Introduction to Open Khmer School HL

Font designer:　Xavier Dupré

OT engineer:　　Sovichet Tep

Document by:　　Sovichet Tep

Developed by:　　Open Institute

Overview

Embedding the highlighting capability for Khmer letters in a Unicode font is a tedious work. Unexpectedly, it might break the working flow of the fonts built with Unicode standard. Almost every text rendering system recognizes Khmer letters as clusters which a cluster includes a consonant, subscripts, marks, etc. This makes selecting a letter or a mark impossible as the selecting process will cover the whole cluster, not an individual letter.

So to achieve this, a special font has been built using basic Latin character set by replacing those glyphs with Khmer letters. This method was introduced in ABC and Limon fonts in the old days.

Remember to use **United State (International)** keyboard.

Features

More than just replacing the letter outlines, the new font family have been engineered with OpenType features to enable ligatures and to imitate the some Unicode ways.

Followings are features engineered for Open Khmer School HL family.

Ligatures

In Limon and ABC family, it is impossible to change the shape of a consonant when followed by the vowel AA (កា). But with Open Khmer School HL, the ligatures work as expected.

កខគឃងា ចឆជឈញ្ញា ដាហាឌាឈាណា

តថទធនា បាផាពភាម យារលាវាសាហាឡ្ហាអ

With sub-consonants:

ក្ខគ្ឃយ្យាង្វា ច្ឆឆ្ជ្ឈញ្ញក្ដ ដ្ឋម្ឋខ្ឈ្សាណ្ណា
ត្ថ្ទ្ធ្ធ្ន ប្ផាផ្ពព្ភ្ម្ម យ្យ្រាល្ល្វ្វ្ស្ស្ហ្ហ្ឡ្ឡ្អ្ឝ

Get them highlighted:

ក្ក ខ្ខ យ្យ្ ច្ឆ ឈ្ឈ ញ្ញ សាលា សន្សា

Sub-consonants

By imitating the Unicode ways, a sub-consonant can be typed using the [J] key followed by a consonant.

ក្ ខ្ គ្ យ្យ្ ង្ ច្ ឆ្ ជ្ ឈ្ ញ្ ...

There is a lack of support for pre-base form like sub-consonant RO and other vowels (will discuss more in the "What are not covered" section.) So those have to be typed before the consonant it spells with.

្រ ក ប ី > ក្របី

Horizontal stacking

It is ideal that below and above stacking are handled automatically. Currently, below, above and post-base vowels, and low sub-consonant RO are working. Second level sub-consonants will be implemented later.

ក្ដ្ង ខ្ញុំ ស្ដ្ងស្រ្វ កន្ត្រក កន្ឆ្លើ កម្ពុជា កត្ត្ញ អ្ឆិ ស្រ៉ិន

What are not covered

Some lacks are previously mentioned but they will be discussed more here.

Pre-base form

In the Unicode way, words are typed in spelling order. Since the font were engineered using Latin character set, the pre-base form is not supported which means ៧ ្រ េ ែ ៃ ោ ៅ will not be prepended to the cluster automatically. They have to be typed before; in linear way.

<div align="center">

េក > េក   ្រ្រក > ្រ្រក   េ្រកា ក > េ្រកាក

</div>

Register shifts (Triisap and Muusikatoan)

Triisap and Muusikatoan will not be changed automatically to U (ុ) mark when followed by an above vowel. So these marks have to be typed one by one.

<div align="center">

ស ុ �ី > ស៊ី   ប ុ �ី > ប៊ី   ហ ្យ ុ �ី > ហ្ស៊ី

</div>

Key mapping

The key mapping is more like the Khmer Unicode. This is due to some difficulties and technical process. It might be updated if needed, but the current one is working properly.
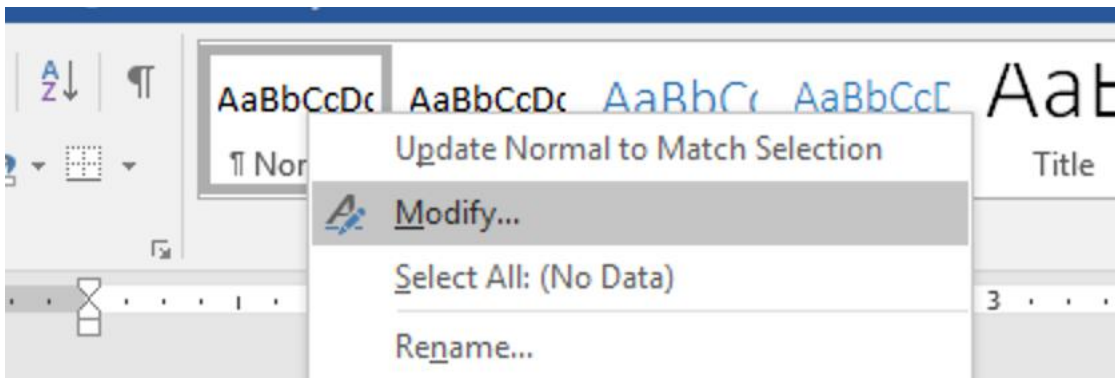
In this version, there is only one mark that has different key map: Toandakhiat which is located at **Shift + 5**.

