Major Medical Device Manufacturer

Major medical device manufacturer uses Adobe® FrameMaker® with customized DITA application to dramatically reduce translation costs and achieve consistent formatting

Major Medical Device Manufacturer

In partnership with
Globalization Partners International (GPI)
www.globalizationpartners.com

Tom Aldous
www.aldousxml.com

Industry
Healthcare
Life sciences

Challenges
- Migrate technical manuals from unstructured FrameMaker into DITA format
- Adopt an easy-to-use, accessible authoring tool
- Enforce consistent content structure and formatting, eliminating illogical format overrides
- Reuse data as much as possible while also being able to integrate with future CMS
- Increased ability to leverage translation memory during translation to 27 languages
- Maximize efficiencies gained in authoring source materials in English across 27 target languages

Solution
- Upgrade to FrameMaker 9 for full-featured, DITA authoring solution
- Leverage existing styles and formats from legacy documents for swiftly created structured templates and application files
- Customized FrameMaker Element Definition Document (EDD) to enable one template for formatting in 27 languages
- Optimized Templates and EDD for multiple target languages

Eliminate costly format overrides and leverage previous translations in a different format

A major medical device manufacturer (MMDM) faced challenges shared by many large corporations who have acquired other companies: inherited legacy documentation created by many teams with many tools, high potential for content reuse, and multiple document formats that can add cost to the translation process. Although the majority of MMDM's 200+ page user manuals were in unstructured FrameMaker 7 documents, some were in Microsoft Word while still others were in QuarkXPress. Many of these manuals were originally created years ago in older software versions and less than desirable authoring practices were evident throughout MMDM's publications.

Since MMDM uses temporary contract tech writers during heavy project periods, the company needed a powerful Darwin Information Typing Architecture (DITA) authoring solution that hides XML's complexity from the user and requires minimal training time. Also, since there was a huge store of legacy FrameMaker files with established paragraph and character styles, MMDM did not want to spend weeks or months reinventing the wheel, replicating existing formats with XML style sheets and other conventional tools. Their goal was to efficiently reuse as much formatting and document structure as possible, keeping the documentation process relatively familiar to a large, scattered cast of stakeholders.

MMDM had a simple set of goals:

- Establish a standard technical document file format that would allow a below-document-level content management system and would enforce same branding, formatting, and look and feel across several company divisions
- Reduce learning curve for internal and external publishers and authors to create highly sophisticated, structured data
- Deliver a DITA authoring solution to enable internal document updates and maintenance
- Deploy DITA-compliant authoring solution in short timeframe, with sophisticated document formatting and support for 27 languages
- Leverage previously translated text in new document structure

A goal for a universal document format, shared translation assets, and one template to format 27 languages

"Our two largest manuals were already in unstructured FrameMaker 7 format," comments the company's manager of tech pubs. "But we also have a large amount of smaller, complex documents in Word and even Quark. Ironically, they were all similar in appearance in spite of the radically different document structure." This caused a problem with language translation as translation tools use translation memory (TM) composed of a database of all previously translated content. In general, translation memory for Quark files cannot be used effectively when translating unstructured FrameMaker files. "We started an initiative to manage translation memory from a single database. In order to do this effectively, we needed to migrate our document assets into a universal format."

Having attended many conferences and webinars, the manager of tech pubs quickly arrived at DITA (Darwin Information Type Architecture) as the most efficient format for all documentation content. The manager discovered that Adobe had significant enhancements to DITA support with FrameMaker releases 8 and 9, making the product choice simple; FrameMaker. In addition, FrameMaker 9 introduced a redesigned graphical user interface that makes the authoring process even more efficient with convenient access to a great deal of hidden metadata within documents.

Because MMDM was looking for consistent document structure as well as enforced and limited formatting choices, the manager was particularly pleased with the structured editing model in FrameMaker. "The structure view displays elements with any level of detail you require, with or without attribute values," she comments. "We especially like how the Element Catalog will dynamically expand or shrink choices to show only those elements that are legal at any particular point in the document."

