

The U.S. Bureau of the Census collects general demographic and economic information, using censuses and surveys. Replies obtained from individuals and establishments are used to compile general statistics.

Surveys are done either using paper or software forms. In some cases, the respondent uses the web to respond to a survey. In other cases, an interviewer uses software to conduct an interview over the telephone or in person. Whether paper or software forms are being used, both have to meet high standards in terms of comprehensibility, accessibility and clearness. A big jump ahead in the research for improving survey tools was made when a new usability lab was introduced in the Center for Survey Methods Research. The lab consists of three test rooms, one observation room and an editing room. The picture shows the observation room, which is separated from the test rooms by walls with windows.

During an exploratory usability test, the test subjects are observed while completing a questionnaire. The behavior is recorded on video and analyzed afterwards, using The Observer Video-Pro. As most test subjects tend to think out loud during the tests, sound is also recorded. When software forms are being used, screen captures of the test PC are also recorded. The combination of video, audio and observational data gives a good view of where test subjects got stuck and which parts of a survey are not clear. During confirmatory usability tests, test subjects work quickly and accurately to complete pre-specified tasks. The Observer Video-Pro is used to measure time-on-task and to note correctness. The software generates reports with a summary of all tasks performed by the test subjects, thus offering an easy way of comparing the results of different persons and different applications.



The picture shows two of the three identical setups in the observation room. Main components of each setup are:

- A PC with the same view as the test subject (this one is only used when software forms are being tested). The keyboard on the front can be used to control the PC in the test room.
- Audio equipment
- A video monitor that shows the image of the camera mounted on the ceiling of the test room. This camera can also be used to zoom in on a paper form, so it is possible to register exactly what the test subject is doing.

- Several other video monitors that are used to display the recordings of a camera mounted in the corner of the test room and the output from the video mixer.
- Three digital VCRs, recording the images from the cameras in the test room and the mixed image. The mixed image also includes the screen capture of the test PC.
- A PC with LCD screen, on which the observational data logging software is installed. The keyboard is used for event logging.

The main advantage of the new lab compared to the old one, which dated from 1988, is that it is now possible to log and time the tests, and, subsequently produce video highlights where in the old lab only notes on paper were taken during testing and from the videotapes. This improves the quality of testing and thus the quality of the surveys.

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