| Doc Type |  |
| :--- | :--- |
| Title: | Proposal to add a Named UCS Sequence Identifier UYGHUR LETTERS |
| Source: | China |
| Action: | Review at WG2 Meeting |
| Distribution: $\quad$ SC2/WG2 |  |

The Unicode Technical Committee received input from Uyghur experts indicating the cultural importance of a text element referred to as vowel letters:

|  | Nominal form | Alphabet <br> letters <br> name | sequence characters | sequence <br> characters <br> code | Isolated form and represented code | Initial form and represented code | Medial form and represented code | Final form and represented code |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | عا | Uyghur <br> letter A | عی | 0626+0627 | FBEA |  |  | ¢ FBEB |
|  |  |  |  |  | 1 FE8D |  |  | 1 FE8E |
| 2 | Lك | Uyghur <br> letter AE | - ${ }^{\text {¢ }}$ | 0626+06D5 | S FBEC |  |  | ¢ FBED |
|  |  |  |  |  | - FEE9 |  |  | a FEEA |
| 3 | نُي | Uyghur <br> letter E | ¢ى | 0626+06D0 | FBF6 | FBF8 | FBD1 | FBF7 |
|  |  |  |  |  | ¢ FBE4 | ¢ FBE6 | ¢ FBE7 | ¢ FBE5 |
| 4 | ـُى | Uyghur <br> letter I | $ى^{+}$ | 0626+06D9 | ¢ FBF9 | FFBFB | - FBD2 | ¢ FBFA |
|  |  |  |  |  | $\checkmark$ FEEF | 」 FBE8 | - FBE9 | $\checkmark$ FEF0 |
| 5 | ـُو | Uyghur letter O | $9^{+}$ | 0626+0648 | fr FBEE |  |  | ئو FBEF |
|  |  |  |  |  | , FEED |  |  | , FEEE |
| 6 | كُؤ | Uyghur <br> letter U | ${ }^{\prime}+{ }^{\text {¢ }}$ | 0626+06C7 | 'f FBF0 |  |  | \% FBF0 |
|  |  |  |  |  | ¢ FBF0 |  |  | ¢ FBF0 |
| 7 | ـئوّ | Uyghur <br> letter OE | צ́ + | 0626+06C6 | ¢ٔ92 FBF2 |  |  | 9̌ FBF3 |
|  |  |  |  |  | ¢ FBD9 |  |  | ¢ FBDA |
| 8 | ــؤُ | Uyghur <br> letter OU | צ' | 0626+06C8 | ؤو FBF4 |  |  | fif FBF5 |
|  |  |  |  |  | ; FBDB |  |  | ¢ FBDC |
| 9 | نكـ | Chaghatay <br> letter NG | $S+ن$ | 0646+06A9 | نكى FBD1 | Si FBD2 | Si FBDO | Si. FBCF |

This text element is perceived culturally to be a single character and is listed and named in "alphabet" lists. This text element has a representation in the UCS as a character sequence: $<0626,0627>$. And every vowel letters linker mode.

On that basis, the Unicode Consortium proposes addition of the following named UCS sequence identifier in Amendment 8 of ISO/IEC 10646:

