

**Title:** Proposal to update Appendix F: *Documentation of CJK Strokes* in Unicode 16.0

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**Date:** 2023-05-01

This is a proposal to update the font used in Appendix F: *Documentation of CJK Strokes* in Unicode Core Specification. The current glyphs in Appendix F are from a font called *cjkstroketus6*, which contains all the glyphs for the strokes and CJK Han characters in Appendix F. However, the current font is undesirable for native CJK readers as its aesthetics are very different from those that native CJK users expect. The purpose of this update is as follows:

- Update the display stroke glyph to match current font used in the [CJK Strokes block](#), which is provided from [L2/20-058](#);
- Improve the quality of CJK Han characters shown;
- Update and add more sample CJK Han characters shown to match the strokes;
- Fix minor errors in the samples of CJK Han characters and provided stroke variantsW.

The font that I proposed to use, *CJK Strokes AppF*, is open sourced in both TrueType and OpenType/CFF formats under the terms of the [SIL Open Font License, Version 1.1](#), and therefore can be freely updated to include glyphs for additional characters. The font is a derivative of *Source Han Serif*, an open source font released by Adobe and Google for CJK use under SIL Open Font License, Version 1.1, which is also used by *CJK Symbols* in L2/20-058. Additional information on the font file is provided at page 16 of this proposal.

### Core Specification Excerpts

The even-numbered pages of this proposal includes the current Appendix F of the Unicode Core Specification. This is provided as a baseline to be compared with the glyphs shown on the odd-numbered pages. Sample characters that are removed are highlighted in red.

### Updated Pages

Starting on page 3, all the odd-numbered pages shows the updated font corresponding to their previous page. Characters that are added are highlighted in green, while glyphs that are modified are highlighted in yellow. Characters that are mapped to PUA instead of their code-points, along with stroke variants, are shown with their Unicode codepoint beside the character in blue. Some consideration were taken such that most characters should only appear in one stroke example only, allowing the colouring of stroke be easier to handle.

It should be warned that the current font used by Unicode Core Specification, Minion 3, might be missing some glyphs for the Pīnyīn column. These are marked in red.

Table F-1. CJK Strokes

| Stroke                                                                                                             | Acronym | Pinyin  | Name | Variant |
|--------------------------------------------------------------------------------------------------------------------|---------|---------|------|---------|
| 畫                                                                                                                  | 縮       | 拼音      | 筆畫名  | 異體      |
| 一<br>31D0                                                                                                          | H       | héng    | 橫    | 一       |
| 一 4E00, 二 4E8C, 三 4E09, 丁 4E01, 丞 4E1E, 丈 4E08, 世 4E16, 不 4E0D, 土 571E, 上 4E0A, 十 5341, 卅 5345, 七 4E03             |         |         |      |         |
| ㇀<br>31C0                                                                                                          | T       | tí      | 提    |         |
| ㇀ 51AB, 汜 6C3E, 冰 51B0, 治 51B6, 冽 51BD, 冫 6C35, 淋 6DCB, 治 6CBB, 氷 6C3A, 录 5F55, 暴 66B4, 扌 (土 571F), 地 5730, 虫 866B |         |         |      |         |
| 丨<br>31D1                                                                                                          | S       | shù     | 豎    | /       |
| 丨 4E28, 𠂇 4E29, 上 4E0A, 工 5DE5, 中 4E2D, 串 4E32, 讠 8BA7, 𠂇 4E4D, 五 4E94, 丑 4E11                                     |         |         |      |         |
| 丿<br>31DA                                                                                                          | SG      | shù-gōu | 豎鉤   |         |
| 丿 4E85, 水 6C34, 求 6C42, 爭 722D, 事 4E8B                                                                             |         |         |      |         |
| ㇀<br>31D2                                                                                                          | P       | piě     | 撇    | ㇀       |
| ノ 4E3F, 人 4EBA, 八 516B, 乂 4E42, 爻 723B, 禾 79BE, 毛 6BDB, 乏 4E4F, 乖 4E56, 采 91C6, 衣 8863, 行 884C                     |         |         |      |         |

