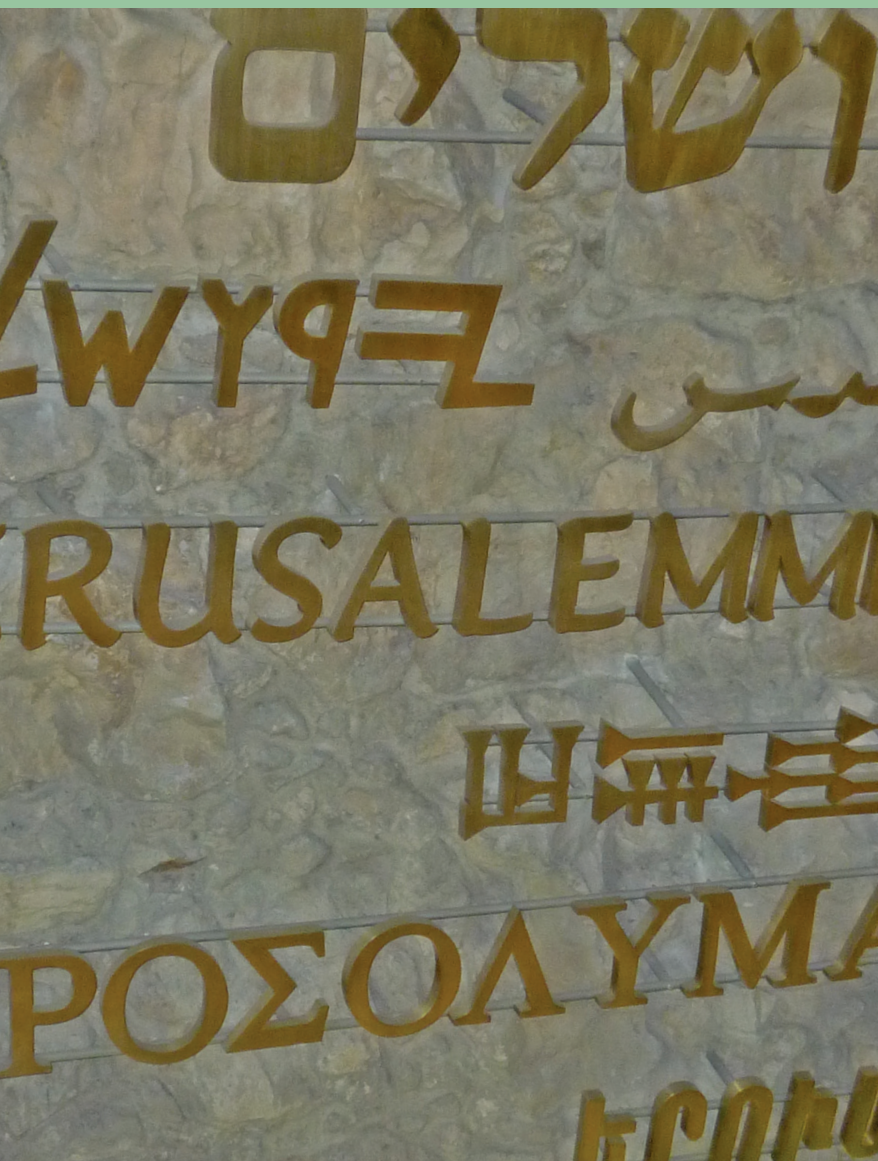




MultiLingual

April/May 2011

LOCALIZATION
CORE FOCUS



- ▶ LOCALIZING FOR SOFTWARE, WEBSITES AND GLOBAL APPS
- ▶ THE MAKING OF A PROFESSIONAL TRANSLATOR
- ▶ LOCALIZATION OF MACHINE SOFTWARE

Localizing for software, websites and global apps

Amir Helzer

Localizing your product is a great way to rapidly expand your business. A 2007 paper by the Localization Industry Standards Association (LISA), for instance, reported that \$25 dollars was returned for every \$1 invested in localization.

More than 78% of internet users are beyond the United States, in international markets, and in the past decade, the use of Arabic online has increased by over 2500%, Chinese by 12% and Spanish by 7%.

When businesses expand globally, they should invest in full localization of their websites and software. Localization includes translations and other conversion, and takes into account local practices and culture, providing a product that is comfortable for use in the target country. Your localization efforts should mature over time (see sidebar).

Localizing software

The first step in running a multilingual software business is to localize the software. Localizing software includes defining what can be localized, developing localization strategies based on expected sales, creating a product schedule for the localization process, using professional native translators to do the translations, closely managing the translation process and finally testing the translations.



Amir Helzer is CEO and Founder of ICanLocalize, a translation management company that translates software, websites, mobile apps and generic text for businesses of all sizes.

Phase 1 (Preparation): Create a project schedule, develop glossaries, separate text and prepare resource files. The key to software localization is separating the application text from the program code, making software localization possible and easy.

Phase 2 (Translation): Translate software strings, online help and documentation. Once the software has a resource file, holding all text for translation, documentation is vital to help the translators understand what they're translating. Explain to the translators what the application does, who uses it and how they use it. This way, the translators will be able to adapt the application's text to naturally fit the new languages.

Phase 3 (Programming): Resize dialog boxes; adapt tips, menu options and buttons; compile help files, and localize multimedia files and embedded graphics containing text.

Phase 4 (Testing): Test the localized software including functions and user interface.

Figure 1 shows a brief overview of the linguistic processes that take place in a typical software localization project.

Localizing websites

Just like software, websites are built using various methods – some with plain HTML, others with PHP or ASP, and others using a content management system like WordPress or Drupal. No matter how your site is built, some principles are consistent across the board. To successfully run a multilingual website, you need to be able to create translations and maintain them when the site contents change; automate the site structure so that translators don't need to edit links and navigation; and let users choose their language easily. In general, you should understand trade laws and regulations, as well as the economic and political policy of the country or region.

