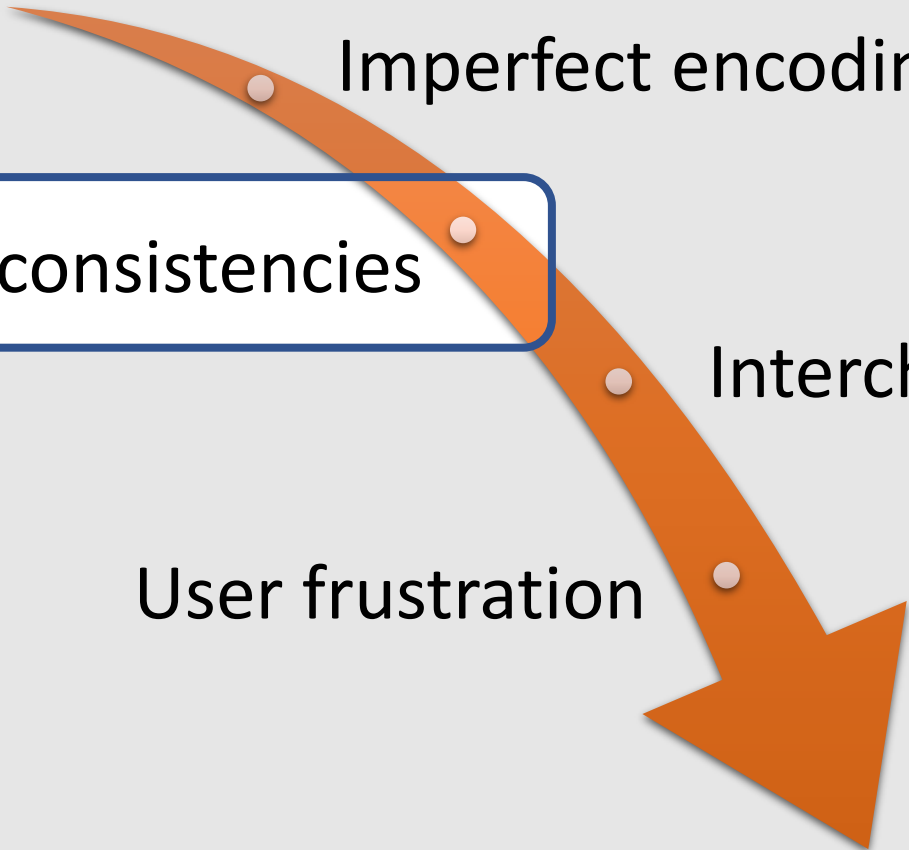
We are working together to address these issues. In this presentation I want to make a suggestion to help with fonts.
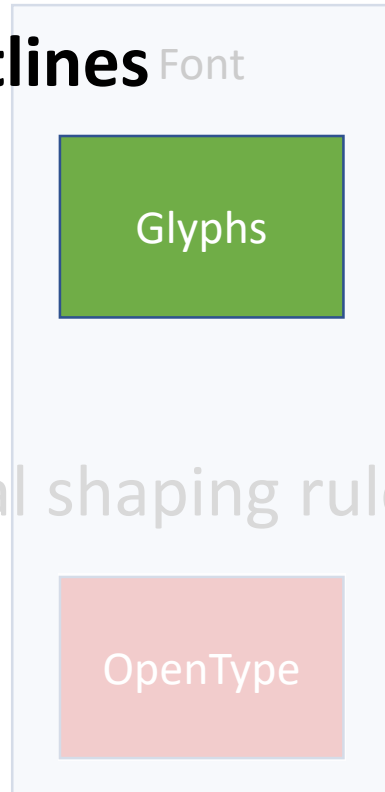
Key parts of a font
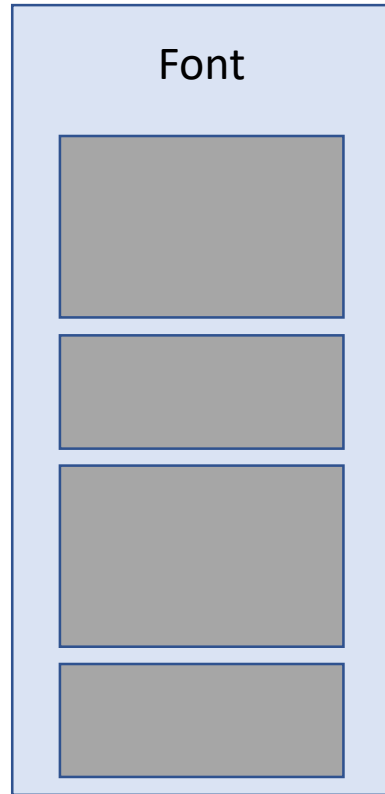
Font

