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Localization of DHIS 2; an open source Health Information System

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Two terms

- Internationalization (I18n)
- Localization (L10n)

Internationalization (I18n)

Internationalization is the process of developing software in a way that it can be adapted to other languages and locales without redesigning (especially numbers, currency, dates etc.).

Localization (L10n)

Localization simply means using the internationalized software to suit the particular locale with mainly translated text and adapted to the characteristics, culture and customs of that locale

Why it is important?

- Internationalization [i18n] and localization [L10n] do not simply consist of translation of interface components, but also of careful cross-cultural and cross-functional considerations to the cultural sensitivities of the intended source and target languages.
- We should be careful when the technical terms are localized to suit the needs of day to day field health worker's vocabulary.
- Because they are the grass root level who involves more with data entering and it directly co-relates with the quality of health data.

DHIS 2

- DHIS 2 (District Health Information System) is an web based open source health information management system, which is being used in various health facilities which facilitates data entry, analysis and dissemination, tracking etc. and it focus more on aggregate data.
- DHIS 2 is the preferred health management information system in more than 50 countries and it is widely implemented through out the world.
- Accepted by WHO, CDC.

DHIS 2 In Sri Lanka;

- In Sri Lanka it is currently being customized to be used in the;
  - Maternal and child health (MCH) programs in Southern province and North Western Province
  - Injury surveillance data aggregation
  - Tuberculosis registry
  - Nutrition program
  - Non communicable Diseases (NCD) program etc.

- DHIS 2 uses English as the interface language..

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DHIS2 for grass root level health workers

- Several recent studies have revealed that PHMs devote considerable time to prepare health data, which in turn has affected the quality of their services badly.
- Therefore, introducing a solution for public health data management at grass roots level is essential.
- This is why basically the DHIS2 was implemented in NCD Program and MCH programs in North Western Province and Southern Province.

English → Sinhala

- Sinhala is the official language of Sri Lanka and it is the language spoken by a majority of Sri Lankans – nearly 70% of the population.
- English, on the other hand is a West German language originating from England, has much less in common with the Sinhalese language.

Language Barrier

- Computers in modern era usually use English as the language for machine to human interface communication.
- 80% of Sinhala speaking people do not have the ability to read and write in English well.
- Such communities are unable to adapt to the digital era due to the language barrier.

Solution?

- Localization of DHIS2 to Sinhala Language..?

Why DHIS2 Localization?

- In a study involving PHMs in Kandy District; it has been revealed that ability to read English could have made their duties easier but the skills are remarkably low and should be improved.
- In a situation like that the value of i18n and l10n is immeasurable.
- Requests have been made on i18n and l10n from North western province, Southern Province, Nutrition and NCD program DHIS2 implementations.

