

Usability for Technical Communicators



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Introduction

This document is:

- An overview of the relationship between Technical Communication and Usability
- A discussion of the skills that technical communicators can bring to the usability arena
- A discussion of the skills that technical communicators may wish to develop to enhance their performance in the usability arena.

This document is based on personal experience and opinion, rather than a considered review of the literature.

About usability

Several formal and informal definitions of usability exist. The most widely recognised is probably the ISO definition:

The usability of an interface is a measure of the *effectiveness*, *efficiency* and *satisfaction* with which specified users can achieve specified goals in a particular environment with that interface.

Lack of usability

Although the definition of usability may be the subject of some discussion, *lack of usability* is readily recognisable. Systems that lack usability are characterised by:

- Existence of workarounds—because the interface is difficult or does not match workflow in the real world, users develop workarounds to compensate for the inadequacies of the system
- Low usage levels—Users use the system as little as possible.
- Dissatisfaction—Users, and particularly novices, will find the system difficult or frustrating to use
- Rework or double-handling—Inefficient design often means that the same data may need to be entered or read more often than is necessary.

Because incorporating usability is a *quality* activity, it often occurs that systems with poor usability are also deficient in other areas. For example, they are likely to be crash-prone, poorly documented and difficult to maintain.

Usable systems

By contrast, *usable* systems:

- Are consistent, both internally and with other similar systems
- Support the user's workflow
- Avoid errors and, where errors occur, provide appropriate remedial guidance
- Provide good feedback, so that users always knows what is going on, how they got here, and how they can proceed
- Give users control, rather than forcing them into a pre-defined way of working
- Minimise cognitive load
- Are visually clear and uncluttered.

Benefits of usability

Benefits deriving from usability include:

- Reduced documentation and training costs
- Reduced support costs
- Increased user satisfaction
- Efficient use of time
- Reduced development costs, since adequate product and user definitions enable development team to produce the right product first time round.

Usability activities

There are several specific activities that can be carried out to incorporate usability in product development.

Analysis

During analysis, activities such as contextual enquiry, user profiling and requirements gathering activities can be conducted

Design

At the design stage, usability activities focus on participatory design and other user-centred activities.

Evaluation

At the evaluation stage, expert usability review ('heuristic evaluation') and usability testing can be conducted.

The guiding principle for all these activities is that the user or customer is at the centre of the design. This is referred to as user-centred or customer-centred design. It should be noted that users include end-users, but also any other users (for example, support or administrative staff).

Technical communication and usability

Technical communication and usability can be considered to share the common goal of enabling people to use systems to complete their tasks.

Unfortunately, some of the work of the technical communicator consists of ‘fixing’ user interface problems in the documentation. In theory, the application of usability techniques could reduce this requirement.

The two fields share many characteristics:

- Both are optional extras (although the work of the technical communicator results in a more tangible product in the form of paper or online documentation)
- The need for both is often identified too late (‘we’ve built this system, and we just need a week to do the documentation/usability’)
- Both inhabit the same space at the interface between the world of the engineer and the real world
- Practitioners in both fields are very good at complaining about design decisions made elsewhere.

The technical communicator as usability consultant

Very often, the technical communicator is the first real person to attempt to use a system. (For our purposes, a ‘real person’ is one who has to actually use a system.)

Many technical communicators are de-facto usability consultants. They are in a good position to provide feedback on design flaws to the development team. However, this role many only be available if there is sufficient time, and crucially, if the project team is open to such feedback.

In fact, technical communicators are often very well placed to provide such feedback. They are generally respected (or at least tolerated) by technical and design personnel, who perceive that there is a need for their services.

In ideal situations, technical communicators are engaged early in the product development, and are consequently in a position to have an influence on design decisions.

Technical communicators are therefore well placed to implement usability by stealth.

However, most projects are cost-driven, and engaging in usability commentary may be well outside the scope of the technical communicator’s brief.

In the worst case scenario, technical communicators can be a force for evil, because if they have given a fixed-price commitment, they may be in a position to enforce design freezes even though significant usability flaws exist.

Existing skills

Technical communicators often have many of the skills required by usability professionals.

The ability to write should not be underestimated. Many usability professionals are poor writers, and therefore have difficulty in communicating their findings and recommendations.

Of necessity, technical communicators tend to have good analysis skills. They are used to approaching a new product or environment with little or no background knowledge, to absorbing large quantities of new information, and to identifying the salient information in large sets of data (such as user profiles, requirements documents, specifications and the like).

Technical communicators also tend to be familiar with applicable standards, such as style guides and interface design guidelines.

