Focus on a freelance project

Taking one of Mike Unwalla's recent contracts as an example, **Malcolm Beaumont** dissects a documentation project.

Organisations that use freelance authors can have wide-ranging requirements for documentation. This means that freelances can be asked to provide numerous services, ranging from advising on strategy and design at the outset of a documentation project to providing help to produce the final documents.

In this article, we will look at a project where the launch of a new software release required existing manuals to be updated using amendments drafted by developers. The author, Mike Unwalla, was asked to collate the material, edit and index it, and create the release documents.

Product to be documented

After getting my first laser printer years ago, it became very easy to create high-quality scrap paper. The printed pages looked great and appeared very quickly but, if the content was wrong, the pages were still scrap paper.
It's much the same with computer-aided manufacturing (CAM): if used carelessly, there is plenty of scope for producing perfectly machined scrap metal. One way to minimise wastage is to incorporate into the CAM sequence a step that simulates the machining instructions on a computer before using them on metal components. MachineWorks® is a software package that provides such a simulation, as shown in Figure 1.

MachineWorks software has to be embedded in the product of a CAM software developer. It is like a toolbox, containing many individual items that are used to carry out specific tasks. For CAM software developers, the equivalent of taking a tool from a toolbox is to take a function from the MachineWorks library and insert it into their software — just like inserting an image into a document from a clipart library.

Documentation set

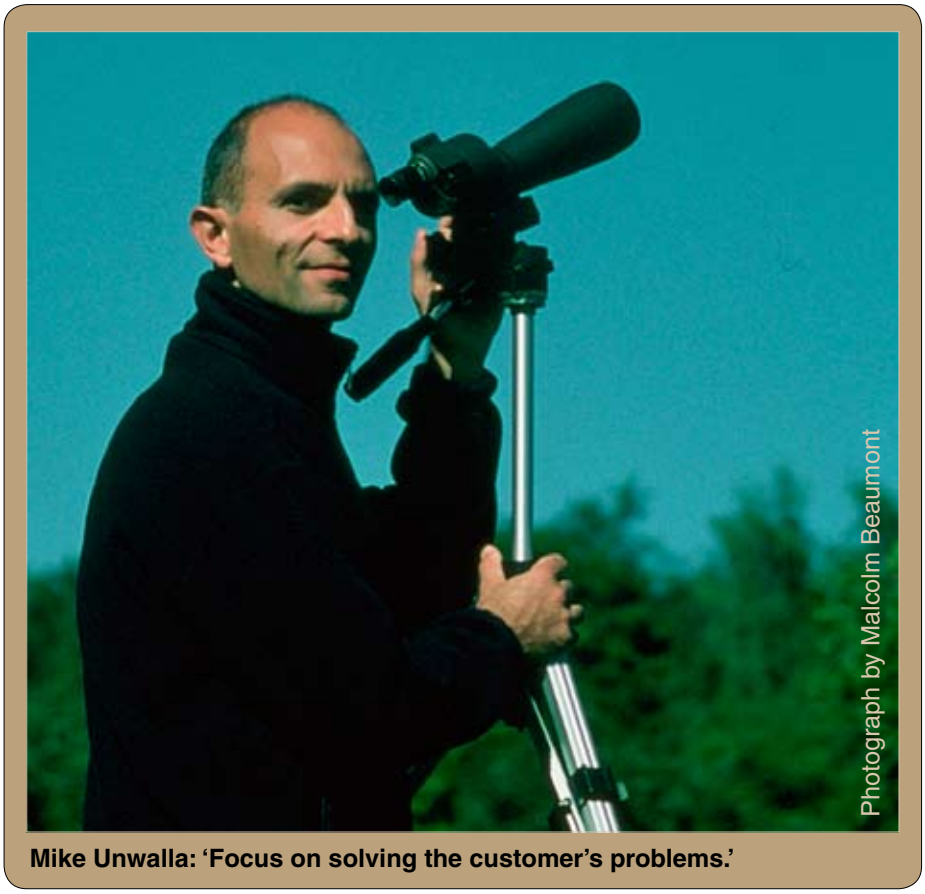
The MachineWorks documentation describes the interface between the CAM and MachineWorks software. This is an Application Programmer's Interface (API), the documentation of which Fiona McGregor described in her articles in the Spring and Summer 2003 *Communicator*.