Uyghur letter A : Nominal form $\mathcal{L}$, sequence character $\langle 1+\mathcal{\xi}>$, sequence code $<0626,0627>$. Isolated form , sequence character $\left\langle\mid+{ }_{L}\right\rangle$, sequence code $\left.<0626,0627\right\rangle$, represented code $<$ FBEA $>$ Isolated form I, sequence character $\langle 1>$, sequence code $<0627>$, represented code $<$ FE8D $>$ final form $\mathrm{L}_{\mathrm{L}}$, sequence character $\langle 1+\dot{\xi}\rangle$, sequence code $<0626,0627>$, represented code $<$ FBEB $>$ final form L, sequence character $\langle 1>$, sequence code $<0627>$, represented code $<$ FE8E $>$
Uyghur letter AE : Nominal form , sequence character $<_{0}+{ }^{*}>$, sequence code $<0626,06 \mathrm{D} 5>$.
Isolated form ${ }^{\text {ئ }}$, sequence character $<_{0}+{ }^{\prime}>$, sequence code $<0626,06 \mathrm{D} 5>$, represented code $<$ FBEC $>$ Isolated form $\circ$, sequence character $<_{0}>$, sequence code $<06 \mathrm{D} 5>$, represented code $<$ FEE9 $>$ final form , sequence character $<_{0}+{ }_{\mathrm{L}}$, , sequence code $<0626,06 \mathrm{D} 5>$, represented code $<$ FBED $>$ final form a, sequence character $<0>$, sequence code $<06$ D5 $>$, represented code $<$ FEEA $>$
Uyghur letter E : Nominal form , sequence character < $<$ ¢
Isolated form Isolated form e, sequence character $<$ e $>$, sequence code $<06 \mathrm{D} 0>$, represented code $<\mathrm{FBE} 4>$ Initial form Initial form $ب$, sequence character $<$ ب $>$, sequence code $<06 \mathrm{D} 0>$, represented code $<$ FBE6 $>$ Medial form , sequence character $<\underset{\sim}{<}>$, sequence code $<0626,06 \mathrm{D} 0>$, represented code $<$ FBD1 $>$ Medial form $\underset{i}{i}$, sequence character< $>$, sequence code<06D0>, represented code $<$ FBE7 $>$ final form , sequence character $<$ s $>$, sequence code $<0626,06 \mathrm{D} 0>$, represented code $<$ FBF7 $>$ final form , sequence character $<$ ب $>$, sequence code $<06 \mathrm{D} 0>$, represented code $<$ FBE5 $>$
Uyghur letter I : Nominal form
Isolated form Isolated form $ى$, , sequence character $<_{ى}>$, sequence code $<06 \mathrm{D} 9>$, represented code $<$ FEEF $>$ Initial form , sequence character $\left\langle{ }^{\langle }\right\rangle$, sequence code $<0626,06 \mathrm{D} 9>$, represented code $<$ FBFB $>$ Initial form $\lrcorner$, sequence character $<_{ى}>$, sequence code $<06 \mathrm{D} 9>$, represented code $<$ FBE8 $>$ Medial form , sequence character $<_{<^{\prime}>}$, , sequence code $<0626,06 \mathrm{D} 9>$, represented code $<$ FBD2 $>$

Medial form $\wedge$, sequence character $<_{ى}>$, sequence code $<06 \mathrm{D} 9>$, presented code $<$ FBE9 $>$ final form final form $v$, sequence character $<_{v}>$, sequence code $<06 \mathrm{D} 9>$, represented code $<$ FEF0 $>$



Isolated form , sequence character $<,>$, sequence code $<0648>$, represented code $<$ FEED $>$ final form final form $و$, sequence character $<,>$, sequence code $<0648>$, represented code $<$ FEEE $>$
Uyghur letter U : Nominal form ;
Isolated form $\boldsymbol{f}$, sequence character $\langle\boldsymbol{q}+\dot{\xi}\rangle$, sequence code $\langle 0626,06 \mathrm{C} 7\rangle$, represented code $<\mathrm{FBF} 0\rangle$ Isolated form ', sequence character $<$ ' $>$, sequence code $<06 \mathrm{C} 7>$, represented code $<$ FBD7 $>$ final form ${ }^{\prime}$, sequence character $\langle\boldsymbol{q}+\boldsymbol{q}+$, sequence code $<0626,06 \mathrm{C} 7>$, represented code $<\mathrm{FBF} 1\rangle$ final form $\mathfrak{g}$, sequence character $<\boldsymbol{g}>$, sequence code $<06 \mathrm{C} 7>$, represented code $<$ FBD8 $>$ Uyghur letter OE : Nominal form

Isolated form Isolated form ǧ, sequence character $<$ ǧ $>$, sequence code $<06 \mathrm{C} 6>$, represented code $<$ FBD9 $>$
 final form $\check{q}$, $\quad$ sequence character $<$ g $>$, sequence code $<06 \mathrm{C} 6>$, represented code $<$ FBDA $>$

