TECHNIscope

The Technology Workshop, Inc. Newsletter

TECHNOLOGY FOCUS
Software Life Cycle Documentation

Many clients ask about software life cycle documentation. They want to know what is ideal, and they also want to know what is practical.

Software life cycle documentation is a collection of documents that describes a software system from inception through retirement. Typically, this includes quality planning, system requirements definition, detailed functional software requirements specification, software design specification, code creation, testing, installation, operation and support, maintenance, and retirement.

The most important documents are the functional requirements specification (FRS), the software design specification (SDS), the validation plan, and the change control procedures.

The requirements phase defines what will be delivered. A good FRS starts with a general idea and evolves into a detailed product description that software engineers use to design the product and the validation team uses to plan test protocols. Our role in the software life cycle usually starts at the requirements phase. Diane says it best in her interview (page 3): "The tech writer moves the project forward. Plain and simple."

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The "what" defined during the requirements phase, is translated into the "how" during the design phase. An SDS contains implementation details. It may also

Tips for the corporate shutterbug

With digital cameras so cheap these days, there are lots of ways to put photos in presentations, newsletters, and manuals. Here are a few tips on file types to ensure that your photos will look great.

JPEG: A great choice for photos on the Web, JPEGs compress without data loss, and support 24-bit color so color photos look fine.

TIFF: When investing in 4-color processing, try large, but high-quality Adobe TIFF files.

GIF: Better for line art because of limited color compression, GIFs let you make the background transparent, allowing the color of the document to come through.

BMP: Because of its pixel base and good color, bitmaps are large files. Don't blow them up too much, or you'll see the granularity of the pixels.

EPS: These are good when printing on a PostScript printer.

PNG: A recent alternative to GIFs, PNG files handle colors and compression better but are not supported by older browsers.

WMF: This is the Windows version of the Macintosh PCT format.

PCX: Used in PC the environment, PCX files are small and have good color. This format is a TWI favorite for manuals with lots of screen shots.

A Message from TWI...

*H*ello!

Well, it's a good thing we're not publishing a daily newspaper, or this issue would be for some time in 1996! Nevertheless, we really enjoy these little updates. At the very least, it gives us a chance to say hello....one of the great things about this business is the large number of terrific people that we get to work with.

This issue, we discuss software lifecycle documentation. I know this can put you to sleep, but this is an area where a relatively small investment of time and effort will quickly yield large multiples in productivity. There is no question that Requirements Documents or Validation Protocols are not nearly as much fun to write as an Operator's Manual. However, many of our clients are now believers, and we turn out a substantial array of these.

Voices from the Workshop features Diane Thompson, one of our technical documentation experts. Several years ago, Diane and I did a process documentation job for ViroLogic out in San Francisco. Within two days, the folks at ViroLogic were asking Diane if she could stay on for the long term.

As always, if you need any type of documentation in practically any technology, let us know. I think you will be pleasantly surprised how quickly and easily we can do the job.

Alan Runck
President, Technology Workshop, Inc.

Company News

Welcome Aboard

Joyce Brendle joined us last year to help write user manuals for Pearson Education. Joyce comes from an advertising agency and is now working on projects for Nautica and Maher Terminals.

Laurie Antalek arrived in April to document pharmaceutical manufacturing processes. Laurie was one of our clients about five years ago, at Neuromedical Systems, Inc. In her spare time, Laurie studies forensic medicine.

Sam Sorbello recently joined us from IBM. Prior to working at IBM, Sam set up documentation and quality assurance systems at Repro-Med, Inc., a medical device company.

Back to School

We happily added Johns Hopkins University Hospital to our list of satisfied clients. Other than riding the train to Baltimore, it has been a great experience. We are writing training manuals and self-grading quizzes for their DNA sequencing labs.

Commuting

Public transportation enjoys our support. Joyce is in New York City, Gaye is in New Jersey and in Delaware, and Alan is in New Jersey and California. Lots of box lunches.

Voices From The Workshop

Diane Thompson

Diane writes at her PC all day, then goes home to her three cats and designs web sites for fun! In fact, a personal Web page she created about one of her favorite topics, penguins, is so good that professional bird sites have linked to it. Check it out at **www.magicmom.us**. Diane joined Technology Workshop over four years ago and has been a vivacious presence at numerous clients. Every one of them thinks that she is terrific.

