

Usability Study: Autodesk

Problem

Our test evaluated the usability and quality of the help systems of the AutoCAD 2006 help systems, focusing on the New Features Workshop and the Info Palette.

First, we conducted an evaluation of the help systems based on heuristics and experience to predict problems that users may have with the help system. After our evaluation of the help system, we made predictions on what problems the participants would encounter. Our predictions were that:

- Users will not understand the relationship between the traditional help, New Features Workshop, Info Palette, and Quickstart links.
- The New Features Workshop does not provide enough constructive information for users to complete a task.
- The content accessed through the Quickstart links will not match users' expectations.
- Users will not be able to find information they are looking for if they don't know the specific name of a feature.
- Users will not leave the Info Palette open.

Background

In their current form, no single help system in AutoCAD 2006 can answer a user's questions about a feature of the software. Autodesk believes that users will view the New Features Workshop, Info Palette, and traditional Help as components of an integrated help system. When viewed in combination, the help system should provide a comprehensive overview of AutoCAD features along with constructive information on using those features. However, this view may not be realistic. For example, when a user is working with a new feature such as sheet sets the user will see a Quickstart link stating, "Learn more about Sheet Sets." When the user clicks on this link, they are taken to the NFW, which provides conceptual information about Sheet Sets. While it provides some constructive information, it is not detailed or complete.

Both the testing team and Autodesk staff predicted that this might be confusing for the user because they are probably expecting constructive information. When users are trying to complete a new task for the first time, they often do not read conceptual information; instead, many users are "driven to be productive, to learn by doing, not by reading" (Barnum 108). The idea of "minimalism" for adult learners is based, in part, on the belief that "Users want to be actively involved in learning right away" (Barnum 111). Van der Meij states, "The ultimate goal of the user of a manual is always doing.... Users attend to procedural information almost three times as often as they attend to conceptual information" (212). In addition, if the content behind the Quickstart link does not match the user's mental model, they will likely feel frustrated. We know that "When objects communicate logically, intuitively, and consistently, users experience a high degree of success with the match to their mental models. When they do not, users are frustrated, frequently blaming themselves for failing to understand" (Barnum 109). We predicted that if users click on the Quickstart link hoping to find constructive/procedural information so they can start "doing," but find conceptual information, they will likely become frustrated.

When users consult a Help system they are often in "reading-to-do mode," meaning they are consulting the information to complete a task or solve an unexpected problem (van der Meij 212). This is even more important for expert users, who need and want just enough information to get them started; the focus of information for this population should be on completing a task (Barnum 112). Even when users are in

“reading-to-learn-to-do mode,” they still only want information to help them do their work. However, in both modes, users “need conceptual as well as procedural support and not just one of the two” as in the Dynamic Blocks section of the New Features Workshop (van der Meij 212). For this reason, we predicted the information provided in the Dynamic Blocks section of the NFW might be appropriate as presented.

Another example of an AutoCAD Help system is the Info Palette. To find information about a task in this system, users must know the name of what they are trying to do (such as Sheet Sets). If users are familiar with the terms used in the Help system, they should have no trouble searching with the appropriate term. However, we suspected that not all users would be familiar with the Autodesk terminology, meaning they would not know which terms to look for. Barnum states, “If the help topics are categorized by the features of a tool and not by the tasks that users want to accomplish, help will not be helpful, because the terminology of the tool is unknown to the user” (109).

Research Questions

Goals

This usability test of the AutoCAD help systems gathered quantifiable data addressing Autodesk’s concerns about the usability of the many AutoCAD help systems. We assessed participants’ ability to use the help systems to complete challenging tasks in AutoCAD. While participants performed these tasks, we collected information on how they use or expect to use the AutoCAD help system. We were particularly interested in if and how participants interacted with the Quickstart links, the New Features Workshop, and the Info Palette.

Objectives

The purpose of the test was to:

- Identify how users perceive the relationship between the parts of the suite of help systems.
- Determine where users go for help when they are trying to complete a new task.
- Determine how users predict the content behind Quickstart links.
- Determine whether users can obtain adequate information from the NFW or Info Palette to complete a task.
- Compare the content of the NFW and Info Palette to determine which results in higher performance for participant tasks.

Test Questions

General

- What help systems do users go to first when they need help?
- Will users look beyond the obvious “Help” option in the Help menu and explore other sources of help?

