

# Developing Language Keyboards using **Universal Language Selector**

29 November 2024

<https://etherpad.wikimedia.org/p/language-community-meeting-nov-2024>

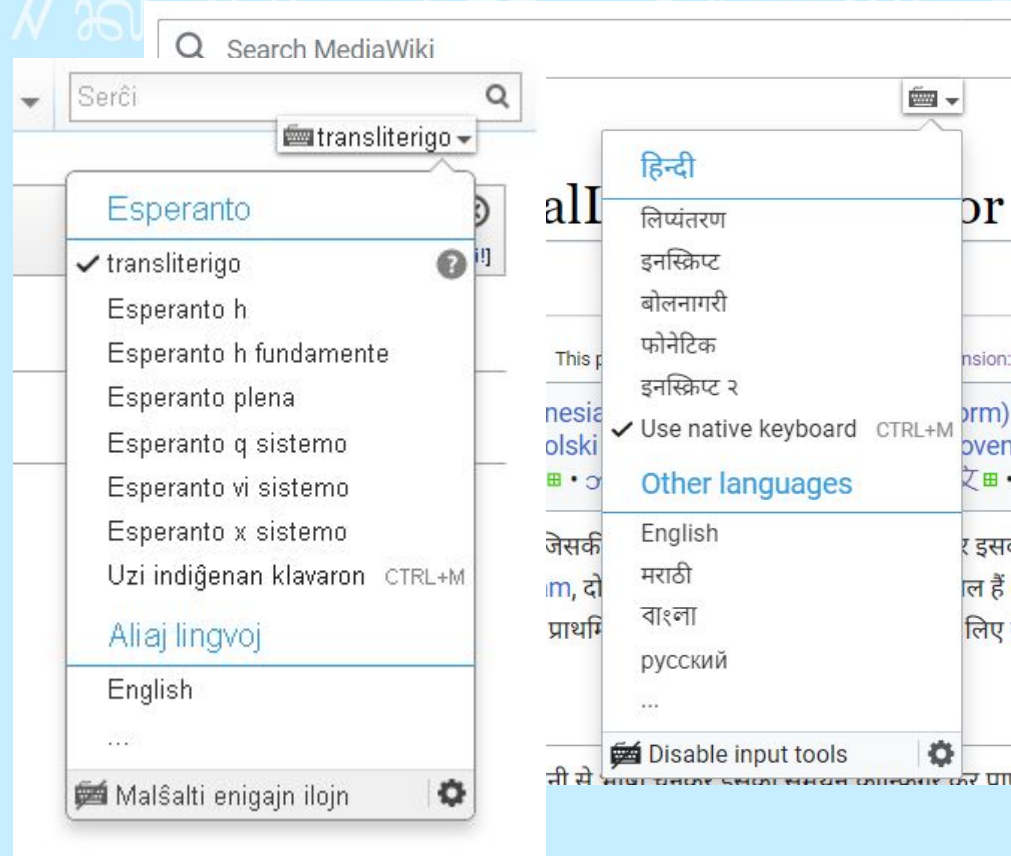
by:

**Benny** Lin (Indonesian & Javanese Wikimedian)

# Universal Language Selector

This feature allows users to type text in languages not directly supported by their keyboard, read content in scripts whose fonts are not available on the computer, or change the language of the displayed menus.

[mediawiki.org/wiki/ULS](https://mediawiki.org/wiki/ULS)



# Universal Language Selector

(Dialihkan dari ULS)

Terjemahkan halaman ini

**Bahasa lain:** Afrikaans o Bahasa Indonesia o Basa Ugi o Cebuano o Cymraeg o Deutsch o Deutsch o **English** o Esperanto o Lëtzebuergesch o Nederlands o Scots o Sunda o Tiếng Việt o azərbaycanca o català o dansk o español o français o feroyskt o italiano o lietuvių o magyar o norsk bokmål o occitan o o'zbekcha / ўзбекча o polski o português o português do Brasil o slovenčina o svenska o čeština o русский o українська o қазақша o ئۇيغۇرچە o اردو o العربية o سنڌي o فارسی o پښتو o کوردی o अवधी o भोजपुरी o हिन्दी o বাংলা o ગુજરાતી o සිංහල o ไทย o འགྲུབ་ལྷན་ཁག་ o བོད་སྐད་ o 中文 o 日本語 o 閩南語 / Bân-lâm-gú o ភាសាខ្មែរ o 한국어 o

The [Universal Language Selector extension](#) (ULS) provides a flexible way to configure and deliver language settings like interface language, fonts, and input methods (keyboard mappings). This allows users to type text in different languages not directly supported by their keyboard, read content in a script for which fonts are not available locally, or customise the language in which menus are displayed.

