

Audience Analysis and Information Design: Creating a Needs Assessment Documentation Strategy

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A user needs assessment developed from extensive audience analysis can be used to develop a documentation strategy that effectively meets user needs. This paper provides an overview of the steps required to identify and analyze the various audiences critical to enterprise software documentation and create a needs-assessment-based strategy.

INTRODUCTION

Unlike consumer software companies, enterprise software companies often encounter a great deal of trouble defining their intended audiences. In addition to serving a direct end user based at a customer site, enterprise software is often used by multiple levels of users. First-level customer end users who are directly served by the enterprise software company often serve a second level of end users who are indirectly served by the software. The needs of second level of users may be obscured from view. Administrators, managers, consultants, and developers also represent unique audiences with different needs.

This paper suggests ways in which enterprise software companies can perform an audience analysis to assess documentation needs.

UNDERSTANDING USER-CENTERED DOCUMENTATION

In his book *User-Centered Technology*, Robert R. Johnson discusses his vision for user-centered documents that address users' needs in a work context. While this paper does not thoroughly indulge in Johnson's vision of iterative design techniques that allow users of a system to become personally involved in documentation design, we certainly were inspired by his claim that users should be the center of technology and document design. We agree with Johnson that good documentation practice "envision[s] the user as situated in a particular time and place: the user is not using the documentation to learn software abstractly, but rather is learning the computer application for a specific purpose or purposes." (1)

Because of our belief that users should be the center of good documentation design, we have developed a method of analyzing the various audiences of a documentation set to create an audience needs assessment that drives an overall documentation

strategy. This analysis has been divided into the following segments:

- Defining Audiences
- Analyzing Existing Documentation
- Comparing Needs to Existing Documentation
- Developing a Documentation Strategy

The following sections discuss the various tasks required for developing an effective, user-centered documentation strategy.

DEFINING AUDIENCES

The first step towards providing documentation that primarily considers your users' needs is to clearly define the audience your documents intend to address. Specifically, you must identify audience members, their documentation needs, and their environment. Then you can list the necessary documents and link them to the information resources they require.

Identifying an Audience

To serve your audience well, you must understand who they are and exactly what they do. In enterprise software, audiences tend to be ill-defined, which can result in documentation that is either too complex or too simplistic. Either case results in a failure to meet audience needs.

There is a wide variation of knowledge, experience, and skills associated with each audience group, which you will have to address through the documentation you provide. A close examination of their needs will help you to identify and shape the documents you must produce.

For the purposes of this analysis, we have decided to separate possible enterprise software audiences into five sub-groups.

Users

Users are simply those audiences that use an application or interface. Users are the most easily identified audiences and usually require straightforward, specific documentation related to a specific set of tasks. In addition, writers often have a better understanding about the work environment of users. However, many enterprise software companies support multiple levels of users that include the direct customers of the software and those users that the customers support.

Administrators

Administrators support users and maintain the system. In many cases, administrators support more than only the software provided by your enterprise software company. Administrators' tasks may be unclear to writing groups because writers do not often have insight into the tasks of administrators. Effectively defining an administrative audience requires research.

Managers

Managers are audience members who may monitor the system, manage users, or make decisions about the use of the system. In some cases, managers are power users with more privileges than the typical user audiences. In whatever way they interact with the system, managers have special needs that must be uniquely addressed in documentation.

Consultants

Consultants may be either internal or external users who install, customize, configure or deploy the system. The identity of consultant audiences may or may not be clear depending on your company's policies and procedures for installation, customization, configuration, and deployment.

Developers

Developers are internal users who are responsible for the maintenance and development of the source code. While many documentation groups do not traditionally serve development audiences directly, internal guides may serve developers in an indirect way. In any case, developer audiences that often provide writers with their source material may welcome more professional documentation from the writing group.

Identifying Audience Needs

Once audiences are defined, documentation groups can begin to assess the needs of their audiences. The main focus of this needs assessment should be the needs revealed by the work audiences do, not their needs with using a specific tool. Essentially, the user, not the system, is the center of the document design. Only a thorough understanding of your audiences' work environment and daily tasks will reveal the depth and breadth of their needs.

