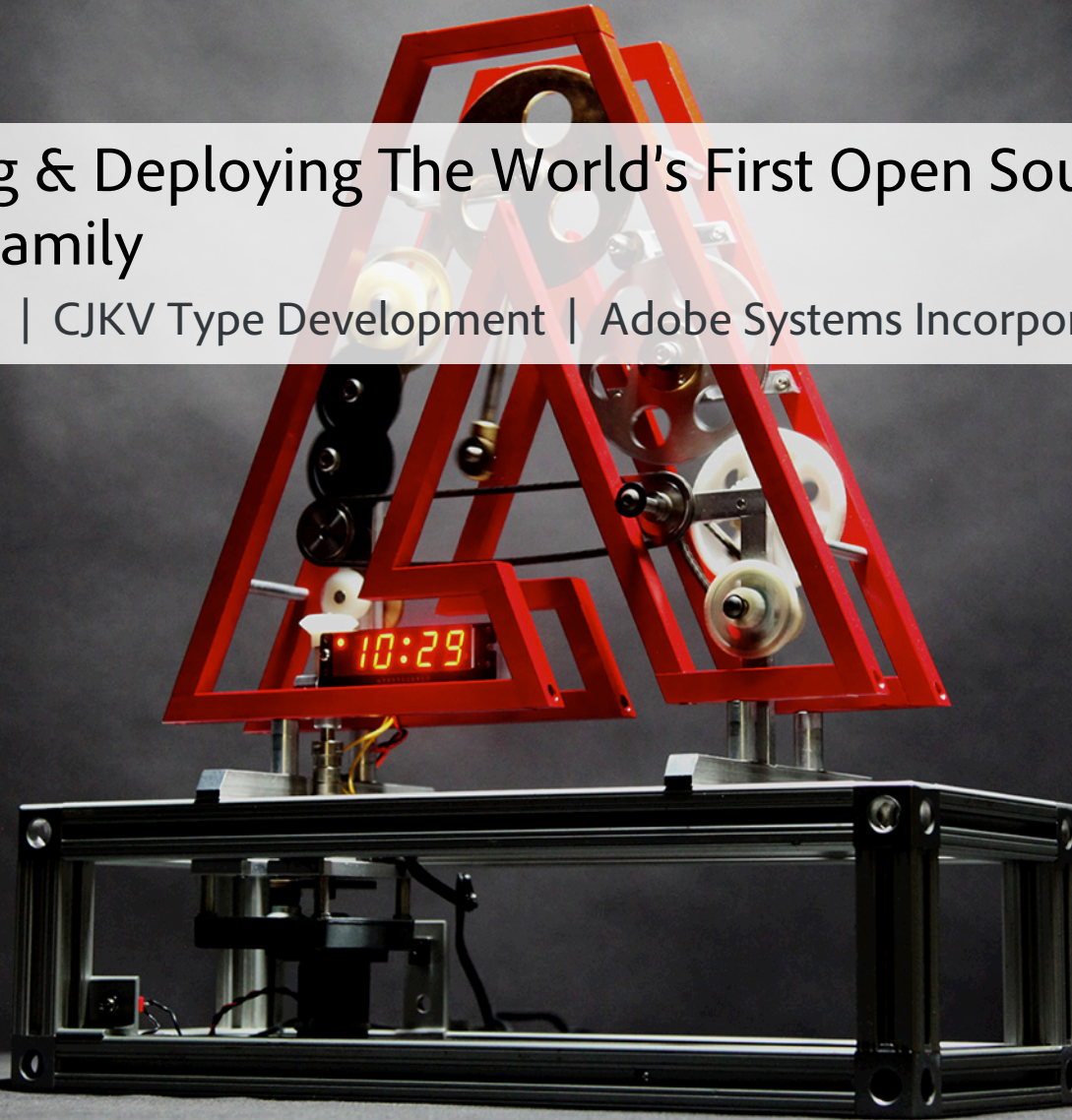




Developing & Deploying The World's First Open Source Pan-CJK Typeface Family

Dr. Ken Lunde | CJKV Type Development | Adobe Systems Incorporated



Once Upon A Time...

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Once Upon A Time...