Table F-1. CJK Strokes

| Stroke                                                                                                             | Acronym | Pinyin  | Name | Variant                                                                                        |
|--------------------------------------------------------------------------------------------------------------------|---------|---------|------|------------------------------------------------------------------------------------------------|
| 筆畫                                                                                                                 | 縮寫      | 拼音      | 筆畫名  | 異體                                                                                             |
| 一<br>31D0                                                                                                          | H       | héng    | 橫    | F31D0<br>   |
| 一 4E00, 二 4E8C, 三 4E09, 丁 4E01, 丞 4E1E, 丈 4E08, 世 4E16, 不 4E0D, 十 5341, 卅 5345, 目 76EE, 七 4E03, 毛 6BDB             |         |         |      |                                                                                                |
| ㇀<br>31C0                                                                                                          | T       | tí      | 提    | F31C0<br>   |
| 扌 624C, 氷 6C3A, 录 5F55, 暴 66B4, 𡗗 (土) 571F, 地 5730, 虫 866B, 默 9EC8, 彳 51AB, 冶 51B6, 洌 51BD, 彳 6C35, 淋 6DCB, 治 6CBB |         |         |      |                                                                                                |
| 丨<br>31D1                                                                                                          | S       | shù     | 豎    | F31D1<br> |
| 丨 4E28, 乚 4E29, 上 4E0A, 工 5DE5, 中 4E2D, 串 4E32, 讠 8BA7, 乍 4E4D, 五 4E94, 卅 4E11                                     |         |         |      |                                                                                                |
| 乚<br>31DA                                                                                                          | SG      | shù-gōu | 豎鉤   |                                                                                                |
| 乚 4E85, 水 6C34, 才 624D, 示 793A, 爭 722D, 事 4E8B                                                                     |         |         |      |                                                                                                |
| ㇀<br>31D2                                                                                                          | S       | piě     | 撇    | F31D2<br> |
| 乚 4E3F, 人 4EBA, 乂 4E42, 爻 723B, 須 9808, 俗 4FD7, 禾 79BE, 乏 4E4F, 乖 4E56, 采 91C6, 衣 8863, 行 884C                     |         |         |      |                                                                                                |

**Table F-1.** CJK Strokes (Continued)

| Stroke                                                                              | Acronym | Pinyin  | Name | Variant     |
|-------------------------------------------------------------------------------------|---------|---------|------|-------------|
| 畫                                                                                   | 縮       | 拼音      | 筆畫名  | 異體          |
| 丿<br>31D3                                                                           | SP      | shù-piě | 豎撇   | 丿           |
| 乃4E43, 几51E0, 人(人4EBA), 大5927, 月6708, 用7528, 𠂇5C70, 班73ED, 齊9F4A                    |         |         |      |             |
| 丶<br>31D4                                                                           | D       | diǎn    | 點    | 丶           |
| 丶 4E36, 丸4E38, 义4E49, 永6C38, 冫51AB, 冰51B0, 凡51E1, 丹4E39, 主4E3B, 求6C42, 火706B, 刃5203 |         |         |      |             |
| ㇏<br>31CF                                                                           | N       | nà      | 捺    | ㇏<br>㇏<br>㇏ |
| 大5927, 人4EBA, 天5929, 入(入5165), 尺5C3A, 走8D70, 是662F, 边8FB9, 廷5EF7                    |         |         |      |             |
| ㇏<br>31DD                                                                           | TN      | tí-nà   | 提捺   | ㇏<br>㇏      |
| ㇏4E40, 𠂇5C10, 八(八516B), 入(入5165), 文(文6587), 攴590A(攴), 廻(廻5EFB)                      |         |         |      |             |