Most major payment processing applications feature multilingual-ready checkout functions. When you send clients to pay for your product, make sure to display the checkout page

Localization Maturity Model (2011)

At its most basic, localization involves adapting software products for international markets or rendering technical publications into just five or six languages. Common Sense Advisory has long held that this definition is too limiting. In the more advanced form of the practice that we see, localization becomes a more expansive topic as companies tailor products, websites, operations and supply chains to national and international needs. Translating content into dozens of languages comes with the territory. Therefore, localization is not simply about adapting software for international markets, but much more about adapting products, processes, organizations and technology to operate in global markets.

In 2006, we began applying a capability maturity model integration to the practice of localization in order to address the fundamental issues of total quality management, measurement and process improvement. In our first report on the localization maturity model (LMM), we applied information technology sector measurement rubrics to the practice of localization. We considered a range of issues, from governance to strategy to process and to technology in our narrative, qualitative analysis of how companies adapt their products, websites, marketing and other operations to work in global markets. For our 2011 revision, we obtained quantitative support for the model, demonstrating how companies move through the various levels of localization maturity.

Consisting of nine levels of localization maturity, the LMM starts with unsuccessful practices and progresses through successively more sophisticated levels of process, organization and translation automation. Much like in the phases of a lunar cycle, an organization's full potential for localization maturity is only revealed toward the latter stages. Earlier phases are characterized by a lack of information and knowledge. In a sense, when it comes to localization, companies at the earliest levels often find themselves operating "in the dark." Our analysis focuses more on the positive phases of localization maturity, during which companies begin to take an active interest in localization.

Companies at the Level 1 (Reactive) stage respond to business demands for international or domestic multicultural opportunities with *ad hoc* measures. There are few, if any, processes, roles

and responsibilities that are unclear, and technology support for localization tasks is minimal at best. Firms at Level 2 (Repeatable) of localization maturity are in a discovery phase, during which companies identify and begin to formalize processes for the core localization tasks and events. They also start to identify roles and responsibilities, recognize the importance of external providers, and often repurpose mainstream productivity and project management solutions to localization and translation tasks.

By the time a company reaches the Level 3 (Managed) stage, it has documented a set

of basic processes and started pushing their consistent use. Roles and responsibilities have been reasonably well defined, but there are likely to be multiple points of contact for localization around the company, sometimes in the same division. Increased demand for translation and localization means a burgeoning list of external suppliers. On the technology front, purpose-built and specialized translation and localization tools make their appearance, in some cases supporting increasingly complex multilingual workflows. At Level 4 (Optimized), core processes are in place and are regularly followed for all standard or common translation and localization tasks. Efforts to extend the application of these procedures across the enterprise get under way, as do initiatives to identify more tasks that should be formalized and other groups that have localization needs. Operational roles begin trending toward centralization in recognition of the importance of localization to the entire enterprise. As part of this transition, shared technology services appear and specialized technologies such as translation management systems become a major part of the automation strategy.

Companies at the most evolved state of localization maturity – Level 5 (Transparent) – are few in number. They recognize the importance of globalization to their businesses and have internalized the concept into their code and content life cycles, business planning and corporate vision. They undertake a program of continuous process improvement with the goal of globalizing every product, employee and customer touchpoint.

– Independent research and analysis firm
Common Sense Advisory



Localization progresses through various phases until mastery.

in the correct language. Displaying the checkout pages in a default language without allowing users to change it is a sure way to lose sales. If you're sending clients elsewhere to check out, make sure to include the language in the checkout link. If clients are purchasing from within your application, the program needs to detect the user's language and create the checkout link with the correct language argument. Clients also need to receive an e-mail with a purchase confirmation and instructions for downloading or activating

the program they purchased. This e-mail must be sent in the client's language, so you need to record the language in which the client is using the program.

Every product needs pre-sales and post-sales support. Providing multilingual support gives you a competitive advantage and improves the customer experience. You can get support contacts via e-mail or through contact forms. Contact forms would make it easier for you to route different messages to different supporters based on language.

Localizing mobile applications

According to Google, two-thirds of all purchases and half of transactions will occur on mobile devices by 2015. The company also divulged that 1.9 billion people globally were active on the internet by the end of 2010, while five billion people were mobile subscribers. Direct Marketing News' January 2011 edition quoted the internet giant as predicting that five billion people will be active on the web by 2020, while ten billion people will be mobile subscribers.

Core Focus: Localization

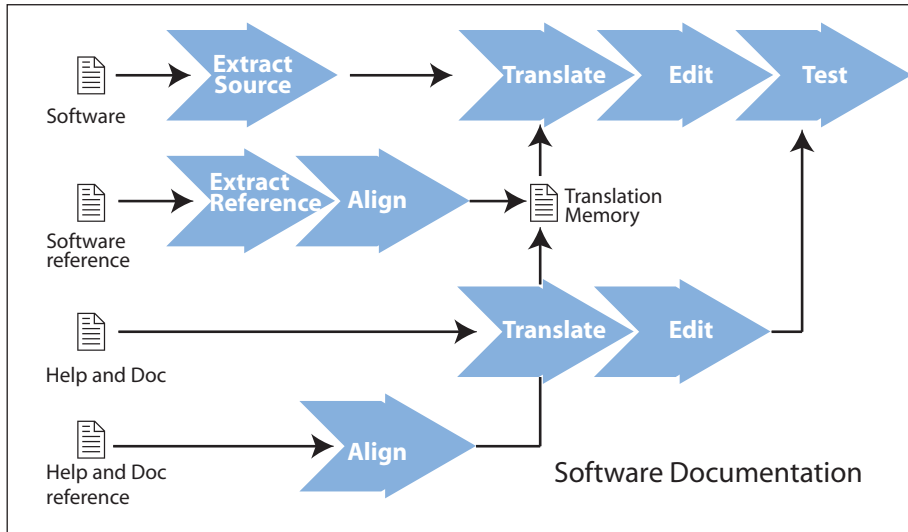


Figure 1: Software localization workflow.

