

## Usability Assessment Methodologies

Method	When to Use	Number of Users Needed	Advantages	Disadvantages
<b>Formal Usability Testing:</b> Tests how a user interacts with a system using a list of pre-defined tasks. Participants are asked to "think out loud" about their thoughts, reactions and feelings.	Anytime -- new system, new features, when in doubt	5-12	Provides an opportunity to see actual users as they use the system or site.	--May be difficult to totally test a complex system. --Time consuming to organize the first time
<b>Automated Sessions:</b> Automated form of formal usability that uses software to conduct test sessions and collect data.	Anytime.	Minimum of 5	Automates much of the data collection.	Requires specialized software.
<b>Walk-Up Kiosk:</b> A booth with a computer that allows users to interact with a system.	Anytime, especially when a new module or functionality is introduced.	Minimum of 12	--Provides an opportunity to record user paths as they use the system --No selection of participants	--Results may not reflect user population. -- No structure so may be hard to compare data from different users
<b>Field Study:</b> Observation of users as they carry out normal tasks. This is done in their natural environment, ie. office, or home.	When system or prototype is in operation	Minimum of 5	Provides an opportunity to see actual users as they use the system or site in their own environment.	No structure; so may be hard to compare data from different users
<b>Card Sort:</b> Tests the structure of a system using index cards, each representing an individual concept or web page. Participants arrange the cards in a structure that makes sense to them.	Best early in the design to assure that the structure reflects the way users logically organize items, but can be done at any stage.	At least 10 but best with a minimum of 20 users	--Shows how users would organize and name the information on a system or site. --Easily expandable to fit any size of system or site. --Easy to conduct.	Difficult to analyze the results with small number of users.
<b>Category Membership Expectation:</b> Tests the participants' understanding of various categories including what they think should be in each category and what the category should be named.	Best if done early in the design but can be done at any stage.	Minimum of 5 users	--Identifies jargon --Shows what users would include under a particular link. --Easy to create and conduct	Requires a great deal of writing and effort for the participants
<b>Cognitive Walkthrough:</b> Designers of the system try to predict users' actions by doing actual tasks themselves.	Early in the design process	None	--No users need be recruited. --Great place to start.	Uses experts/designers instead of real users

Method	When to Use	Number of Users Needed	Advantages	Disadvantages
<b>Focus Groups:</b> A small group of individuals discuss their opinions and ideas on the system.	Anytime	--6-9 per group --Meet with groups until feedback becomes repetitive	--Allows for spontaneous reactions from participants and an opportunity to observe group dynamics --People can "play" off one another --More qualitative feedback	--Takes time to recruit participants and schedule sessions. --A few people may dominate the conversation --Should have a facilitator who is uninvolved with the research
<b>Questionnaire:</b> A set of questions designed to collect responses and opinions from users.	Anytime	--Varies --Good for large groups	--Can get feedback from a large group very easily. --Easy to conduct.	Writing an effective questionnaire takes skill
<b>Site Usage Logs:</b> Analysis of web server logs to track users' movements on a web site.	Regularly	None	--Information is usually already available for use.	--Takes time and care to interpret the data. --Can only provide you with specific, narrowly-defined data
<b>Heuristic Evaluation:</b> Evaluators analyze the interface of a system based on a set of usability principles.	Can be done at any stage of the iterative design process	None	--No users need be recruited. --Experts/designers may reflect use of expert users. --Assures adherence to universal principles	Uses experts/designers instead of real users
<b>Interview:</b> Semi-structured conversation with an individual user about the system being tested.	Anytime	Varies	Opportunity for individuals to provide extensive feedback	--No actual use of the system --Users are providing their opinions
<b>Opinion Polls:</b> Designed to get feedback from users on a specific topic. Often only one question long.	Anytime, especially when trying to decide whether to introduce new functionality	Enough for statistically accurate sampling of user population	--Quick way to illicit feedback. --Can be done in a variety of ways and at anytime in the design process.	Evaluation of results may be difficult. --Not based on actual system use