This functionality was partially provided by [Narayam](#) and [WebFonts](#) extensions [on some wikis](#). The ULS replaces those extensions and will be available in all Wikimedia projects for all users (logged-in and anonymous). More project specific details later.

The functionality provided is listed below:

- **Language settings panel.** Main entry point to configure language tools. It can be accessed from the interlanguage list on the sidebar, or at the personal toolbar for wikis lacking interlanguage links.
  - **User interface (UI) language adjustments.** Users can change the language in which the UI is provided regardless of the content language. At the moment, UI customisation is provided only for logged-in users.
  - **Font selection.** Web fonts are provided for non-latin scripts so that users can display content in those languages without installing local fonts. Users can select alternative fonts or decide to use their local fonts if they are available.
  - **Input method configuration.** Users lacking a keyboard for a particular script can still write in that script by using input mappings. Hindi users with a QWERTY keyboard can write "प" by typing "pa" when Hindi input method is enabled.
- **Input method contextual menu.** Options for switching between languages and keyboard mappings are provided next to each active input element. Users can easily combine English, International Phonetic Alphabet and Russian when writing about [Moscow](#) on English Wikipedia: "Moscow (/ˈmɒskaʊ/ or /ˈmɒskoʊ/; Russian: Москва, tr. Moskva; IPA: [mɐˈskva]) is the capital city and the most populous federal subject of Russia."

Wikimedia Foundation projects

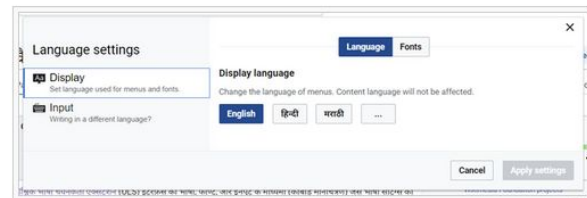
## Universal Language Selector

*Universal Language Selector*

Group:	Internationalisation and Localisation
Start:	2012-03-01
Team members:	Development team – Amir Aharoni, Niklas Laxstrom, Pau Giner, Santhosh Thottingal & Runa Bhattacharjee
Backlog:	<a href="#">#MediaWiki-extensions-UniversalLanguageSelector</a>
Management:	Aloita Sharma (Director of Engineering), Siebrand Mazeland (Product Manager)

### Daftar isi [sembunyikan]

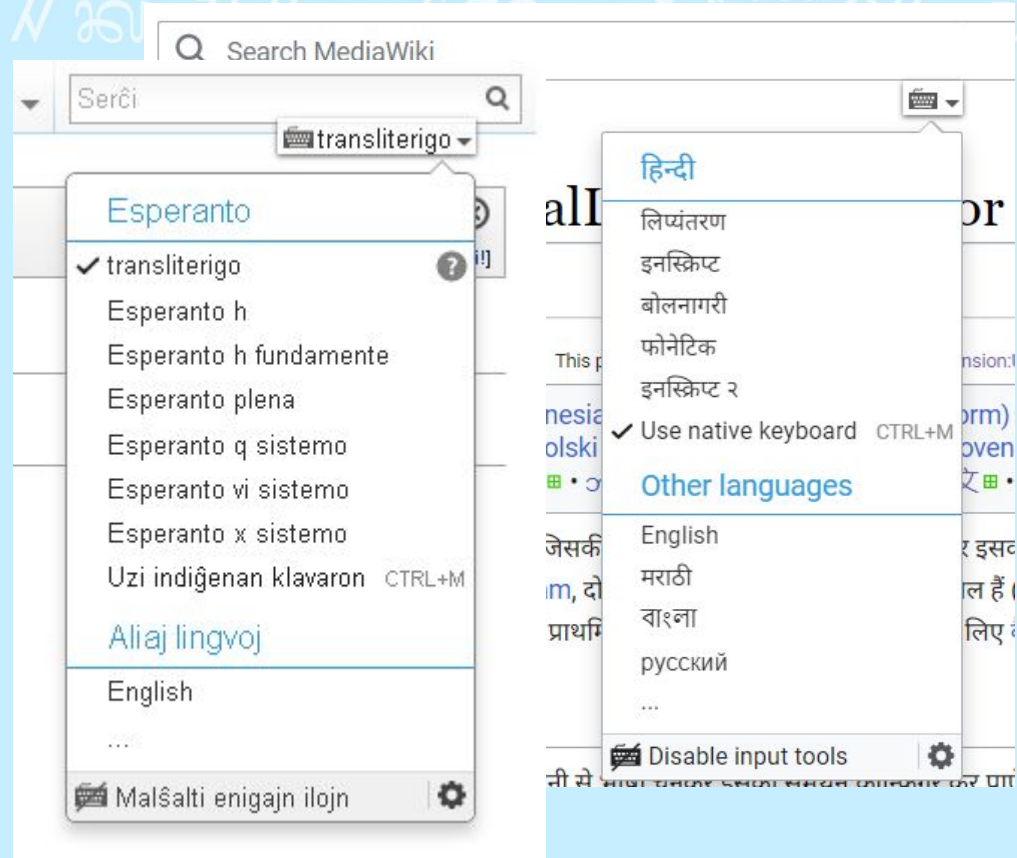
- How to access ULS
  - Limitations in functionality
- Web fonts
- More information
- See also




