

# Tools and Techniques

## Introduction

The following section provides an introduction to a variety of design tools and techniques which are likely to be of value to the AT developer and which will assist in using the USERfit methodology. Introduction to a range of tools is provided, which can be used to improve the usability of product design. Only a brief introduction to these techniques has been possible in this manual, and the interested reader should seek additional sources of information for more complete descriptions of the approaches. A number of these are listed as references at the end of each section and in addition the Further Information section of this manual provides a list of useful contacts.

A number of tools are described which can be used in different phases of the design cycle and for different purposes. For example, inter-view based techniques may be used for both identifying users requirements for products in the analysis phase of design, but may also be used as part of the evaluation process. Figure 1 provides an overview of the tools included and the most likely phases of design that they might be applied.

Each section follows a common format, which includes an overview of the tool and when to use it, and any special considerations that need to be taken into account for different disability groups. Practical procedures for using the tools are also described, and examples of the tools usage given. The reader is also directed to further sources of information, which includes source reference material and documented use of the tools in AT design.

Figure 1

USERfit tools for data capture at each design phase

<b>Problem Definition</b>	<b>Analysis/Specification</b>	<b>Testing</b>
■ User mapping <i>p3</i>	▲ Task analysis <i>p19</i>	◆ User trials <i>p97</i>
■ Brainstorming <i>p11</i>	▲ Direct observation <i>p33</i>	◆ Direct observation <i>p33</i>
	▲ Activity Diaries <i>p53</i>	◆ Questionnaires <i>p59</i>
	▲ Questionnaires <i>p59</i>	◆ Interviews <i>p71</i>
	▲ Interviews <i>p71</i>	◆ Group discussions <i>p79</i>
	▲ Group discussions <i>p79</i>	◆ Field trials <i>p115</i>
	▲ Empathic modelling <i>p91</i>	◆ Expert opinion <i>p45</i>

The reader should be aware that the sections only provide a brief introduction to the use of the tools or techniques, and some expertise is likely to be needed to apply many of these. If in doubt the reader should consult experts in this field. The developer wanting to try these techniques out for themselves would also be wise to pilot their usage before using them in earnest in their design activities. This is also good advice to follow in all cases where specific materials are being developed for use with users. For example it is common practice for researchers developing standard questionnaires or interview material to try out these materials on colleagues or a small sample of their intended users, to ensure that ambiguous questions are avoided and the questions given are likely to be understood. This is not a sign of weakness rather it is good design practice !

Special mention should also be made of the use of task analysis in design, as this is by far the most specialist of the techniques described. Performing a detailed task analysis requires experience and skill, and a great deal of practice is normally needed in order to be confident in its use. This is not to say that a developer should not explore using task analysis for themselves, but as with many other tools and techniques some caution is needed. Even if it is decided not to perform a detailed task analysis the concepts discussed in the section are likely to be useful in assisting the developer to think about activities in an organised way.

The reader should not be afraid to explore using the concepts discussed in these sections in the way that seems the most reasonable to them, as in our experience most people using design tools modify them to suit their own requirements. From this perspective the details of how to use a specific tool are less important than a general understanding of the reasons for using them, and the sections on tools and techniques should be viewed in this light.