They are also generally comfortable dealing with both technical and non-technical people, since they gather data from the former in order to communicate with the latter.

They tend to have the diplomatic and political skills to be able to remain impartial, particularly when bearing bad news about an interface to the development team.

Over and above all these specific skills, the technical communicator has (or should have) an affinity with the eventual users of a product or system. The technical communicator is inherently user-centred.

It is unfortunately the case that on many projects, technical communicators are not afforded the opportunity to interact with real users.

New skills

There are several skills that technical communicators may not have, or may not have sufficiently developed.

During analysis, it's necessary to spend time with real people. The ability to listen to them, to learn about their work and their issues, and to distil this information for the benefit of the design team is crucial. Techniques for interviewing users and conducting contextual enquiries are described by Beyer and Holtzblatt [1]. A one-page summary of the technique is also available from Information & Design [2].

During evaluation, the ability to conduct expert usability reviews (heuristic evaluation) is important. This activity is fraught with the potential to be highly subjective, and it's necessary to have a good method for conducting such reviews. To some extent, this comes with experience; and particularly from experience observing real people use real systems. Most practitioners also use a checklist when conducting this activity. An example of such a checklist (for web evaluation) is available from Information & Design [3]. Jakob Nielsen has also written several articles on usability heuristics [4].

The ability to conduct usability testing is also important. At first, this may seem somewhat daunting. However, in practice it is quite straightforward, provided it is approached in a methodical fashion. Rubin has written an excellent and practical book on this subject [5]. Information & Design has a one-page description of the technique [6].

It is perhaps in the design area that technical communicators are most likely to need to develop new skills. In my experience, many technical communicators are much stronger on verbal skills than on visual skills.

I have no magic formula for developing such visual skills. Mullet and Sano are excellent on the visual aspects of interface design [7], and Edwards is an excellent resource for learning to draw [8].

In my experience, one of the most exciting and fun activities in usability is facilitating design workshops. This can be very daunting and challenging, but the benefits are usually very great. Information & Design has a one-page description of one technique [9].

Good presentation skills are also required, particularly when trying to sell projects on the benefits of usability, and when presenting results that may be unpalatable. One of the best ways to develop presentation skills is to have someone critique your performance.

Various techniques are described at the Information & Design website. Visit www.infodesign.com.au/usability/toolkit.html, where you can also enter your email address to be notified of updates.

The future

Usability is gaining acceptance in the technical community.

In particular, the advent of the Web is forcing designers to build systems that can be used by ordinary people.

Computing power is cheap, and staff time is expensive, so organisations are seeing the benefits of providing their staff with efficient systems.

In addition, I believe there is a groundswell of opinion that technology is unacceptable if it is difficult to use. After all, technology is supposed to improve our lives, not make them harder.

A well-designed system requires less documentation than one that is poorly designed. In some ways, the move towards usability could be seen to present a threat to the technical communication community. However, I do not believe this is the case.

The terms ‘interaction design’ and ‘customer experience design’ are also becoming increasingly common, and there are factions and adherents in various camps.

Eventually, usability must become an inherent part of the design process. It is simply nonsensical to turn out systems that are unnecessarily difficult to use.

Technical communicators are well positioned to add a usability string to their bows, and this can benefit not only themselves, but society at large.

Suggested reading

[1] 'Contextual Design: A Customer-Centered Approach to Systems Designs'. Hugh Beyer and Karen Holtzblatt. Morgan Kaufmann Publishers; ISBN: 1558604111

[2] 'Contextual Enquiry'. Gerry Gaffney.
www.infodesign.com.au/usability/contextualenquiry.html

[3] 'Web Evaluation Checklist'. Gerry Gaffney.
www.infodesign.com.au/usability/webevaluation.html

[4] Jakob Nielsen's Website. www.useit.com

[5] 'Handbook of Usability Testing: How to Plan, Design, and Conduct Effective Tests'. Jeffrey Rubin. John Wiley & Sons; ISBN: 0471594032

[6] 'Usability Testing'. Gerry Gaffney.
www.infodesign.com.au/usability/usabilitytesting.html

[7] 'Designing Visual Interfaces: Communication Oriented Techniques'. Kevin Mullet and Darrell Sano. Prentice Hall; ISBN: 0133033899

[8] 'The New Drawing on the Right Side of the Brain'. Betty Edwards. J P Tarcher; ISBN: 0874774241

[9] 'Participatory Design Workshops'. Gerry Gaffney.
www.infodesign.com.au/usability/participatorydesign.html