

process. There are many different ways of achieving this: for example, through observing users, talking to them, interviewing them, modeling their performance, asking them to fill in questionnaires, and even asking them to become co-designers. The findings from the different ways of engaging and eliciting knowledge from users are then interpreted with respect to ongoing design activities (we give more detail about all these aspects of evaluation in Chapters 13 to 15).

Equally important as involving users when evaluating an interactive product is understanding what people do. Chapters 3, 4, and 5 explain in detail how people act and interact with one another, with information, and with various technologies, together with describing their abilities, emotions, needs, desires, and what causes them to get annoyed, frustrated, lose patience, and get bored. Such knowledge can greatly help designers determine which solutions to choose from the many design alternatives available, and how to develop and test these further. Chapter 10 describes how an understanding of people and what they do can be translated to requirements, while Chapters 9 and 11 discuss how to involve users effectively in the design process.

A main reason for having a better understanding of people in the contexts in which they live, work, and learn is that it can help designers understand how to design interactive products that will fit those niches. A collaborative planning tool for a space mission, intended to be used by teams of scientists working in different parts of the world, will have quite different needs from one targeted at customer and sales agents, to be used in a furniture store to draw up kitchen layout plans. Understanding the differences between people can also help designers appreciate that one size does not fit all; what works for one user group may be totally inappropriate for another. For example, children have different expectations than adults about how they want to learn or play. They may find having interactive quizzes and cartoon characters helping them along to be highly motivating, whereas most adults find them annoying. Conversely, adults often like talking-heads discussions about topics, but children find them boring. Just as everyday objects like clothes, food, and games are designed differently for children, teenagers, and adults, so interactive products should be designed for different kinds of user.

Learning more about people and what they do can also reveal incorrect assumptions that designers may have about particular user groups and what they need. For example, it is often assumed that because of deteriorating vision and dexterity, old people want things to be big – be it text or graphical elements appearing on a screen or the physical controls, like dials and switches, used to control devices. This may be true for some old people, but studies have shown that many people in their 70s, 80s, and older are perfectly capable of interacting with standard-size information and even small interfaces, e.g. cell phones, just as well as those in their teens and 20s, even though, initially, some might think they will find it difficult (Siek *et al*, 2005). It is increasingly the case that as people get older, they do not like to consider themselves as lacking in cognitive and manual skills. Being aware of people's sensitivities is as important as knowing how to design for their capabilities.

Being aware of cultural differences is also an important concern for interaction design, particularly for products intended for a diverse range of user groups from different countries. An example of a cultural difference is the dates and times used in different countries. In the USA, for example, the date is written as month, day, year (e.g. 05/21/15) whereas in other