# Universal Language Selector

- Available for both logged in and anonymous users
- Language settings panel.
  - User interface language customization.
  - Font selection.
  - Input method configuration.
- Input method context menu.
- (wiki sites + browser extension)

 [mediawiki.org/wiki/ULS](https://mediawiki.org/wiki/ULS)





The background features a light blue gradient with faint, repeating Arabic calligraphy in white. In the center, there is a white, cloud-like shape with a thin yellow border. To the left of this shape is a green, multi-lobed leaf-like graphic. To the right are two purple leaves with white vein patterns. The text is centered within the white cloud shape.

**Currently  
available  
input methods  
(keyboards)**

# Two kinds of keyboards

Latin-based examples:

- Asia: [Madurese](#) (left img), [Nias](#), etc.
- Europe: [Danish](#), [German](#), [Belarusian](#), [Norwegian](#), etc.
- African: [Yoruba](#)

Transliteration examples:

- Asia: [Batak](#) (right img), [Jawi](#), Javanese ([1](#), [2](#)), [Balinese](#), [Shan](#), Indic scripts, etc.
- African: [Amharic](#), [Arabic](#), etc.
- Europe: [Georgian](#), [Greek](#), [Serbian \(Cyrilic\)](#), etc.

[Full list](#)

Type these keyboard keys:	To get these letters
~A	Â
~a	â
~D	Đ
~d	đ
~E	È
~e	è
~T	Ț
~t	ț


```
( function ( $ ) {  
    'use strict';  
  
    var madTilde = {  
        id: 'mad-tilde',  
        name: 'mad-tilde',  
        description: 'Madurese tilde key',  
        date: '2020-12-06',  
        URL: 'https://github.com/wikimed  
        author: 'Amir E. Aharoni',
```

Ketikkan ini...	Untuk menghasilkan ini:	Ketikkan i
q	ı	Q
w	Ƶ	W
e	Ɔ	E
r	ƚ	R
t	Ƨ	T
y	Ƨ	Y
u	Ɔ	U
i	Ɔ	I
o	Ɔ	O
p	ı	P
a	Ƨ	A
s	Ƨ	S
d	Ƨ	
f	Ɔ	F
g	ı	G
h	Ƨ	H
j	Ƨ	J
k	ı	
l	ı	L
z	ı	Z

# Currently available keyboards (1)

- Madurese (December 2020)
- 4 special letters
- 8 combinations

Type these keyboard keys:	To get these letters
~A	Â
~a	â
~D	Ð
~d	ð
~E	È
~e	è
~T	Ț
~t	ț


 [Help:Extension:UniversalLanguage Selector/Input\\_methods/mad-keyboard](https://www.mediawiki.org/wiki/Help:Extension:UniversalLanguage_Selector/Input_methods/mad-keyboard)

```
( function ( $ ) {  
    'use strict';  
  
    var madTilde = {  
        id: 'mad-tilde',  
        name: 'mad-tilde',  
        description: 'Madurese tilde keyboard',  
        date: '2020-12-06',  
        URL: 'https://github.com/wikimedia/jquery.ime',  
        author: 'Amir E. Aharoni',  
        license: 'GPLv3',  
        version: '1',  
    };  
}
```