Table F-1. CJK Strokes (Continued)

| Stroke                                                                                                                                     | Acronym | Pinyin  | Name | Variant                       |
|--------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|------|-------------------------------|
| 筆畫                                                                                                                                         | 縮寫      | 拼音      | 筆畫名  | 異體                            |
| 丿<br>31D3                                                                                                                                  | SP      | shù-piě | 豎撇   |                               |
| 乃 4E43, 几 51E0, 大 5927, 厂 5382, 川 5DDD, 亦 4EA6, 用 7528, 苐 5C70, 判 5224,<br>州 5DDE, 班 73ED, 病 75C5, 齊 9F4A                                  |         |         |      |                               |
| 丶<br>31D4                                                                                                                                  | D       | diǎn    | 點    | F31D4<br>丶                    |
| 丶 4E36, 丸 4E38, 义 4E49, 永 6C38, 斗 6597, 冰 51B0, 凡 51E1, 丹 4E39, 主 4E3B,<br>求 6C42, 火 706B, 刃 5203, 灬 706C                                  |         |         |      |                               |
| ㇏<br>31CF                                                                                                                                  | N       | nà      | 捺    | ㇏ F31CF<br>㇏ 1031CF<br>㇏ 31DD |
| 人 4EBA, 天 5929, 人 (入入) 5165, 尺 5C3A, 𠂇 5B53, 尖 5C16, 走 8D70, 是 662F,<br>F4EBA F5165 105165<br>廷 5EF7                                       |         |         |      |                               |
| ㇏<br>31DD                                                                                                                                  | TN      | tí-nà   | 提捺   | F31DD ㇏<br>1031DD ㇏           |
| ㇏ 4E40, 𠂇 5C10, 八 (八) 516B, 入 (入) 5165, 文 (文) 6587, 𠂇 (𠂇) 590A,<br>F516B 105165 F6587 F590A<br>F5EFB<br>廻 (廻) 5EFB, 之 4E4B, 返 8FD4, 逆 9006 |         |         |      |                               |

**Table F-1.** CJK Strokes (Continued)

| Stroke                                                                           | Acronym | Pinyin      | Name | Variant |
|----------------------------------------------------------------------------------|---------|-------------|------|---------|
| 畫                                                                                | 縮       | 拼音          | 筆畫名  | 異體      |
| 𠃍<br>31D5                                                                        | HZ      | héng-zhé    | 橫折   |         |
| 𠃍 200CD, 𠃍 53E3, 𠃍 56D7, 𠃍 7530, 𠃍 5415, 𠃍 54C1, 申 7533, 甲 7532, 圓 5706, 𠃍 5DEA  |         |             |      |         |
| ㇇<br>31C7                                                                        | HP      | héng-piě    | 橫撇   | ㇇       |
| 又 53C8, 双 53CC, 𠂇 53D2, 今 (今 4ECA)                                               |         |             |      |         |
| ㇈<br>31D6                                                                        | HG      | héng-gōu    | 橫鉤   |         |
| ㇈ 4E5B, ㇈ 5196, 了 4E86, 子 5B50, 予 4E88, 矛 77DB, 𠂇 758B, 𠂇 5199 𠂇 5B57, 𠂇 758F    |         |             |      |         |
| ㇏<br>31D7                                                                        | SZ      | shù-zhé     | 豎折   | ㇏       |
| ㇏ 200CA, ㇏ 200CB, 𠂇 5C71, 𠂇 7259, 𠂇 4E92, 𠂇 4E50, 𠂇 4E1C, 𠂇 65AD, 𠂇 7EE7, 𠂇 5F59 |         |             |      |         |
| ㇐<br>31D8                                                                        | SWZ     | shù-wān-zuǒ | 豎彎左  |         |
| ㇐ 200CE, 𠂇 (𠂇 23D92), 𠂇 (𠂇 8085), 𠂇 562E, 𠂇 856D, 𠂇 7C2B                         |         |             |      |         |