The foundation documents are:

- Two guides that describe principles of the software and relationships between the individual components.
- A reference manual that describes in detail the structure of the MachineWorks functions.

MachineWorks Ltd asked its users about preferred formats. Of those who replied, just 12% said that screen versions only would be fine whereas 88% wanted both print and screen. As a result, two versions are produced for each of the two guides: one for screen and one for print, both in Portable Document Format (PDF) and with identical content. The screen versions contain navigation buttons, search facilities and hyperlinks within the text. The print versions are designed for double-sided printing, and the files are sent out for printing and binding.

The print and screen documents serve different purposes. For content that requires extensive reading, print versions are better. On the other hand, when users want to search across several documents or copy sample code from a document, screen versions are better. PDF was chosen over HTML for the screen versions because it is easier to incorporate navigation buttons and multi-document search facilities.



Mike Unwalla: 'Focus on solving the customer's problems.'

What is computer-aided manufacturing (CAM)?

The starting point for CAM is a computer model of the component to be produced. Using the model, CAM software creates a sequence of instructions that can be read by machine tools — for example, lathes, mills and drills. Then, a tool reads the instructions and machines the metal component accordingly. This method eliminates the slow and potentially inaccurate step of manually programming the machine tool.

The reference manual contains descriptions of how to use every function in the MachineWorks software, with most descriptions less than two screens in length. Users typically read about one function at a time, making multi-document search facilities or printed copy unnecessary. For this reason, the reference manual is provided in HTML format only.

Production methods

MachineWorks Ltd uses a tightly controlled process for producing its documents, involving a source control tool called Perforce and an open source typesetting tool called LaTeX. This approach:

- Enables changes to be tracked and documents to be reverted to previous versions if needed
- Ensures there is a definitive version of the documentation
- Backs up all document source files and templates automatically.

Figure 2 summarises the process. Below, Mike explains how his role fitted into the process and the particular challenges that the work presented.