# Currently available keyboards (2)

- Nias (January 2021)
- 2 special letters
- 4 combinations

Type these keyboard keys:	To type these letters
~O	Ö
~o	ö
~W	Ŵ
~w	ŵ


 [Help:Extension:UniversalLanguage Selector/Input methods/nia-keyboard](https://www.mediawiki.org/wiki/Help:Extension:UniversalLanguage_Selector/Input_methods/nia-keyboard)

```
( function ( $ ) {  
    'use strict';  
  
    var niaTilde = {  
        id: 'nia-tilde',  
        name: 'nia-tilde',  
        description: 'Nias tilde keyboard',  
        date: '2021-01-13',  
        URL: 'https://github.com/wikimedia/jquery.ime',  
        author: 'Amir E. Aharoni',  
        license: 'GPLv3',  
        version: '1',  
        patterns: [  
            [ '~O', 'Ö' ],  
            [ '~o', 'ö' ],  
            [ '~W', 'Ŵ' ],  
            [ '~w', 'ŵ' ]  
        ]  
    };  
}
```



# Currently available keyboards (3)

- Batak Toba (April 2014)
- 52 letters
- 6 special characters
- simple transliteration


 [Help:Extension:UniversalLanguage Selector/Input\\_methods/bbc-transliteration](https://www.wikidata.org/wiki/Help:Extension:UniversalLanguage_Selector/Input_methods/bbc-transliteration)

Ketikkan ini...	Untuk menghasilkan ini:	Ketikkan ini...	Untuk menghasilkan ini:
q	ᑏ	Q	ᑎ
w	ᑊ	W	ᑏᑏ
e	ᑏᑏ	E	ᑏᑏᑏ
r	ᑏᑏᑏ	R	ᑏᑏᑏᑏ
t	ᑏᑏᑏᑏ	T	ᑏᑏᑏᑏᑏ
y	ᑏᑏᑏᑏᑏ	Y	ᑏᑏᑏᑏᑏᑏ
u	ᑏᑏᑏᑏᑏᑏ	U	ᑏᑏᑏᑏᑏᑏᑏ
i	ᑏᑏᑏᑏᑏᑏᑏ	I	ᑏᑏᑏᑏᑏᑏᑏᑏ
o	ᑏᑏᑏᑏᑏᑏᑏᑏ	O	ᑏᑏᑏᑏᑏᑏᑏᑏᑏ
p	ᑏᑏᑏᑏᑏᑏᑏᑏᑏ	P	ᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏ
a	ᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏ	A	ᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏ
s	ᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏ	S	ᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏ
d	ᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏ		
f	ᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏ	F	ᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏ
g	ᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏ	G	ᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏ
h	ᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏ	H	ᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏ
j	ᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏ	J	ᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏᑏ



# Currently available keyboards (5)

- Javanese - Congress (2023)
- 93 Javanese script letters
- simple transliteration


 [Help:Extension:UniversalLanguage Selector/Input methods/jv-kongres](https://help:extension:universallanguage-selector/input_methods/jv-kongres)

```
( function ( $ ) {
  'use strict';

  var jawaKbd = {
    id: 'jv-kongres',
    name: 'Aksara Jawa Kongres',
    description: 'Papan Tombol Aksara Jawa berdasarkan Kongres Aksara Jawa I - 2021',
    date: '2023-04-06',
    URL: 'https://bennylin.github.io/kongres/jawa_standar_readme.htm',
    author: 'Benny Lin',
    version: '1.0',
    patterns: [
      [ 'q', 'ꦑ' ], // pangkon
      [ 'w', 'ꦮ' ],
      [ 'e', 'ꦺ' ], // taling
      [ 'r', 'ꦫ' ],
      [ 't', 'ꦠ' ],
      [ 'y', 'ꦪ' ],
      [ 'u', 'ꦸ' ], // suku
      [ 'i', 'ꦲ' ], // wulu
      [ 'o', 'ꦺ' ], // taling tarung
      [ 'p', 'ꦥ' ],

      [ 'a', 'ꦲ' ], // nga
      [ 's', 'ꦱ' ],
      [ 'd', 'ꦢ' ],
      [ 'f', 'ꦑ' ], // rx
      [ 'g', 'ꦒ' ],
      [ 'h', 'ꦲ' ],
      [ 'j', 'ꦗ' ],
      [ 'k', 'ꦏ' ],
      [ 'l', 'ꦲ' ],
      [ ';', 'ꦺ' ], // dha
      [ '"', 'ꦺ' ], // tha

      [ 'z', 'ꦱ' ], // nya
      [ 'x', 'ꦲ' ], // pepet
      [ 'c', 'ꦑ' ],
      [ 'v', 'ꦑ' ], // lx
      [ 'b', 'ꦑ' ],
      [ 'n', 'ꦲ' ],
      [ 'm', 'ꦲ' ],
```

