Proposal for the Generation Panel for the Lao Script Label Generation Ruleset for the Root Zone

1 General information

Lao characters originate from multiple sources including Pali and Sanskrit, and written Buddhist prayers from Tong Pali. Lao script is used for Lao language, which is the official language of Laos. It is a tonal Language of Tai family and is closely related to the Isan Language of the northeast region of Thailand. It is written from left-right and without any space between words (no word boundary). Lao Language can be divided into five main groups: Vientiane Lao, Northern Lao (Luang Prabang), North-Eastern Lao (Xieng Khouang), Central Lao (Khammouan), and Southern Lao (Champasak).

Lao Unicode table (U+0E80-U+0EFF) encodes 67 characters which consist of 31 consonants (27 single consonants, 2 mixed consonants and 2 Khmu consonants), 19 vowels (18 single vowels and 1 mixed vowel), 4 tone marks, 10 Lao digits and 3 signs, as per the following details:

- 31 single consonants (including 2 mixed consonants and 2 Khmu): រាខតៗ្ຈនាន្មពេពប្រ ນប្បដ្ឋសួរស្រីនិង១៣១៩ឃាយាគ្មៈ
- 19 single vowels: xะ xา x̂ xิ xิ xิ x x เx แx โx x xำ โx ใx xฐ ั 🔓 ฐ
- 10 Lao digits: 0 ១៤ឯ៤៤៧ក្ខួល
- 4 Tone marks: x x x x

The work of Lao Generation Panel will be two-fold. First, the Lao GP will review the current MSR to provide additional feedback, specifically on %, which is Lao sign (LAO ELLIPSIS), and not included in MSR-2. Second, Lao GP will develop the Lao LGR proposal for the Root Zone based on the MSR.

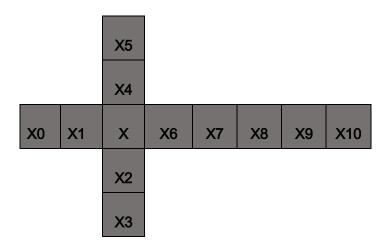
Syllable is a unit of spoken language. A word in Lao may have one or more syllables. Additional complexity is introduced by lack of a space character. Though humans can process multiword string while reading and extract words from it, this process is very difficult for computers.

Lao syllable structure contains characters and marks. Table 1 below lists these possible characters and marks: Lao language writing system is based on a central or nuclear consonantal character. This consonant may have optionally vowel character or marks around it (before, after, above or below). In addition, this nuclear consonantal character may also have optional a tonal mark above it and optionally more consonantal characters following it.

There are two methods for writing Lao, first is in hand writing system and second is in computer system. In hand writing system, the orthography of Lao characters is to write in the sequence Consonant-Vowel-Alternate consonant-Tone mark, but not everyone writes according to

orthography and it is found that some people write in the sequence: Consonant-Vowel-Tone mark-Alternate Consonant.

In computer system, Lao characters are written from left to right with the following sequence order:



(Table1: Syllable structure in computer system)

- X0 represents a vowel which occurs before the nuclear consonant.
- X1 is a combination consonant which comes before the nuclear consonant
- X is represents the nuclear consonants.
- X2 is a combination consonant which comes after the nuclear consonant, which placing under or next to the nuclear consonant.
- X3 is represents a subscription vowel which occurs under the nuclear consonant.
- X4 is represents a superscription vowel which occurs upper the nuclear consonant.
- X5 is represents a tone marks which occurs upper the nuclear consonant or upper vowels.
- X6 is represents consonant vowel, which occurs after nuclear consonant.
- X7 is represents an after vowels.
- X8 is represents alternate consonants
- X9 is represents alternate consonant to pronounce foreign language
- X10 represents a sign mark.

1.1 Script for which the panel is to be established

ISO 15924 code: Laoo

ISO 15924 no.: 356

English Name: Lao

Unicode range: U+0E80-U+0EFF

1.2 Principal languages using that script

Lao script is used for at least the following languages.

Name	ISO 639-3 Code	Region	Name in Local Language
Lao	Lao Mekong river valley,		ພາສາລາວ
		Luang Prabang south to	
		the Cambodia border.	
		Lao-Khrang dialect is in	
		Nakhonsawan and	
		Nakhon Pathom areas	
Bru	Bru	East Savannahkhet	ພາສາບຣູ
		Province, Sepone	•
		district; southeast	
		Khammouan Province,	
		Boulapha district	
Hmong Daw	Mww	North, widespread in	ພາສາມົ້ງດໍ
		Laos	
Lu Mien	lum	Luang Namtha,	
		Xiagnabouli, Phongsali,	
		and Bokeo provinces	
Jeh	jeh	South, Xekong Province,	ພາສາເຢ
		Dakchung district;	
		Attopeu Province,	
		Sanxai district, basin of	
		Poko, Kamane, and Dak	
		Main rivers	
Khmu	Kjg	Scattered in the north	ผาสาธะมุ
		in Laos	
Lave	Brb	Attapu and Champasak	ພາສາລະເວ
		provinces, Laos-	
		Cambodia border in	
		Laos	
Tai Dam	Blt	Scattered across	ພາສາໄທດຳ
		northern Laos to	
		Khammouan Province	

1.3 Geographic territories or countries with significant user communities for the script Lao script is mostly used in Laos.

