

L10n and I18n

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Wat is i18n?

- **i18n**: internationalization

Make an application **international**; that is, make it **able to support virtually any language or local setting on Earth without modify** source code.

https://wiki.mageia.org/en/What_is_i18n._what_is_l10n

A single application for ALL country

Wat is i18n?

Examples:

- Car: Accelerator, wheel...



Men in Black II "What is a Gameboy"

<https://www.youtube.com/watch?v=IDtwTqBwqwk&t=1m5s>

Wat is i18n?

Examples:

- Car: Accelerator, wheel...



Men in Black II "What is a Gameboy"

<https://www.youtube.com/watch?v=IDtwTqBwqwk&t=1m5s>

Wat is i18n?

Examples:

- Software: Mobile phone camera.



Wat is l10n?

- **l10n: Localization**

Make an application **localized**; that is, work for a given local and concrete context, adapted to the user.

https://wiki.mageia.org/en/What_is_i18n._what_is_l10n

Different application for different country?

Wat is 110n?

Examples:

- Car: Location of the wheel. Left or Right?



i18n



Wat is 110n?

Examples:

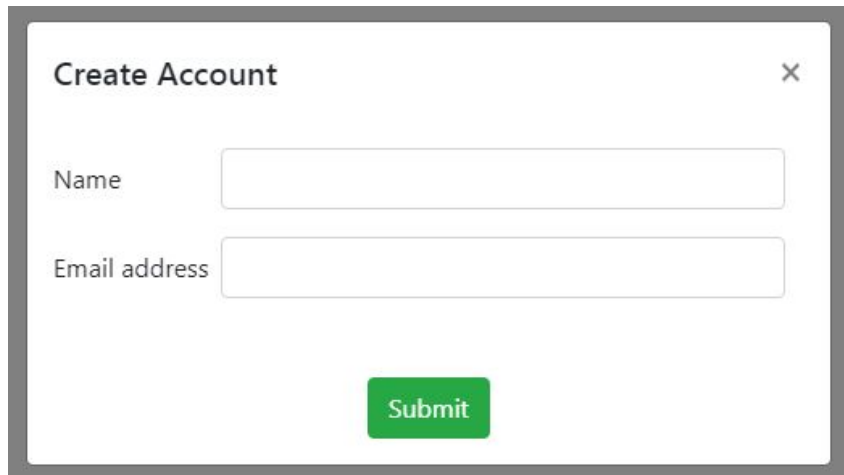
- Software: Disallow to disable japan mobile phone's camera shutter sound.
<https://www.engadget.com/2016/09/30/japans-noisy-iphone-problem/>

Basic Guidelines

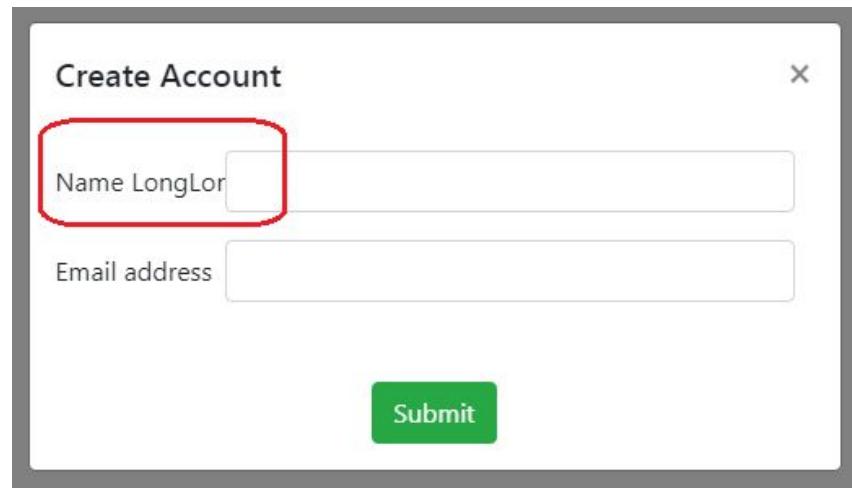
- Not only design for English/native language but also include **other languages/cultures**.
 - Layout.
 - Color/Font-family
 - Functionality.
 - Encoding/Character set: Unicode.
 - Structure of the program.
 - Test plane.
- **No hardcoded**.
 - Extract all l10n target out of the source code, and put them into l10n resource folder/files.
- Keep sentence **complete** and **meaningful**.
 - Do not split sentence.