Quickstart Links

- Will users find and access the Quickstart links?
- What type of information do users expect when they select a Quickstart link?
- If users select the Quickstart links and fail to get necessary information, will they seek further help from other sources?

New Features Workshop (NFW)

- Can the users find the NFW?
- Does the NFW provide the type of information users expect? Need?
- Where will users go if they cannot find what they need in the NFW?

Info Palette

- Can the users find the Info Palette?
- Will users keep the Info Palette easily accessible?
- Does the Info Palette provide the type of information users expect? Need?
- Where will users go if they cannot find what they need in the Info Palette?

Method

In response to Autodesk's request for usability testing of the help systems in AutoCAD 2006, we performed a formal usability test with participants who were representative of product users. We tested six users with varying levels of experience—two novice, two intermediate, and two advanced.

We conducted our test in two separate usability labs. We observed the participant from another room while they completed a range of tasks using functionality new to AutoCAD 2006. Testing new functionality forced participants to use the help systems rather than rely on previous experience.

Findings and Recommendations

The test results and post-test interview revealed several strengths and weaknesses in the help systems, as detailed in this report. The following table briefly reviews the most significant usability problems and gives our recommendations for addressing them.

Problem	Severity	Recommendation
1. General		
1.1 Help systems are not linked together.	Severe	Create a central location for all help. Resizeable palette with multiple tabs that users can dock, roll up, or alt-tab to access as a separate window.
1.2 Traditional Help provides conceptual information first when most users want procedural information first.	Moderate	Traditional Help should start with a list of procedures. Have option to click on animations or conceptual information.
1.3 Users want the information in traditional Help and the NFW but will not visit more than one help system.	Moderate	Create a central location for all help.
2. Quickstart Links		
2.1 Users assumed that the information they found using a Quickstart link was all the information available on that feature.	Moderate	Have Quickstart links take the user to the central location for the help system. However, until that complete system is designed, the Quickstart links should take users to the constructive information in traditional Help.
3. New Features Workshop		
3.1 Graphics were hard to see and text was too small to read.	Severe	Create better quality graphics and text.
3.2 Speed of animations was too fast for some and too slow	Moderate	Enable users to control pace of animations and to access specific sections within an animation by selecting from a list of

for others.		steps.
3.3 Animations were too complex.	Severe	Simplify animations to show only one concept at a time.
3.4 Users could not work in the drawing window while viewing the procedural animations.	Severe	Enable users to view the NFW as a floating window that can be docked or rolled up.
4. Info Palette		
4.1 Users found “No procedures for this topic.”	Severe	Create a central location for all help so that all features have procedural information when available; provide link to conceptual information.
4.2 Users could not find the Info Palette.	Severe	Create a central location for all help.
4.3 Users could not use the Info Palette without knowing a command.	Severe	Include search and index options within the centralized help system that can be docked and rolled up.

Competencies

This project meets competencies 1, 2, 3, 11, and 13. A description of how this project meets these competencies is included below.

1. Take a systems view.

To plan for and conduct this usability study of Autodesk’s help systems, we had to understand the larger context of the Autodesk company. This included interviewing our clients, Autodesk staff members, and several Autodesk users.

2. Use cycles of reasoning as tools for problem solving.

To conduct the research for this usability study, we used appropriate research techniques, including developing research questions, developing predictions, designing a research plan and method, and conducting the research with various Autodesk users. We designed an experiment in which the participants would complete three scenarios using AutoCAD 2006. The scenarios required the participants to use functionality that would be unfamiliar to them to increase the likelihood that they would seek help. Then we conducted the study with six participants.

3. Promote collaboration, partnerships, and relationships for full inclusion with stakeholders, clients, subject matter experts, team members, etc.

The planning, development, and implementation of this usability study required extensive collaboration with subject matter experts, our clients, study participants, and team members. We held interviews with our clients, subject matter experts, and study participants; coordinated with study participants to create a comfortable and appropriate testing environment; and held numerous team meetings to plan the study and evaluate our results.

11. Evaluate effectiveness of programs, products, or practices

The entire purpose of this usability study was to evaluate the effectiveness of the AutoCAD 2006 help systems. This study was designed to offer recommendations for improvement for future AutoCAD versions.

13. Utilize research methods to investigate a learning or performance problem, issue, or trend.

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