Figure 1: The structured editor in Adobe FrameMaker 9 will optionally display DITA structure, with any desired level of detail. The Element Catalog (left) will dynamically expand or shrink the number of choices, displaying only Elements that are legal at the current insertion point in the document.
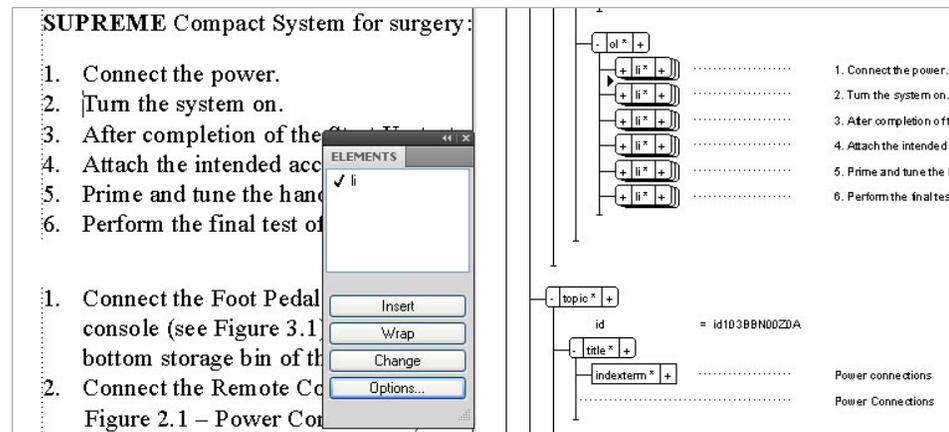
Changing formats without loss of translation memory

A major road block to project approval was ensuring that adequate leveraging of previous translation memory could be attained. "I know many people in my industry who have been hesitant to migrate into DITA from unstructured formats because they fear paying a heavy penalty with loss of translation memory," MMDM's tech pub manager observes. With traditional translation tools, identical document content formatted in DITA may not achieve the previous level of exact translation matches when leveraged against translation memory created from unstructured FrameMaker for the first time. Handled improperly, a very high number of new words may be detected, substantially raising project costs.

Understanding this challenge, the manager knew she needed to work with a localization partner on this project with deep expertise in structured FrameMaker, DITA/XML, and utilization of translation memory tools, as well as solid linguistic teams to ensure that high word count leveraging could be achieved. The company selected Globalization Partners International (GPI) whose document globalization team was known for such expertise.

"We frequently work with DITA and XML, and our engineers use tools that optimize translation memory to achieve very high leveraging the first time that DITA documents are leveraged against older TM generated from unstructured files," states Maxwell Hoffman, director of GPI's Document Globalization Practice, and Adobe Community Expert who leads a team of multilingual desktop publishing experts located around the globe. "In recent years, our tools and processes have improved dramatically in this regard."

Ironically, the fear of losing TM assets' effectiveness in a transition to DITA has kept many people from upgrading to a structured document environment. "I wish that more users of unstructured FrameMaker were aware of this," says Nicoleta-Oana Diaconu, multilingual DTP specialist with GPI. "Probably 90% of them should be upgrading to FrameMaker 9, and a good portion of that group should also migrate into cost-efficient DITA structure." MMDM's project put GPI's assertions to the test, and proved them to be correct.

Enforced document standardization and an innovative template solution

The number of text format overrides and document complexity in the original legacy, unstructured FrameMaker 7 files were quite daunting. Unstructured source manuals had nearly 100 tables, (with 16 distinct styles), 35 frequently used paragraph styles, (with many minor variants in lists and sublists), 216 externally referenced graphics, and over 96 automatic cross references. Even the cross-reference format names varied from chapter to chapter. "Variations like these seem small at first glance, but they each require additional manual touch up by a DTP specialist," says Diaconu. "The costs can quickly go out of control with a high number of target languages."

The key to simplifying the publishing process would be to develop a structured FrameMaker application that would allow one template to control all 27 languages—including Chinese and Korean. In a traditional publishing model there would have been over 20 separate language templates, which GPI desktop specialists would import into translated documents to display the correct language for any prefix text like "Figure", "Table", "Caution", and "Warning". Templates also control the display of translated text in page headers and footers and change all fonts for all paragraphs in certain Asian languages. With DITA, such formatting comes from external resources—in this case FrameMaker's EDD (Element Definition Document) and a structured template.