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**How to  
create a new  
keyboard**



# Creating a new keyboard

- Open [https://www.mediawiki.org/wiki/Help:Extension:UniversalLanguageSelector/Input\\_methods](https://www.mediawiki.org/wiki/Help:Extension:UniversalLanguageSelector/Input_methods) or <https://w.wiki/v2aF>
- You can copy and modify existing keyboard into your own
- Submit in Github

## Aksara (transliteration)

- **Balinese** (Bali)
- **Buginese** (Bugis)
- **Makassarese** (Makassar)
- **Javanese - Nulis Aksara Jawa**
- **Javanese - Kongres Aksara Jawa**
- **Sundanese** (Sunda)
- Batak:
  - **Angkola**
  - **Toba**
  - **Pakpak (Dairi)**
  - **Mandailing**
  - **Simalungun**
  - **Karo**
  - **Alas-Kluet**

# Examples:

Latin-based examples:

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        date: '2020-12-06',  
        URL: 'https://github.com/wikimedi  
        author: 'Amir E. Aharoni',
```

Ketikkan ini...	Untuk menghasilkan ini:	Ketikkan
q	ë	Q
w	ö	W
e	ø	E
r	ŕ	R
t	ʀ	T
y	ÿ	Y
u	ü	U
i	ï	I
o	ö	O
p	ı	P
a	ş	A
s	ş	S
d	ˆ	
f	ƒ	F
g	ƒ	G
h	ƒ	H
j	ƒ	J
k	ƒ	
l	ˆ	L
z	ˆ	Z
x	ˆ	
c	ç	

# Do your language use special letters? (1)

- Diacritics: é, ë, è, É, Ě, È, ò, Ò, ö, ŵ, Ö, Ŵ, â, ð, è, ò, Â, Ð, È, Ț
- Ä, Ö, Ü. ß; Å, Æ, Ø; Š, Ž, Č, Ů, Ł, Ś, Ź, Ć, ń

For example

- [Finnish](#): type :A you get Ä, type :O you get Ö, type .e you get €
- etc.
-

# Do your language use special letters? (2)

Or, do your language uses non-Latin script, and you (or your target user) may want to type with Latin keyboards?

- South Asian scripts, South East Asian scripts, East Asian scripts, etc.
- Cyrillic, Greek, Hebrew, Arabic, Amharic, Georgian, etc.

For example:

- Javanese script using Qwerty keyboards:  
b=□, c=□, d=□, g=□, h=□, j=□, k=□, l=□, m=□, n=□, p=□, r=□, s=□, t=□, w=□, y=□
- etc.



# Final thoughts:

- it's hard to find the setting (gear button) in the new Vector-2022 skin, especially for logged out (anonymous) user, doubly so for mobile users.
- there's no standard for keyboard naming, developers can give a template (or several), and naming convention
- keyboard name only in 1 language (cannot multilingual), e.g. I named the keyboard that I made in English (“Transliteration”). Should be English + local language (□□□□□□□).
- same keyboard for multiple languages e.g. Javanese script for Javanese/Sundanese/Madurese languages, Jawi script (5+ languages)

If you experienced these things yourself, feel free to submit ticket to phabricator! :)

# Link and contact

- Video (in Indonesian, 2023)
  - <https://drive.google.com/file/d/1hfPKADN0wRD182MI0rAyISYDsadKq0xB/view>
- Link to this presentation:
  - [https://docs.google.com/presentation/d/1KRso4BYyRUuCd\\_TO95t0CiHGI9Q\\_J1CI\\_FKK9V1alpPg/](https://docs.google.com/presentation/d/1KRso4BYyRUuCd_TO95t0CiHGI9Q_J1CI_FKK9V1alpPg/)
- Old Youtube tutorial (2013)
  - <https://www.youtube.com/watch?v=LPec-KIBVeI&t=1790s>

If you have any questions regarding ULS, you can contact me:

- Wikimedia: Bennylin
- Telegram: Bennylin
- Github: Bennylin



**Terima kasih / Matur nuwun**