table	156Ship074.ttf
DSIG	8; 0x00000001
GDEF	42; 0x0DFA167B
GPOS	200; 0xC91DD481
GSUB	45072; 0xFAF3AAF1
OS/2	96; 0x3992EA28
cmap	4004; 0xCE714BCB
cvt	1440; 0x12F2C1DA
fpgm	17437; 0x479949E7
gasp	8; 0x00000010
glyf	509340; 0x8F45B776
head	54; 0x24950CF8
hhea	36; 0x1DFE1453
hmtx	8880; 0x5540C600
loca	8884; 0x217E8AAC
maxp	32; 0x13D6069A
name	3360; 0x49414EA7
post	23325; 0x69C40742
prep	6906; 0xCF4CB0EB

A font is a collection of data tables.

Key parts of a font

- **Glyph outlines** Font

Glyphs

- Contextual shaping rules

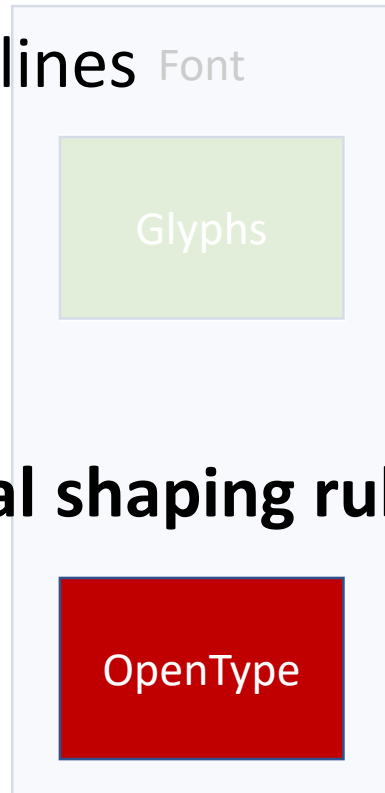 | OpenType |
  |---|
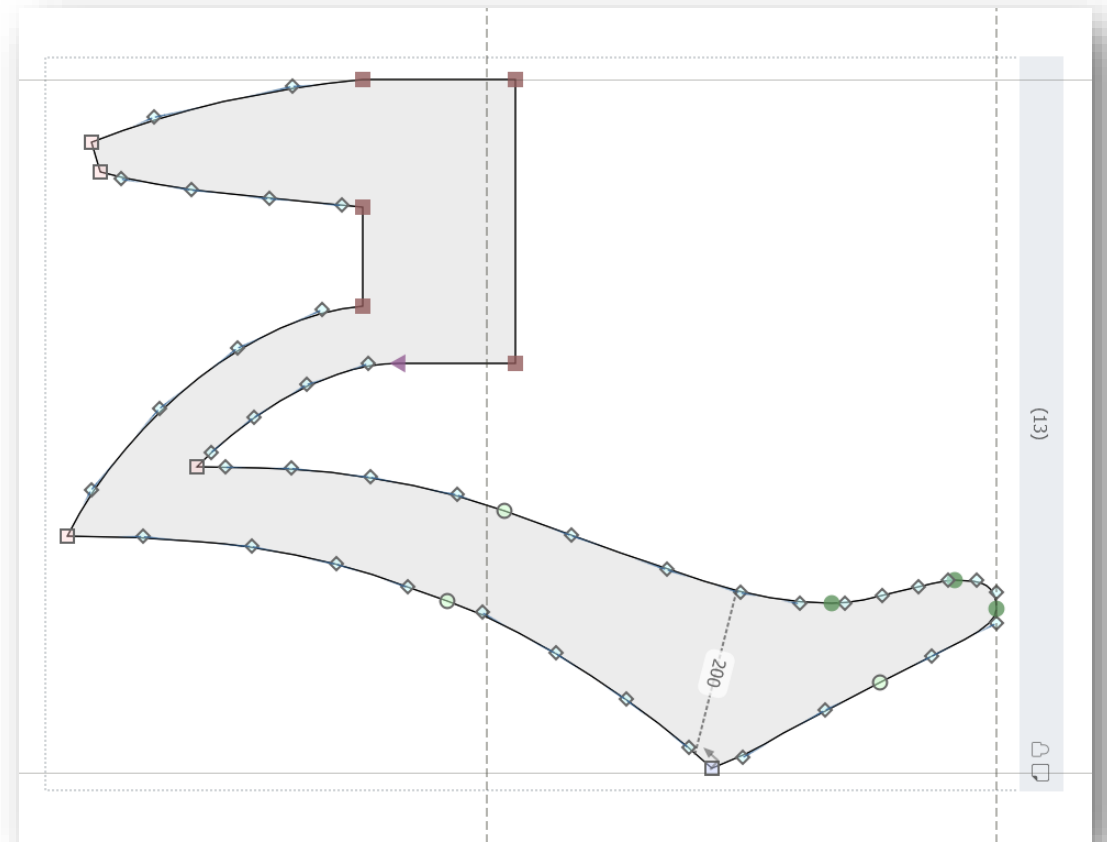
The most important table is the glyph table which contains definitions of the glyph shapes.