Basic Guidelines

- Not only design for English/native language but also include [other languages/cultures](#).
 - Layout.



A wireframe of a 'Create Account' form. The title 'Create Account' is at the top left, and a close button 'x' is at the top right. Below the title, there are two input fields: the first is labeled 'Name' and the second is labeled 'Email address'. At the bottom center is a green 'Submit' button.

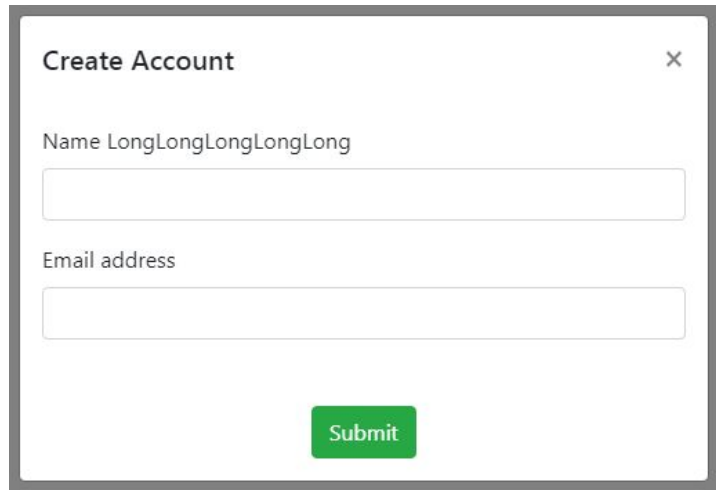


A wireframe of a 'Create Account' form, identical to the one on the left. However, the 'Name' label and its corresponding input field are enclosed in a red rounded rectangle. This highlights a design consideration for languages that require longer names, such as 'Name LongLor'.

- Allow [extra space](#) for translations...

Basic Guidelines

- Not only design for English/native language but also include [other languages/cultures](#).
 - Layout.



The image shows a 'Create Account' form with a title bar containing the text 'Create Account' and a close button (X). Below the title bar, there are two input fields. The first input field is labeled 'Name' and contains the text 'LongLongLongLongLong'. The second input field is labeled 'Email address' and is empty. Below the input fields, there is a green 'Submit' button.

- Allow [extra space](#) for translations...

Basic Guidelines

- Not only design for English/native language but also include [other languages/cultures](#).
 - Layout.
- Allow [extra space](#) for translations...

Layout example

blablabla blablabla blablabla blablabla blablabla blablabla
blablabla blablabla blablabla blablabla blablabla blablabla
blablabla blablabla blablabla

Disagree

AGREE

Layout example

blablabla blablabla blablabla blablabla blablabla blablabla
blablabla blablabla blablabla blablabla blablabla blablabla
blablabla blablabla blablabla

LONGLONGLONGLONGLONGLONGLONGLONGLONGLONGLONG LONG AGREE

Basic Guidelines

- Not only design for English/native language but also include other languages/cultures.
 - Color/Font-family

What is it mean to you?

An white envelope with money inside.

The meaning is different between Taiwan and Japan

<http://www.merit-times.com.tw/NewsPage.aspx?unid=73583>

Basic Guidelines

- Not only design for English/native language but also include **other languages/cultures**.
 - Functionality.



Basic Guidelines

- Not only design for English/native language but also include other languages/cultures.
 - Encoding/Character set: Unicode.

But...

<https://en.wikipedia.org/wiki/N%C3%BCshu>

Nüshu in Unicode [\[edit \]](#)

Main article: Nushu (Unicode block)

Nüshu is included in the [Unicode Standard](#) under the name "Nushu" (because Unicode character names, block name, and script name are all in English) in [Unicode version 10.0](#) which was released in June 2017. An [iteration mark](#) for Nüshu U+16FE1 NUSHU ITERATION MARK is also included.