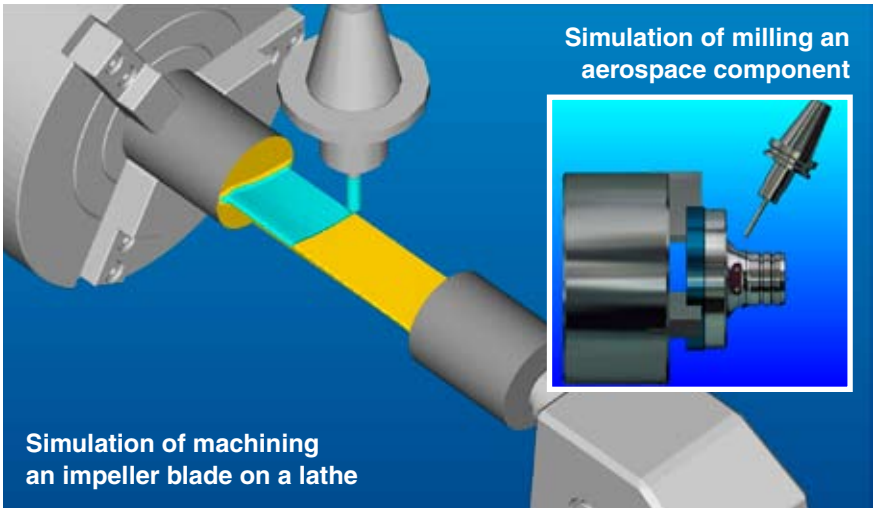
Editing

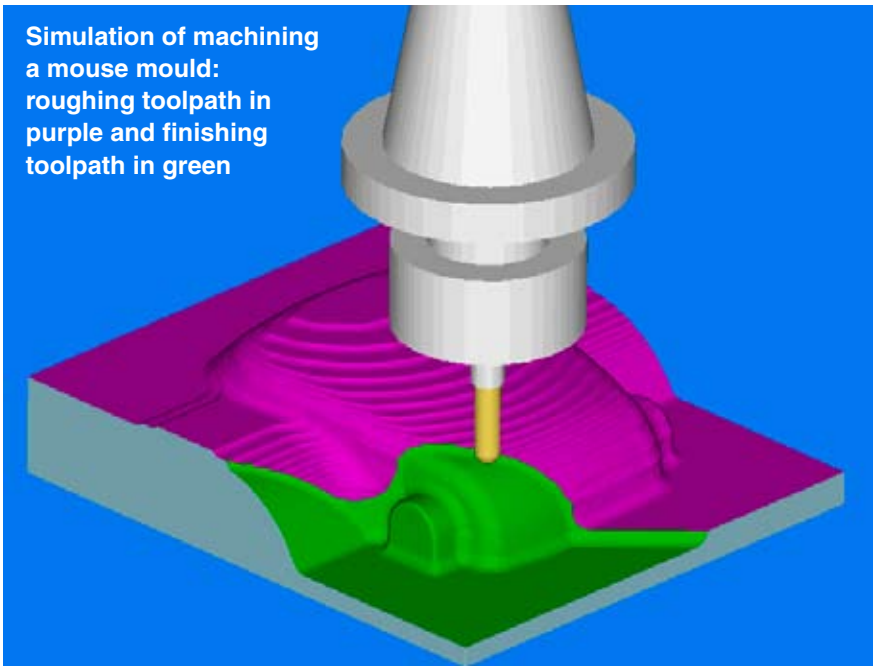
When technical authors write documents from scratch, they carry out research to gain an understanding of the subjects. However, as such research was unrealistic for this project, Mike had to edit text for a complex subject that was unfamiliar to him. How, then, could he edit material that he didn't fully understand?

Mike describes his approach: 'There are two basic issues to deal with: syntax and semantics. Well, it's easy to see if text doesn't conform to the syntactic rules. Semantics is a little harder. If I thought that text was unclear, I would rewrite it, and then ask the person who wrote it, "Is this what you mean?". Usually, the developer would say yes; occasionally, I got it wrong. Although I was new to MachineWorks software, I have enough experience of software development projects to ask sensible questions.'

Indexing

Part of Mike's work was to update an index. I suggested that indexing is a task that technical authors should leave to indexing specialists. He thinks that's the ideal approach, but that it





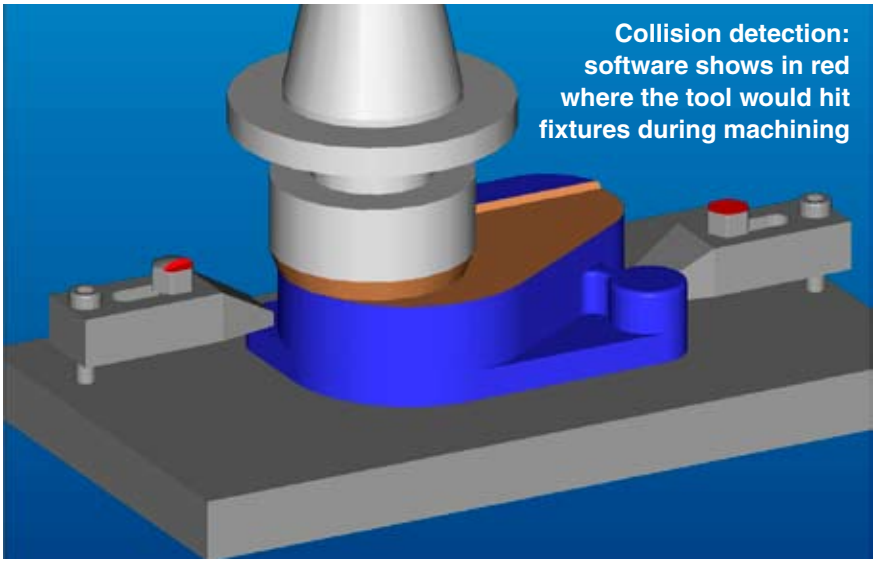


Figure 1. MachineWorks operating in conjunction with EdgeCAM
Thanks to Tina Hoffmann, technical author at Pathtrace, for illustrations and information.

