PROPOSAL TO ENCODE SYLOTI NAGRI NUMERALS

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1. Introduction

This is a proposal to encode the new characters in the Universal Character Set that is SYLOTI NAGRI DIGITS: 0 ZERO, 1 ONE, 2 TWO, 3 THREE, 4 FOUR, 5 FIVE, 6 SIX, 7 SEVEN, 8 EIGHT, 9 NINE. It is used to write numerals in Syloti Nagri. It supersedes the following documents:

- L2/02-388 ‘Documentation in support of proposal for encoding Syloti Nagri in the BMP’
- L2/21-140 ‘Proposal to Encode the Sylheti Nagri Numerals in the UCS’

2. Character Details

<table>
<thead>
<tr>
<th>GLYPH</th>
<th>CODE</th>
<th>CHARACTER NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>xxxx0</td>
<td>SYLOTI NAGRI DIGIT ZERO</td>
</tr>
<tr>
<td>1</td>
<td>xxxx1</td>
<td>SYLOTI NAGRI DIGIT ONE</td>
</tr>
<tr>
<td>2</td>
<td>xxxx2</td>
<td>SYLOTI NAGRI DIGIT TWO</td>
</tr>
<tr>
<td>3</td>
<td>xxxx3</td>
<td>SYLOTI NAGRI DIGIT THREE</td>
</tr>
<tr>
<td>4</td>
<td>xxxx4</td>
<td>SYLOTI NAGRI DIGIT FOUR</td>
</tr>
<tr>
<td>5</td>
<td>xxxx5</td>
<td>SYLOTI NAGRI DIGIT FIVE</td>
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<tr>
<td>6</td>
<td>xxxx6</td>
<td>SYLOTI NAGRI DIGIT SIX</td>
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<tr>
<td>7</td>
<td>xxxx7</td>
<td>SYLOTI NAGRI DIGIT SEVEN</td>
</tr>
<tr>
<td>8</td>
<td>xxxx8</td>
<td>SYLOTI NAGRI DIGIT EIGHT</td>
</tr>
<tr>
<td>9</td>
<td>xxxx9</td>
<td>SYLOTI NAGRI DIGIT NINE</td>
</tr>
</tbody>
</table>

3. Background

The proposed characters are elements of a numeric notation system used in Syloti Nagri (U+A800 - U+A82F), which were not encoded into Unicode. There were insufficient evidences to prove the origin and usage of Syloti Nagri digits in modern time as per previous proposal L2/02-388. Information about the origin of the digits is unclear. But the characters are derived ultimately from Arabic, Bengali and International Digits [see Table 1].
Table 1 show that the Syloti Nagri digits zero <০> and three <৩> are derived from Bengali digits. Syloti Nagri digits one <১>, two <২>, seven <৭> and nine <৯> are derived from Arabic-Indic digits and digit eight <৮> was taken from international digit system. Syloti Nagri digits four <৪>, five <৫> and six <৬> have not any relationships with other numerical system. It means these are own digits of Syloti Nagri.

We can find these digits in the some old handwritten form of books like Prof. Erhasuzzaman’s primer সিলোটী নগরী ‘Silôṭi Nagôri’ and in E. Ali’s সিলোটী নগরী পুস্তক ‘Silôṭi Nagôri Skuler Pôela Sôbôk’ book. In modern printed books, we can also find these digits in the various Syloti Nagri books i.e Prof. Erhasuzzaman’s primer নগরী হিকার বোই ‘Nagôri Hikar bôi’, Mustafa Selim’s সিলোটী নগরী লিপি পৌরিত ‘Sileṭi Nagôri Lipi Bôrôn Pòricôe’, etc.

People of Syloti speakers are using various social media platforms (Facebook, Instagram, WhatsApp) to promote Syloti Nagri digits. Various groups like ‘SOAS Sylheti Language Society’, ‘Nâgôri Bôrne Chileṭi Bhâṣâ Swîkriti Pôrisôd’, ‘Surma Faror Khobor’ are constantly promoting Syloti Nagri Digits along with Syloti Nagri script.

Due to absence of digits in Unicode font, most of the Syloti Nagri books are not included Syloti Nagri digits. But now-a-days two True Types non-Unicode fonts ‘Fonty 17’ and ‘Jalali’ are having these digits. Another True Types non-Unicode font ‘Siloti numbers’ was created by the author specifically for this proposal. ‘Fonty 17’ is commonly found in social sites and books. [see comparison table 2]
Table 2 show that the comparison chart of Syloti Nagri fonts: Syloti Numbers (column A), Fonty 17 (column B) and Jalali (column C).