Developing countries, such as Brazil, Russia, India and China, now account for more than half of mobile growth worldwide. Pakistan, Indonesia, the Ukraine, Nigeria, Vietnam and Bangladesh complete the list of the world's top ten emerging mobile growth markets. Most end-users in these emerging markets speak little or no English and will only buy a product or service if it is available in their native language. With so many using mobile devices to access the web, companies will need to translate their mobile applications to reach these global audiences. There are a variety of tools to translate content, including machine translation (MT).

In 1999, Advanced Telecommunications Research Institute International, based in Japan's Kansai Science City, introduced a solution that would translate words spoken into a mobile device and send these as a voice message to another user's mobile phone. In 2004, the first commercially-available MT software was introduced for handheld devices that translated text, e-mail and instant messages.

In November 2005, another Japanese company, NEC Corporation, announced the development of a translation system that could be loaded in mobile phones. This mobile translation system could recognize 50,000 Japanese words and 30,000 English words, and could be used for simple translations when traveling.

MT performs substitution of words in one natural language for words in another, but that alone usually cannot produce a good translation of a text, because recognition of whole phrases in the target language is needed. Various

techniques exist that lead to better translations, including handling differences in linguistic typology, translation of idioms and colloquialisms.

The number of translation applications available for various mobile platforms has continuously increased since 2007. However, in order to best localize mobile content, you must make sure it is linguistically correct and culturally relevant. Everyone knows that just taking content written in one language and running it through a translation solution such as Google Translate provides you with translated words, but they often don't make sense. Google Translate generates a statistical machine translation by looking for patterns in millions of documents to decide on the best translation. However, since Google Translate is generated by MT, not all translations will be perfect and accuracy varies across languages.

The best method for translating applications, as with nearly any localization endeavor, is a combination of human translators with a computer solution to manage the translation process. Managing translations for mobile applications is a big challenge for most people, so using a translation management software solution is helpful. Follow these steps for efficient translation of your mobile application:

First, you need to complete a localization audit to determine potential pitfalls in the translation process, such as embedded text and images, character set support, date and time format, numerical formats, page layout, country-specific

functions, multi-byte enabling, bi-directional languages, operating systems, improper code and more to prepare your mobile app for globalization.

All iPhone applications are built using Unicode texts, encoded as UTF-16. The iPhone simulator supports this format and will allow you to preview your translated application. Since iPhones are multilingual by design, once your application is available in multiple languages, the phone already knows what to do. It will display the graphical user interface (GUI) text in the right language, according to the phone's language setting. Next, get your resources ready for translation:

- Make resources localizable in Xcode. Xcode is the development language of the iPhone and it needs to know that your project includes multilingual resource files. Move the resource file into a new localization directory, and then drag the resource into the Xcode project. Xcode will now recognize the resource as localized in that language. Repeat for all your other resource files that you need to localize.

- Localize your interface builder files. First, extract strings from your Interface Builder resource files by running `ibtool`, included with the standard iPhone developer kit install. `ibtool` will create object-string value pairings that you can go through to remove any unnecessary strings which don't require translation.

- Handle duplicate strings. The resource file may contain duplicate strings, such as some of the titles for buttons in different states. Some duplicate strings need to be translated just once but other duplicate strings have different translations. The same button title, in different states, should clearly have the same translation. However, strings can in some places be a noun and in other places a verb. You can remove redundant duplicate strings (which should have the same translation) from the resource file or leave them there and instruct the translator to handle as duplicate strings.

- Collect the embedded text into resource files. Normally, iPhone applications contain two kinds of text – the application's interface, managed by the Interface Builder, and embedded strings that appear inline in the code itself. The strings in the interface are already

arranged in a resource file and you need to make sure that the code itself only uses strings that are read from a resource file. Go through all your code and determine which strings are user facing and should be localized. Don't localize strings the user will never see, such as keys in an NSDictionary – unless, of course, you display those keys.

Now you should have two resource files – the Interface Builder resource file created by ibtool and the embedded strings resource file created by genstrings. You can send both files to a translator who will translate them into the appropriate languages.

There are translation management tools available that will localize iPhone resource files, allowing for the translation of iPhone applications without spending time on technical tasks. These tools will read your resource files, extract the text that needs to be translated and produce translated resource files. Upload the resource files in UTF-16 or UTF-8 encoding. These tools will extract pairs of labels and strings, and comments if there are any. Then, translators will translate just the strings.

Professional translators who have ample experience in localizing iPhone applications will translate the strings. You should be able to communicate directly with them to make sure the translation is not only accurate, but also adapted to the culture and customs of other countries. You will need to create an iPhone translation project, upload your resource files, choose which languages to translate into and of course pay for the translation. Once all this is completed, you'll be able to download the localized resource files and import back to your application.

Open up the translated file in Interface Builder and go through everything. Often the lengths of different strings will have changed significantly. Translation from English to German and French is often 50% longer than the original text. You may need to adjust the layout slightly to make sure that everything is visible. Your iPhone application should now run multilingually! But there's one more step: testing your translated application in an iPhone device. To test it with an actual phone, you'll need to change the device's language. You can follow Apple's tutorial for switching iPhone languages. **M**



LINGMASTER

Localization into Baltic Languages

Lingmaster offers technical translation and localization services for Estonian, Latvian and Lithuanian.

- Medical translations
 - medical devices (software, user interface, documentation)
 - healthcare information systems
 - clinical reports and studies
 - patient information
- Technical translation
- Software and website localization
- Language quality services
 - language quality assessment, testing
 - terminology management, glossary creation
 - language style guide development
 - literary editorship
 - proofreading

Lingmaster, SIA

Riga, Latvia

info@lingmaster.com • www.lingmaster.com



Multilingual Localization Services

Xlated is a young and dynamic localization service provider, founded and managed by translators with 15+ years of specialization.

Thanks to a proven know-how of internationalization and localization processes, a highly skilled team, and an intelligent use of translation technologies, we offer a wide range of services in most European languages for small to large and complex software localization projects:

- translation of GUI and user documentation
- linguistic and functional QA
- terminology management
- engineering
- DTP
- consulting

Xlated Ltd.