- There was an idea to build a Pan-CJK font

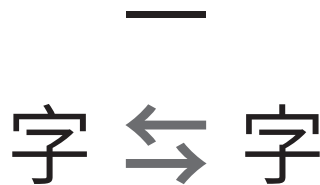
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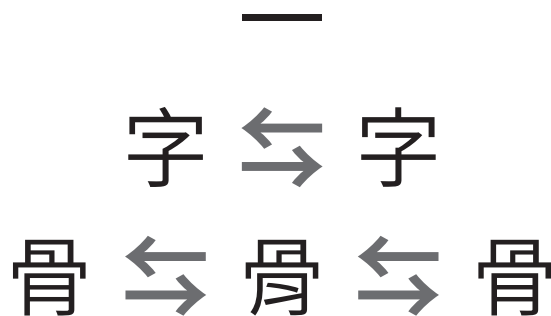
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—
字 ⇌ 字
骨 ⇌ 骨 ⇌ 骨
曜 ⇌ 曜 ⇌ 曜 ⇌ 曜

Once Upon A Time...

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—
字 ⇌ 字
骨 ⇌ 骨 ⇌ 骨
曜 ⇌ 曜 ⇌ 曜 ⇌ 曜
、 ◦ , · : ; ! ? ⇌ 、 ◦ , · : ; ! ?

Once Upon A Time...

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 - Changzhou SinoType (China), Iwata (Japan), and Sandoll Communication (Korea)
- 2013 🖱️ Glyph design began
 - Ryoko Nishizuka (Adobe) oversaw the typeface design

The World's First Open Source Pan-CJK Typeface Families Were Born!

- *Source Han Sans* (Adobe) & *Noto Sans CJK* (Google)
 - Same glyphs and other attributes, but different names
 - Version 1.000 released on 2014-07-15; Version 1.001 released on 2014-09-12
 - Available in several CFF-based formats/configurations as open source

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- *First Pan-CJK typeface families? Pan-CJKV?*

Pan-CJKV? Sort Of...

Row U+01xx: UniSourceHanSansJP-UTF32-H

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	Ā <small>181</small>	ā <small>182</small>	Ă <small>193</small>	ă <small>194</small>												
1	Đ <small>185</small>	đ <small>186</small>	Ě <small>197</small>	ě <small>198</small>							Ě <small>199</small>	ě <small>200</small>				
2								Ĩ <small>201</small>	ĩ <small>202</small>	Ī <small>203</small>	ī <small>204</small>					
3																
4			Ń <small>205</small>	ń <small>206</small>			Ň <small>207</small>	ň <small>208</small>			Ō <small>209</small>	ō <small>210</small>	Ŏ <small>211</small>	ö <small>212</small>		
5			Œ <small>213</small>	œ <small>214</small>												
6								Ũ <small>215</small>	ũ <small>216</small>	Ū <small>217</small>	ū <small>218</small>	Ŭ <small>219</small>	ŭ <small>220</small>			
7																
8																
9			f <small>221</small>													
A	Ŏ <small>222</small>	ó <small>223</small>													Ū <small>224</small>	
B	ư <small>225</small>															
C														Ă <small>226</small>	ă <small>227</small>	Ī <small>228</small>
D	Ĭ <small>229</small>	Ŏ <small>230</small>	ő <small>231</small>	Ŭ <small>232</small>	ű <small>233</small>	Ū <small>234</small>	ū <small>235</small>	Ŭ <small>236</small>	ű <small>237</small>	Ū <small>238</small>	ū <small>239</small>	Ŭ <small>240</small>	ű <small>241</small>			
E																
F								Ň <small>242</small>	ň <small>243</small>							

