

Software allows disabled to work on computers

May 13 2009, By Mike Cassidy

For Christine Bakanoff-Adams and Gloria Kaswen too much of life has been about loss. Losing vision. Losing the use of their legs, then not being able to use their arms and ultimately not being able to work their hands.

Bakanoff-Adams, 35 of Capitola, Calif., says she showed the first symptoms of [multiple sclerosis](#) at age 9. Kaswen, 55 of Watsonville, Calif., was in her early 20s when she was first told she had MS. Symptoms would come and go until they just kept coming one after another without remission.

"Each time it makes me sad," Kaswen says of the setbacks. "I went through a mourning, grieving period for about 10 years before I got to where I am emotionally."

But the two women have something in common besides MS -- something that is helping them get something back, something that is about gaining something new.

Both Bakanoff-Adams and Kaswen were referred by therapists at Dominican Hospital in Santa Cruz, Calif., to Jon Bjornstad, an independent software consultant in town who has built a remarkable program that allows quadriplegics to use a computer to do the things many of us do without a second thought.

Bjornstad sees software as an art form. He believes carefully crafted

lines of code can possess the power to transform lives..

"I'm an artist," says Bjornstad, a studious-looking 59-year-old. An artist who writes code because it brings him joy. His masterwork is something he calls Sue Center, named for Sue Simpson, a paralyzed woman whom Bjornstad volunteered to help with technology issues in the 1980s. Bjornstad was eventually inspired to come up with his own software solution to her tech travails. Simpson has since died, but Bjornstad has continued to improve Sue Center, www.suecenter.org, and evangelize for his complex program. He says he's written more than 15,000 lines of code in the Perl programming language to date and more improvements could be coming.

Yes, there are other programs that will do some or all of what Bjornstad's does. But his has one big difference: He gives the [software](#) away for free. He set up both Bakanoff and Kaswen with his program. He provided tech support and still consults with them on a regular basis to keep things running smoothly. Sue Center relies on a small camera tracking a reflective dot worn on the user's forehead. When a user moves her head, the cursor glides across the screen. Holding the cursor over commands, letters and icons has the effect of clicking on the item.

Sue Center allows users to create text documents; send e-mail; request photographs, jokes, horoscopes, weather reports and news from the Web. Users can play MP3s, store photos, make phone calls using Skype. It can serve as a television remote or as an on-off switch for electrical appliances.

"It's just made me very, very open to the world," says Bakanoff-Adams, a single mother of a 13-year-old daughter. Before she started using Sue Center about 2 years ago, she would sometimes sit watching the same television channel all day. Now she can change the station at will. Or better yet, she can send e-mail or read notes from her daughter's teachers

or listen to Gordon Lightfoot (a favorite) -- all without asking for help.

Kaswan, a Sue Center user since 2005, barely knows where to start when praising the program. She can read the Bible for her Bible study group and listen to Mozart. Yes, she's a big e-mailer and especially likes the fact that she can send short notes during the day to her husband, the CEO of a Watsonville company that makes shock absorbers for racing vehicles.

Best of all, she can maintain her privacy. No more does she have to dictate her letters to someone else, or have a third person read to her the notes that others have sent.

"Having some control over my thoughts and communication is in fact very important, because I don't have control over anything else," says Kaswan, the mother of two grown sons.

It's that sort of user satisfaction that keeps Bjornstad going, even if his program has hardly gotten wide distribution. In fact, he knows of only three people currently using the program. Part of that is because it takes some expertise to set up and support. (Bjornstad says any decent system administrator could handle it.)

Steve Jacobs, an Ohio entrepreneur specializing in accessible technology for the [disabled](#), says it's not the number of users that makes Sue Center so significant.

"Jon has injected his heart and soul into developing this and he's giving it away for free," says Jacobs, who called Bjornstad on behalf of an MS patient in his area. "To get a sophisticated system like this would cost anywhere from \$2,000 to \$10,000."

In fact, Bjornstad says, it's not about numbers. It's about how much Sue

Center changes the lives of the few who do use it.

And on that count, it's apparent that Bjornstad is doing very well indeed.

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