



COMBINING TRAINING AND CUSTOMER DOCUMENTATION INTO MODULAR, REUSABLE INFORMATION

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ABSTRACT

Until recently, many large companies developed two sets of documentation for each product - one set was delivered with the product, and the other set was used for customer training. In this panel presentation, we will discuss our participation in a new process, called InfoWare®, that we are adopting at Lucent Technologies to produce task-oriented, modular and reusable components for customer documentation and for training materials for new products.

These reusable components will facilitate our future plans to store the modules in a single-source asset repository that will allow us to produce on-line and paper documentation as well as training that can be tailored to each customer's requirements

Keywords

Modular, components, single-source, reusable, Infoware, training

1. INTRODUCTION

New and innovative approaches to information products have been taking place within many progressive companies. Lucent Technologies was able to succeed in developing InfoWare, a process that enables the merging of customer documentation with customer training.

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We have only recently begun to integrate InfoWare into all of our new product documentation processes. We believe it to be a successful endeavor that will result in producing a single-source information repository that could be used for many purposes. We will share with you the information that we have accumulated thus far. Each panelist will discuss a different aspect of the InfoWare process.

2. BACKGROUND AND INCENTIVES

Plans have been underway at Lucent for about four years to make the transition to a single-source repository. In 1996, Lucent Technologies was spun off from AT&T. This provided an immediate opportunity for many changes in information product organizations. Previously, customer user documentation and customer training were unrelated entities. Information was processed twice, once for the documentation set, and again for the training materials (Instructor Guides, Student Guides, etc.) See Figure 1, Appendix A.

Lucent's approach merges these two processes and produces a core of information modules that can be reused, often without being modified, for multiple customers. Course developers can also reuse the core topical information modules and select which task oriented components they want to include in their instruction materials. Information products can be tailored to match each customer's job requirements or training situation.

In our panel presentation, we will discuss how we accomplished this and give you an insight into some of the issues we had to face and even some of the problems we encountered.

Advantages of a Single Information Source

Advantages of using the InfoWare process are that the information product produced is :

- Modular and reusable
- Consistent Among Multiple Applications
- Task-based for both training and documentation
- Cost effective - shortens delivery time
- Easier to update

3. PANEL DISCUSSION FORMAT

Each panelist will review a different segment of the InfoWare process implementation, depending on their involvement. These areas are:

- A description of the InfoWare process and how it ensures uniformity and a single source approach.
- A description of modular writing using the Information Mapping® method to produce task-oriented documentation.
- The role of the project manager in monitoring tasks associated with the new InfoWare process.
- The role of the manager in making the single-source approach happen.

4. THE INFOWARE PROCESS

The InfoWare process is a media independent method of producing task based, integrated training and documentation products that supports human performance on the job. It is a process that creates information that gets the end user up-to-speed as soon as possible.

The InfoWare process is based on the industry standard ADDIE development model.

- A Analyze
- D Design
- D Develop
- I Implement
- E Evaluate

The ADDIE and similar information development models have been used extensively by the US government and the telecommunications industry.

Other significant components that make single sourcing successful are:

- Structured writing methods such as the Information Mapping® method. This writing method ensures a common look and, to a large extent, the validity of the information.
- Common tools to ensure computability of the information modules. In a geographically dispersed environment such as Lucent, having all writing groups on a common writing platform is critical. Local variants of templates and tag sets cannot be allowed to proliferate.
- Applied architecture to provide a common feel. Information products developed outside of an applied architecture rarely give the user a sense of product family identity. When a document is picked up, one should have certain expectations about the content, structure and focus of the information.

If two products are delivered from the same company, similar approaches should be used in the documentation. For example, if the tasks associated with Product X are written in such a way as to support novice and experienced users differently, then Product Y tasks should be written the same way.

A crucial component of the InfoWare architecture is that tasks and non tasks are separated. Tasks deal strictly with what, when and how. Non tasks can convey several types of information such as:

- Why certain tasks are necessary and the consequences of non performance
- System level information such as a system overview
- Input/output manuals
- User interface description, etc.

By addressing these components and following the InfoWare process, a basic set of information is created that is suitable for both documentation and training. The core content concerns tasks that need to be performed and the background information to understand them, so the critical difference between the documentation and training products is not their basic nature or content, but:

1. How much, or which parts, of the content should be used for training ?

2. How many dollars should be invested in developing training support information and testing the materials for use in the classroom?

The first issue "how much or which parts" can be found in the Analysis Phase information. Frequency and criticality of tasks should be part of the information gathered during a job study. Also the audience analysis, conducted in the same phase, will indicate how much the target audience already knows.

The second issue "how many dollars" depends on two factors:

- Media
- Experience level

Developing a multimedia training course is a much more expensive undertaking than filming a "How To" video or an instructor led training course. Regardless of the training media selected, the needed information is present. The same information is useful to construct a video script or storyboard. Or, if time is short and the budget is limited, the information is well suited for leader led, stand up delivery.

With a knowledgeable subject matter expert, training can be delivered straight from the documentation in the form of a seminar. For an incremental investment, a basic instructor guide and student materials with exercises can be developed and tested. If training is to be handed off to a third party, another incremental investment can provide fully developed training materials that anyone with minimal product background and presentation skills can deliver.

From the writer's perspective, essentially, the InfoWare approach merges the skill sets of documenters and trainers. Each has its strong points. The true benefit to both groups is that each becomes more marketable in the information world.