Table F-1. CJK Strokes (Continued)

| Stroke                                                                                                             | Acronym | Pinyin      | Name | Variant               |
|--------------------------------------------------------------------------------------------------------------------|---------|-------------|------|-----------------------|
| 筆畫                                                                                                                 | 縮寫      | 拼音          | 筆畫名  | 異體                    |
| ㇀<br>31D5                                                                                                          | HZ      | héng-zhé    | 橫折   | <sup>F31D5</sup><br>㇀ |
| 𠃍 200CD, 𠃍 53E3, 𠃍 56D7, 𠃍 7530, 𠃍 5415, 𠃍 54C1, 𠃍 7533, 𠃍 7532, 𠃍 5706,<br><sup>F4ECA</sup><br>𠃍 5DEA, 𠃍 (𠃍) 4ECA |         |             |      |                       |
| ㇁<br>31C7                                                                                                          | HP      | héng-piě    | 橫撇   |                       |
| <sup>104ECA 4ECA</sup><br>𠃍 53C8, 𠃍 53CC, 𠃍 53D2, 𠃍 (𠃍) 4ECA                                                       |         |             |      |                       |
| ㇂<br>31D6                                                                                                          | HG      | héng-gōu    | 橫鉤   |                       |
| ㇂ 4E5B, ㇂ 5196, ㇂ 4E86, ㇂ 5B50, ㇂ 4E88, ㇂ 77DB, ㇂ 758B, 𠃍 5199, 𠃍 5B57,<br>𠃍 758F                                  |         |             |      |                       |
| ㇃<br>31D7                                                                                                          | SZ      | shù-zhé     | 豎折   | <sup>F31D7</sup><br>㇃ |
| ㇃ 200CA, ㇃ 200CB, 𠃍 5C71, 𠃍 51FA, 𠃍 7259, 𠃍 4E92, 𠃍 4E50, 𠃍 4E1C,<br>𠃍 6BCC, 𠃍 65AD, 𠃍 7E7C, 𠃍 5F59                |         |             |      |                       |
| ㇄<br>31D8                                                                                                          | SWZ     | shù-wān-zuǒ | 豎彎左  | <sup>F31D8</sup><br>㇄ |
| <sup>F3D92</sup> 𠃍 200CE, 𠃍 (𠃍) 23D92, <sup>F8085</sup> 𠃍 8085, 𠃍 562F, 𠃍 856D, 𠃍 7C2B, 𠃍 6DF5                     |         |             |      |                       |

**Table F-1.** CJK Strokes (Continued)

| Stroke                                                                                      | Acronym | Pinyin   | Name | Variant                                                                               |
|---------------------------------------------------------------------------------------------|---------|----------|------|---------------------------------------------------------------------------------------|
| 畫                                                                                           | 縮       | 拼音       | 筆畫名  | 異體                                                                                    |
| <br>31C4   | SW      | shù-wǎn  | 豎彎   |                                                                                       |
| 匚(匚 5338), 區(區 5340), 亡(亡 4EA1), 妄(妄 5984), 四 56DB                                          |         |          |      |                                                                                       |
| <br>31D9   | ST      | shù-tí   | 豎提   |                                                                                       |
| 丨 2010C, 民 6C11, 艮 826E, 良 826F, 食 98DE, 很 5F88, 狠 72E0, 鄉 9109                             |         |          |      |                                                                                       |
| <br>31DC | PZ      | piě-zhé  | 撇折   |  |
| ㄥ 53B6, 乚 5E7A, 糸 7CF8, 絲 7D72, 弘 5F18, 公 516C, 翁 7FC1                                      |         |          |      |                                                                                       |
| <br>31DB | PD      | piě-diǎn | 撇點   |                                                                                       |
| 丶 21FE8, 𠂇 5DDB, 女 5973, 巡 5DE1, 災 707D, 畱 753E, 𪚩 5DE4, 獵 7375                             |         |          |      |                                                                                       |
| <br>31E2 | PG      | piě-gōu  | 撇鉤   |                                                                                       |
| 乂 4E44, ㄣ 219D1, ㄣ 211A2                                                                    |         |          |      |                                                                                       |
| <br>31C1 | WG      | wǎn-gōu  | 彎鉤   |                                                                                       |
| 勹 72AD, 豕 8C55, 豸 8C78, 狐 72D0, 嶽 5DBD, 貓 8C93, 家 5BB6, 逐 9010                              |         |          |      |                                                                                       |