Key parts of a font

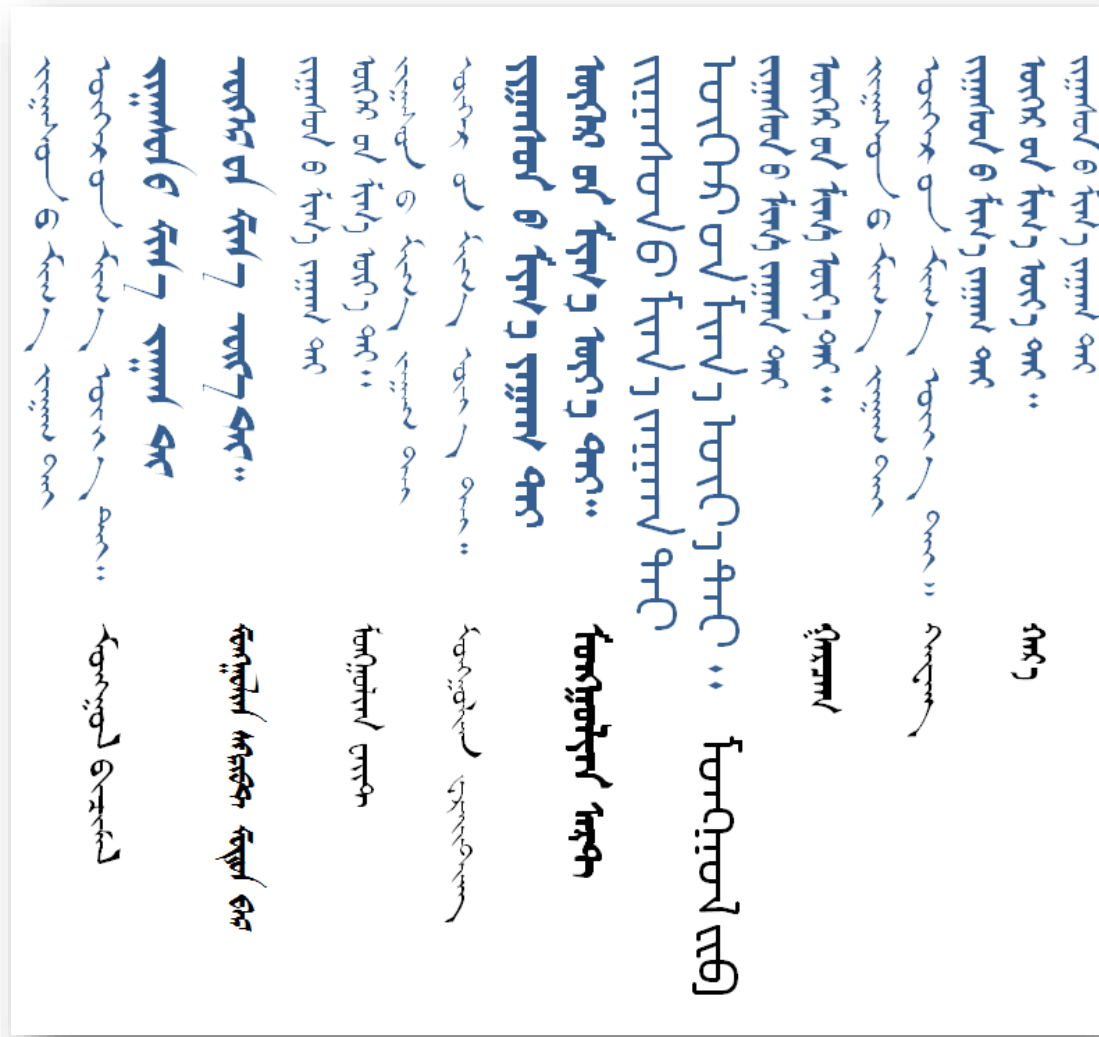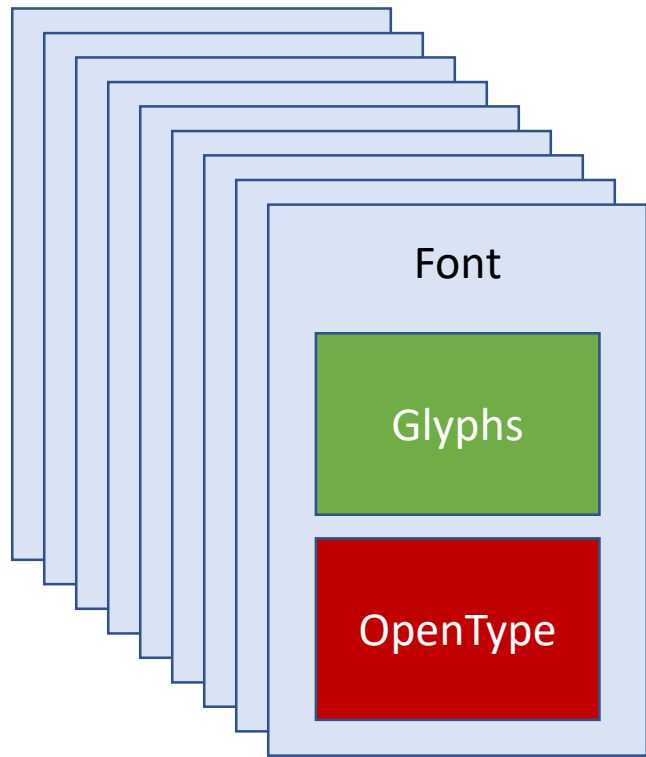- Glyph outlines