In order to identify the needs of your audiences, each audience should be analyzed individually. You may use any method available to research and understand a particular audience. However, we recommend dedicating individual writers who will focus on individual audiences. That way, a specific writer can be responsible for only one or a very few audiences, allowing them to become more familiar with an audience's work and, by extension, their needs.

In order to categorize the information you are required to document, you need information about your intended

audience and their work. Enterprise users fit into two audience groups divided by their accessibility to writers: the customer audience and the internal audience. The customer audience contains end users, administrators, and managers, while the internal audience contains consultants and developers.

In the software industry, determining the needs of your customer audience can be difficult. The documentation team rarely has the opportunity to personally interact with the customer audience. Companies often rely on marketing and development members to perform overall needs assessments and establish requirements, of which documentation is often a very minor part. And, if the customer audience analysis is dependent on information derived from these members, their needs can become skewed due to perspectives focused on driving sales or automating tasks.

The best case scenario for determining customer audience needs would be to interview and observe members of this audience in their environment. This is not a practice employed by many enterprise companies. Instead, you may need to rely on information from developers, marketing, consultants, and support members to identify your customer audience needs. Also, you can examine the product to determine what the end users will be doing with it to assess for yourself what is confusing or intuitive. Usability findings can also shed light on customer needs.

Determining the needs of your internal audience is somewhat easier because you typically have more access to members of this audience. You may have members of this audience as assigned resources or at least somewhere on hand within your company. Source documentation, such as specification documents or architecture documents, is a good place to start gathering necessary information and assembling informed questions. You can then conduct interviews with developers, consultants, and support staff to determine what information they want to be able to reference in your documentation. In cases where you need to test deployment procedures, verification team members can provide effective internal audience feedback. If they can use your documentation in order to successfully deploy product components, it is likely that you have addressed your internal audience needs appropriately.

When identifying audience needs, you will likely identify more needs than you can easily address through documentation. To avoid trying to incorporate an overwhelming number of needs into a comprehensive user-centered documentation strategy, you will need to determine whether needs are essential, nonessential, or unnecessary. Afterward, you can handle those needs appropriately.

If a need is essential, the audience cannot function without it and it carries top documentation priority. For

example, software installation instructions are essential for audiences who install and deploy complex enterprise software systems.

Nonessential needs may or may not keep audiences from completing their work and are given lower priority than essential needs. For example, product look-and-feel customization instructions may or may not be necessary for consultants who specialize in this kind of customization.

Unnecessary needs do not keep audiences from completing their work and often lead to information that is more detailed than the audience requires, information the audience will never need to know, or information the audience should never know. Unnecessary information should not be documented. For example, if a product contains functionality that will not be used by audience members, it is considered unnecessary information.

Identifying Audience Environment

Identifying your audience's environment helps you determine the optimal delivery method for the information they require. You will need to examine the conditions under which particular information is needed. The goal of this task is to organize information so that it is available for the user when they need it. Environments consist of either the working environment of your audience or their training environment.

When a user is in a working environment, it is often appropriate to place task-based documentation right within the user's environment. For web-based and desktop applications, online help is almost always most appropriate. From any point in the application, the user can open the help set and find the topic related to their current task.

Many companies use context-sensitive help, where a user can click a button or press a key to open a topic based on their current location. If multiple topics could have relevance, the resulting help page can contain a list of links to those topics. Employing context-sensitive help is more important for applications with greater complexity as it helps integrate documentation more closely into the product.

For a working environment, you can also choose to deliver information in a book format. Book delivery is appropriate for topics that require a great deal of background information. For example, customization material, which contains complex content as well as code and output samples, is best delivered in a guide. Books can also be used when the information you are delivering is grouped for a particular audience. For example, you could organize a book to contain all of the information required by an administrator.

When a user is in the training environment, you typically want to have a more hands-on delivery approach. Some course material is appropriate for web-based training, while other material is best left for instructor-led classes.

Web-based training is best for covering basic material that does not require a great deal of troubleshooting. Many of the advantages of web-based training have little to do with the course material but, instead have a lot to do with convenience. Web-based training can address large number of learners, requires no travel, provides just-in-time learning, and allows learners to repeat the material. Documentation of web-based training involves how the material is presented onscreen. It may also involve how comprehension is tested. For instance, training may include multiple choice quizzes at the end of a course segment.