In order to optimize the document sets and project timeframe even further, GPI decided to partner with Tom Aldous, an established leader in the field of DITA/XML, in order to develop a few of the more innovative features in the EDD and template. GPI team members were able to educate Aldous on some of the more esoteric requirements for post-linguistic DTP formatting. Text expansion (up to 35%) is common in many languages, but certain areas of documents, like figure captions and narrow table cells, can pose keen challenges.

"I realized that FrameMaker's improved DITA support, especially for processing instructions and the ability to invoke specific attributes, would make it possible to craft a single template that would contain styles specific to each language," says Aldous. For Asian languages, all fonts in the document must change. All languages require specific translated strings for automatic paragraph prefixes for figure titles, table titles, and similar elements. FrameMaker 9 proved to be the ideal development and authoring tool to eliminate the possibility of making a mistake in many areas of post translation formatting.

"From a design standpoint, one of the biggest challenges was coming up with an easy way to change page header/footer content to any one of 27 languages," Diaconu recalls. The team combined two old existing product features with one new feature to achieve this goal in a way that is completely transparent to the tech writer or publisher.

Dramatic improvements for vendor and customer

All parties involved were very satisfied at the dramatic improvements using the new hybrid template/ structured application to control formatting after translation. This project proved an ideal test environment to document productivity gains. In the midst of creating the structured application, GPI's client had an urgent need to translate the manual into 12 new languages for the first time. Since the project was a rush order, unstructured FrameMaker files were translated and formatted with the conventional model of multiple templates, and DTP specialists manually touching up frequent format overrides.

A couple of months later, slightly updated content in the manual for these 12 new languages were also migrated into DITA and published within structured FrameMaker against the unstructured translation memory with striking results: leveraged data was very close to previous projects in which unstructured FrameMaker files were translated against unstructured TM.

New pods at the bottom of FrameMaker's workspace enable translation DTP staff to see all imported graphics, cross references, or index markers at a glance. Any errors or deviations are extremely obvious (e.g. an external graphic path from the wrong folder), which reduces proofing cycles and shortens project delivery time.
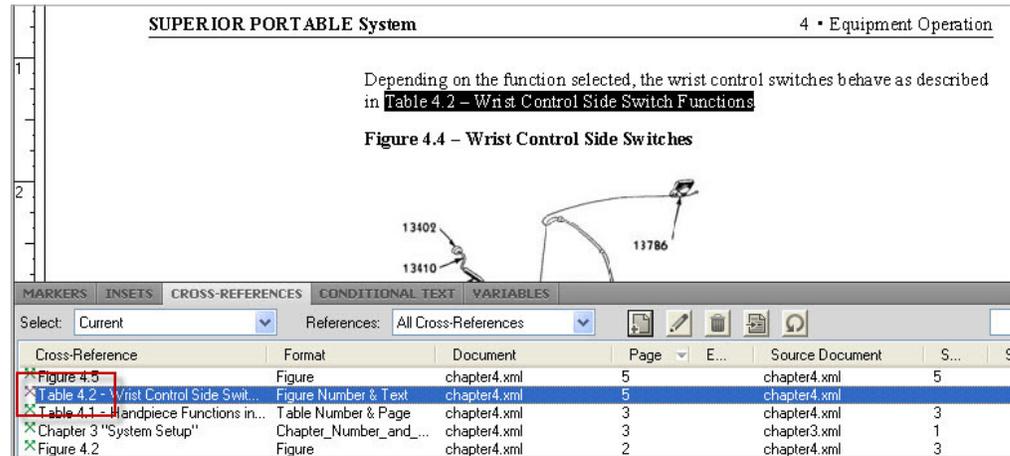
"Although the application we developed together was very sophisticated, the client was actually able to convert unstructured documents into DITA herself via Adobe FrameMaker 9 with minimal support and training."