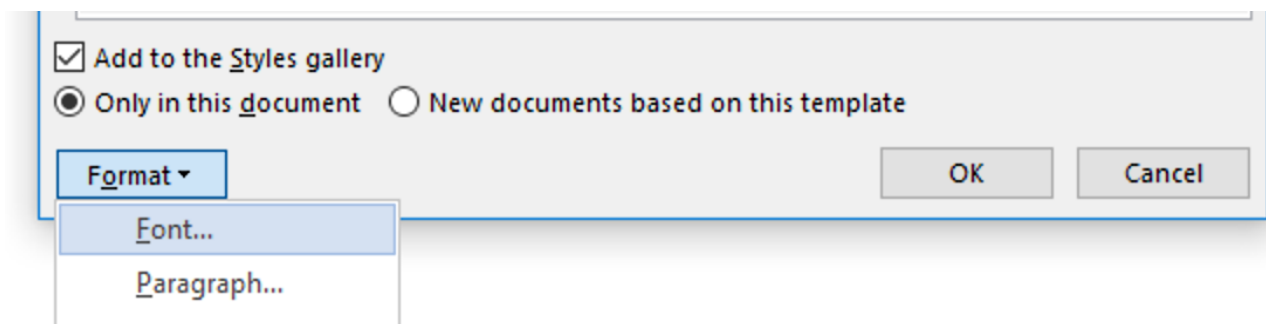## Enabling OpenType features in Microsoft Office Word

<div align="center">

សាកល្បងក្នុងកម្មវិធីនេះ

</div>

In order to use the fonts, OpenType needs to be enabled for a document. A recommended way is to change from within a style. The first fundamental style is "Normal".
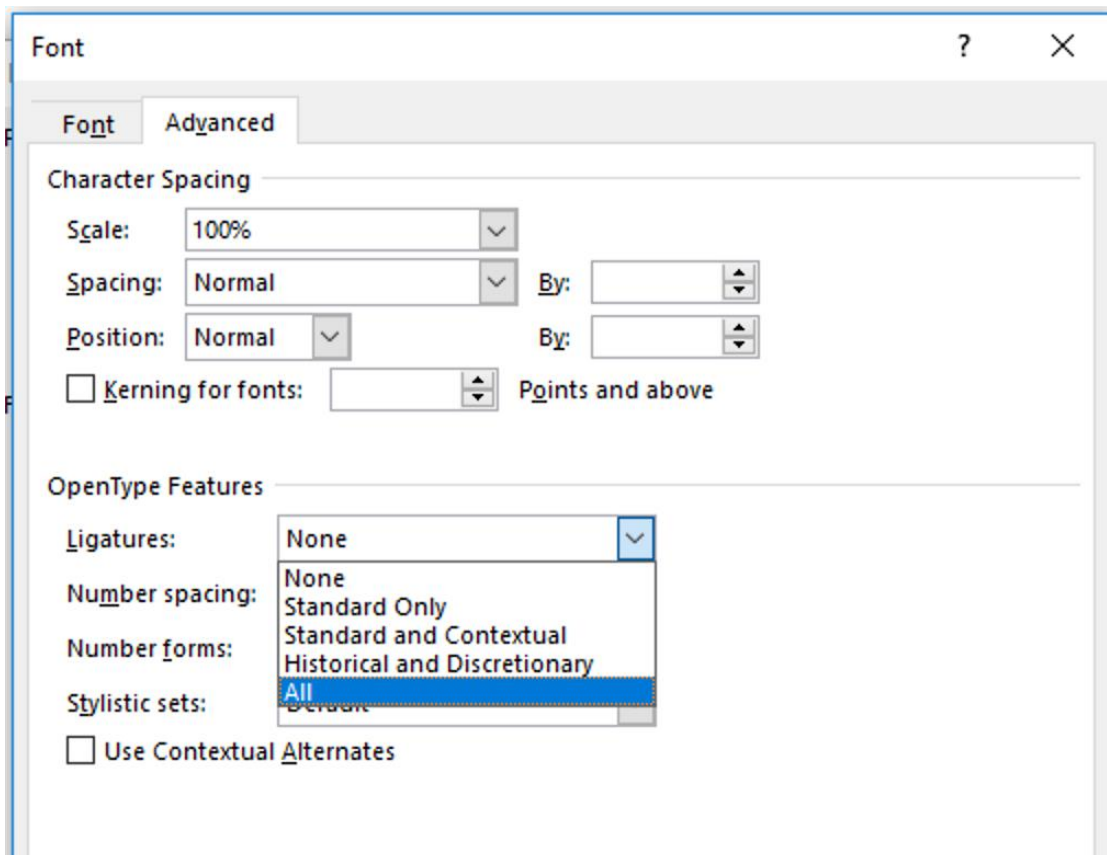
1. Right click on **Normal** style in Styles box, and select **Modify…**

2. Click on **Format** -> **Font**…

3. In **Advanced** tab, select **All** in **Ligatures** dropdown.

4. Now everything gets in place!

សាកល្បងក្នុងកម្មវិធីនេះ