Table F-1. CJK Strokes (Continued)

| Stroke                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Acronym | Pinyin   | Name | Variant                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|------|---------------------------------------------------------------------------------------|
| 筆畫                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 縮寫      | 拼音       | 筆畫名  | 異體                                                                                    |
| <br>31C4                                                                                                                                                                                                                                                                                                                                                                                    | SW      | shù-wān  | 豎彎   |                                                                                       |
|  (𠃍) 5338,  (𠃍) 5340,  (𠃍) 4EA1,  (𠃍) 5984,  (𠃍) 56DB |         |          |      |                                                                                       |
| <br>31D9                                                                                                                                                                                                                                                                                                                                                                                    | ST      | shù-tí   | 豎提   |                                                                                       |
|  2010C, 𠃊 6C11, 𠃊 826E, 𠃊 826F, 𠃊 98DF, 𠃊 5F88, 𠃊 72E0, 𠃊 9109                                                                                                                                                                                                                                                                                                                              |         |          |      |                                                                                       |
| <br>31DC                                                                                                                                                                                                                                                                                                                                                                                  | PZ      | piě-zhé  | 撇折   |  |
|  53B6, 𠃌 5E7A, 𠃌 7CF8, 𠃌 7D72, 𠃌 5F18, 𠃌 516C, 𠃌 7FC1                                                                                                                                                                                                                                                                                                                                     |         |          |      |                                                                                       |
| <br>31DB                                                                                                                                                                                                                                                                                                                                                                                  | PD      | piě-diǎn | 撇點   |  |
|  21FE8, 𠃊 5DDB, 𠃊 5973, 𠃊 5DE1, 𠃊 707D, 𠃊 753E, 𠃊 5DE4, 𠃊 7375,  7D8F                                                                                                                                                                                                                                |         |          |      |                                                                                       |
| <br>31E2                                                                                                                                                                                                                                                                                                                                                                                  | PG      | piě-gōu  | 撇鉤   |                                                                                       |
|  4E44                                                                                                                                                                                                                                                                                                                                                                                     |         |          |      |                                                                                       |
| <br>31C1                                                                                                                                                                                                                                                                                                                                                                                  | WG      | wān-gōu  | 彎鉤   |                                                                                       |
|  72AD, 𠃊 8C55, 𠃊 8C78, 𠃊 72D0, 𠃊 5DBD, 𠃊 8C93, 𠃊 5BB6, 𠃊 9010                                                                                                                                                                                                                                                                                                                             |         |          |      |                                                                                       |

**Table F-1.** CJK Strokes (Continued)

| Stroke                                                                        | Acronym    | Pinyin       | Name | Variant |
|-------------------------------------------------------------------------------|------------|--------------|------|---------|
| 畫                                                                             | 縮          | 拼音           | 筆畫名  | 異體      |
| ㄣ<br>31C2                                                                     | <b>XG</b>  | xié-gōu      | 斜鉤   |         |
| 弋 <sup>5F0B</sup> , 戈 <sup>6208</sup> , 我 <sup>6211</sup> , 戰 <sup>6230</sup> |            |              |      |         |
| ㄣ<br>31C3                                                                     | <b>BXG</b> | biǎn-xié-gōu | 扁斜鉤  | ㄣ<br>ㄣ  |
| 心 <sup>5FC3</sup> (楷“心” <sup>HKSCS</sup> )                                    |            |              |      |         |
| ㄣ<br>31C5                                                                     | <b>HZZ</b> | héng-zhé-zhé | 橫折折  |         |
| 𠃍 <sup>534D</sup> , 𠃍 <sup>2067F</sup>                                        |            |              |      |         |
| ㄣ<br>31CD                                                                     | <b>HZW</b> | héng-zhé-wān | 橫折彎  |         |
| 𠃍 <sup>6BB3</sup> , 朵 <sup>6735</sup> , 投 <sup>6295</sup>                     |            |              |      |         |
| ㄣ<br>31CA                                                                     | <b>HZT</b> | héng-zhé-tí  | 橫折提  |         |
| 𠃍 <sup>8BA0</sup> , 計 <sup>8BA1</sup> , 鳩 <sup>9CE9</sup>                     |            |              |      |         |