The Unicode block for Nüshu is U+1B170–U+1B2FF:

[illegible]

Basic Guidelines

- Keep sentence **complete** and **meaningful**. Do not split sentence.

Bad: Split the sentence.

"Hi " + "Wade" + ", are you ready to race?"

L10N resource

```
{  
  "001": "Hi ",  
  "002": "Internationalization (i18n) and localization (L10n)",  
  "003": "Internationalization is the process of designing a software application",  
  "004": "Not only picking i18n framework & apply it to front-end codebase",  
  "005": "technical requirements",  
  "006": ", are you ready to race?",  
}
```

Basic Guidelines

- Make sentence **complete** and **meaningful**. Do not split sentence.

Better: Keep the sentence complete, and apply variable.

"Hi \${plarName}, are you ready to race?"

L10N resource

```
{  
  "001": "Hi ${plarName}, are you ready to race?",  
  "002": "Internationalization (i18n) and localization (L10n)",  
  "003": "Internationalization is the process of designing a software application",  
  "004": "Not only picking i18n framework & apply it to front-end codebase",  
  "005": "technical requirements",  
}
```

Basic Guidelines

- Keep sentence **complete** and **meaningful**.
-

Question	Answer
What kinds of games does Alice play?	<input type="text"/>
What kinds of drinks does Alice want?	<input type="text"/>
What kinds of movies does Alice like?	<input type="text"/>
What kinds of dogs does Alice have?	<input type="text"/>

Basic Guidelines

- Make it as template?
-

A	B
<pre>UserName = Alice; Data = [{ 0: game, 1: play }, { 0: drinks, 1: want }, { 0: movies, 1: like }, { 0: dogs, 1: have },]; Loop in Data: output: What kinds of {0} does \${UserName} {1}?</pre>	<pre>UserName = Alice; Data = [{ 0: What kinds of games does \${UserName} play? }, { 0: What kinds of drinks does \${UserName} want? }, { 0: What kinds of movies does \${UserName} like? }, { 0: What kinds of dogs does \${UserName} have? },]; Loop in Data: output {0}</pre>

Basic Guidelines

- Make it as template?
-

English	
What kinds of games does Alice play?	アリス はどのような ゲーム をプレイしますか？
What kinds of drinks does Alice want?	アリス はどんな 飲み物 が欲しいですか？
What kinds of movies does Alice like?	アリス はどんな 映画 が好きですか？
What kinds of dogs does Alice have?	アリス にはどんな 犬 がいますか？

Basic Guidelines

- L10n resource is NOT template between different sentences.
- Grammar matters
 - Leave grammar in l10n resource, and let translator handle it.

Basic Guidelines

- Not only design for English/native language but also include **other languages/cultures**.
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What needs to be localized?

- All displayable words.

What needs to be localized?

- Punctuation.

- Comma, Period, Ellipsis, Parentheses...

English: I have a pen, I have an apple.

Chinese: 我有一枝筆, 我有一顆蘋果。



- Symbols and Signs.

- Percent sign, ...

English: 40% chance of rain for Ohio State-Nebraska game

Turkish: Ohio State-Nebraska oyunu için% 40 yağmur ihtimali

What needs to be localized?

- Date/Time.

09/06/2019

What date?

USA (mm/dd/yyyy): September 6

France (dd/mm/yyyy): June 9

Format matters

https://en.wikipedia.org/wiki/Date_format_by_country

What needs to be localized?

- Date/Time.

ISO-8601: 2019-04-05

Taiwan: 民國 108 年 4 月 5 日

Japan: 平成 31 年 4 月 5 日

USA: April 5, 2019

What needs to be localized?

- Date/Time.

Timestamp: 1569574800

Taiwan (UTC+8): 17:00

Japan (UTC+9): 18:00

Timezone matters

What needs to be localized?

- Numbers with symbols.

12,345

How much?