### 4. Current Usage

- *Surma Faror Khobor* published 2021 Gregorian calendar in Syloti Nagri Digits [see fig 9 & 10].
- An android application *Sylheti Nagri* is available in Google Playstore having Syloti Nagri Digits [see fig 5].
- In 2021, United Nations Development Programme and Masterpeace Bangladesh collaborately published a primer নাগরী হিকি ‘*Nagôri Hiki*’, it has Syloti Nagri digits chart. It uses ‘Fonty 17’ font [see fig 8]. Another primer অন্য নাগরী হিকি ‘*Aô Nagôri Hiki*’ was developed in 2021 by Alim Uddin Chowdhury and Abu Saeed also having Syloti Nagri digits.[see fig 7]

### 5. Confusable characters

Below is a list of Syloti Nagri Digits that are ‘confusable’ with those encoded in other script blocks:

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
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<tr>
<td>2</td>
<td>২</td>
<td>২</td>
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<td>8</td>
<td>৮</td>
<td>৮</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>৯</td>
<td>৯</td>
<td></td>
</tr>
</tbody>
</table>

- xxx0 SYLOTI NAGRI DIGIT ZERO : U+09E6 BENGALI DIGIT ZERO
- xxx1 SYLOTI NAGRI DIGIT ONE : U+0661 ARABIC-INDIC DIGIT ONE
- xxx2 SYLOTI NAGRI DIGIT TWO : U+0662 ARABIC-INDIC DIGIT TWO
- xxx3 SYLOTI NAGRI DIGIT THREE : U+09E9 BENGALI DIGIT THREE
- xxx4 SYLOTI NAGRI DIGIT FOUR : U+0062 LATIN SMALL LETTER B
- xxx5 SYLOTI NAGRI DIGIT FIVE : U+1473 CANADIAN SYLLABICS KA
- xxx6 SYLOTI NAGRI DIGIT SIX : U+0064 LATIN SMALL LETTER D
- xxx7 SYLOTI NAGRI DIGIT SEVEN : U+146F CANADIAN SYLLABICS KO
- xxx8 SYLOTI NAGRI DIGIT EIGHT : U+0056 LATIN CAPITAL LETTER V
- xxx9 SYLOTI NAGRI DIGIT NINE : U+1467 ARABIC-INDIC DIGIT SEVEN
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6. Character Data

xxxx0:SYLOTI NAGRI DIGIT ZERO:Nd:0:L::0:0:0:N;;;;;
xxxx1:SYLOTI NAGRI DIGIT ONE:Nd:0:L::1:1:1:N;;;;;
xxxx2:SYLOTI NAGRI DIGIT TWO:Nd:0:L::2:2:2:N;;;;;
xxxx3:SYLOTI NAGRI DIGIT THREE:Nd:0:L::3:3:3:N;;;;;
xxxx4:SYLOTI NAGRI DIGIT FOUR:Nd:0:L::4:4:4:N;;;;;
xxxx5:SYLOTI NAGRI DIGIT FIVE:Nd:0:L::5:5:5:N;;;;;
xxxx7:SYLOTI NAGRI DIGIT SEVEN:Nd:0:L::7:7:7:N;;;;;
xxxx8:SYLOTI NAGRI DIGIT EIGHT:Nd:0:L::8:8:8:N;;;;;

7. References

[3]. Selim, Mustafa. সীলেটী নাগোরী তুলনা করানো নতুন নিয়মে ‘Sileṭi Nagôri Lipi Bôrôn Pôricôe’.
Fig 1: comparison chart of Syloti Nagri digits with Bengali and International digit. [courtesy: Facebook]

Fig 2: Set of Syloti Nagri digits with Bengali digit. [courtesy: Facebook]

Fig 3: Set of Syloti Nagri digits with Bengali digit. [Zaman,3:1995][1]
Fig 4: Set of Syloti Nagri digits with Bengali digit. [Zaman, 03:2014][2]

Fig 5: comparison chart of Syloti Nagri digits with Bengali and Devanagari. [Sylheti Nagri][7]
Fig 6: Set of Syloti Nagri digits. [Selim:18][3]

Fig 7: Use of Syloti Nagri digits in Thana list of Sylhet. [Chowdhury & Saeed,13:2021][6]
Fig 8: Full set of Syloti Nagri digits upto hundred. [Chowdhury & Saeed, 03:2021] [5]
Fig 9: Gregorian calendar of 2021 in Syloti Nagri Digit. [Chowdhury Nagri Publishers][8]
Fig 10: Ramadan month of Islamic calendar in Syloti Nagri Digit. [Chowdhury Nagri Publishers][8]