Table F-1. CJK Strokes (Continued)

| Stroke                                        | Acronym | Pinyin       | Name | Variant          |
|-----------------------------------------------|---------|--------------|------|------------------|
| 筆畫                                            | 縮寫      | 拼音           | 筆畫名  | 異體               |
| ㄣ<br>31C2                                     | XG      | xié-gōu      | 斜鉤   |                  |
| 𠂇 5F0B, 戈 6208, 我 6211, 戰 6230                |         |              |      |                  |
| ㄣ<br>31C3                                     | BXG     | biǎn-xié-gōu | 扁斜鉤  | ㄣ 31C2<br>ㄣ 31DF |
| 𠂇 5FC3 105FC3<br>𠂇 5FC3 (楷“心” Regular script) |         |              |      |                  |
| ㄣ<br>31C5                                     | HZZ     | héng-zhé-zhé | 橫折折  |                  |
| 𠂇 51F9, 𠂇 534D, 𠂇 2067F                       |         |              |      |                  |
| ㄣ<br>31CD                                     | HZW     | héng-zhé-wān | 橫折彎  |                  |
| 𠂇 20627, 𠂇 6BB3, 𠂇 6735, 投 6295               |         |              |      |                  |
| ㄣ<br>31CA                                     | HZT     | héng-zhé-tí  | 橫折提  |                  |
| 𠂇 6BBC, 𠂇 9CE9, 𠂇 8BA0, 𠂇 8BA1                |         |              |      |                  |

**Table F-1.** CJK Strokes (Continued)

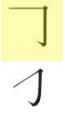
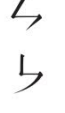
| Stroke                                                                                      | Acronym | Pinyin           | Name | Variant                                                                               |
|---------------------------------------------------------------------------------------------|---------|------------------|------|---------------------------------------------------------------------------------------|
| 畫                                                                                           | 縮       | 拼音               | 筆畫名  | 異體                                                                                    |
| <br>31C6   | HZG     | héng-zhé-gōu     | 橫折鉤  |    |
| 𠃍200CC, 习4E60, 羽7FBD, 包5305, 匀52FB, 葡8461, 用7528, 青9752, 甫752B, 勺52FA, 月6708, 乚4E5C, 也4E5F  |         |                  |      |                                                                                       |
| <br>31C8   | HZWG    | héng-zhé-wān-gōu | 橫折彎鉤 |    |
| 九4E5D, 几51E0, 飞98DE, 风98CE, 气6C14, 虱8671, 瘋760B                                             |         |                  |      |                                                                                       |
| <br>31DE | SZZ     | shù-zhé-zhé      | 豎折折  |  |
| 𠃍200D1, 𠃍5350, 亞4E9E, 鼎9F0E, 吳5433, 专4E13, 設279AE, 𠃍244F7, 𠃍249A1                           |         |                  |      |                                                                                       |
| <br>31DF | SWG     | shù-wān-gōu      | 豎彎鉤  |                                                                                       |
| 乚4E5A, 礼793C, 乱4E71, 儿513F, 己5DF1, 巳5DF2, 巳5DF3, 心5FC3, 必5FC5                               |         |                  |      |                                                                                       |
| <br>31CE | HZZZ    | héng-zhé-zhé-zhé | 橫折折折 |                                                                                       |
| 𠃍51F8, 𠃍21E2D                                                                               |         |                  |      |                                                                                       |