1.4 Are there related scripts? If so, which ones?

Lao script is derived from Pali and Sanskrit and related to Thai and Khmer scripts.

2 Proposed initial composition of panel

2.1 List prospective chair and members

No.	Name	Role	Designation	Organizations	Expertise
1	Mr. Phonpasit Phissamay	Chair	Director General	E-government Center of Laos,	Lao localization development

				Ministry of Posts and Telecommunication	projects since 2003 and Integration of Lao in E- government
2	Mr. Khamphanh Souvannakha	Co-Chair on DNS	Deputy Director General	Lao National Internet Center, Ministry of Posts and Telecommunication	Supervision of .la domain name registration
3	Mr. Valaxay Dalaloy	Policy member	Deputy Director General	IT Department, Ministry of Posts and Telecommunication	ICT policy development and Lao localization development projects since 2003
4	Mr. Bualy Paphaphanh	Linguistic member	Dean	Faculty of letters, National University of Laos	Linguistic expert and advisor to Lao localization projects
5	Mr. Thonglor Douansouvanh	Community member	Deputy Director General	Vientiane Times Newspaper	Media
6	Mr. Bounmy Kongmany	Linguistic member	Teacher	National University of Laos	Linguistic expert
7	Mr.Sengfa Holanouphab	Linguistic member	Deputy Dean	National University of Laos	Linguistic expert
8	Mrs. Chittaphone Chansylilath	Technical member	Director	Application and Software Division, E-Government Center	Lao localization specialist, Lao Font, Lao Keyboard, Lao OCR, TTS Projects.
9	Mr. Phouthong Sisavath	Technical member	Director	DNS and NDC Division, Lao National Internet Center	DNS operation
10	Mr.Khamphay Inthara	Technical member	Deputy Director	Database and Multimedia Division, E-Government Center	Lao localization specialist, Lao Font, Lao Keyboard project
11	Mr.Phousana Silivong	Technical member	Technical Officer	Application and Software Division, E-Government Center	Lao localization specialist, Lao Font, Lao Keyboard project
12	Mr. Saysomvang Souvannavong	Technical member	Technical Officer	DNS and NDC Division, Lao National Internet	DNS operation

				Center	
13	Ms. Phavanhna Douangboupha	Technical	Director	Planning and	Coordinator for
		member		Cooperation	international
				Division, Lao	cooperation
				National Internet	
				Center	

3 Work plan

3.1 Suggested Timeline, listing of significant milestones

Activity	Description	Start Date	Duration
Develop Principles	Principles to be used to determine valid code points, variants and labels	1 st September 2015	2 weeks
	Identify candidate code points	15 th September 2015	4 weeks
Determine Code Points	Linguistic review	15 th October 2015	1 week
Determine code i omes	Technical review	24 th October 2015	1 week
	Finalize code points	31 st October 2015	2 weeks
Determine (any) Variants	Identify the candidate variants (by the team)	14 th November 2015	4 weeks
	Review variants of Lao language (with concerned external experts and organizations)	15 th December 2015	2 weeks
	Consider variants with Khmer language (with concerned external experts and organizations)	1 st January 2016	2 weeks
	Consider variants with Thai language (with concerned external experts and organizations)	15 th January 2016	2 weeks
	Coordinate with Thai and Khmer panels	1 st February 2016	4 weeks

Determine Label Rules	Determine if there are any label level constraints on the use of selected code points	5 th March 2016	4 weeks
Public consultation in Laos	Get feedbacks from local community: media, ISPs, university academia, civil society, and others.	1 st April 2016	1 day
Write Proposal and Create XML	Write up the Root Zone LGR proposal, including references to each code point included, why variants needed and details of label rules developed + XML file	2 nd April 2016	4 weeks
Submit	Get Public Comments, Finalize and Submit	1 st May 2016	4 weeks

3.2 Proposed schedule of meeting and teleconferences

- Lao panel will hold face-to-face meetings at Lao National Internet Center, Ministry of Post and Telecommunications.
- Teleconference and face-to-face meetings with experts will also be organized as required.

3.3 Anticipated need for logistic support, such as mailing list

- Mailing list
- Wiki page
- Public consultation seminar: 50 100 participants
- Coordination with Thai and Khmer panels
- Tool kits to generate XML
- Support for external advisors
- Support for face-to-face interaction with ICANN community

3.4 Need for external advisors

- IDN/DNS expert (based on level of difficulty, progress and output of the work)
- IDN expert for coordination between Lao, Thai and Khmer panels (depending on the needs and until the problem is solved)