- **Contextual shaping rules**

For a complex script such as Mongolian, the OpenType substitution table is also essential.
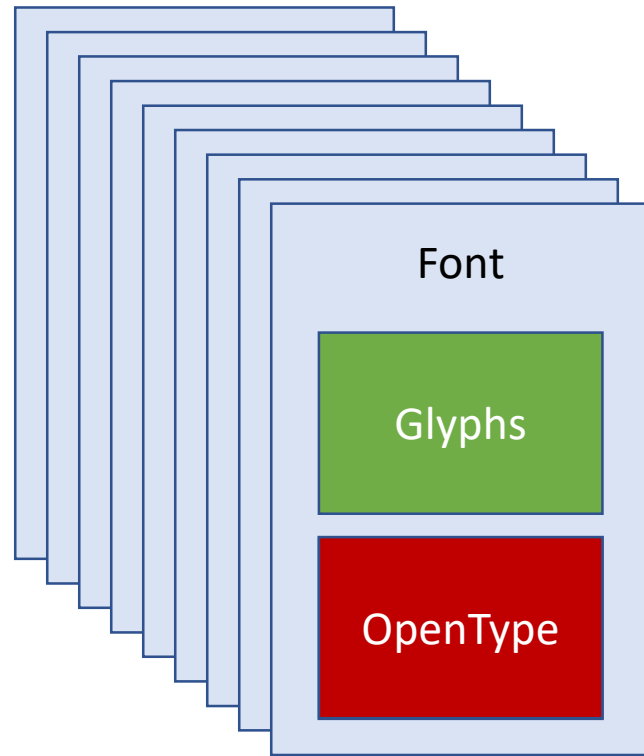
Key parts of a font
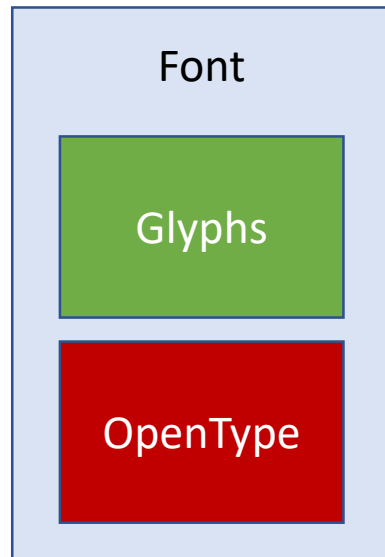
Together these, and additional tables make a functioning font.

Font variety

Users want to have a wide selection of fonts for different purposes. Variety amounts to having different glyphs.

Common shaping

Building the OpenType for a complex script is hard. There are no prizes for being better, every font needs to be conformant.