Kells, Co. Meath, Ireland

info@xlated.com • www.xlated.com



High-quality MT for International Success

SYSTRAN is the market-leading provider of machine translation (MT) solutions for the desktop, enterprise and internet covering 52+ language pairs and 20 domains. Powered by our new hybrid MT engine, SYSTRAN Enterprise Server 7 combines the strengths of rule-based and statistical MT. The self-learning techniques allow users to independently train the software to any domain to achieve publishable-quality translations. SYSTRAN solutions are used by Symantec, Cisco, Ford and other enterprises to support international business operations. For more information, visit www.systransoft.com

SYSTRAN

San Diego, California USA • Paris, France
info@systransoft.com • www.systransoft.com



Making International eBusiness Easy

Web-Translations combines language and technology expertise to help businesses profit from international trade using the Internet.

Whether you are new to global trade or are already multinational, our award-winning services can be tailored to suit your requirements and help you grow through international trade.

Our proven approach has brought success to companies from all industry sectors, including ecommerce, legal, IT, finance, manufacturing, publishing and education.

Call or email us now for a quote!

Web-Translations Ltd

Leeds, United Kingdom

+44 (0) 113 8150460

info@web-translations.co.uk

www.web-translations.co.uk

The making of a professional translator

Emmanuel Margetic

When consumers encounter localization, they often hone in on the translation, and how bad or good it is. Thus, though translators are only one link in the localization chain, they are a crucial part of the localization process, and becoming one should not be undertaken lightly.

Almost every industry has three types of people: true professionals, incompetent professionals and frauds. Translation is one of the most obvious examples of an industry containing all these types. Although frauds are intending to deceive others, many people in the “incompetent professionals” category of translation are deceiving themselves and end up there accidentally. This happens as a result of a widespread misperception of what is necessary to be able to make a career out of translation and actually be a true professional.

Many bilingual individuals consider working as professional translators because they think, “Since I’m bilingual, I have the skills to translate.” This seems logical to those unfamiliar with the profession, but those who know the industry realize there is much more involved in translating than just being able to speak and understand two languages. Becoming a professional translator involves passion for languages and culture, education in linguistics and technology, and expertise in the subject and type of document being translated.

First, the road to becoming a true professional in the field of translation requires a passion for linguistics and culture, and a strong desire to master a foreign language. While many people in the world learn a second language, few of them really fall in love with the language they are learning. Those who do are often the ones who want to make translation a career.

Passion is required because translation, when done correctly, can be a tedious and time-consuming job. As Spanish transla-

tor Christina Ott put it, “Translation is not for people who love the outdoors.” Her comment refers to the long hours sitting in front of a computer focusing on the subtle differences in syntax and semantics that translation projects often require. Such tasks are fascinating to language lovers. They love the culture and the words and are excited by the challenge of preserving and translating them correctly from one language to another.

Even if translators focus mostly on the linguistic tasks of a localization project, they need to understand how their project fits into the larger localization process. That process requires them to have a knowledge of the people and culture and an understanding of what vital, technical information those people need or are about to learn. Knowing those things will allow them to go one step beyond simply transferring information from one language to another; they will be able to naturally phrase their translations in a way that will optimize the reception of the message by the target audience.

Next, it takes hard work to really master a foreign language. The ability to speak proficiently and communicate well with native speakers takes a great deal of time and effort for most people, especially those who have not been exposed to that language as a child. Yet, the ability to translate goes much further than knowing how to articulate an idea in two different languages. Besides language, translation involves knowledge of culture, software and subject matter. Since all of these elements are continually changing, if professional translators desire to do their best, they must be constantly learning.

Depending on the quality needed and the expectations of the clients, someone who is proficient in two languages may be able to get translation work and provide clients with a passable translation. The limitations of this approach, however, will be quickly realized. Experts in the field and clients with experience (which often includes the clients with big translation budgets) know a real professional from someone who has not had any formal training.

One of the best ways to receive formal training is through a college education. Fortunately for aspiring translators, many schools have linguistics programs that fine-tune linguistic skills and expose students to translation software.

The translation industry is currently caught in a debate between machine and human translation. Translation providers



Emmanuel Margetic is the director of marketing and sales for Utah-based MultiLing Corporation and has been working in the translation industry for more than 12 years.

like Google are already making rough translations possible at the click of a button. Yet, these services often lead to a very poor quality translation. The accuracy and judgment required for successful business translations will always require a person.

Human translators, however, are turning to translation software in order to make their work more efficient and accurate, particularly across multiple projects. Such software enables translators to save time on repeated text and use the best possible terminology for a given project based on the target audience. It also helps translators maintain consistent formatting between projects. It's the combination of human translators and software that will dominate the next generation of translation.

Translation companies are aware of this too. Because they are interested in gaining quality employees, some translation service providers are partnering with schools to prime the pump. For example, MultiLing Corporation had developed its own translation software, Fortis, and was thus able to invest in future translators by providing licenses of it to the nearby Brigham Young University (BYU) linguistics programs. Such partnerships between translation vendors and educational institutions highlight the need for bilinguals to advance their formal training in translation software. Those tools add authenticity to the students' curriculum and facilitate their exposure to tools they will be using in the industry.

Alan Melby, professor of linguistics at BYU, commented on the need for potential translators to be proficient in such technology: "These days, you'd be hard-pressed to find a translator who doesn't use technology to improve their productivity and consistency." A bilingual trying to become a professional translator without fine-tuning language skills and competency in the use of translation software tools is like someone trying to become a scuba diver without learning how to use a mouthpiece or knowing how to swim with flippers.

Finally, for translators to be a real asset to an employer or a future employer, they need to have an area of expertise and an understanding of the unique requirements for specific document types. With more than enough well-trained translators available to do

the work, translators can set themselves apart from the crowd by having not only the necessary knowledge with regard to language and technology, but also an area of expertise and experience with specific types of documents. This expertise and experience can be gained both in college and on the job. If someone knows two languages and how to translate them but does not have experience in translating technical documents in a specific area, they will lose that translation work to someone who does.

