



Avoiding localization problems when localizing your software into Hebrew and Arabic

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1 Some background about localization needs





- The need to localize software products is growing dramatically in recent years, therefore It presents a serious challenge to today's international companies.
- The localization industry is facing ever-increasing demands to quickly supply products to non-English markets.
- The product's business potential cannot be fully realized in international markets, unless it is properly localized for each target market.





- Such products, intended for international markets, include several content elements that must be translated, including:
 - User interface
 - Web site
 - Online help
 - Marketing materials (brochures, presentations)
 - Documentation





- More than simple translation, this process requires modifying all the product's elements, and components:
 - Extraction of the content for translation
 - Management of the translation process (translation, editing, QA)
 - Compilation of the translated product
 - Testing the completely translated product





- To meet these requirements, many efforts have been invested in creating appropriate solutions, or “**language technology**”





- When and how can language technology be applied? The trick is to identify the international market needs during the product's development





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About software globalization





- Globalization includes two stages
 - Internationalization (**i18n**)
Preparing the product for localization/translation
 - Localization (**L10N**)
The actual conversion of the product



Internationalization (i18n)



- Designing the software product so that it is readily available for adaptation to any target language (including future markets)
- The principles of this phase include:
 - Separation of code from content
 - Preparation of textual strings for translation
 - Ensure the code is capable of handling all languages



Localization (L10N)



- Localization is the actual conversion of the product to target languages, performed using dedicated tools, as well the skills of the engineers, developers, translators, editors and designers involved.
- Main elements of this phase:
 - Translation of text strings
 - Adjusting the user interface for the target language
 - Producing the final localized application files



Localization is more than just translation



- Localizing a product to a target market requires translation, as well as adapting to the target culture
 - Text grammar and syntax
 - Use of correct character set
 - Date syntax
 - Numbers and measurements
 - Other elements, specific for each language

A classic example:

Schedule

meeting

on

Monday

at

7:00

PM





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English first, followed by the rest



Software developers concentrate on the English version first



- Everything works in English
- There are no encoding issues
- Grammar rules are simple



Why should other languages be considered during development?



- Combined text strings
- Gender
- Length (and height) differences
- Usage of correct text encoding
- Separation of code from content



Combined text strings



- Developers tend to minimize the amount of text strings by combining several strings to create new texts
 - Such “mix and match” techniques can complicate translation, or even make it impossible
 - For example, how would you translate “**The**” to Hebrew, Arabic or even French?
- “**The** SIM is not supported” is badly translated into “**البطاقة** SIM غير مدعمة”, while the correct translation should be “**غير مدعمة** SIM بطاقة”



Combined text strings



- In some cases, the string “**s**” is added to noun strings in order to produce a plural form. Such a string is literally untranslatable
- In Hebrew, articles, such as “The” or “A”, must be joined to the nouns they describe



Combined text strings



- You can use the strings “The”, “has been”, “moved”, “deleted”, “folder” and “file” to create numerous texts, such as:
 - The file has been moved
 - The folder has been deleted
 - The folder has been moved
- The problems in such techniques appear during translation, when the translator cannot know what the final text will be. In Arabic, for example, the correct translations are:

لقد تم حذف الملف

لقد تم حذف المجلد

لقد تم نقل المجلد

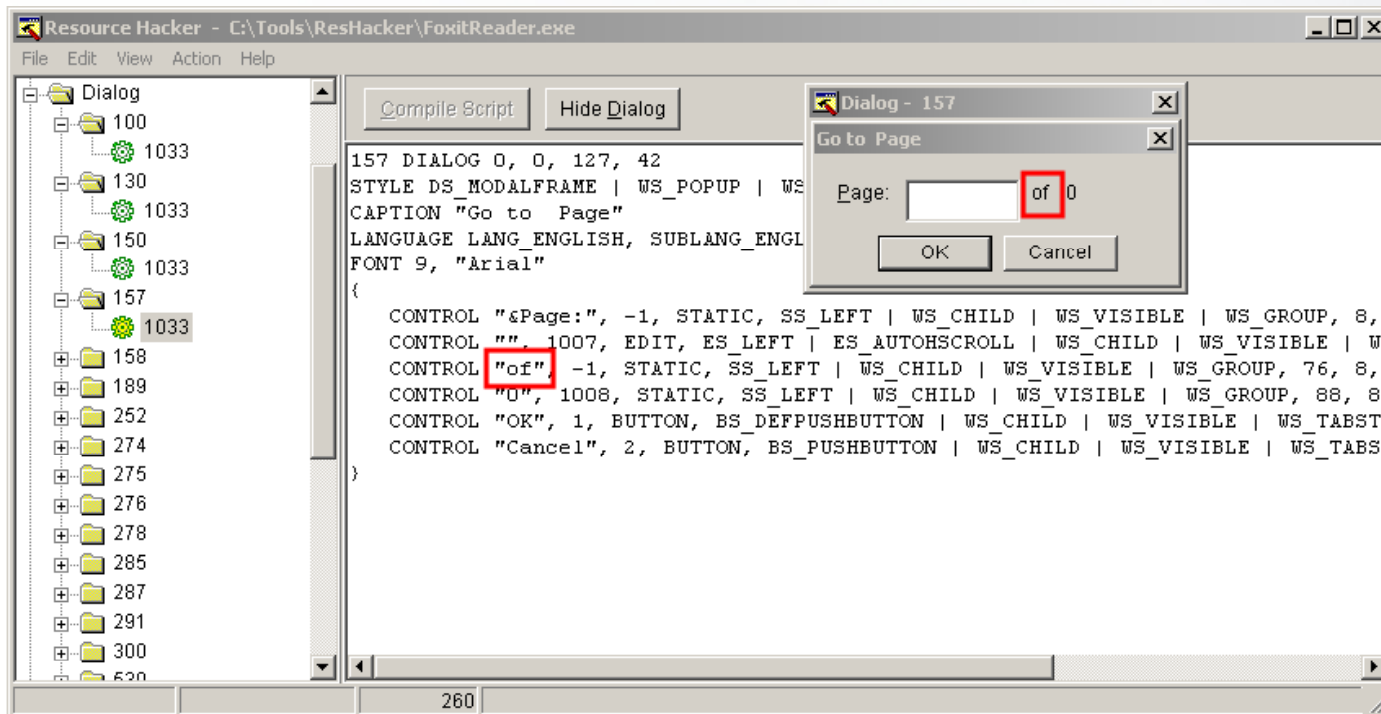
- In French we get “**La** fichier a été supprimés” instead of the correct translation “Le fichier a été supprimé”



Combined text strings



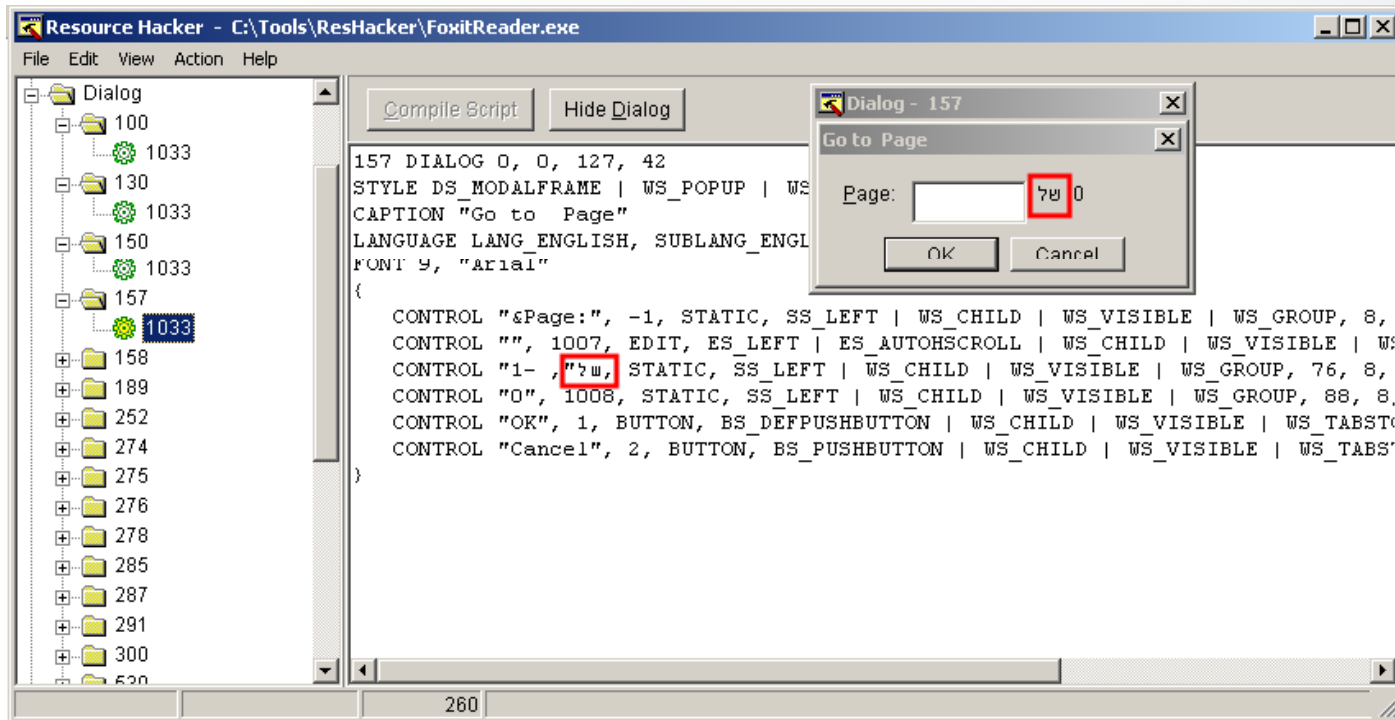
- This dialog includes the string "of". Depending on the tool they use, translators might not be able to know the correct context