Table F-1. CJK Strokes (Continued)

| Stroke                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Acronym | Pinyin           | Name | Variant                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 筆畫                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 縮寫      | 拼音               | 筆畫名  | 異體                                                                                                                                                                                          |
| <br>31C6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | HZG     | héng-zhé-gōu     | 橫折鉤  |  F31C6<br> 1031C6     |
|  200CC,  4E60,  7FBD,  5305,  52FB,  8461,  90A3,  9751,  752B,<br> 52FA,  6708,  4E5C,  4E5F |         |                  |      |                                                                                                                                                                                             |
| <br>31C8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | HZWG    | héng-zhé-wān-gōu | 橫折彎鉤 |  F31C8                                                                                                   |
|  4E5D,  F51E0,  98DE,  98CE,  6C14,  8671,  760B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |         |                  |      |                                                                                                                                                                                             |
| <br>31DE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | SZZ     | shù-zhé-zhé      | 豎折折  |  F31DE<br> 1031DE |
|  200D1,  5350,  4E9E,  9F0E,  5433,  4E13,  279AE,  244F7,<br> 249A1                                                                                                                                                                                                                                                                                                                                               |         |                  |      |                                                                                                                                                                                             |
| <br>31DF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | SWG     | shù-wān-gōu      | 豎彎鉤  |                                                                                                                                                                                             |
|  4E5A,  793C,  4E71,  513E,  5DF1,  5DF2,  5DF3,  5FC3,  5FC5                                                                                                                                                                                                                                                                                                                                                     |         |                  |      |                                                                                                                                                                                             |
| <br>31CE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | HZZZ    | héng-zhé-zhé-zhé | 橫折折折 |                                                                                                                                                                                             |
|  51F8,  21E2D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |         |                  |      |                                                                                                                                                                                             |

**Table F-1.** CJK Strokes (Continued)

| Stroke                                                 | Acronym | Pinyin               | Name  | Variant |
|--------------------------------------------------------|---------|----------------------|-------|---------|
| 畫                                                      | 縮       | 拼音                   | 筆畫名   | 異體      |
| ㄣ<br>31CB                                              | HZZP    | héng-zhé-zhé-piě     | 橫折折撇  |         |
| 及 53CA, 𠃊 5EF4, 建 5EFA                                 |         |                      |       |         |
| 乙<br>31E0                                              | HXWG    | héng-xié-wān-gōu     | 橫斜彎鉤  |         |
| 乙 4E59, 𠃊 6C39, 乞 4E5E                                 |         |                      |       |         |
| ㄣ<br>31CC                                              | HPWG    | héng-piě-wān-gōu     | 橫撇彎鉤  |         |
| ㄣ 961D, ㄣ 961E, 卩 90AE                                 |         |                      |       |         |
| ㄣ<br>31C9                                              | SZWG    | shù-zhé-wān-gōu      | 豎折彎鉤  |         |
| ㄣ 4E02, ㄣ 4E8E, 号 53F7, 弓 5F13, 强 5F3A, 𠃊 4E10, 𠃊 9A6C |         |                      |       |         |
| ㄣ<br>31E1                                              | HZZZG   | héng-zhé-zhé-zhé-gōu | 橫折折折鉤 |         |
| ㄣ 2010E, 乃 4E43, 孕 5B55, 仍 4ECD                        |         |                      |       |         |
| ○<br>31E3                                              | Q       | quān                 | 圈     | ○       |
| ○ 3007, 𠃊 3514, 𠃊 3AB3, 𠃊 3AC8                         |         |                      |       |         |