The need for translation is growing in today's international environment, and the range of translation subjects and types is vast. For example, a company that manufactures electrical equipment may need training materials, patents, shipping orders and instruction manuals translated into another language. A translator with knowledge of electrical terminology and processes would be particularly valuable in ensuring the quality of those translated documents. A chemical company may need the same types of translations, only it would involve a completely different expertise to understand the subject and terminology. Although a translator with expertise in the technical area being translated will be able to translate many different document types, a translator who has also been trained in translating specific document types would be even more valuable to an employer.

One area that illustrates clearly the need for experience with specific types of documents is patent translation. Patents utilize such unique, non-colloquial language that the linguistic nuances required to adequately protect a company's intellectual property would be

totally overlooked even by someone with an understanding of the patent's subject.

While it may seem overwhelming to gain these additional proficiencies, they can be acquired and maintained through education, experience and continual learning. A professional translator will always be researching to stay up-to-date and knowledgeable about what he or she is translating.

There is one type of knowledge that is extremely hard to learn and that a truly professional translator or localizer would never profess to have, and that is a complete knowledge and understanding of a second culture. Even completely immersing oneself in another culture will not always give a person sufficient understanding to make the best judgments about which terms to use in a given situation.

Cultures are engrained into rising generations from birth. History, legends, government, geography, slang and idioms are just a few of the things that natives of a culture learn from childhood, but which foreigners may never fully understand. For this reason, most translation agencies or potential clients won't even consider hiring translators unless they are working from a second language into their native language.

All of these factors play into who gets the work in the translation industry. Professional translators will always have work because they have a deeper, more specialized knowledge than any of the other less-competent translators around them, and clients have a way of finding the best qualified translators to do their work. Because professional translators are just following their passion, that works out well for everyone. **M**

+ Software localisation.
+ Web site localisation.
+ Technical and general translation.
+ Interpreting.
+ Third-party translation review.
+ Style guide creation.
+ Desktop publishing.
+ Linguistic advisory.
+ Terminology and document management.
+ Technical writing.
+ Multimedia translation.
+ Web site design, development and internationalisation.
+ Linguistic, typographic and style revising and review.
+ Video and audio tape transcription, including studio dubbing and voice-over.
+ Training on translation and localisation.

HERMES
TRANDUCCIONES Y SERVICIOS LINGÜÍSTICOS

HERMES,
THE SPANISH
EXPERTS IN SPANISH
TRANSLATION
AND LOCALISATION:
PLEASED TO
MEET YOU.

Founded in 1991
Colquide, 6, portal 2 - 3.º I, Edificio Prisma,
28230 Las Rozas, Madrid - SPAIN
Phone: (+34) 91 640 7640, Fax: (+34) 91 637 8023
Email: hermes@hermestrans.com
www.hermestrans.com

Parque Tecnológico de Andalucía
Juan López Peñarver, 17, 3.º ofc. 6
Edificio Centro de Empresas
29590 Campanillas, Málaga - SPAIN
Phone: (+34) 952 020 525 Fax: (+34) 952 020 529

EQA 15038
EQA 9001
With the guarantee of FEGIT
FEGIT

Localization of machine software

François Massion

There is really no lack of literature about software localization. Many interesting articles describe at length what it takes to localize a program, starting with the globalization of software in the development phase to make it match the requirements of different countries and languages, up until the production of multilingual online help. These contributions deal mainly with office applications running in a Windows, Linux or Mac environment.

The rapid progress in the automation of industrial production, the widespread use of electronics in everyday life, and the internet as a communication and cooperative platform have put some strains on traditional localization approaches. This evolution brings new challenges for translators and software developers alike. About 50 years ago, the first numerical control machines appeared on the market. Today, you can find software texts in as diverse situations as cars, operating rooms and common home appliances. And, of course, the user expects to read and understand all the messages and commands in his or her mother tongue.

So far, the localization of machine software and embedded system software has attracted no or little attention from the localization industry, even if (or rather because?) the difficul-



Machine Display

ties are quite large. The result is that many manufacturers of numerically controlled machines, plants or equipment often go backwards over themselves in time-consuming and costly ways to localize their software. Translators have their difficulties with machine texts as well. This situation is partly due to a lack of awareness of the internationalization and localization process on the part of the software engineers, and partly due to the fact that generally accepted localization concepts are missing in this area. Many manufacturers standardize the programming of their applications, though, as it is the case with the IEC 61131-3 or with the ISO 14649 (STEP-NC) standard.

When it comes to the localization of machine software, companies are facing development, linguistic and organizational challenges. In order to better understand what distinguishes the localization of machine software from “normal” localization projects, let’s first summarize the classical localization process.

Traditionally, or at least ideally, software would be developed right from the beginning for international use. How this is implemented may differ somewhat depending on the programming language, but the basic principle is that the texts of



François Massion earned his Ph.D. in lexicography at the University of Erlangen (Germany) in 1986 and is owner and general manager of D.O.G. GmbH. He has a teaching assignment in terminology at the Hochschule Anhalt (Germany).