Adobe-Identity-0

Row U+1Exx: UniSourceHanSansJP-UTF32-H

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0																
1																
2																
3														Ŭ <small>621</small>	ű <small>622</small>	
4																
5																
6																
7																
8																
9																
A	A <small>625</small>	a <small>626</small>	Ă <small>627</small>	ă <small>628</small>	Ă <small>629</small>	ă <small>630</small>	Ă <small>631</small>	ă <small>632</small>	Ă <small>633</small>	ă <small>634</small>	Â <small>635</small>	â <small>636</small>	Ă <small>637</small>	ă <small>638</small>		
B	Ă <small>639</small>	ă <small>640</small>	Ă <small>641</small>	ă <small>642</small>	Ă <small>643</small>	ă <small>644</small>	Ă <small>645</small>	ă <small>646</small>	E <small>647</small>	e <small>648</small>	Ě <small>649</small>	ě <small>650</small>	Ě <small>651</small>	ě <small>652</small>	Ě <small>653</small>	ě <small>654</small>
C	Ě <small>655</small>	ě <small>656</small>	Ě <small>657</small>	ě <small>658</small>	Ě <small>659</small>	ě <small>660</small>	Ě <small>661</small>	ě <small>662</small>	Ī <small>663</small>	ī <small>664</small>	Ī <small>665</small>	ī <small>666</small>	Ŏ <small>667</small>	ó <small>668</small>	Ŏ <small>669</small>	ö <small>670</small>
D	Ŏ <small>671</small>	ő <small>672</small>	Ŏ <small>673</small>	ő <small>674</small>	Ŏ <small>675</small>	ő <small>676</small>	Ŏ <small>677</small>	ő <small>678</small>	Ō <small>679</small>	ô <small>680</small>	Ŏ <small>681</small>	ó <small>682</small>	Ŏ <small>683</small>	ő <small>684</small>	Ŏ <small>685</small>	ö <small>686</small>
E	Ŏ <small>687</small>	ő <small>688</small>	Ŏ <small>689</small>	ó <small>690</small>	U <small>691</small>	u <small>692</small>	Ū <small>693</small>	ű <small>694</small>	Ū <small>695</small>	ű <small>696</small>	Ū <small>697</small>	ű <small>698</small>	Ū <small>699</small>	ű <small>700</small>	Ū <small>701</small>	ű <small>702</small>
F	Ū <small>703</small>	ű <small>704</small>	Ŷ <small>705</small>	ÿ <small>706</small>	Ŷ <small>707</small>	ÿ <small>708</small>	Ŷ <small>709</small>	ÿ <small>710</small>	Ŷ <small>711</small>	ÿ <small>712</small>						

Adobe-Identity-0

Source Han Sans: Seven Weights & Four Languages

思源黑体	思源黑體	源ノ角ゴシック	본고딕
思源黑体	思源黑體	源ノ角ゴシック	본고딕
思源黑体	思源黑體	源ノ角ゴシック	본고딕
思源黑体	思源黑體	源ノ角ゴシック	본고딕
思源黑体	思源黑體	源ノ角ゴシック	본고딕
思源黑体	思源黑體	源ノ角ゴシック	본고딕
思源黑体	思源黑體	源ノ角ゴシック	본고딕

Character Set Particulars

- The character set was largely determined by national character set standards
 - Complete Unicode "block" coverage was another consideration

Row U+30xx: UniSourceHanSansJP-UTF32-H

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0																
1	【	】	〒	≡	()	〔 〕	《 》	『 』								
2	ゝ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ
3	ゝ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ	ゞ
4	あ	い	う	え	お	か	き	く								
5	ぐ	け	こ	さ	し	ず	せ	そ	た							
6	だ	ぢ	つ	づ	て	ど	な	ぬ	の	は						
7	ば	び	び	ふ	べ	ほ	ま	み								
8	む	め	や	ゆ	よ	ら	る	わ								
9	ゑ	を	ん	う	か	け										
A	=	ア	イ	ウ	エ	オ	カ	キ	ク							
B	グ	ケ	ゴ	サ	シ	ス	セ	ソ	タ							
C	ダ	チ	ツ	ヅ	テ	ド	ナ	ニ	ノ	ハ						
D	バ	ビ	ブ	フ	ヘ	ベ	ホ	ボ	マ	ミ						
E	ム	メ	モ	ヤ	ユ	ヨ	ラ	リ	ロ	ワ						
F	ヰ	ヱ	ヲ	ヴ	カ	ケ	ヰ	ヱ	ヲ	一	ハ	バ				

Adobe-Identity-0

Row U+31xx: UniSourceHanSansJP-UTF32-H

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0																
1	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
2	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
3	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
4	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
5	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
6	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
7	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
8	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
9	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
A	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
B	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
C	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
D	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
E	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
F	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ

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Row U+32xx: UniSourceHanSansJP-UTF32-H

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
1	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
2	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
3	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
4	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
5	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
6	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
7	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
8	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
9	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
A	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
B	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
C	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
D	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
E	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
F	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ

Adobe-Identity-0

Row U+33xx: UniSourceHanSansJP-UTF32-H

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
1	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
2	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
3	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
4	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
5	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
6	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
7	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
8	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
9	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
A	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
B	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
C	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
D	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
E	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ
F	ㄣ	ㄤ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ	ㄨ	ㄩ

Adobe-Identity-0

Character Set Particulars

- The character set was largely determined by national character set standards
 - Complete Unicode “block” coverage was another consideration
- China (*Simplified Chinese*): GB 18030 & *Tōngyòng Guīfàn Hànzìbiǎo* (2013)
- Taiwan & Hong Kong SAR (*Traditional Chinese*): Big Five & Hong Kong SCS
- Japan: JIS X 0208, JIS X 0212, JIS X 0213 & Adobe-Japan1-6 kanji
 - Including support for the *Adobe-Japan1* IVD Collection
- Korean: KS X 1001 & KS X 1002
 - Including support for combining jamo

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 - Including support for combining jamo
- CJK Unified Ideograph coverage
 - URO & Extension A—*all, mainly due to GB 18030*
 - Extensions B through E—*partial, to cover specific national character set standards*

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U+8ACB



請
SC

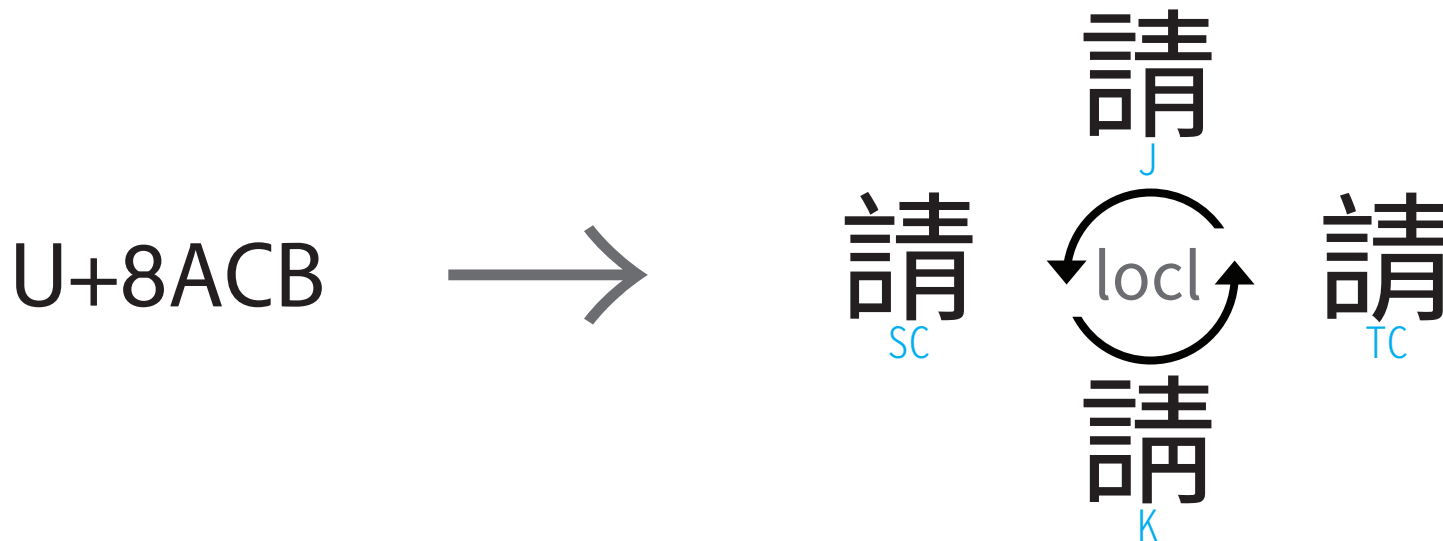
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- Other unencoded glyphs
 - High-frequency archaic hangul syllables—*via 'ccmp' GSUB feature*
 - Combining jamo—*via 'ljmo' + 'vjmo' + 'tjmo' GSUB features*
 - Vertical variants—*via 'vert' GSUB feature*
 - Half-width Latin—*via 'hwid' GSUB feature*
 - *Adobe-Japan1 IVSes—via Format 14 'cmap' subtable*

Glyph Set Particulars (cont'd)

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Glyph Set Particulars (cont'd)

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 - Black is horizontal form; overlaid and in transparent blue is vertical form
 - Vertical forms are slightly compressed along the Y-axis



