The disabled students who use adapted computer technology are as varied and diverse in their academic, social and personal goals and aspirations as any other student group on a college campus. Many are highly motivated individuals who have a clear vision of their future and advance resolutely towards it. Others move through academic life waiting for something to happen and wondering what they will do with the rest of their lives. As a group, however, disabled students who participate in high-tech center programs are enthusiastic (perhaps for the first time in their lives) about the possibility of successfully completing college, finding work and carrying on productive and enjoyable lives. The following profiles were written by disabled individuals who currently use computer adaptations as a part of their work environment or who are presently enrolled in a high tech center program. They are typical expressions of the excitement and enthusiasm experienced by disabled individuals discovering for the first time the freedom of access provided by these new adapted computer technologies. And more than that, they are the expressions of people who see a bright promising future.

Shannon

Before I came to the High-Tech Center at Monterey Peninsula College, the only computers I knew about were large, expensive (seven to ten thousand dollars) pieces of hardware with a screen reading program resident within. I was intrigued with these computers and thought that, with a little bit of work, I could learn how to use one efficiently. But what was the sense in thinking about it when they were so far out of my price range?

So, while I had little doubt as to my abilities when I enrolled in the High-Tech Center's section for blind students, I was rather cynical about one day being able to own my own system. However, when I discovered that my English 101 class required a total of eleven essays, I knew that the only way to complete that class satisfactorily, if not better, was the High-Tech Center and the ability to operate a computer. So, I put aside thoughts of whether or not I would ever have a computer of my own and concentrated on learning the word processing and screen reading programs so that I could get through my ever-present writing assignments.

Since I have a capacious memory, learning how to run the word processing program and the screen reader was very easy. My desire for nice looking English pa pers also sped up the learning process. While working on one such paper, I needed to indent some lines of text to set off a quotation; this led into learning how to set margins. During another paper, I realized that I had put a paragraph in the wrong place; leaving it where it was would have resulted in an improper example. I asked if I had to rewrite the paragraph in the place where I wanted it, or, since I was working on a computer, was there a way to move it? Yes, I was told, I could just move the whole paragraph! I was shown how to mark, erase and move blocks of text. It was extremely easy.

7.2

When the beginning or end of a block is marked, or when a command is given to the computer telling it that you want the printer to underscore or boldface text, the word processing program that I use puts little control symbols on the screen that my screen reader will enunciate. This allows me to tell that my block is marked properly before I move or erase it, or that the underscoring begins and ends at the right place. This is invaluable to me not only because it eliminates mis-

takes and loss of text, but also because it enables me to turn in papers that are on a par with, or better than, my sighted classmates.

Many word processing programs simply highlight or dim the area on the screen that a person wishes to underscore or mark. Until recently, this highlighting or dimming would have resulted in problems for blind computer users simply because screen reading programs could not determine colors or their variations. Now, however, most of them can, and those that still cannot are working to include this ability into new releases of their programs. I realize that computers were made for visually oriented people, but the number of blind people using them is going up significantly. I hope that, one day, software companies will examine the blind market before they put out a product. Instead of a date's being in a certain color to show a fully occupied hotel or plane on that date, a company might wish to consider using letters or symbols that any screen reading program could read without difficulty. For me, and probably for most blind people, letters and symbols are easier to deal with than colors.

7.3

For a blind person to use a computer efficiently, he/she must, of course, have a good screen reading program. The screen reader must be able to mesh effec tively with the program that the blind person is working on, whether it be word processing, data base management or a spread sheet. This means giving the blind person immediate knowledge of cursor position, the page, line and column number of the cursor in the document and on the physical screen and anything else that a sighted person has access to quickly with his eyes. It also should be able to distinguish abbreviations from words, and in the case of an abbreviation, pronounce the letters individually rather than trying to pronounce them as a word.

A new user sometimes has trouble understanding

the monotone and electronic voice of most speech synthesizers; to accommodate, a screen reader should have phonetic spelling. This would enable the user to hear a word beginning with the letter he is having difficulty hearing. The synthesizer might say, "t tango."

