The Making of Knowledge Navigator

We made the Knowledge Navigator video for a keynote speech that John Sculley gave at Educom (the premier college computer tradeshow and an important event in a large market for Apple). Bud Colligan who was then running higher-education marketing at Apple asked us to meet with John about the speech. John explained he would show a couple examples of student projects using commercially available software simulation packages and a couple university research projects Apple was funding. He wanted three steps:

1. what students were doing now
2. research that would soon move out of labs, and
3. a picture of the future of computing.

He asked us to suggest some ideas. We suggested a couple approaches including a short "science-fiction video." John choose the video. Working with Mike Liebhold (a researcher in Apple's Advanced Technologies Group) and Bud, we came up with a list of key technologies to illustrate in the video, e.g., networked collaboration and shared simulations, intelligent agents, integrated multimedia and hypertext. John then highlighted these technologies in his speech.

We had about 6 weeks to write, shoot, and edit the video—and a budget of about $60,000 for production. We began with as much research as we could do in a few days. We talked with Aaron Marcus and Paul Saffo. Stewart Brand's book on the "Media Lab" was also a source—as well as earlier visits to the Architecture Machine Group. We also read William Gibson's "Neuromancer" and Verber Vinge's "True Names." At Apple, Alan Kay, who was then an Apple Fellow, provided advice. Most of the technical and conceptual input came from Mike Liebhold. We collaborated with Gavin Ivester in Apple's Product Design Group who designed the "device" and had a wooden model built in little more than a week. Doris Mitch who worked in my group wrote the script. Randy Field directed the video, and the Kenwood Group handled production.

The project had three management approval steps:

1. the concept of the science fiction video,
2. the key technology list, and
3. the script.

It moved quickly from script to shooting without a full storyboard—largely because we didn't have time to make one. The only roughs were a few Polaroid snapshots of the location, two sketches showing camera position and movement, and a few sketches of the screen. We showed up on location very early and shot for more than 12 hours. (Completing the shoot within one day was necessary to stay within budget.) The computer screens were developed over a few days on a video paint box. (This was before Photoshop.)

The video form suggested the talking agent as a way to advance the "story" and explain what the professor was doing. Without the talking agent, the professor would be silent and pointing mysteriously at a screen. We thought people would immediately understand that the piece was science fiction because the computer agent converses with the professor—something that only happened in Star Trek or Star Wars.

What is surprising is that the piece took on a life of its own. It spawned half a dozen or more sequels within Apple, and several other companies made similar pieces. These pieces were marketing materials. They supported the sale of computers by suggesting that a company making them has a plan for the future. They were not inventing new interface ideas. (The production cycles didn't allow for that.) Instead, they were about visualizing existing ideas—and pulling many of them together into a reasonably coherent environment and scenario of use. A short while into the process of making these videos, Alan Kay said, "The main question here is not is this technology probable but is this the way we want to use technology?" One effect of the video was engendering a discussion (both inside Apple and outside) about what computers should be like.

On another level, the videos became a sort of management tool. They suggested that Apple had a vision of the future, and they prompted a popular internal myth that the company was "inventing the future."