Open source TamilNet99 keyboard for Android

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Abstract

We have earlier developed an open source Indic keyboard application that works on Windows and Linux platforms [1, 2]. This is available under the Apache 2.0 licence and hence, even industries can use the code to develop their own products with due acknowledgment to the source. In addition to Tamil (Tamilnet99, Bamini, Remington and Inscript), this supports nine other Indian scripts, namely Kannada (KaGaPa and Inscript), Marathi (Remington and Inscript), Telugu, Malayalam, Odiya, Gurmukhi, Gujarati, Devanagari (Remington and Inscript) and Bangla. This paper presents an open source implementation of TamilNet99 keyboard for Android smart phones, which also supports 3x4 keyboard layout for mobile phones with short form factor. This Android app has been developed at MILE lab, IISc and also supports Inscript and 3 x 4 keyboard layouts for all the other Dravidian scripts of Kannada (KaGaPa layout is also supported for Kannada), Telugu, Malayalam and also the North Indian script of Devanagari. Saurashtra, Badaga, Irula, Konkani, Tulu, Kodava, Beary, Paniya, Betta Kurumba, Ravula, Marathi, Bodo, Mythili, Nepali, Sanskrit and Hindi languages can be entered through one of the supported scripts. It is freely downloadable from Google play store from the link: https://play.google.com/store/apps/details?id=org.iisc.mile.indickeyboards.android.

Introduction

An input method editor (IME) is an application that facilitates entering of text in scripts other than Roman on a computing or communication device, such as a PC, laptop, Tablet or a mobile phone. We have developed a new version of MILE Indic keyboards that enables entering Tamil text using an onscreen Tamilnet99 keyboard or 3x4 keyboard. This app adds keyboard only and doesn't add any font or rendering engine for displaying Tamil text. Hence install this app only if your phone/tablet already supports Tamil text and properly displays it, because then it has the required Indic fonts and rendering engine. However, if you see boxes or disjoint characters then it doesn't.

Installation Details

- Install the app from Google play: https://play.google.com/store/apps/details?id=org.iisc.mile.indickeyboards.android
- Go to "Settings" and open "Language and input".
- Select "IISc MILE Indic Keyboards". Click "OK".

Select language/keyboard

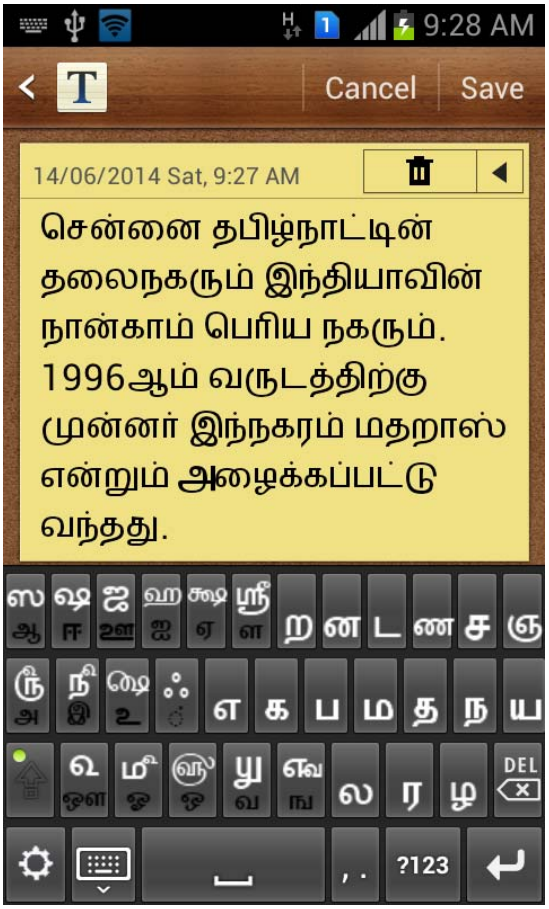
- Open the app where you want to enter Indic text.
- Select input method by either long pressing in the edit text or from the top status bar.
- In "Select input method" dialog, select "IISc MILE Indic Keyboards".
- By default, Kannada "KaGaPa" layout is shown.
- To change language/keyboard, click settings icon at the bottom left of keyboard.
- Select Tamil, followed by Tamilnet99 keyboard layout.

Salient features

- Allows fast typing of almost all of the Tamil characters without having to press shift key.
- The keyboard layout on Android phones is exactly as per the TamilNet99 keyboard layout on desktops. Hence, there is zero learning curve.
- Implements the following Tamil99 Keyboard Rules:

1. Keyboard has twelve vowels அ to ஔ, the pulli, the aaytham, the eighteen pure Tamil consonants combined with the first vowel அ, the five grandha consonants with the vowel a (sa, sha, ja, ha and ksha), and the letter shri.
2. A consonant symbol followed by the pulli produces a pure consonant.
3. A consonant symbol followed by a vowel other than the first vowel அ produces a vowelised consonant.
4. A consonant symbol followed by the same consonant symbol automatically puts a pulli for the first consonant symbol.
5. After putting a pulli automatically, this feature of automatic putting of pulli will be disabled temporarily for one stroke.
6. When the first vowel அ is typed after a consonant symbol, it simply confirms that the previous stroke is an akarameria uirmei. This disables temporarily the combining of any other stroke with the previous stroke.
7. The same behaviour is also seen when a soft consonant symbol is followed by the corresponding hard consonant symbol.
   (ங,க),(ஞ,ச),(ந,த),(ண,ட),(ம,ப),(ன,ற) are the soft and hard consonants pairs.
8. A vowel after anything other than a consonant symbol will remain an independent vowel.

- The source code is freely available under Apache License 2.0 at code.google.com [6]. This license allows even companies to use this keyboard for their own applications after due acknowledgement.
- We also support 3x4 keyboard layout for Tamil script which is mainly targeted for Android phones with very small screen size.



Applications

- Send SMS, chat or create memos in Tamil language.
- Creation of Tamil content via mobile: Microblogging, social networks, etc
- Teaching Tamil script.

Conclusion

This is available for free download on Google Play store [4]. Already, this application has had more than 500 downloads. If you find any issues in using our app, or have specific suggestions to enhance its function, usability or other features, please enter the same as an issue at [6]. We have developed another application for people, who have an Android phone that doesn't have inbuilt support for Indic fonts or Indic text rendering, to send/receive SMS or create memos in Indic scripts [5].

Future Work

In our next version (v1.3), we intend to add support for Bamini keyboard. Further, to avoid the need for using <shift> key, we will implement a long touch feature on the keyboard, which will help enter the other character supported by the same key.

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References

1. HR Shiva Kumar, Abhinava Shivakumar, Akshay Rao, S Arun, AG Ramakrishnan, “Panmozhi Vaayil-A Multilingual Indic Keyboard Interface for Business and Personal Use,” Proc. Information Systems for Indian Languages, CCIS Vol. 139, 2011, pp. 278-283. DOI 10.1007/978-3-642-19403-0_48.
2. indic-keyboards: A Multilingual Unicode Input Method for Windows and Linux. https://code.google.com/p/indic-keyboards/
3. Abhinava Shivakumar, Akshay Rao, S Arun, A G Ramakrishnan, “A Free Tamil Keyboard Interface for Business and Personal Use,” Proc. Tamil Internet 2010, Coimbatore, India, pp. 634- 640.
4. Download link for MILE Indic Keyboards app on Google Play store: https://play.google.com/store/apps/details?id=org.iisc.mile.indickeyboards.android
5. App for old versions of Android: https://code.google.com/p/indic-app-android/
6. Source code is available at https://code.google.com/p/indic-keyboards-android/