When you have complex material, it is best reserved for in-class training with a human instructor. The advantages of instructor-led training are that it allows for a large degree of hands-on learning and that there is a knowledgeable person available to address specific problems and questions. Students also retain more information with instructor-led training. Documentation for in-class training typically consists of workbooks. Workbooks are appropriate in learning environments because they have the necessary content as well as related exercises and room to add notes. Also, workbooks can be taken home at the end of the training session to reference at a later date.

Identifying Information Resources

Once you have completed your assessment on the audience, their needs, and their environment, you will have the information you need to determine the required documents. You can start by making a list of documents that addresses the audience's specific needs in specific contexts. For example, if you are documenting a new desktop application, there are several likely document requirements such as installation procedures (installation guide), customizing functionality and look-and-feel (deployment guide), and application functionality (users guide/online help set).

After you have a complete list of all of the documents that you require, you can associate these documents to existing information resources. Information resources are documents and individuals/groups that provide the information that is incorporated into the documentation. Information resources include existing documents, source content, subject-matter experts, and corporate departments.

Existing Documents

You should have knowledge of the complete library of documentation provided by your company. This library should include not only documents produced by the writing department, but also the documents

produced/maintained by developers, marketing members, training personnel (if training is separate from the writing department), support personnel, and consultants.

Having knowledge of all existing documentation provides the source documentation you need to begin to understand the topic that you have to write about. For instance, if you have been asked to create a new developer's guide, having access to the documents developers currently use to get their work done provides an excellent starting point to begin to identify the scope and breadth of the document you have to create.

Having knowledge of the complete library also helps you to determine the needs for key audience members. For example, consultants may be documenting procedures from deployment experiences that have either not been documented, have not been documented thoroughly, or have not been documented in a way that reflects how the product is actually deployed in the field. If you know what documents the consultants are writing, you can use that information to improve the existing documents or to create a new document that addresses the needs of the consultant audience directly.

Source Content

Source content exposes writers to the underlying substance of a product. Source content includes documents such as requirements documents, design documents, white papers, configuration files, test cases or Javadoc. When you associate document requirements to source content, you are exposing a very helpful, if sometimes challenging, resource.

Source content may take a great deal of effort to understand because you may not have the necessary background or technical knowledge to make sense of the content immediately. You may need to do research in order to make headway in the documentation or training.

Source content can also be very helpful because it can provide realistic examples, code samples, and sample output that is excellent supplementary information for your documents.

Subject-Matter Experts

Associating document requirements to subject-matter experts provides you with an excellent resource to use when you are creating the document.

Subject-matter experts can range from developers (who may have the deepest knowledge of the component and component functionality) to product managers (who may have expert knowledge of the customer that a product is being built for) to training personnel (who may know the audience's particular pain points when working with a product). Working with subject-matter experts allows you to gain important knowledge from many different

perspectives and allows you to make informed decisions about the documentation you produce.

Corporate Departments

Rather than individuals, you may find entire departments such as marketing or professional services helpful in providing specific knowledge about audience needs. Corporate departments are an important knowledge base that can help identify the needs of your audience and can provide the information necessary to complete documentation. For example, if you are documenting deployment tasks, you can research professional services procedures to determine what kind of tasks are performed while deploying the product and the depth of the information the documentation needs to provide.

ANALYZING EXISTING DOCUMENTATION

After you have thoroughly assessed the needs of your audiences, examine your current documentation to determine how closely it meets the requirements of your audiences. Specifically, you should take note of the target audiences, goals, and design of your current set of materials. Without well-defined audiences that dictate specific goals and design of your document, the needs of your audiences will most likely be difficult to meet.

The purpose of analyzing your documentation is not to identify what your documents *should* be addressing. Instead, this exercise should expose the actual audience, goals, and design of your documents. Only when you have identified the existing function of your current documentation will you be able to identify the gaps between your audiences' needs and the ways in which your current documentation attempts to meet those needs.

Identifying Target Audiences

For some documents, like online help systems for single user interfaces, audiences are easy to identify. Other documents, like large administration guides for complex, distributed systems, address multiple audiences that may or may not be well defined. In either case, you should assess whether or not your documents address single or multiple audiences and whether those audiences are well defined.