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 - 'OS/2', 'name', and 'vmtx'
- A rich set of GPOS (six) and GSUB (20) features
 - Proportional kana—via 'palt' and 'vpal' GPOS features
 - Kerning—via 'kern' and 'vkern' GPOS features
 - Language-specific glyphs—via 'locl' and 'vert' GSUB features

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Unicode's Role & Importance

- All working glyph names are Unicode-based—*except for 51 of them*
 - U+0020 → *uni0020* (CID+1), *uni0020-KR* (CID+62995), *uni0020-HW* (CID+63039)
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⋮

⋮

偲 偲 偲 偲

か + ◦ → が

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𠂇 + 一 + □ → 𠂇

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 - Different environments require different formats or configurations
- **OpenType/CFF—OTF**
 - 28 font resources—*one for each weight/language combination*
 - Declaring a default language is necessary—*single 'cmap' table*
 - The 'locl' GSUB feature plus language-tagging are used to access non-default glyphs
 - Requires an application to support both
 - 65,535 glyphs per font resource

Deployment Formats & Configurations (cont'd)

- OpenType/CFF Collection—*OTC*
 - Seven font resources, one for each weight
 - All four languages share the same 'CFF' table
 - Four separate fonts, one for each language, appear in application font menus
 - Supported in OS X Version 10.8 and greater, Adobe CS6 applications and greater
 - ↳ iOS7 and greater, the latest Chrome, and some flavors of Linux
 - 65,535 glyphs per font resource
 - Repackaging of the OTFs
 - Identical functionality

Deployment Formats & Configurations (cont'd)

- Subset OpenType/CFF—*Subset OTF*
 - For environments that do not support genuine Pan-CJK fonts
 - Universally supported
 - Also for users who need a single language and a smaller footprint
 - All subsets include a common set of 2,542 symbols and punctuation
 - Simplified Chinese—*30,888 glyphs*
 - Traditional Chinese—*20,905 glyphs*
 - Japanese—*17,829 glyphs*
 - Korean—*24,716 glyphs*

“One Font To Rule Them All”

- Super OpenType/CFF Collection—*Super OTC*
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 - Saves 10MB 📁 *113MB versus 123MB*
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 - 458,745 total glyphs
- Significant table-sharing
 - Seven ‘CFF’, ‘GPOS’, ‘hmtx’, and ‘vmtx’ tables—*one per weight*
 - Four ‘GSUB’ and ‘cmap’ tables—*one per language*

Some Useful Tools & Processes Were Born

- OpenType Collection compiler—*otf2otc*
 - Developed by Read Roberts (Adobe)
 - Used to build the OpenType/CFF Collections, including the Super OTC
 - A corresponding OpenType Collection decompiler was also developed—*otc2otf*

