Abstract

This dissertation explores the kind of problems users encounter when working with computers, and describes cost-effective activities to support users better. The goal is to make users benefit as much as possible from the applications they have and use to accomplish their work. The starting point is existing operational software and how this can be utilized better without changing software.

Concepts

- *Use-problem* is something that hampers the user in his task or a situation where the system could have served him better. This far goes beyond defects in that it also covers the small annoying problems users experience.
- The operational systems constitute the *IT services* used to carry out some task. *IT-support* is the organization responsible for reliable availability of the IT services and assistance to users.
- *Software maintenance* addresses use-problems through changes of the software. This is, however, in many cases not possible and other methods must be applied to help the users.
- *User-support* denotes all the processes, except software maintenance, to assist users utilizing the IT services.

State-of-the-art

The fact is that users do encounter a substantial amount of problems working with computers. Furthermore often they do not use the full potential of the available systems or do not operate it in an optimal way. The state of the art is to provide a *service desk*, where the users can report problems and get some assistance. Service desks report that the number of calls per user is increasing. There are, however, many reasons for the user not to report a problem: the user asks a colleague for a solution, ignores the problem because it does not prevent the user from completing the job, or the user wastes some time experimenting to find a solution. On top of these recognized problems are situations where the user could have operated the system more efficiently or benefited from some function unknown to the user. Hence, the total volume of problems is much larger than what can be seen from the service desks.

Improvement potentials

There are two obvious approaches to improve the use of computers:

- Find the non-reported problems and address them as well as the reported ones.
- Prevent problems from recurring at all or identify them before the users encounter them.

Additionally a better understanding of the nature of the problems would enable IT-support to provide a better and more targeted support.

An ideal user-support process

The dissertation presents a model for ideal user-support. The process description explains a series of activities to reveal some of the potential improvements and to

prevent some of the problems. It is for instance targeted improvements of user training and documentation, tailoring of applications to meet the needs of the users better, or supervision of components to take action on problems before they cause any trouble to users.

Cost-benefit

In the dissertation I compare the ideal model to what operational organizations do today. This demonstrates that there is room for improvement. Examples from real life are used to examine the cost-benefit of such improvement initiatives. It turns out that some improvements are not relevant to implement, but there are several cases where small investments bring sustained improvements to the users and therefore large benefits repeated over time.

Do better

My finding is that in several ways user-support can be improved. The final chapter, hence, is a list of proposals on how to .