

An introduction to the features of the IIT Madras r2leditor.

The r2leditor developed at the Systems Development Laboratory in the Department of Computer Science and Engineering, IIT Madras, is an application for preparing Text in scripts which are written from right to left. Arabic, Urdu, persian, Hebrew, Avestan are examples of languages which use the right to left writing system. The r2leditor prepares text in syllabic form conforming to the linguistic structure of the languages. The editor is similar in design to the Multilingual editor for Indian languages.

A nice feature of the editor is that the text prepared is stored using codes which correspond to sounds. Thus, the codes are quite different from encodings or character set definitions. The text may be displayed on a computer, a web page or just printed by using appropriate display methods which could use a variety of fonts and work under different platforms. The editor is currently available for the Windows platform and Linux.

The syllable level codes allow very efficient linguistic processing on the text and this can be done independent of the display methods.

An advantage of this approach is that the same text may be shown in transliterated form without additional effort. The editor has many features similar to the capabilities of TeX for Arabic (ArabTeX) but has the important advantage that it is WYSIWIG. Text prepared using the editor may be copied and pasted into Microsoft word or converted into other document formats such as HTML, PDF or PostScript.

The important features supported in the editor are listed below.

The Arabic text prepared by the editor includes Arabic Presentation forms and is hence useful for printing documents of high quality. All the consonants of importance are included in the set of letters which can be typed in. These include the ta marbutwa, hamza, Alif Maqsurah etc. The consonants will display the vowel marks depending on the combining vowel and these will be close to the required representation.

The initial, medial or the final form of a consonant is automatically identified by the editor as data entry proceeds.

The Keyboard mapping is phonetic and most of the consonants can be typed in using the Roman equivalent keys. A vowel typed in after a consonant will automatically combine with the consonant and the corresponding shape will be displayed.

Here is a sample sentence in Arabic (from the ArabTeX help manual)

غَرِيبٌ أَمْرُكَ يَا صَدِيقِي ! أَتُصَدِّقُ الْهِمَارَ وَتُكَدِّبُنِي ؟
garībun ʿa mruka yā ṣadiqī ! ʿa tuṣaddiqu a lhimāra watukaddibunī ?

The second line was not typed in but obtained by on-screen transliteration. There are a few errors in representation however.

The Editor may be configured to work with almost any eight bit font for arabic which has all the necessary Glyphs. The font used in this document is based on the free Karbala font distributed on the net but enhanced by IITM to accommodate special shapes for Urdu.