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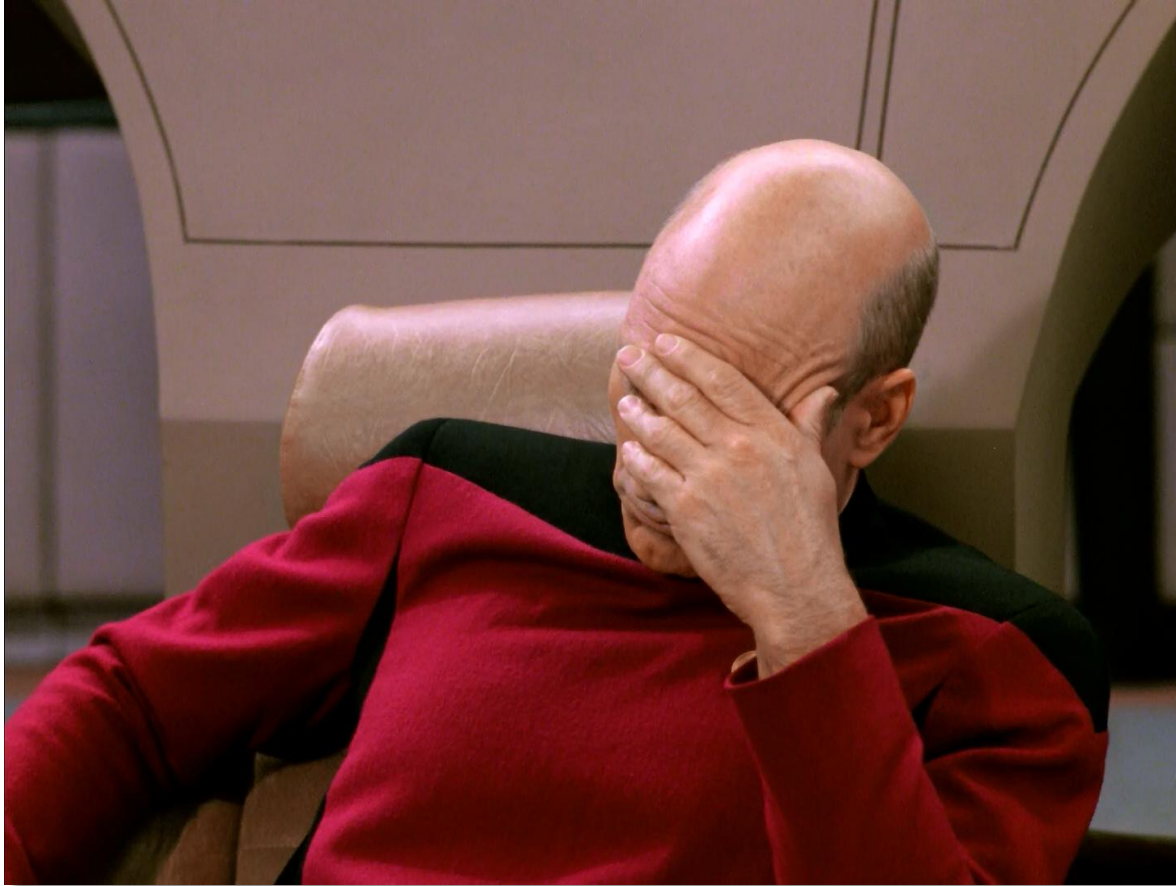
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Things We Learned

- Standards have errors



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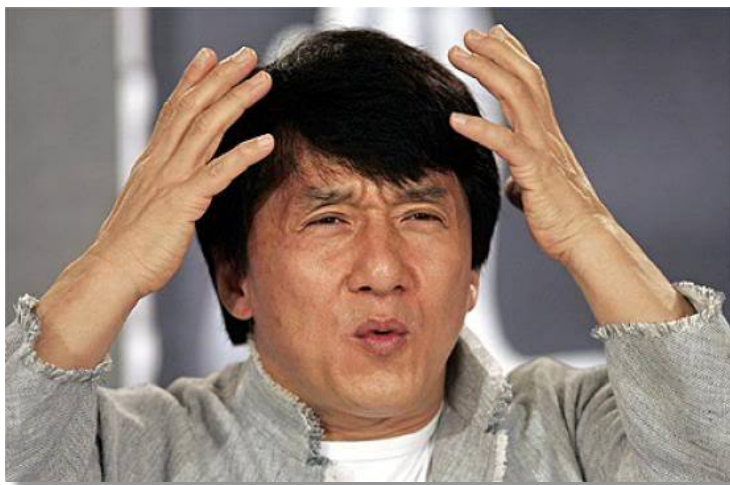
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- OpenType/CFF Collections (OTCs) are not universally supported
- Traditional Chinese is tricky—*multiple and conflicting standards*



Demo

Procurement Portals

- Source Han Sans
 - Installable fonts → <https://github.com/adobe-fonts/source-han-sans/releases/>
 - Typekit Desktop Sync → <http://www.typekit.com/>
 - Sources → <https://github.com/adobe-fonts/source-han-sans/>
 - AFDKO (OS X, Windows & Linux) → <http://www.adobe.com/devnet/opentype/afdko.html>
 - AFDKO "open source" sources → <https://github.com/adobe-type-tools/afdko/>
- Noto Sans CJK
 - Installable fonts → <http://www.google.com/get/noto/>

Feedback Is Welcomed & Encouraged!

- Source Han Sans

<https://github.com/adobe-fonts/source-han-sans/issues/>

- Noto Sans CJK

<https://code.google.com/p/noto/issues/>

More Information

- CJK Type Blog

<http://blogs.adobe.com/CCJKType/>

- Official ReadMe

<https://github.com/adobe-fonts/source-han-sans/raw/release/SourceHanSansReadMe.pdf>



A Font Solution For More Than 1.5 Billion People