Conformant shaping

A conformant Mongolian OpenType font passes the test suite (http://rule.mongoltoli.cn/ruletest.php)
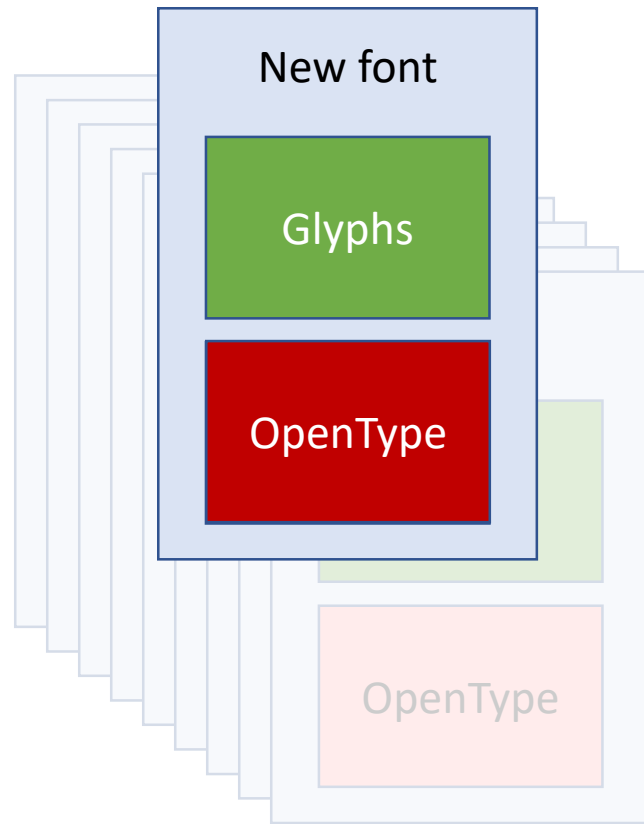