Uyghur letter OU : Nominal form $\quad$, sequence character $\langle\hat{q}+\dot{q}>$, sequence code $<0626,06 \mathrm{C} 8>$.
Isolated form ئؤ, sequence character $\langle\dot{q}\rangle$, sequence code $<0626,06 \mathrm{C} 8>$, represented code $\langle\mathrm{FBF} 4\rangle$ Isolated form 'g, sequence character $\langle\mathfrak{g}>$, sequence code $<06 \mathrm{C} 8>$, represented code $<\mathrm{FBDB}>$ final form final form ${ }^{\prime}$, , sequence character $\langle\hat{g}>$, sequence code $<06 \mathrm{C} 8>$, represented code $<$ FBDC $>$
Chaghatay letter NG : Nominal form $\quad$, sequence character $\langle\leqslant+\dot{\sim}>$, sequence code $<0646,06$ A $9>$.
Isolated form ${ }^{\text {U }}$, sequence character $\langle\leqslant+>$, sequence code $<0646,06$ A9 $>$, represented code $<$ FBD1 $>$


Medial form $S_{i}$, sequence character $\langle\leqslant+>$, sequence code $\langle 0646,06$ A $9>$, represented code $<$ FBDO $>$
final form ${ }^{\text {in }}$, sequence character $\langle\leqslant+ن$, sequence code $\langle 0646,06$ A $9>$, represented code $\langle$ FBCF $\rangle$

## Reference 1:

Table 1-2: Special vowel Scripts to Be Supplemented in ISO/IEC 10646 /Unicode for Uyghur languages

| Language | Final form | Medial form | Initial form | Isolated form | Nominal <br> form | No |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Uyghur | $\mathrm{FEBE}_{\text {FBEB }}$ |  |  | $\left.\right\|_{\text {FE8D }} ^{\text {FBEA }}$ | $b$ | 1 |
| Uyghur | FEEA FBED |  |  | $\begin{array}{cc} \stackrel{\Delta}{\infty} & \stackrel{\rightharpoonup}{2} \\ \text { FBEC } & \text { FEE9 } \end{array}$ | $\underset{\sim}{4}$ | 2 |
| Uyghur |  |  |  |  | $5_{i}^{5}$ | 3 |
| Uyghur | $\underbrace{s}_{F E F O}$ |  |  | $\mathrm{S}_{\text {FEEF }}$ | $5^{5}$ | 4 |
| Uyghur | $9 g_{\text {FEEE }}^{4}$ |  |  | $\underbrace{s}_{\text {FEED }}$ | s | 5 |
| Uyghur |  |  |  | $\begin{array}{cc} \text { g } & \text { gs } \\ \text { FBD7 } & \text { FBF0 } \end{array}$ | 4 $y$ | 6 |
| Uyghur |  |  |  | ${\underset{F B D 9}{v}}_{\text {FBF2 }}^{v \approx}$ | $\begin{aligned} & \text { v } \\ & \hline \end{aligned}$ | 7 |