Table F-1. CJK Strokes (Continued)

| Stroke                                                                 | Acronym | Pinyin               | Name  | Variant    |
|------------------------------------------------------------------------|---------|----------------------|-------|------------|
| 筆畫                                                                     | 縮寫      | 拼音                   | 筆畫名   | 異體         |
| ㄣ<br>31CB                                                              | HZZP    | héng-zhé-zhé-piě     | 橫折折撇  |            |
| 及 53CA, 𠂇 5EF4, 𠂈 5EFA                                                 |         |                      |       |            |
| 乙<br>31E0                                                              | HXWG    | héng-xié-wān-gōu     | 橫斜彎鉤  |            |
| 𠃉 4E59, 𠃊 6C39, 乞 4E5E                                                 |         |                      |       |            |
| ㄣ<br>31CC                                                              | HPWG    | héng-piě-wān-gōu     | 橫撇彎鉤  |            |
| 𠃋 961D, 𠃌 961F, 𠃍 90AE                                                 |         |                      |       |            |
| 乚<br>31C9                                                              | SZWG    | shù-zhé-wān-gōu      | 豎折彎鉤  | F31C9<br>𠃎 |
| 𠃏 4E02, 𠃐 4E0E, 𠃑 4E8F, 𠃒 53F7, 𠃓 5F13, 𠃔 5F3A, 𠃕 4E10, 𠃖 9A6C, 𠃗 9E15 |         |                      |       |            |
| ㄣ<br>31E1                                                              | HZZZG   | héng-zhé-zhé-zhé-gōu | 橫折折折鉤 |            |
| 𠃘 2010E, 𠃙 4E43, 𠃚 200D3, 孕 5B55, 仍 4ECD, 汤 6C64                       |         |                      |       |            |
| ○<br>31E3                                                              | Q       | quān                 | 圈     | F31E3<br>○ |
| ○ 3007, 𠃛 3514, 𠃜 3AB3, 𠃝 3AC8                                         |         |                      |       |            |

## Provided Items

Included in this proposal is a typeface named *CJK Strokes AppF*. Three font files are provided: *CJKStrokesAppF.otf* is monochrome (black and white), while *CJKStroke-sAppF-COLR.otf* and *CJKStrokesAppF-SVG.otf* are colour fonts using OpenType/COLR+CPAL and OpenType/SVG technology respectively. The two colour font files are identical except for the colour font technology used. SVG files for the individual coloured glyphs will be provided upon request.

It should be noted that the two special style fonts of 𠄎 (U+5FC3) for the stroke BXG on page 11 uses *Klee One Semibold*, an open source font released by Fontworks under SIL Open Font License, Version 1.1, and *Taiwan Ciao-Kai*, an open source Regular script font released by me under both CC-BY 4.0 and SIL Open Font License, Version 1.1. The Regular script 𠄎 is placed on U+F5FC3 in *CJK Strokes AppF* and the handwritten style 𠄎 is placed on U+105FC3.

Another special font style used in this font is the header row, which is shown in Bold in the updated document. These are directly included into *CJK Strokes AppF* without using any OpenType features, so that typing the header characters will directly display the bolden characters. Due to the one font file restriction, characters shown in the header row are only used as headers as bold and not included as sample characters in the stroke section.

The full list of characters included in the font file (apart from standard sample characters) is shown below using *CJK Strokes AppF*:

筆畫縮寫名拼音異體 橫豎撇捺點提鉤折彎扁斜左圈 楷 心 心

All Han characters shown in the updated pages are either mapped to their Unicode codepoint directly or mapped to PUA. Most characters that are placed under PUA, unless specified, are placed at the codepoint of their original codepoint, shifted with 0xF0000 or 0x100000 to plane F and 10.

The SVG files provided are named starting with a serial number of the stroke category as shown in this document, and then followed by their Unicode codepoints, either using the direct Han character codepoint or the shown PUA codepoint in this document.

Example: The Regular script 𠄎 Han character mentioned above is at the 22nd stroke (BXG), and its codepoint is U+F5FC3, thus its file name is *22\_uF5FC3.svg*. Glyphs that are used multiple times are serialized with the first stroke they appear in.

The text update for stroke BXG is corrected from “HKSCS” to “Regular script” as the BXG stroke is widely used in handwritten form fonts such as Regular script, as opposed to only used by HKSCS.

That is all.