OpenSource shaping
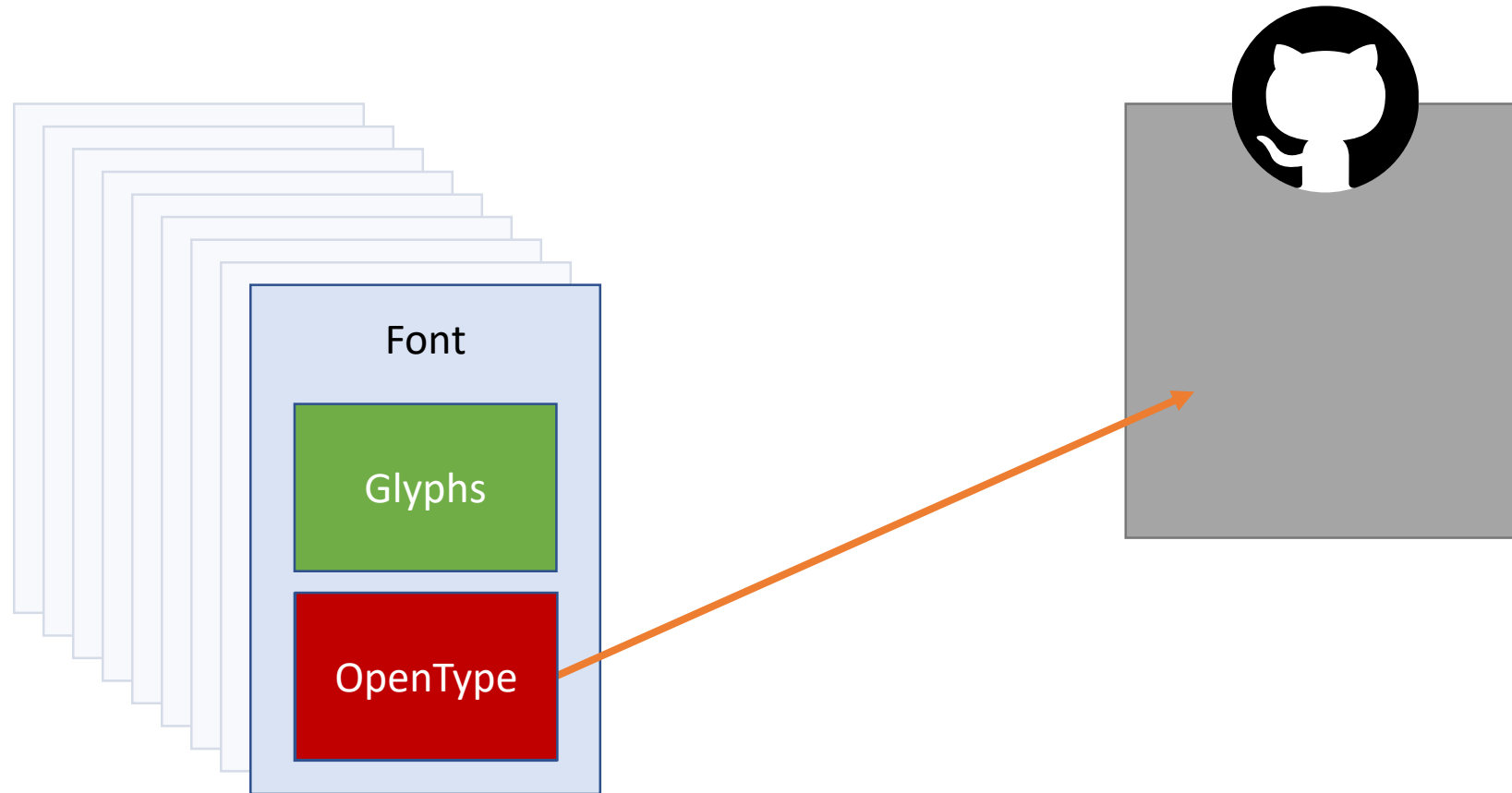
When we have a font that passes all of the tests, let's make the OpenType table available to everyone.