|  | FB5 | FB6 | FB7 | FB8 | FB9 | FBA | FBB FBC | FBD | FBE | FBF |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0 | I <br> FBism | $\begin{array}{r} \dot{1} \\ \text { i } \\ \hline \end{array}$ | $\begin{gathered} \text { \% } \\ \text { Brio } \\ \hline \end{gathered}$ | $\begin{aligned} & \text { Z } \\ & \text { Bean } \\ & \hline \end{aligned}$ | $\sum_{\substack{\text { feg } \\ \hline}}$ |  |  | N | $\begin{gathered} 9 \\ \text { reab } \end{gathered}$ |  |
| 1 | I <br> FBal | $\stackrel{\vdots}{\stackrel{1}{2}}$ | $\begin{gathered} 3 \\ 2 \\ \\ \hline \text { Bini } \end{gathered}$ |  | $\begin{aligned} & \text { feg } \\ & \hline \end{aligned}$ | $\underset{\text { ReM }}{5}$ |  |  | $\stackrel{g}{\text { ReB }}$ |  |
| 2 |  |  | $\underset{B_{B r 2}}{T}$ | $\begin{gathered} 2 \\ \text { Hear } \\ \hline \end{gathered}$ | $\zeta_{\text {fen }}$ | $\begin{gathered} b \\ \times 8 \times 2 \end{gathered}$ |  |  | $\hat{\mathrm{RBE},}$ | $\begin{gathered} y_{\mathrm{R} 2_{2}} \\ \hline \end{gathered}$ |
| 3 | $\underset{\text { Fins }}{\sim}$ | $\underbrace{\#}_{\text {FBan }}$ | Çis | $\begin{array}{r} \lambda \\ \hline \end{array}$ | $\underset{\text { feg }}{3}$ | Rex |  | $\begin{gathered} \stackrel{3}{4} \\ \hline \end{gathered}$ | $\hat{\mathrm{g}}$ | $\underbrace{2}_{\text {mar }}$ |
| 4 | $\begin{gathered} \vdots \\ \text { fess } \end{gathered}$ | 3 <br> fess | $\begin{aligned} & \text { ? } \\ & \text { Bri4 } \\ & \hline \end{aligned}$ | $\begin{gathered} 3 \\ \text { स Rex } 4 \\ \hline \end{gathered}$ | $5$ | 。 <br> rema |  | ث <br> PBO 4 | $\underset{\substack{1 \\ \text { Rex }}}{ }$ |  |
| 5 |  |  | $\begin{aligned} & 7 \\ & \text { Pris } \end{aligned}$ |  | $\$$ | $\begin{gathered} \dot{a} \\ \text { RMS } \end{gathered}$ |  |  | Mex | ~ |
| 6 | $\underset{\text { res }}{\substack{\text { fass }}}$ |  | $\underset{A B T E}{2}$ | $3$ | $\underset{\substack{\text { fase }}}{ }$ | $\begin{gathered} 0 \\ \text { Rema } \end{gathered}$ |  | $\stackrel{\leftrightarrow}{S}$ | $\begin{gathered} \vdots \\ \vdots \\ \text { Reabe } \\ \hline \end{gathered}$ | $\underset{\substack{\text { Hixb }}}{\substack{4}}$ |
| 7 | $\underbrace{-}_{\text {EBr }}$ | $\underbrace{6}_{\text {FBer }}$ | $\underset{\text { Brin }}{ }$ | $\stackrel{\star}{4}$ <br> Re9 | $<$ <br> FB97 | $\sim_{r}^{\sim}$ |  |  | ¢ | بix |
| 8 | $\begin{gathered} \frac{3}{7} \\ \text { feses } \end{gathered}$ |  | $>$ | $\begin{gathered} 2 \\ \text { нexa } \\ \hline \end{gathered}$ | $\sum_{\substack{\text { fess } \\ \text { fes }}}$ | $\begin{gathered} t \\ \text { Resa } \end{gathered}$ |  | $\begin{gathered} \text { groab } \\ \hline \end{gathered}$ | ${ }^{\text {erea }}$ | $\underset{\substack{4 \\ \vdots \\ \text { masa } \\ \hline}}{ }$ |
| 9 | $\stackrel{\hat{\gamma}}{\text { fBam }}$ | 边 | $\cdots$ | $\begin{array}{r} \text { j } \\ \text { Reag } \\ \hline \end{array}$ |  | $\begin{gathered} 8 \\ \text { Rens } \end{gathered}$ |  | $\underset{\sim}{9}$ | $\stackrel{ }{\text { areg }}$ | Gr9s9 |
| A | $\underbrace{}_{\substack{2 \\ \text { cess }}}$ | $\underbrace{3}_{\text {RBGA }}$ | $\underset{\operatorname{cBirin}_{2}^{2}}{ }$ | $\underset{\text { sesar }}{3}$ | ${\underset{c}{3}}_{3}^{*}$ | $\begin{gathered} 8 \\ \mathrm{sem} \end{gathered}$ |  | g | $\underset{\text { RBEA }}{4}$ | $\underbrace{0}_{\mathrm{FBFA}}$ |
| B |  |  | $\underset{\text { EGBB }}{T}$ | $\underset{\text { кeßs }}{\substack{4 \\ \hline}}$ | ${\underset{\text { fex }}{2}}_{3}^{3}$ | fens |  | $\underset{\text { Rece }}{9}$ | \％ | $\underset{\text { fegB }}{\stackrel{4}{4}}$ |
| c | $\begin{array}{\|c} \frac{3}{3} \\ \text { Rasc } \\ \hline \end{array}$ |  | $\begin{gathered} \underset{\forall}{*} \\ \text { FBCC} \end{gathered}$ | $\underset{\text { fege }}{\substack{\text { ber }}}$ | $\underset{\substack{\text { Pesc }}}{ }$ | FBac |  | $\underset{\text { facc }}{\substack{\text { g }}}$ | $\underset{\mathrm{FBEC}}{\underset{\sim}{i}}$ | $\underbrace{}_{\text {FBec }}$ |
| D | $\begin{gathered} \vdots \\ \text { Reso } \end{gathered}$ | 立 <br> fen | $$ | $\underset{\text { frex }}{6}$ | $\ddot{K}$ PB9D | $\underset{\text { FBNO }}{ }$ |  | $\underset{\text { FBCO }}{4}$ | $\underset{\text { feep }}{\sim}$ | $\underset{\text { fero }}{0}$ |
| E | FBax | قै PBeje | $\underset{\text { EBEE }}{\text { E }}$ | $5$ FBaE | $\underset{\text { fexe }}{u}$ | $\stackrel{C}{F B A E}$ |  | $\underset{\mathrm{ReCE}}{\hat{y}}$ | $\begin{array}{\|c} \text { HREEE } \\ \hline \end{array}$ | $\stackrel{\vdots}{\vdots} \underset{\text { FBEE }}{ }$ |
| F | i |  | $\underset{4}{2375}$ | $\leqslant$ | $\underset{\text { cer }}{u}$ |  |  | \& | \％ | $\stackrel{3}{*}$ |