5. TOOLS FOR MODULAR WRITING

Lucent Technologies uses the Information Mapping method to produce task-oriented modular information for documentation and training. The Information Mapping method replaces a "prose approach" to developing information with material that is analyzed, organized and presented in a predictably consistent manner.

Through the application of principles introduced in the method, including a task and audience analysis, the result is an information product designed and organized to meet the customer's needs.

The Information Mapping method uses a specific format to display a consistent approach. This format, which includes concise units of information identified with a relevant label, enables users to quickly access the information they need. The format is often mistaken for the method, when it is only the "tip of the iceberg". The strength is in the overall methodology.

Using Information Mapping for modular writing has:

- increased productivity through a shorter development cycle
- simplified updating since information is easier to find
- improved task analysis and organization resulting in improved user feedback.

Lucent Technologies has found the structured writing techniques promoted by Information Mapping results in an information base that easily lends itself to multiple outputs, such as training materials, online help, customer documentation, marketing information and additional applications.

6. THE ROLE OF THE PROJECT MANAGER

In addition to helping to ensure open communications, the information product project manager performs a variety of planning, facilitating, and monitoring tasks associated with implementing the new InfoWare process.

Among others, these tasks include

- Facilitating/encouraging the change to the new process.
- Verifying that all team members have had the appropriate training.
- Helping to define a global document architecture that meets the needs of the customer and Lucent.
- Ensuring that the geographically dispersed, cross-organizational team members are on the "same page."
- Verifying that all team members are using the appropriate templates.
- Working with developers on issues associated with reuse.

- Helping to troubleshoot problems that developers encounter.
- Monitoring the project.

7. THE ROLE OF THE RESOURCE MANAGER

The resource manager has the responsibility to make information reuse an important consideration and motivating factor to accomplish a successful changeover to the InfoWare process.

The manager must express his concern of the necessity for information reuse in an ever-faster evolving global market. This will include the drivers and implications for developers and managers. Details of Lucent's new WaveStar™ information product development using the InfoWare process will be discussed as an example of work in progress.

This discussion of the WaveStar information product line will include:

- Structuring commonalities
- Redesigning existing information products for the global market
- Nomenclature and translatability standards
- Dissecting and recompiling of information assets

Another facet of the manager's job is to determine cross-product line correlation for reuse of assets. Lessons that we have learned to date in our on-going changeover to the single-source approach will also be discussed.

8. SUMMARY

Lucent Technologies needed to make changes to improve product delivery time and to cut information development cost. Information was processed twice, once for documentation set and once for training materials

There was a desire to work toward a single-source repository for the product, so that information modules would be correct and could be accessed by anyone involved in the project while both sets of documents were being developed.

Another factor was that the delivery of training needed to be more timely. In the past, the actual writing of the instructions usually didn't start until after the customer documentation was completed or nearly completed. This caused delay in getting the training to the customer.

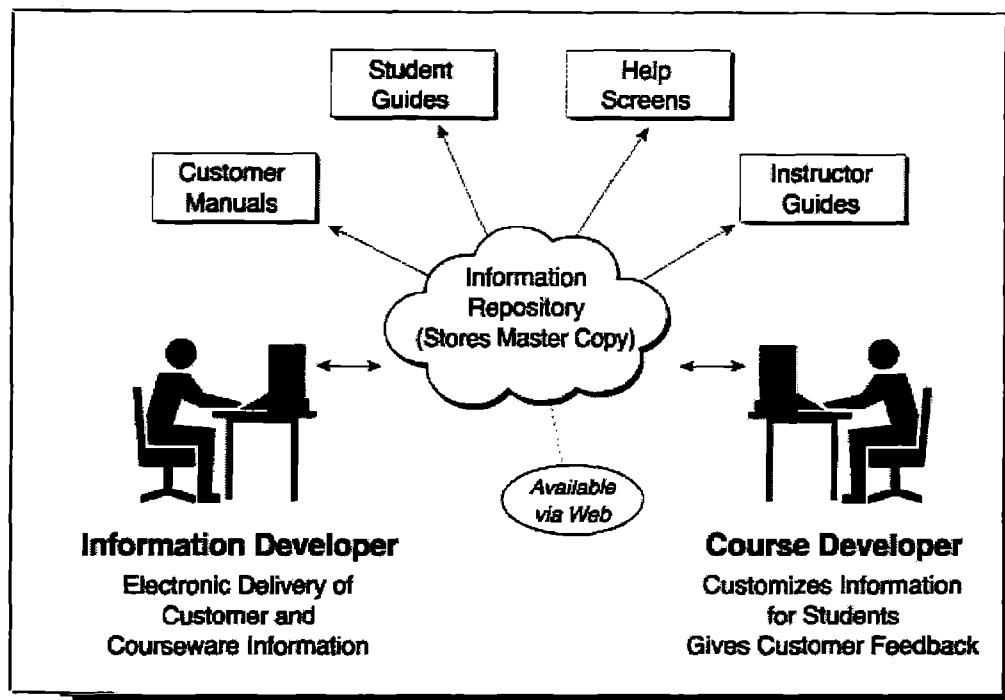
By using the InfoWare process and through retraining of information developers to also be course instructors, Lucent Technologies has been able to develop a system that will provide information products that are modular and reusable, designed specifically for each customer, task-based for integrated training materials and customer documentation and, in addition, will be cost-effective.

9. PRODUCT NOTES

InfoWare is a registered trademark and WaveStar is a trademark of Lucent Technologies.

Information Mapping is a registered trademark of Information Mapping, Inc.

10. APPENDIX A



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Figure 1: An InfoWare Model for A Single-Source Approach