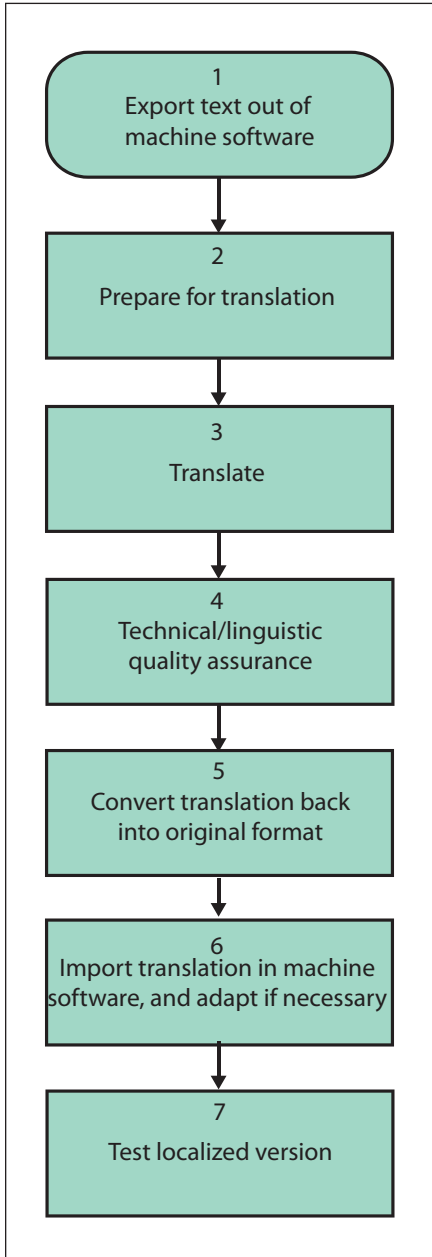


Figure 1: Localization of machine software.

various programming objects are stored in separate files (usually called resource files) together with some meta information such as the object type (messages, menu items, buttons, dialog titles, field names and so on) and possibly the object ID. In the case of Windows .NET applications, programmers generate so-called satellite assemblies, which include translatable strings. In other programming languages, the software stores these strings in similar files, such as ResourceBundle in Java applications. Once the resource files have been gener-

ated, they can be processed with localization tools such as SDL Passolo, Visual Localize or Alchemy CATALYST. These programs use a parser (filter) for binary source files (DLLs or EXE files) and for other formats (XML files) and import the texts to be translated into the translation editor with some additional information if available. In the case of programming languages such as Visual C++ or C#, these localization tools offer a preview of the dialog in the translation editor. The translator can adjust the length of a field or object if he or she needs more space for the translation.

Several applications for machines and devices are also programmed in languages such as C++. Whenever the developers have adhered to commonly accepted localization concepts, these applications can be localized “normally,” as it is the case with other programs. In practice, though, not all developers of machine software are familiar with the localization process and its methods and do not use all possibilities offered by their programming language. Therefore, they sometimes choose complicated and not always reliable approaches to localize their machine software.

Many machine applications are written in specific programming languages such as EXAPT, COMPACT, Siemens S7, APT or in high-level languages like C for the programming of microcontrollers and use their own compiler. It is therefore particularly demanding for developers and the translators alike to process the translated texts. The issues involved are manifold.

First, the text must be made available to the translator in an editable format. Once translated, the text must be imported back into the machine software.

The encoding of special characters shall be supported for many languages, such as Spanish, French, Asian lan-

guages or bidirectional languages such as Arabic and Hebrew.

Due to length restrictions, the space available on the screen or on the machine display often only allows a limited number of characters. Depending on the situation, some applications work with one or more lines of text per message. The maximum text length can be specified as a number of characters or in pixels.

Programmers insert variables, short-cuts and line breaks as well as escape sequences in the text to be translated, and the translator should deal with all of them. These should also fit in the linguistic context of the target language.

Many documents can hardly be understood without contextual information or additional explanations. In most cases, the translator never sees the final result of his or her translation (for example, all texts and objects displayed in the same dialog) and has thus no possibility to check the translation in context.

What would be the typical workflow of a localization project for machine software? The developer first exports the text to be translated. This text is then prepared for translation by the translator or by an agency. After completion of the translation, the quality assurance is performed, which both checks technical and linguistic aspects of the project. Subsequently, the translation is exported back into the original format and sent to the developer, who imports it in the machine software and, if necessary, makes adjustments to the translated strings in length and so on. Unfortunately, many companies do not always take the necessary step of testing the localized version of the machine software to make sure that the translation is correct, both from a technical and linguistic point of view (Figure 1).

In an ideal world, developers would have planned the localization of the

```

-- Translate the data in the field <SX_Description to a max of 20 characters
-- The symbol ' is a control character and should not be used in the text!
INSERT INTO SX_ActionDataNameDef (S_Lgn ,
                                SX_Action
                                SX_Fieldname
                                SX_Description
VALUES ('E', '678', 'SX_ActionType', 'ActionType')
GO
    
```

Figure 2: Code and the text to be translated must be kept separate.

Core Focus: Localization

machine texts right from the beginning. The programmers would have separated text and code and provided additional meta information. This is a prerequisite for a cost-effective localization process. However, in reality, companies often export the strings to be translated line by line, which makes it difficult for the translator to understand what belongs together and what the real meaning of certain expressions is. Some companies have recognized this problem and give the translator additional metadata to help. This work is time-consuming and sometimes requires a complicated series of conversion steps. Some programmers sort out and group the software strings according to their object, module, topic or function and save them in separate files or as Excel tables or spreadsheets. This means additional work both for the developer and for the translator, which could have been avoided if the developers had made their software localizable from scratch.

In general, the exported data will be translated with standard translation memory (TM) programs after the language service provider has separated text and code. This is where the first difficulty starts, depending on how the programming has been done and on how the data has been exported. It is not always a trivial task to separate the

text and code from one another because a uniform standard pattern is required to discern the translatable text from the program code, which has to be protected (Figure 2).

Some exported files cause additional problems for the translator. A typical case is the dividing up of one single sentence over two or more lines, which are saved separately in the machine software. Example:

```
21066, OBJECT MUST BE IN THE  
RELEASED OR
```

```
21067, IN TRANSPORT STATUS.
```

Since not all languages have the same syntax, such sentences will in many cases lead to errors when TM systems insert mismatched units into a translation.

The next issue is the limited space available on the machine display for the translation. The translator receives instructions not to exceed a set number of characters or pixels per display line(s). But how to implement this? Either the translator manually checks the length of the translation line by line, which is quite complicated, or he or she can use a script, a macro or a dedicated application to ensure that the maximum available length hasn't been exceeded. The tools used for that purpose range from simple Excel formulas that output the length of a text in a cell to complex routines calculating the width of text in pixels with

parameters such as the letter type (small like *i* or large like *m*) and font size.