## Reference 2: ISO/IEC JTC1/SC2/WG2 58 meeting 8 June 2011

## ISO/IEC JTC1/SC2/WG2 N4113

Ad hoc report on Uyghur
SOURCE: Tero Aalto, CSC - IT Center for Science
DATE: 8 June 2011
LOCATION: Finnish Standards Association SFS, Helsinki, Finland
PARTICIPANTS:
Tero Aalto (Finland)
Chen Zhuang (China)
Mike Ksar (independent)
Lu Qin (HKSAR)
Mikami Yoshiki (Japan)
Wushouer Silamu (China)
V. S. Umamaheswaran (Canada)

Yasen Yiming (China)
The ad hoc group met and discussed issues relating to three documents:
the original proposal from China ("Preliminary Proposal for Encoding Special Scripts and
Characters in UCS for Uyghur, Kazakh and Kirgiz" N3819)
comments on this proposal (N3889)
a new proposal from China ("Proposal to Encode Special Scripts and Characters in UCS for Uyghur language" N3919).
The discussion in the ad hoc group was based on the following document:
100078 N4067 - Proposal to Encode Special Scripts and Characters in UCS for Uyghur language
The eight characters proposed in N4067 can presently be produced as combinations of two existing characters. According to the proposal, these characters should, in addition, be encoded separately.
An argument supporting the proposal was the fact that the characters can have different numbers of shapes in different languages. However, this is not within the scope of UCS. Instead, different glyph variants are handled by fonts. According to the principle, anything that can be represented with a sequence will not be encoded as a separate character.
The ad hoc group arrived at the following conclusions:
100078 There is to be a named UCS Sequence Identifier (USI) for each of the proposed sequences.

- A USI is also to be determined for the character proposed in N4066 PROPOSING TO SUPPLEMENT WITH THE SCRIPT AND CHARACTER OF Chaghatay Language.

100078 The contributor is requested to produce and submit another contribution defining the nine sequences for consideration in a future meeting.