The identity of a document's audience may be as simple as Users of Interface X or as complex as Consultants, System Administrators, and Professional Services Personnel using, installing, deploying, and maintaining various parts of the system. Obviously, more complex audience sets will have more complex needs and require more complex documents. You should take special care in identifying the target audiences of more complex documents because they are more likely to reveal

instances where the documents are not adequately meeting audiences' needs.

Identifying Document Goals

The second step in analyzing your current documentation set is to identify the goals of each of your documents. To create a documentation set that is truly designed to meet the needs of users, you must understand whether or not the goals of your documents are user-centered. More often than not, the goal of documentation is to simply address the use of a system's features rather than assist users in doing work through the system.

For instance, if your online help system for Interface X simply follows the pattern of the interface, rather than the pattern followed by a user accomplishing work by using Interface X, then your document goals may not match a user's needs. The documentation should address the user's situation in a work context, not the system's features out of context.

By honestly evaluating the goals of your current documentation set, you will be able to identify those documents that do not specifically address the needs of users. While some system-centered documents may be good enough to meet a minimal set of user needs, these documents do not focus on the user. Therefore, the document's main goal does not involve addressing user needs.

Analyzing Document Design

The final step in document analysis is document design. Specifically, you should understand whether or not your document design fits with users' needs in a work context. Some elements of design include delivery methods (online, hardcopy, softcopy), page layout, format (training, reference), and other factors that address the appearance and delivery of documents. Essentially, every element of document design should be consciously included as a way to more specifically address your users' needs.

A document that is delivered as a spiral-bound book with your software may be difficult to access if there are ten, twenty, or one hundred users of your software at a customer site. Often, users are unaware that such a manual even exists or that is available to them. Instead, information may be more easily delivered as an online help system with easy access to the kind of information users will most often need in a work situation. In this case, each installation of the interface would have access to reference information necessary to complete user tasks.

COMPARING NEEDS TO EXISTING DOCUMENTATION

Once you have compiled both a complete audience needs assessment and an analysis of your current documentation set, compare the two to identify the discrepancy between the actual needs of your audience and the solutions presented by your documentation set. Again, this comparison should focus on the needs of your various audiences, not on the documents that are currently a part of your documentation set.

In many cases, your documents may partially address audiences' needs, but not in a user-centered fashion. Take note of how well the intended audience, goals, and design of your documents meet users' needs, not simply whether or not users needs are addressed at all.

An analysis of the discrepancy between your audiences' needs and your current documentation set will leave you with an idea of where your future writing efforts should be focused.

DEVELOPING A DOCUMENTATION STRATEGY

As all technical writers know, there is rarely enough time or resources to devote to a thorough documentation set that addresses all the needs of all potential audiences. Therefore, it is essential that a documentation strategy appropriately prioritizes audience needs and writing resources to assign tasks.

Prioritizing Audience Needs

Before creating a plan, you must prioritize your audiences' documentation needs in a meaningful way. For example, consider what tasks are particularly difficult to perform or which are not well documented. Which areas of the product are of strategic importance to the company? What audiences are more important to the success of the product installation, deployment, use, and adoption? What are areas of pain for current users that may be alleviated by effective documentation and, therefore, remove pressure from services or support organizations in your company?

All of these considerations reveal the priorities of audience needs and will certainly affect which documents receive more attention.

Prioritizing Resources

Often, the documentation you choose to prioritize depends on your current writing resources. Many documentation departments are understaffed and suffer from a large workload. In addition, some departments

may have many junior-level writers who do not have experience writing more complicated developer-oriented documentation.

As an alternative, documentation managers may consider looking outside of their own groups to other groups who may already be producing source materials or drafts that could be turned in to more mainstream documents. Some of these groups may include marketing, professional services, development, and training departments.

Assigning Tasks

After analyzing your writing resources, assign appropriate documents based on an understanding of the capabilities and bandwidth of your group. Of course you would appreciate the ability to meet all of your audiences' needs, but realistically, you must be an effective planner that optimizes the talents and abilities of your group to get the most out of an audience-driven documentation strategy.

CONCLUSION

User-centered documentation requires a concerted effort on the part of technical writers to identify audiences and their needs in the context of everyday work. Our audience needs assessment and the resulting documentation strategy is one method available to writing groups who want to create documentation that more closely addresses the needs of their audiences.

REFERENCES

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