From my own experience, I can tell you that the letters, t, g, b, d, n and m are some of the hardest to distinguish.

The screen reader should also be able to read the question or prompt lines. When I give the computer the command for opening a file, for instance, a ques tion asking for the name of the file appears on the screen. I can read this and any other prompts with my screen reader. I can also read my answers before I enter them into the computer. This way, I can ensure that whatever I want to enter is typed correctly.

There are many different screen reading programs available, just as there are different word processing programs. Deciding on which screen reader to use was not difficult for me. I've read the manuals for some of them, tried a couple and have decided to continue using the one that I was taught to use because I think it is the best one. Other blind people might disagree with me, but I like my screen reader. It is important though, for a person to be exposed to the different kinds of screen readers. Otherwise, how can he make the right choice?

There are many ways that a computer can assist a blind college student. One of the things it can do is give the student a sense of self-worth. With just an extra piece of hardware, (the speech synthesizer) and a software screen reader, I have learned to operate a system that was designed originally for sighted people. And the best thing about it is that the system is affordable, not like those ten thousand dollar computers I mentioned earlier. I am writing this on my own computer, in the comfort of my den. While I will always

work at the High Tech Center, there are so many things I can do at home now, such as writing letters and doing work for the organization of which I am secretary/ treasurer. I like that feeling of independence.

Kepin

At the age of thirteen, I lost most of my central vision due to a congenital eye disease called Stargardts. I am now twenty eight and I have lost all of the central vision that I had left. Being partially sighted has never really been much of a problem to me with the exception of reading, writing, or seeing blackboards at school. During my high school years, I learned to adapt quickly to my loss of vision. I was aided by the use of various magnifying lenses, binoculars, and large print books. The large print books were rather cumbersome but, nevertheless, they allowed me to read with less strain on my eyes. I was quite fortunate toward the end of my second year in high school. My parents purchased for my use a special closed circuit television that would enlarge reading materials placed under the camera. This allowed me more freedom to read different materials that I could not obtain in large print. Despite all of these aids, reading was still very slow and fatiguing.

Upon graduating from high school, I went straight to a community college. There, I painstakingly completed two semesters of college with a 2.8 grade point average using just my closed circuit television system. At that time, I felt like I was just spinning my wheels and could do better without school. School was too difficult to contend with. Unfortunately, I was not aware of the supportive services available to visually

disabled students in California community colleges.

After quitting school, I worked hard at a resort which was open eight months out of the year. I eventually worked my way up to becoming the dining room manager and wine buyer. During the four months that the resort was closed I lived at different ski areas and eventually ended up teaching skiing at a resort in the Sierras. I also worked very hard at this job and became the instructor who taught all of the handicapped individuals who came to the resort to learn to ski.

I became tired of what I was doing and realized the value of having a college education so I left that life style to return to school. During the eight years that I was away from school I had developed a great deal of discipline. During my first year back at college, I became one of the top three ranked, blind ski racers in the world; competing in the world championships in Sweden as a member of the United States Disabled Ski Team.

7.6

In everything that I do, I always strive for excellence, however I felt rather inhibited recalling my past experience with school. I was very fortunate in being introduced to a wonderful member of the supportive services staff at my community college. She introduced me to text books on tape and other forms of assistance which I never knew were available to me. She was one of the most supportive and kind individuals I have ever met and she made my transition back to college very easy and smooth.

She was also responsible for the most useful and practical introduction that a partially sighted person could ever hope to have: my introduction to adaptive computers. I was taught how to operate a computer that used an adaptation which displayed everything in enlarged, bold print on the computer screen. My steadily growing knowledge of the computer has proven to

be a tremendously powerful tool for school work and my personal needs. The computer has allowed me to learn how to type and edit papers in a fraction of the time that it would have taken me otherwise. It has taught me organizational skills, and believe me if anyone needed organizational skills, I was most certainly the prime candidate! Also, being partially sighted, I really don't read very much because it is so slow and fatiguing. And, with my particular eye condition, when I read, often times parts of the words will literally disappear. What I am trying to say is that I am terrible when it comes to spelling. Working with the computer has allowed me to visually see, rather than hear words, with a great deal of ease. So, essentially. the computer has greatly improved my spelling (thank goodness) and expanded my vocabulary probably ten fold.