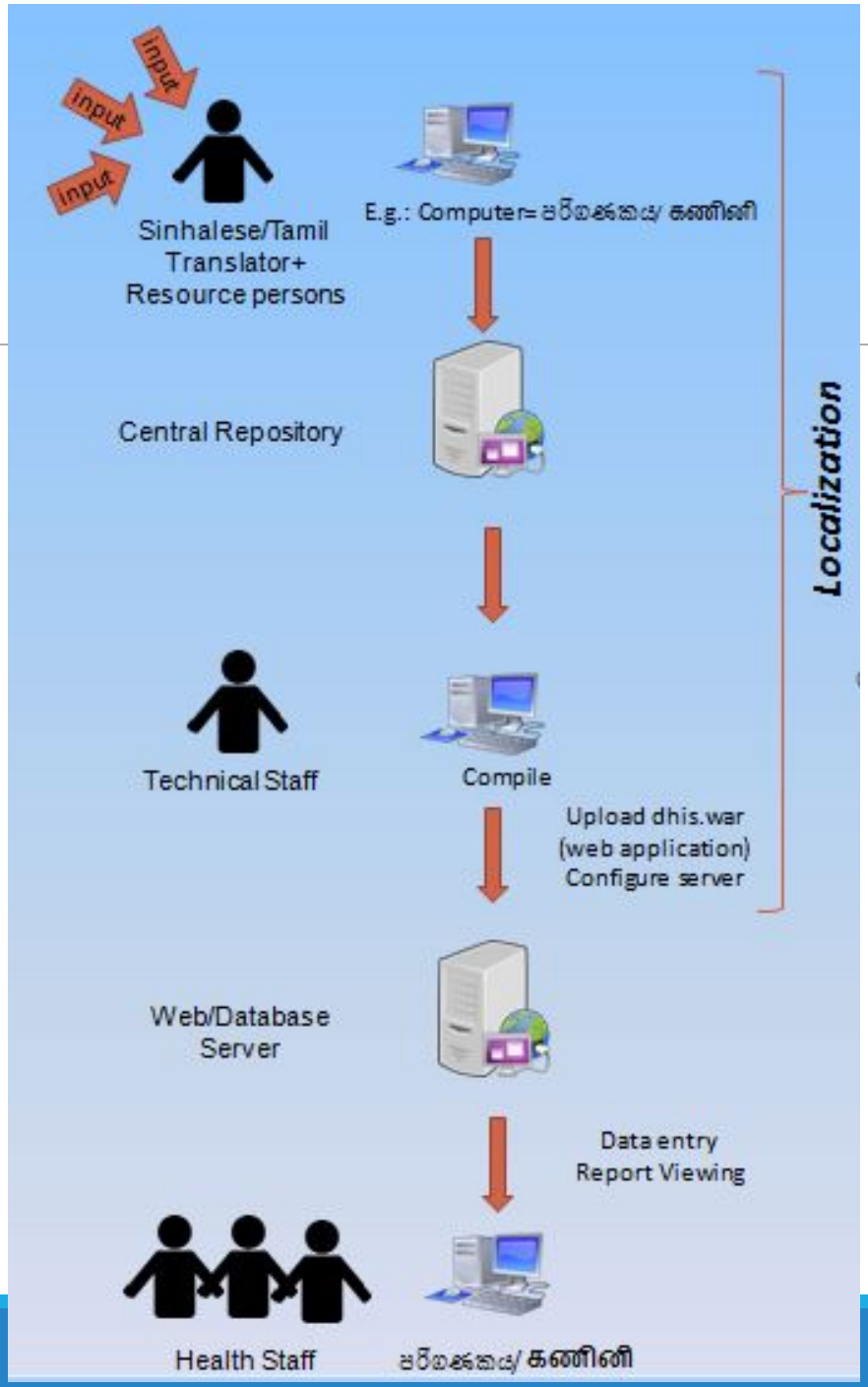
Method

1. Collecting as many Sinhala terms and synonyms as possible for each English string which is there in DHIS2, with the aid of dictionaries and thesauri.

2. Sinhala language scholars will be consulted to ensure the correct use of the terms which were generated in the initial step.

3. Simultaneously, new words will be coined where no appropriate term was available in the above generation process.

4. In the final step, each Sinhala term will be carefully analyzed to obtain most appropriate Sinhala terms for each English string.