OpenSource shaping
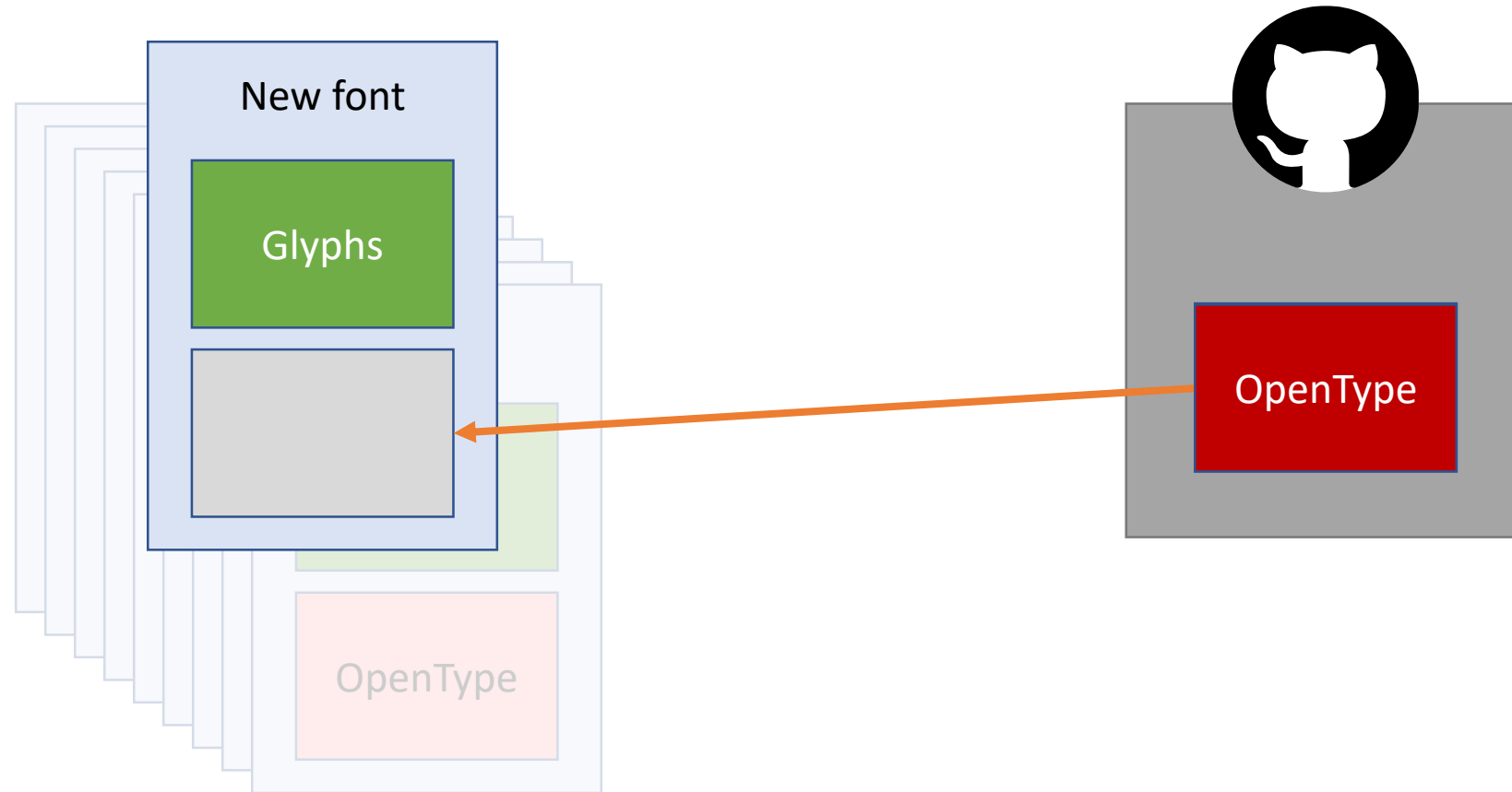
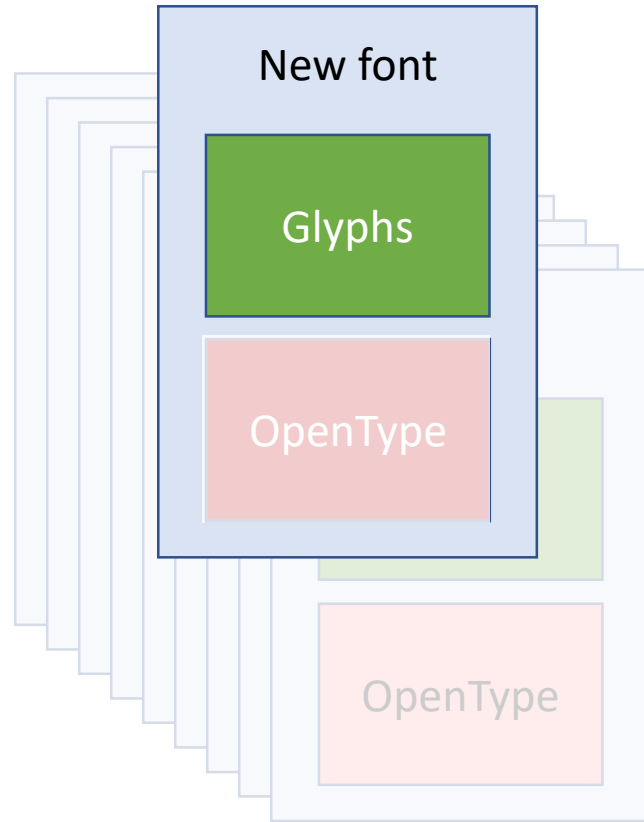Any new font that implements the same glyph set can use the same OpenType solution and become conformant.