USA : 12 thousands

France: 12

Format matters

https://en.wikipedia.org/wiki/Decimal_separator#Examples_of_use

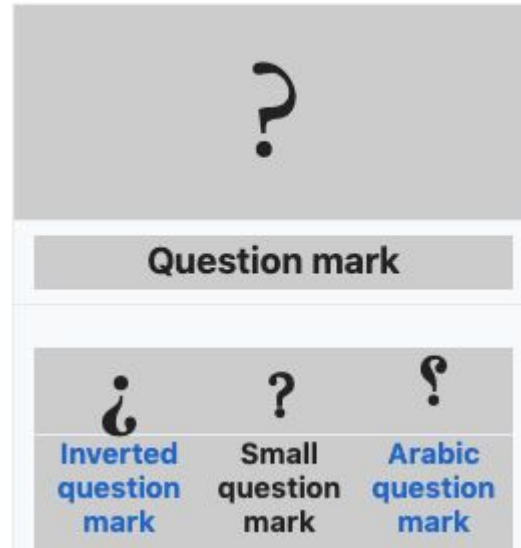
What needs to be localized?

- Images with wording in it.



What needs to be localized?

- Icon (Sometimes).
 - Question mark



What needs to be localized?

- All displayable sentences.
- Punctuation, Symbols and Signs.
- Date/Time.
 - Format (yyyy/mm/dd)
 - Timezone (UTC+8)
- Numbers with symbols.
 - Decimal point/comma
 - Thousands Separators
- Images with wording in it.
- Icons (Sometimes).
 - Question mark

What does NOT need to be put into 110n resource?

- Source code.
 - Original: To lean more, please check `Online help`.
 - Suggest: To lean more, please check `${linkOnlineHelp}`.

What does NOT need to be put into 110n resource?

- Spical token used by our program.
 - Original: Use * to represent any series of characters.

We don't want it become: 使用 * 符號代表任意字元。

(Note: * is not *)

- Suggest:
Use \${tokenAsterisk} to represent any series of characters.

What does NOT need to be put into 110n resource?

- Dynamic content.
 - Original: Disk usage: 80%

We cannot list them all.

- Suggest: Disk usage: \${number}%

What does **NOT** need to be put into 110n resource?

- Source code.
 - To learn more, please check `Online help`.
- Spical token.
 - Use `*` to represent any series of characters.
- Dynamic content.
 - Disk usage: `80%`

Basic Guidelines

- Design with i18n and l10n.
- All **displayable** Text, Date/Time, Numbers, Punctuation, Symbols, Signs, Images and Icons (Some cases).
- Keep sentence **complete** and **meaningful**.
- L10n resource is **NOT** template between different sentences.
- Do not include **no-need-translate** element into the l10n resource.
 - Source code.
 - Spical token.

Q&A

Reference

- | | |
|---|--|
| <p>[1] https://wiki.mageia.org/en/What_is_i18n_what_is_l10n</p> <p>[2] https://blog.mozilla.org/l10n/2011/12/14/i18n-vs-l10n-whats-the-diff/</p> <p>[3] https://www.w3.org/International/questions/qa-i18n</p> <p>[4] https://developer.mozilla.org/en-US/docs/Mozilla/Localization/Localization_content_best_practices</p> <p>[5] https://www.infragistics.com/community/blogs/b/devtoolsguy/posts/l10n-and-i18n-best-practices</p> <p>[6] https://en.wikipedia.org/wiki/Percent_sign</p> <p>[7] https://en.wikipedia.org/wiki/Date_format_by_country</p> <p>[8] https://en.wikipedia.org/wiki/Decimal_separator#Examples_of_use</p> | <p>[9] https://www.engadget.com/2016/09/30/japans-noisy-iphone-problem/</p> <p>[10] https://www.infragistics.com/community/blogs/b/devtoolsguy/posts/introduction-to-localization-and-internationalization</p> <p>[11] https://www.infragistics.com/community/blogs/b/devtoolsguy/posts/l10n-and-i18n-best-practices</p> |
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