I have told you my experience of working with adaptive computers but I can't really put into words the freedom that it has allowed me. Freedom to express my thoughts in a way not possible before. I really can't thank the supportive services staff at my college enough for their support, assistance, and knowledge. Academically, I feel like they have let me out of a very small dark box with my new found tool. I have now brought my grade point average up to a 3.3 and will be transferring to a major university to complete my education.

The adaptive computers at my college have helped me tremendously. They have also provided me with a new and extremely valuable skill. I have seen others with varying disabilities working here at the high tech center and they share the same feelings I have. The center has provided its people a great deal of freedom to learn. They are also able to discipline and express themselves, an opportunity they may not have had before.

Robert

My name is Robert,- and I am a quadriplegic with no functional use of my hands.

Two years ago I was a deeply concerned and frustrated individual because seemingly all avenues to a productive and meaningful future were blocked by some facet of my life. I was fearful and held out little hope of fulfilling my dreams of again becoming a contributing member of society.

When I became aware of the innovative High-Tech Center for the Disabled, I called Monterey Peninsula College to inquire about the program and was enthusiastically encouraged by the Centers staff; hope of finding some feasible way to overcome some of those obstacles was rekindled.

With the backing of caring parents and a supportive State Department of Rehabilitation Counselor, I nervously began Adaptive Computer Classes.

I first learned Mindreader, a word processing program which made it possible for me to produce letters and other documents twice as fast and more accurately than I could produce them on an electric typewriter. Address files, formatting and many other functions which Mindreader offers are very useful and exciting to be able to achieve.

The program Director asked if I would be interested in a CAD (Computer Assisted Design) Program he was adapting - I was very interested!

I now can draw plans easier and faster with this CAD Program than I was able to do when I had full use of my arms and hands. I am now learning Architectural Drafting and am using this CAD Program to draw all the necessary plans to build a home.

As I become more proficient in the use of the CAD Program, it seems feasible that I will have a marketable skill.

Due to the support and encouragement of so many, and because of the ability of the High Tech Center computer adaptations to accentuate the abilities of the user while forgiving his limitations, I have been given a new outlook on life.

Where before I saw only obstacles and despair, now I see opportunity and ways to overcome those obstacles and feel I am on my way to fulfilling my dreams.

The staff of the High-Tech Center's insights and knowledge of the needs of disabled people have been beautifully integrated into the Adaptive Computer Program. This program opens the channel to let flow the intellect and creativity that has until now been restricted.

The Adaptive Computer Program which was initiated by Mr. Brown at Monterey Peninsula College is being instituted throughout the California Community College system. The program offers the disabled the promise for feeling real worth and a realistic hope of obtaining meaningful employment.

This program will allow the disabled the opportunity to express and develop their aspirations and dreams and will provide society with a new source of ideas and talent. It will also give the disabled the means of obtaining the dignity of being contributing and respected members of society.

Jay

As a person who manages information for a living, I find it ironic that my learning disability has had such an impact on how I handle the written aspects of my work. Today, after years of trying to "pass" in a world that writes on a casual basis, I realize that my hand was

not created to hold a pen. I still am learning to deal with being a nonwriter in a writing world.

As has happened with many other learning disabled (LD) adults my age (35), I did not find out about my disability until I was in my late 20's. I still am learning to understand it seven years later. All my life, I knew that there was a difference in me-that I fit differently and did things differently than others. Today, looking back, I can assign names and causes to my "different ways," which in today's more aware times, I call my "coping skills." I look back at a childhood filled with problems in processing auditory and visual input (hearing "laboratory" for "lavatory," unable to ride or even look at an escalator) and attempting to cope with the intermittent social skills that seem to plague most LD folks.