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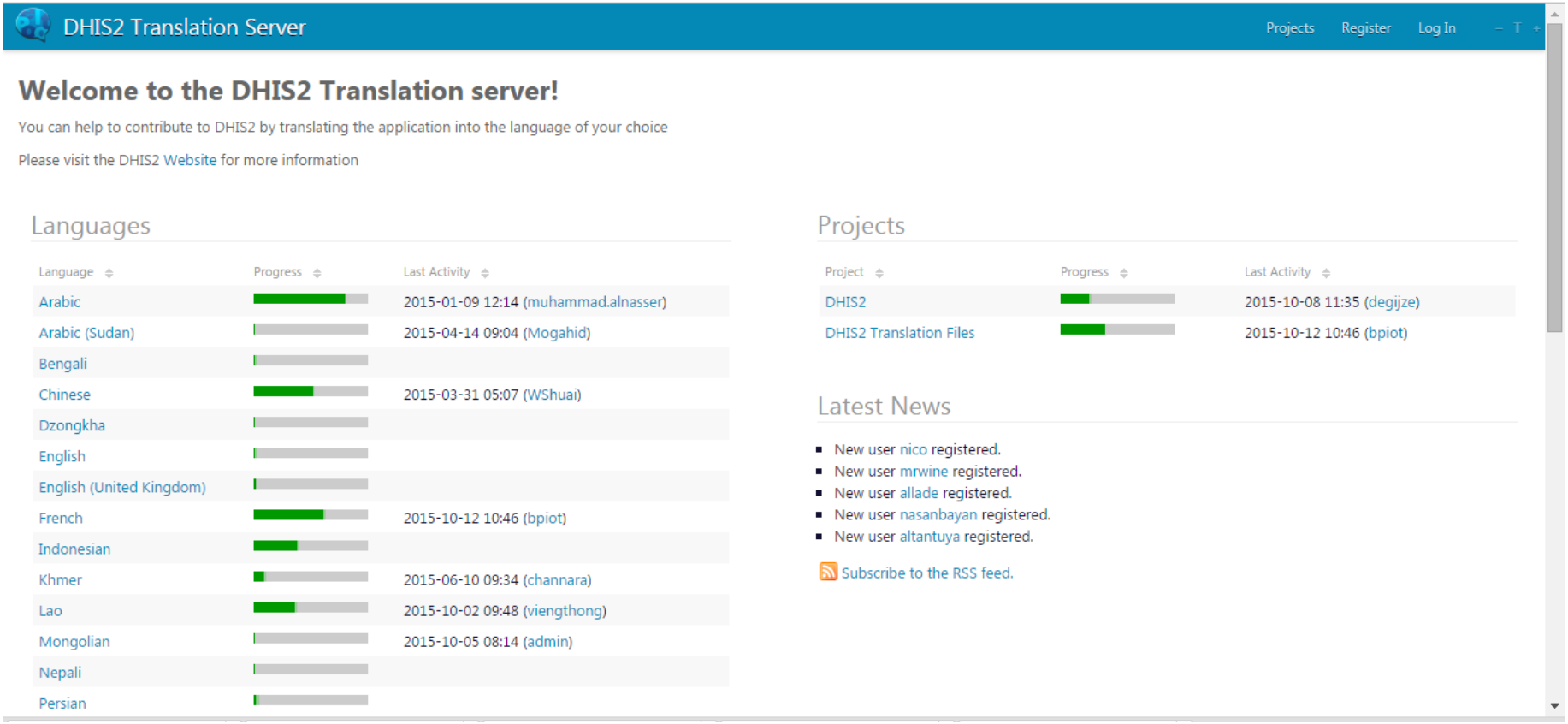

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Lessons Learnt..(Some Facts)

When comparing Sinhala and English languages; there are significant differences which can be appalling to the translator.

Lessons Learnt..(Some Facts)

- As Sri Lanka has **regional variations** in using the same language (eg: Udarata/ Pahatharata; Jaffna Tamil etc) there may be issues pertaining to that.
- Handling the **numbers** (eg. "on page 2 of total 6 pages" - which has a different syntax in Sinhala, where 2 and 6 comes as dynamic strings, පිටු 6කින් 2 වන පිටුවේ. but in DHIS2 unless we change the codes, we can't change the position of the numbers. so, you need to suggest alternative text, which sometimes may be totally different from direct meaning of word to word translation.

Lessons Learnt..(Some Facts)

- Some **grammar** rules such as participles are usually not used in Sinhala Language.
- **Syntax**: eg. conjunctions like, for/to complicates translation

E.g.: $_1 + for + $_2: chicken for fox, grass for cow -> නරියට කුකුල්ලු, වැස්සිට තණකොළ (the meaning) will be reversed.

- We have to provide some health-friendly **alternatives for Sinhala IT jargons** (eg. පරිශීලක අතුරු මුහුණත, which is the term most IT savvy translators use, but confusing to PHMs.

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Thank You!

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