Tom Aldous
FrameMaker, XML/DITA consultant

Results

- Translated and published 27-language project in DITA at approximately 50% of the cost of previously translated, unstructured document files
- Reduced project timeline by 25%
- Achieved considerable time and cost savings in post-linguistic desktop publishing due to more automated application of styles
- Reduced dependence on outside translation agencies or consultants
- Migrated to DITA document structure without adversely affecting ability to leverage from previously translated unstructured document content (translation memory)

The GPI team knew that the improved user interface in FrameMaker 9 would prove a real time saver in post-linguistic DTP touch up. The team has seen how the improved DITA support for processing instructions and other enhancements in FrameMaker led to a much improved solution that makes MMDM's and other clients' multilingual DTP about 60% more efficient including savings in the following areas:

- Reduced number of format proof cycles required due to lack of exception pages and unnecessary style format overrides
- Ensured that correctly translated paragraph prefix text is automatically applied through EDD rules and structured template
- FrameMaker and DITA eliminated ambiguous style and formatting situations wherein linguistic DTP staff had to previously guess which style was appropriate
- Eliminated numerous post-translation table overrides for text expansion with consistent table formatting and cell margins

GPI Localization Project Manager, Fotini Limes, noted the simplicity of the DITA application and the reduced burden of time on DTP resources. "Our staff was able to remotely train publishers in about just four to six hours," Limes observes. "The project instructions to linguistic DTP staff were only about three pages long!" GPI also noted that with FrameMaker's DITA translation and publishing cycle, there were far fewer e-mail communications and questions from remote DTP staff.

MMDM was also very pleased with the measureable improvement, when the manual was published in all languages after that migration into FrameMaker 9 DITA. "Due to our product release cycle, we had to ask GPI to accomplish translation and publishing in six weeks," comments MMDM's tech pubs manager. "The normal timeframe for a project of this scope would have been eight weeks." Because documentation had to be ready in 27 languages for an early-year product release, the project also took place over three holidays—Thanksgiving, Christmas, and New Year's.

Dramatic cost savings and future benefits foreseen

GPI's migration of the document assets into DITA reduced overall project costs by nearly 50%, according to the tech pubs manager. "The amazing thing is that we haven't even installed our CMS system yet, which will lead to further savings." It has long been known that a CMS combined with DITA can identify changed portions of source content and reduce the word count in translation, leading to further savings.

The manager has experienced other benefits from FrameMaker and foresees further improvements throughout the organization. "The structure view in FrameMaker combined with the element catalog dynamically displays only those elements which are legal at any point in the document according to the DTD and EDD," she comments. "In addition, now that we have migrated to having files saved directly to XML rather than binary .fm format, tech writers can no longer make whimsical style or format overrides." If unstructured, pull-down menus are used to change the style of a list, for instance, the format override vanishes once the file is saved.

"FrameMaker 9 is remarkably intuitive to use considering the sophistication of the EDD and complexity of the DITA elements and attributes," continues the tech pubs manager. "With simple cross training, we can get other divisions to also use our structured FrameMaker DITA solution, obtain consistent branding and formatting, and we will increase our pool of tech writers who can help other divisions when they have a slow spell." Even beyond translation cost savings, due to GPI's innovations and the new, reduced choices in formatting, FrameMaker 9 has proven to be a win-win solution for MMDM.

With Adobe FrameMaker 9 software, authors and editors have a user-friendly, controlled environment that offers accessible, comprehensive tools for creating DITA-based documents. The structured template and EDD in FrameMaker, which control formatting, can be created in about 10% of the time required for conventional XSLT-FO style sheets, per language. FrameMaker's support of processing instructions and other DITA features enables creative solutions that automate many tedious DTP tasks, reducing project costs and timelines.

Globalization Partners International provides comprehensive document, software and website localization services for a wide range of clientele. GPI's multilingual document globalization department is staffed with Adobe certified experts located around the world and has extensive experienced working with Adobe products, including Adobe FrameMaker, RoboHelp®, InDesign®, Illustrator®, Photoshop®, and Adobe Captivate®.

Tom Aldous is an industry-recognized consultant who provides custom services developing DITA and XML solutions with a variety of tools. His specialty is working with structured FrameMaker.

Systems at a glance
• Adobe FrameMaker 9
• Adobe Acrobat®

For more information
*www.adobe.com/products/
framemaker*

Adobe Systems Incorporated
345 Park Avenue
San Jose, CA 95110-2704
USA
www.adobe.com

91030392   9/10