A particular problem arises when the length restrictions rules constantly vary. Here is an example of instructions for the translator:

“At the end of the lines there is an abbreviation and a number, e.g.: (sl/72). The abbreviation -sl- means that the lines must not exceed one single line. The abbreviation -ml- means that the translation may be spread over multiple lines. The number indicates the maximum line length in characters (in this example 72 characters). Spaces between quotation marks should be kept.”

The translatable string may look like this:

```
1873 : ('xmessage','search failed','\n  
search operation could not be performed  
because: %(reason)s.\n''')(ml/80)
```

Fixing such problems is doable, but it is time-consuming, costly and requires programming skills not every individual translator has. Scripts or macros will tell the translator and the proofreader when they have to modify the translation in order to meet the developers' requirements. If such requirements are not complied with, there is a risk that some texts will not be visible, which in turn may lead to a faulty operation of the machine/device or would trigger a costly round of corrections of the translation. How can a programmer recognize that the decisive word for *on* or *off* at the end of a German sentence has not appeared on the machine display because the translation is too long?

A particularly tricky space problem occurs when the client requires the translator to stick to the indentation of the source language. In older machines and tools, unproportional fonts are used, meaning all the characters have the same width, and columns in tables are created simply by using blanks. Due to the differences in the length and number of words between languages, this type of requirement is particularly difficult to implement. Again, a translation service provider with know-how in dealing with scripts and programming tools is required to automate the compliance with such instructions.

The last major technical problem is the correct representation of special characters in foreign languages. Not all machine programs use Unicode. They are thus not able to handle double-byte characters

< We
hear you.
communicate with you.
understand you.
know you.

It's all about
you.

The rest
is a given. >

ushuaia
solutions

www.ushuaiasolutions.com

like Chinese or Japanese. Many systems currently support at least all European languages, including Russian. However, some are still working with different code pages, so programmers and translators need to clarify beforehand which fonts and which encoding will be selected.

From a linguistic point of view, the localization of machine software is not an easy task either. Many software developers just send simple word lists to their translators. They expect them to churn out a good translation quickly even if the context is missing. If a word such as *device* or *support* stands alone, the task of translating is like playing Russian roulette. The first issue starts with the quality of the source text. Unlike traditional software or software documentation, the texts are generated by software engineers with no or little linguistic training. It is not uncommon to find grammar or spelling errors. To make it worse, the software has generally been developed over a certain period of time by several programmers, and again and again there are inconsistencies like *Compressed Air Valve On* and *Switch On Air Pressure Valve* with the same meaning.

In software projects some terms are written differently depending on the program object they are used for (dialog title, field, message), are shortened differently or even have different meanings, as with the word *support*. In such cases, traditional TM systems can cause mistakes if existing translations are taken over from the TM in an uncritical manner.

In some situations, it is impossible to determine the exact meaning of an expression without context. What does the expression *search term* really mean? Is it a noun (term searched for) or a command (search for the term)? It would be helpful if the developers would export information to help the translator identify the object type associated with the string and to see which texts belong together. In any case, it is important and necessary for the translator to be able to ask questions (and to actually ask them) and that the client names a contact person with a good knowledge of the software and of the product who can answer these questions in a competent manner.

Translators have to adapt their natural translation to make it fit into the technical requirements of the client. Languages command different word orders, and this sometimes influences the way software



Did You Know That...

Polish is spoken by 38 million people in Poland and over 20 million abroad? Can you afford to ignore such a huge and rich market?

In the last 6 years we've translated 23 computer science books into Polish and localized dozens of applications and user guides for Microsoft, IBM, Google, Apple and more. In most cases we acted as subcontractors of the top 10 translation companies. Naturally you can turn to them, but do you like to overpay?

DADAN Translations

Zdunska Wola, Poland
office@dadan.pl • www.dadan.pl

translator scandinavia



Swedish Translation and Localization Services

Translator Scandinavia is a Stockholm-based language service provider that has offered translation and localization services since 1993. We work in the fields of IT, consumer products, finance, life sciences, marketing and EU affairs. With us as your partner you will have access to a competent, close-knit team of project managers, in-house translators and revisers. We also have an extensive network of professional freelance translators with specialist knowledge and language skills. We work to the EN 15038 standard.

Translator Scandinavia

Stockholm, Sweden
office@translator-scandinavia.se
www.translator-scandinavia.se

@transcript
a translator-owned company

THE Localization Specialists

@transcript:

- leading translation provider
- specializing in technical translation and software localization
- focused on business and ERP software
- large diversified customer portfolio

Our global network allows us to handle large-scale as well as smaller specialty projects. We use CAT tools to ensure efficient translation cycles by guaranteeing consistent terminology. With our experienced in-house staff plus a carefully selected pool of freelancers, @transcript has earned a reputation as a reliable and flexible partner.

@transcript GmbH & Co. KG

Cologne, Germany
info@transcript.de • www.transcript.de



Multilingual Localization and Translation Services

For more than 15 years, **PassWord Europe** has been working with the world's leading information and communications technology companies, offering them:

- **linguistic** services for software, documentation, communications, marketing and sales needs
- a seasoned **team** that brings value-added efficiency and solutions to the table
- world-class **expertise** in linguistics, technology, graphic design and management
- a global **network** of proven, professional linguists

Contact us to learn how we can provide **high-quality** services to your company.

PassWord Europe

Paris, France
info@password-eu.com • www.password-europe.com

Core Focus: Localization

texts are translated. For example, the developer may have inserted in the middle of a sentence an escape sequence such as `\n` to stand for a line break. The translator must then guess where to put the escape sequence for the line break in the translation. In some situations, the programmers are unaware of the linguistic rules of the target language and have inserted the

variable erroneously. This can be the case if the neighboring words like adjectives get different treatment depending on the gender of the noun, for example.

