
Computer Technology in Low Vision Rehabilitation

OVERVIEW OF TYPES OF ELECTRONIC ASSISTIVE DEVICES AND APPLICATIONS

Case Study 1

The train was late. Dan quickly checked the time and then advanced to the next e-mail on his phone. A flurry of e-mails always seemed to descend from the Internet the day before a critical meeting. Fortunately, like his sighted colleagues, Dan had his e-mails on his smart phone and started reviewing the messages on the train, except he used earphones. Dan could recall just a few years ago when only people with vision disability had personal organizers that read aloud e-mails and messages. Now with the advances in smart phone technology, even sighted people and people with other disabilities have this technology. Dan was a little concerned, however. His coworkers all knew that they should correspond with him by e-mail, messages, or telephone and describe charts and graphs in e-mails so that he could easily process the information, but Dan expected a bundle of printed material from another office. As he entered his office, he gratefully noticed the office secretary

snapping and storing images into his electronic magnifier (EM, formerly called a closed-circuit television, or CCTV) that was also connected to the computer. He now could read the memos that had just been scanned into it.

By habit, Dan arrived 10 minutes before the meeting began. He no longer did so to ensure seating close to the projection screen, because he now had a portable device. He used the extra time to hook the camera up to his notebook computer and point it at the projection screen so that he could also see a magnified view on the screen of his laptop. As an additional advantage, Dan could perform screen captures, allowing him to review more complicated graphics later. When the CEO arrived, she handed him the meeting agenda. Dan flipped the camera attached to his notebook down toward the document on the table, refocused it, and photographed the memo to display and magnify it on his notebook screen with enhanced contrast. When the meeting began, Dan was ready.

Dan could be any young rising executive. Thirty years ago, someone with juvenile macular degeneration and a maximum visual reading rate of 80 to 100 words per minute (wpm) would not have been able to keep up with the paperwork required of someone in Dan's position. Today, with electronic assistive devices, a person with low or no vision can read using text-to-speech technology and process