OpenSource shaping

New font

Glyphs

OpenType

OpenType

```
Windows PowerShell                                    —   □   ✕

PS C:\Users\anglass\source\mongolianopentype> python .\motgen.py
    Start processing Mongolian font
        Load font
        Read 2219 glyphs
        All required glyphs present
        Generating OpenType tables
        Write OpenType tables to font
    Finished
PS C:\Users\anglass\source\mongolianopentype>
```

Loading the OpenType tables for a font could be as simple as running a script from a command line.
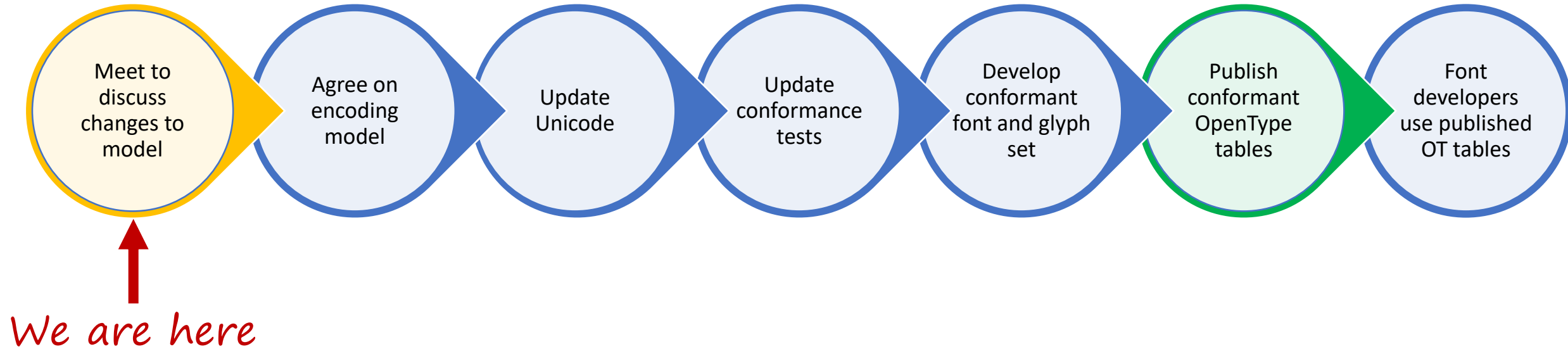
Requirements

In order to have the shared OpenType tables apply across fonts, each font must implement the same glyph set.

Process

Meet to discuss changes to model → Agree on encoding model → Update Unicode → Update conformance tests → Develop conformant font and glyph set → Publish conformant OpenType tables → Font developers use published OT tables

We are here

Open-sourcing a conformant OpenType table comes near the end of our work to stabilize the Mongolian encoding.