Tell us about the luncheon to honor the boss at your client site.

Our boss received a company award, but the plaque was not ready in time. So a luncheon was planned to present the award to her *in style...*tongue-in-cheek style, as it turned out! The award included a crown and sceptor, a bunch of red editing pens, and a song parody that I sang, to the tune of "God Save the Queen." It was great fun, and luckily, she was a very good sport about it!

What about the technical writing course you taught?

Our client wants documents to be written and—equally importantly—formatted so they jump off the page. A good technical communications class takes you from writing documents that are correct to creating documents that can also be readily comprehended by all readers. Then, for example, a developer can flip the document open and grab information right off the page.

> **"What tickles me most are the Freudian typos."**

An easy-reading piece is something I'm really passionate about. I had a great deal of fun teaching this seminar.

What's funny about technical writing?

Oh lots of things! What tickles me most are the Freudian typos. For instance, when I create a DRAFT watermark that I look at later and realize it actually says *DRAT* or, better yet, *DAFT*.

> **"An easy-reading piece is something I'm really passionate about."**

What's your favorite web site?

Discover.com. I admit to being a science junkie!

What's the most important thing that a tech writer does?

The tech writer moves the project forward. Plain and simple. You cannot make progress without consensus, and the tech writer captures the project information from all of the project members and restates it.

That statement does one of two things. It confirms that the team members are all on the same page, or it prompts discussion. Either way, it's a critical role.

Who is your role model?

My mother is my inspiration. She taught me to "do something, even if it's wrong." In other words, keep moving forward and you're bound to get somewhere, even if it's not where you expected. It's really worked for her--at 80, she teaches water aerobics 5 nights a week.

And you've created a web site for her?

Yes. She and my Dad bought and sold antiques for 25 years. Instead of giving it up after he died, Mom learned to use her computer and started selling on eBay. She needed help posting photos, so I created an antiques Web site for her. Her eBay ads direct users to the site, and the e-mail goes directly to her.

PC Tips and Tricks

E-mail running your life?

Do you read new e-mail each time a pop-up announces it's arrival? If so, your productivity could be suffering. Time management studies suggest you read mail at 3 set times each day, emptying the inbox each time.

For quick reference...

For quick, one-word language translations, go to **www.Refdesk.com**. The site has translation dictionaries for English-to-French, Spanish, German, and Italian. Plus, there are industry dictionaries , all kinds of calculators, and links to reference sites galore!

Hyper over hyperlinks?

To avoid having e-mail addresses formatted as hyperlinks in Microsoft *Word*, click **Tools>AutoCorrect**. On the **AutoFormat** and **Autoformat as You Type** tabs, click to clear the **Internet paths with hyperlinks** options. OR, click **Ctrl/Z** (Undo) immediately after typing the hyperlink text.

Software Life Cycle Documentation

include screen layouts, database requirements, processing algorithms and error handling descriptions. Our role in the design phase depends on the needs of the client. Some prefer that we simply refine their draft documents. Others rely on us to help move the design process along by conducting interviews with SMEs, negotiating changing needs with marketing, and capturing the results in a draft SDS that is reviewed and updated as the project moves forward.

We have also created design documents by reverse engineering source code. This approach is not the best, but works in a pinch.

Software validation ensures that the software requirements are achieved. It is part of the overall system validation of the finished device or application, which includes all components such as hardware and peripherals.

How much software testing and verification is needed? This is largely determined by analysis of hazards and an an estimation of risk. The hazard analysis identifies, classifies, and documents potential software, hardware, and system hazards and their impact. Once the hazard analysis is completed, a risk analysis can be carried out.

Developers of complex systems are confronted with the reality that complete system testing may be an impossible task, and they must therefore balance the amount of testing with an acceptable level of risk.

Hazard analysis is a dynamic process that evolves to identify new hazards and mitigate existing hazards as development progresses.

Software documentation, verification, and validation requirements may seem formidable. However, we are convinced that software documentation is an absolute benefit to the developer, the company producing the product, and to the end user.

> *...complete system testing may be an impossible task...*

Well-written and timely software documentation facilitates the development process and greatly enhances subsequent software maintenance.

Every one of us at Technology Workshop works in a product development environment. We know the software development process well, and we will be happy to discuss how we can help you. Give us a call.

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