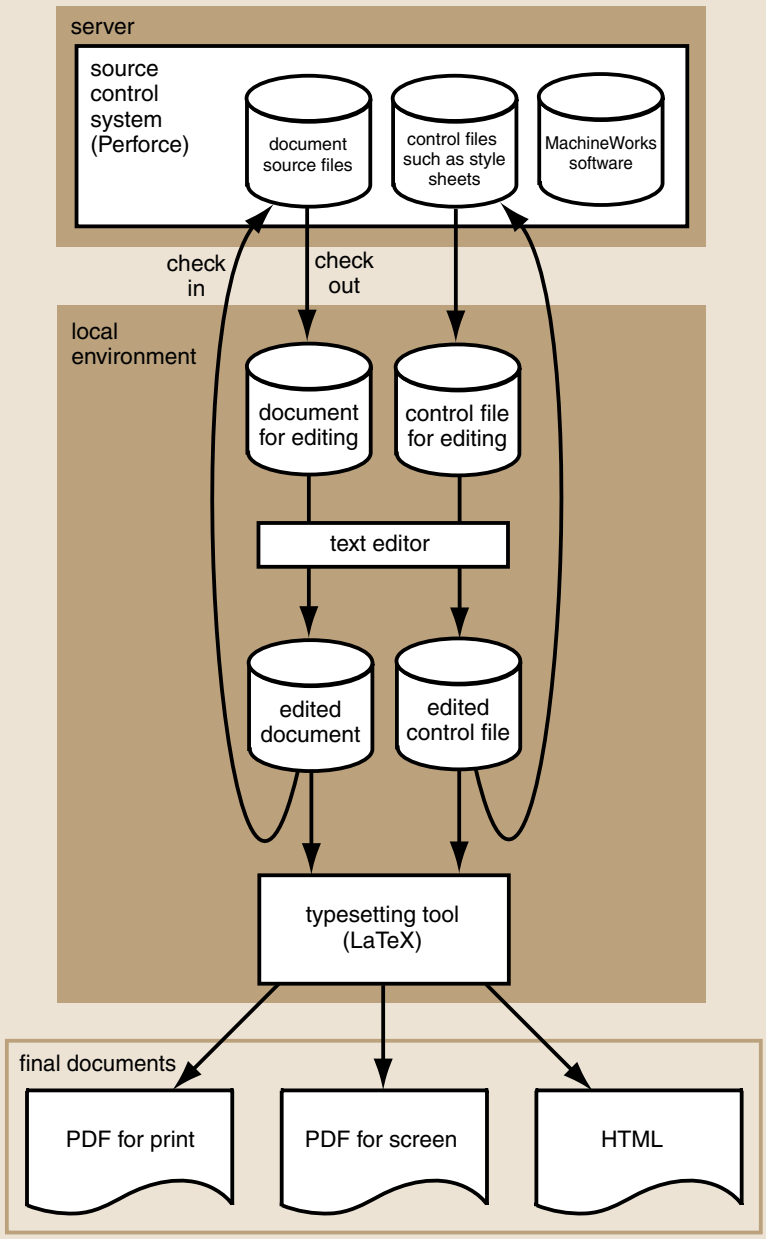


Figure 2. MachineWorks Ltd's approach to document production

is not always easy to implement in practice. It is particularly difficult with an embedded index, where index entries are put into the source documents and then read by software to create the index that the user sees. If it's possible to provide external indexers with access to the source files, there is no problem. However, if this isn't possible, it's likely that the technical author will be asked to create the index. Is this sensible and realistic?

Mike thinks it is and suggests there are many overlaps in the skills needed by technical authors and indexers, who both need to:

- See the document as a whole and from a user's perspective
- Focus on key concepts and ignore insignificant mentions of terms
- Use terminology consistently
- Pay attention to detail
- Think clearly.

He says: 'For software documentation, which is my area of expertise, it makes sense for the author to put some time and effort into learning how to index.' Putting this into practice, he's currently studying for accreditation with the Society of Indexers.

Project management

Any freelance service provider must be able to manage projects effectively. However, the most efficient projects are those where there is also effective project management from the client. Without it, there would have been plenty of scope in this project for introducing inefficiency. As the new version of software required many small changes to the documents, big savings could be achieved by ensuring that all the changes for each major section of a document were available at the same time. This approach avoided the numerous rounds of editing that would have been required if changes had been supplied piecemeal.

The documentation project manager at MachineWorks Ltd, Lucy Davies, ensured that all requests for changes were directed through her. She then decided whether or not each one should be made. As Mike points out, as well as minimising project time, this approach provides other benefits for the client: 'Making changes through Lucy meant that there was a business focus on a change — if it didn't add value, it wasn't done. It also meant that Lucy was aware of all the changes that were going on with the software.'

Conclusion

This project is not unusual in its requirement for an author who can provide a wide range of skills as well as writing. In particular, the need to become productive quickly in a complex development environment will be familiar to most freelances. C

Further information

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www.techscribe.co.uk

MachineWorks
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Pathtrace
www.pathtrace.com

LaTeX
www.ctan.org
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Perforce
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