Because of the limited space available, it is often necessary to use abbreviations or to juxtapose a series of words. How is it possible to shorten the expression *Shutoff Valve Not Closed* to only ten characters? This leads to constructions like *ShOffV-lvNc* that even the machine operator has difficulty understanding in the original language. Some abbreviations take different meanings depending on the situation, such as *Pos*, which was used in a specific project both for positive and for position.

For the same reasons, words or commands are juxtaposed with no clearly visible sense. An expression such as *Dedusting Solenoid Valves On Duration Timer Setpoint (x0,1s)* remains a closed book even for some clients. Here the translator needs a clear understanding of the way such expressions are created: What is the pattern? Which information comes at the beginning and at the end of the message? Have typographical elements like capital letters been used to mark a group of words? In order not to confuse the final user with different patterns, the client should define in a style guide linguistic rules as how to generate and coin strings, and write messages in a uniform way. The same applies to the coinage of abbreviations.

These technical and linguistic requirements mean a tedious chore for the average translator, and often requires many hours of manual work. The development of appropriate scripts or checking routines is often an effective and reliable technical solution. However, this is only possible with associated development efforts and can only be done for projects with a certain volume. Unfortunately, small machine software projects will continue to require substantial manual work.

Several aspects of the text can be checked with the quality assurance features of TMs or with independent quality assurance programs. These items are the consistent use of a predefined terminology, provided of course that a terminology was created, and the correctness of numbers in the machine software. But not everything can be verified with the assistance of software. Since some of the translations have been produced without context information, the final output

should normally be reviewed after the localized version of the machine software has been compiled because a sizeable part of the strings is context dependent.

Few clients have thought carefully about the entire localization process and have therefore not planned sufficient time or budget for this step. This unfortunately leads to the fact that the translated texts are corrected at a later stage when there is a complaint or when the translated strings have already reached the final customer. Some manufacturers of machine software have recognized this problem and developed their own applications to visualize the localized dialogues during the review process. This indeed allows the reviser to see all the translated texts that appear simultaneously in a dialog. Whenever clients have developed dedicated applications to localize their machine software and translate the software strings, the performance and functionality of these applications lay in general far behind the scope and performance of professional localization tools, which have been developed over many years just for that purpose.

For all the reasons above, one should consider the use of localization programs for machine software and embedded systems as an alternative to traditional TM systems. These localization programs, for example, offer the following functions:

- Read available metadata from the files generated by the machine software (CSV, TXT, XML) such as the maximal length of the string in characters or pixels
- Check the maximum number of characters or pixels per display line
- Develop custom checks or file conversions with the help of the integrated macro editor
- Provide context information to the translator in the form of metadata, images or links to external sites
- Associate translation units with IDs (when available) and therefore make them more suitable for context-dependent multiple translations.

Repair is always more expensive than doing it right the first time. Translators and developers can save much trouble and work when they cooperate in a long-term perspective and plan together all phases of the localization process of a machine application. **M**

over 60 languages
on budget
beyond expectations

www.net-translators.com

sales@net-translators.com



An invitation to subscribe to



MultiLingual

The ever-growing, easy international access to information, services and goods underscores the importance of language and cultural awareness. What issues are involved in reaching an international audience? Are there technologies to help? Who provides services in this area? Where do I start?

Savvy people in today's world use *MultiLingual* to answer these questions and to help them discover what other questions they should be asking.

MultiLingual's eight issues a year are filled with news, technical developments and language information for people who are interested in the role of language, technology and translation in our twenty-first-century world. A ninth issue, the annual *Resource Directory and Index*, provides valuable resources – companies in the language industry who can help you go global. There is also a valuable index to the previous year's editorial content.

Two issues each year include a *Core Focus* such as this one, which are primers for moving into new territories both geographically and professionally.

The magazine itself covers a multitude of topics including those below.

Translation

Translators are vital to the development of international and localized software. Those who specialize in technical documents, such as manuals for computer hardware and software, industrial equipment and medical products, use sophisticated tools along with professional expertise to translate complex text clearly and precisely. Translators and people who use translation services track new developments through articles and news items in *MultiLingual*.

Localization

How can you make your product look and feel as if it were built in another culture for the local users? Will the pictures and colors you select for a user interface in France be suitable for users in Brazil? How do you choose what markets to enter? What sort of sales effort is appropriate for those markets? How do you choose a localization service vendor? How do you manage a localization project? Managers, developers and localizers offer their ideas and relate their experiences with practical advice that will save you time and money in your localization projects.

Internationalization

Making content ready for the international market requires more than just a good idea. How does an international developer prepare a product to be easily adaptable for multiple locales? You'll find sound ideas and practical help in every issue.

Language technology

From systems that recognize your handwriting or your speech in any language to automated translation on your phone – lan-

guage technology is changing day by day. And this technology is also changing the way in which people communicate on a personal level – affecting the requirements for international products and changing how business is done all over the world.

MultiLingual is your source for the best information and insight into these developments and how they will affect you and your business.

Global web

Every website is a global website because it can be accessed from anywhere in the world. Experienced web professionals explain how to create a site that works for users everywhere, how to attract those users to your site and how to keep the site current. Whether you use the internet for purchasing services, for promoting your business or for conducting fully international e-commerce, you'll benefit from the information and ideas in each issue of *MultiLingual*.

Managing content

How do you track all the words and the changes that occur in your documents? How do you know who's modifying your online content, and in what language? How do you respond to customers and vendors in a prompt manner and in their own languages? The growing and changing field of content management, customer relations management and other management disciplines is increasingly important as systems become more complex. Leaders in the development of these systems explain how they work and how they interface to control and streamline content management.

And there's much more

Authors with in-depth knowledge summarize changes in the language industry and explain its financial side, describe the challenges of communicating in various languages and cultures, detail case histories that are instructional and applicable to your situation, and evaluate technology products and new books. Other articles focus on particular countries or regions; specific languages; translation and localization training programs; the uses of language technology in specific industries – a wide array of current topics from the world of multilingual language, technology and business.

If you are interested in reaching an international audience in the best way possible, you need to read *MultiLingual*.

Subscribe to *MultiLingual* at
www.multilingual.com/subscribe