Combined text strings



- This results in an incorrect translation, where “of” was translated as “belongs to” instead of “out of”



Gender





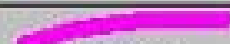





- In many languages translation is gender-dependant
- Text string variables, such as “%s has been deleted” cannot be correctly translated, unless their gender is known
 - For example, the above string can be wrongly translated as “הקובץ נמחקה” instead of “הקובץ נמחק”
- Adding a noun can help solve such issues
“The file %s has been deleted”



Length and height differences



- Length and height differences are often significant enough to create unintelligible user interfaces
 - For example, the German phrase for “Encryption Key” is “Verschlüsselungsschlüssel”
 - The German word for “Skip” is “Überspringen”
- Some languages (particularly Asian) prohibit the use of abbreviations
- Abbreviations can cause loss of meaning


Inch.				
Pompa				
Densità				
Punto imp.	000,000	000,000	000,000	000,000



Usage of correct encoding



痲包癩 痲癩 癩癩包癩癩癩



	Black	Yellow	Magenta	Cyan
痲包癩 癩癩 癩早的 癩癩	?????	?????	?????	?????
癩癩包 癩癩癩 癩癩癩 癩癩癩 癩癩癩 癩癩癩 癩癩癩 癩癩癩	50.00	50.00	50.00	50.00
癩癩癩 癩癩癩 癩癩癩 癩癩癩 癩癩癩 癩癩癩 癩癩癩 癩癩癩	50.00	50.00	50.00	50.00
癩癩癩				

Developers must ensure that every text-handling component is capable of handling text in all languages





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Translators and translation tools



Remember that the text will not be translated by developers!



- Translators lack the developers familiarity with the product
- The translators tools and skills are different from those of the developers
- Using non-standard or proprietary development methods can make the product incompatible with translation tools



Translation tools



- Numerous software translation tools are currently available
- Notable features:
 - Translator-friendly
 - Capable of dealing with multiple source file formats
 - Testing and verification capabilities
 - WYSIWYG modification of the product's interface
 - Re-use existing translations
 - Integration with version management systems and build environments



Translation tools



- WSL represents in Israel three of the leading translation tools: Multilizer, Catalyst and Passolo
- Depending on the product's development architecture, the best tool can be selected to accompany the product from early development to final interface modifications
- In addition to the common European languages, these tools also support dozens of other languages, including bi-directional languages (such as Hebrew and Arabic) and Asian languages



Translations tools



Visual representation of translated interface

Interface modification controls

Text strings

Translation/proofreading

The screenshot shows the PASSOLO Demo Version software interface. The main window displays a translation list with columns for Number, ID, English (United States), and Hebrew. A dialog box titled "רוספת שרת" (Add Server) is open, showing options for Local and Remote. The interface is annotated with red boxes and arrows pointing to various elements.

Number	ID	English (United States)	Hebrew
37	0	Add Server	
39	-1	Server to add	
40	1019	Local	
41	1021	Remote:	
43	1	OK	
44	2	Cancel	

Translation String 37 - Caption in Dialog 107

Add Server

רוספת שרת

Most of the translation tools supports a variety of file types/environments, such as: .NET, Delphi, Java, binary files, XML, RC, INI, MS Access, MSI and more





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What to do in order to sell your products around the world?



What must be done?



- The product must be prepared for localization during its development!
- Remember that non-English users expect the same high-quality from the product
- Consult professionals at an early stage to avoid costly localization setbacks



What are the consequences of developing software with no consideration of localization aspects?



1. Selling the product will only be feasible in English-speaking countries
2. Custom tailoring target-specific versions will result in heavy expenditures!
3. Market might be lost to the competition!
4. Window of opportunity for evolving markets might be closed

