



Urdu Component Development Project

Urdu Normalization Application v1.0

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Revision History

Name	Change Date	Version	Description of Changes
Atif Gulzar	29-10-2007	1.0.0.0	Initial document

1 Introduction

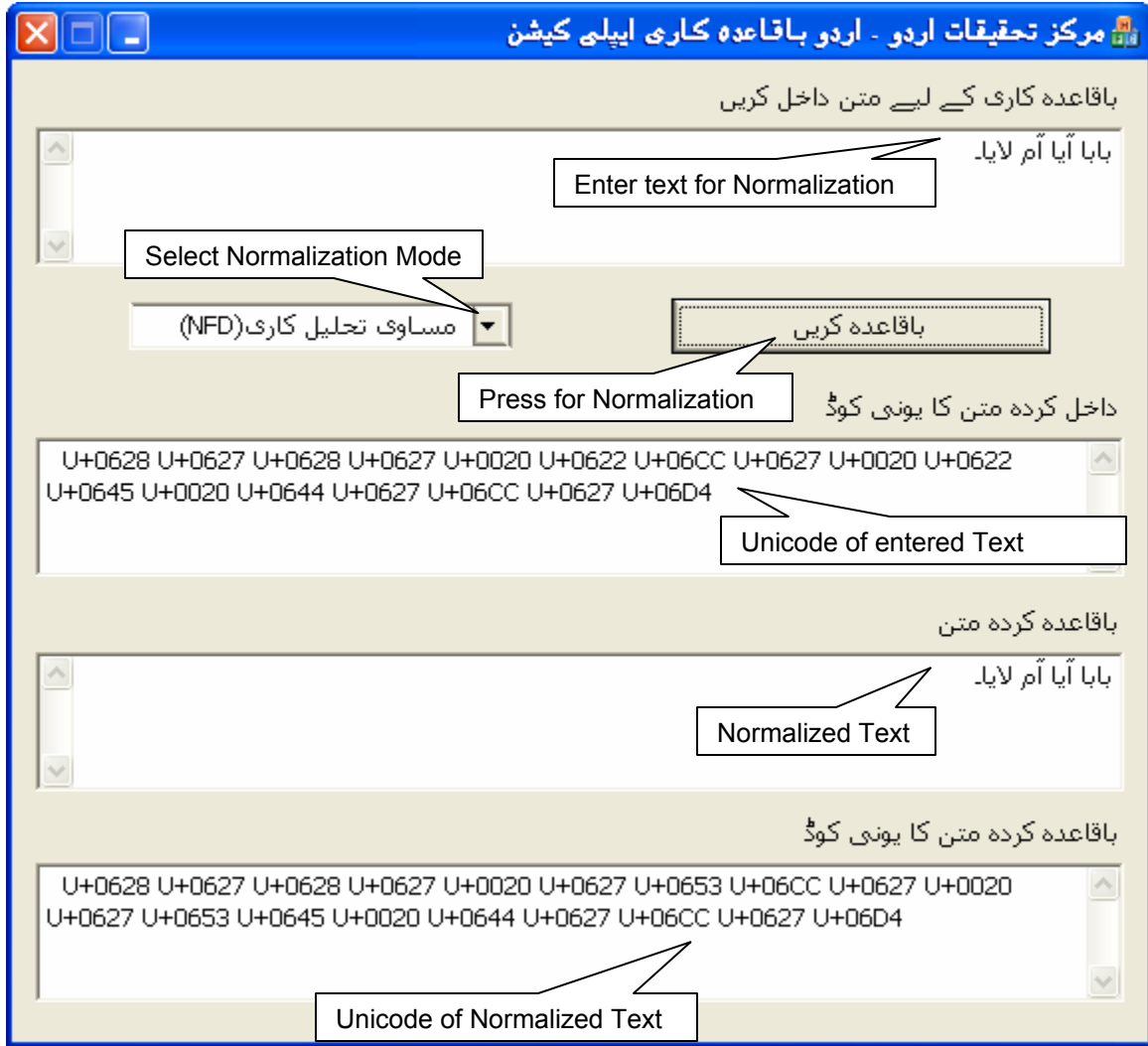
Normalization is a process to convert multiple equivalent representations of data to consistent underlying normal forms. Normalized data may have two forms: composed or decomposed. Composition is a process to combine the characters wherever possible, for example ل+ّ (0627+0653) will assume ّ (0622). Decomposition is an opposite process, breaking pre-composed characters back into their constituents.

The Unicode Normalization standard [1] defines two equivalences between characters: canonical equivalence and compatibility equivalence. And four normalization forms have been defined by Unicode standard, that are:

1. Normalization form D (NFD) or canonical decomposition
2. Normalization form C (NFC) or canonical decomposition followed by canonical composition
3. Normalization form KD (NFKD) or compatibility decomposition
4. Normalization form KC (NFKC) or compatibility decomposition followed by canonical composition

Urdu Normalization utility provides support for three normalization forms: Normalization form D (NFD) Normalization form C (NFC) and Normalization form KD (NFKD). The normalization form KD (NFKD) provided by a utility is a non-reversal process (the result may not be converted back to its original form).

2 Application Usage



3 File Formats

3.1 *Config File*

This file contains the file paths to be used in the utility. This file should exist at the root path of the application.

3.2 NormalizeNFC file

This file contains normalization rules for composition (NFC). Each line of file contains one rule. The format of a rule is: *replace:pattern* (right to left), where *replace* may be empty.

3.3 NormalizeNFD file

This file contains normalization rules for decomposition (NFD). Each line of file contains one rule. The format of a rule is: *replace:pattern* (right to left), where *replace* may be empty.

3.4 NormalizeNFKD file

This file contains normalization rules for decomposition (NFD). Each line of file contains one rule. The format of a rule is: *replace:pattern* (right to left), where *replace* may be empty. The rules given in this file are non-reversal (the result may not be converted back to its original form).

References

- [1]. *Unicode Normalization Forms*, Unicode Standard Annex # 15 (<http://www.unicode.org/reports/tr15/>).