It's almost easy now to repeat the litany of problems faced; almost easy, but the facile repetitions do not hide the anger that I felt then and that still can surface. Most of the time my anger isn't part of my life, but sometimes the emotions generated by over thirty years of dealing with differences both subtle and blatant do break through. When the way that I surmount my disability runs counter to the rest of the world, and my differences do surface, my rage can be deep and frightening.

7.10

One such instance came after my latest housewarming. I have severe dysgraphia, so any writing becomes a task delayed until I find a way that I can lessen the contact of pen to paper. For a party both invitations and thank-you notes become a dreaded chore, delayed, denied and then done hurriedly, skimped and second-rate. But for this party, I did everything right!

With the help of my trusty PC, I composed invitations, made labels, and mailed my invitations. Again using the PC, I listed all information about the guests, and left room in the file for information on who came

and what gifts they gave. At the party, I asked my mother to list the gifts and who gave them in the guest book (so I did not have to write at all). The next day, I transferred this information into the computer and fed in name, address, gift, and attendance information, and printed out thirty individual thank-you notes.

After thirty years of fighting paper, pencil, and pen, I had substituted a keyboard for the paper, pens, and correction fluid that I had always used in such quantity. The PC and its associated equipment freed me from the pain of moving words from my mind to paper, so that within an hour and a half of sitting down at the machine, I had my thirty thank-you notes, individually written, or at least some individual text in a form note, printed in script onto notepaper, and labels typed onto the envelopes. All of this in ninety minutes! Each letter of each word looked the same-the same size, shape, going in the same direction, and perfect, every page unmarred. Never before had I been on time in sending thank you notes or in any other writing task!

Until I discovered the word processor, writing remained a painful task, each draft an agony of crossing out, and forced brevity in expression. I had always used a word in place of a sentence, a sentence in place of a paragraph. Even if my ideas flowed, and my fingers were fresh and the pencils sharp, each page looked like a drunken chicken had staggered across the page. My letters slanted to the right, to the left, above and below the line, letters slammed into each other, crookedly running off the page.

I looked at those envelopes, triumphant!! The act of writing, mine at last!

I went to share this milestone in my life with my girlfriend at that time. Her response was shocked disapproval! How could I thank all of my friends and family with a computer? How could I be so crude and

low-class, what kind of manners did I have? Feeling shocked, hurt, and bewildered, I started to explain dysgraphia and LD, but, for her as for many others, LD is a code word for "lazy," "stupid," or "not willing to work." As I explained to her why I wrote with a computer, I relived all of the pain of countless rewrites, of recesses lost to practicing penmanship, of rulers across the knuckles, of red ink on papers already watered with my tears, tears matched by the tears in my eyes as I described my struggle, and joined by the tears in my eyes as I relive it now.

Recording my thoughts on writing, focusing on being different and not knowing why, I have relived thirty years of seeking ways to move my thoughts from the inside of my eyes to the paper. First to try to form the letters, to keep them even, and to let them march across the paper, then to organize them, sequence them to make sense outside of my head, into conformity with the rules of grammar and spelling, drafting and redrafting, meeting the tasks of any writer. After thirty years, it's doable! I never thought of it before, but the keyboard lets the words out of my fingers, and flows them across the screen, checks and changes the spelling, reverses the reversals, making me unafraid to write. I gladly accept the limits of this new freedom, I write only at the typewriter at my desk, on the word processors outside my office door, on the PC at home or on the additional six pounds of battery typewriter I carry with me. It's a small price to pay, being limited to a few locations, because at those places I have the freedom to write, something I never dreamed I would have.

7.12

Although I know that time and technology have only now come together to flow my words into the world, I still ask, "Where was this magic in my child hood? Where would I be now if I had had access to it then?" If I had had a keyboard instead of my fickle fingers ... I don't know and never will know, but I'm

free now. Fingers on keys, words march from behind my eyes across the page, clear and crisp, polished to a glitter by the magic of technology. Each word, crisp black on spotless white, affirms once again that I can do it, at last ... I CAN WRITE!