

Teaching Participatory Design Skills

Early in the design process, the designer engages in analysis activities that provide an insight into the user's conceptual model or mental model of the tasks for the system that is being targeted for development [Liddle]. Mental models are cognitive artifacts that are created as we interact with our environment that we use as a dynamic representation or simulation of our world [Johnson-Laird]. These models "provide predictive and explanatory power for understanding the interaction" [Norman 83]. Norman [Norman 83] distinguishes between a conceptual model, which is a reasonably accurate and consistent representation of the target system, and a mental model which is the user's cognitive representation of the target system. If the designer can devise the conceptual model in ways that reflect a user's mental model, then the application designed from the conceptual model will be more easily understood and fit more naturally into the user's activities [Norman 88].

Passive observation of a user's activities is the least intrusive analysis method, and, therefore, is the least disruptive. Yet, this approach is limited in providing insights into the user's activities. Much of the thought process the user is going through is not verbalized. Actions or gestures may not have apparent meanings to the observer and so are left open to a biased interpretation. Some HCI methodologies have adapted ethnographic techniques from anthropology that supplement passive observation with interviewing and participation [Muller and Kuhn; Simonsen and Kensing; Rose, Shneiderman, and Plaisant; Huges, O'Brien, Rodden, et al.; Huges, King, Rodden, Anderson]. The ethnographer develops insight by putting him or herself into the situation they are trying to learn about. Data from a variety of sources, such as annotations, interviews, and video, is compiled. The ethnographer interprets this data from the context of the situation, trying to construct an understanding from the user's point of view [Simonsen and Kensing]. The variety of sources allows the researcher to validate the conclusions drawn from the mass of collected data [Rose, Shneiderman, and Plaisant].

While this approach provides a data rich environment for design, it is important that it be skillfully applied. The risk of misinterpreting observations, disrupting normal practice, and overlooking information is high [Shneiderman]. Validated ethnographic methods have established guidelines for performing the user study, analyzing the data, and reporting the results [Rose, Shneiderman, and Plaisant]. Like other notable areas of computer science, these are skills that must be experienced and practiced to fully learn their potential as well as their theoretical underpinnings [Roberge, Surviano, Clarke, Fekete, and Greening]. This is one of the main goals of this project, to provide the curriculum for an experiential learning environment for this important aspect of HCI in designing useful and usable applications.

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