SHARE
Rehabilitation Engineering
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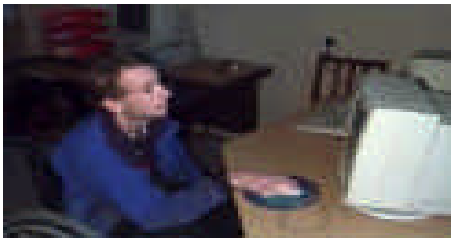
The Society for Human Advancement through Rehabilitation Engineering (SHARE) was founded in 1982 by 3 professors, one whom is Lester W. Cory. The Share Foundation is a nonprofit organization of volunteers and engineers which use high tech equipment to enable several handicapped, no speaking people to communicate-some for the first time in their lives. Lester W. Cory is a Professor of Computer and Electrical Engineering Technology at UMass Dartmouth, the Director of UMass Dartmouth's Center for Rehabilitation Engineering and also the founder of the SHARE Foundation.
SHARE.
Located at UMass Dartmouth, SHARE is a lifeline. In the last 18 years, more than 1,400 people have been helped to communicate, which translates to living more independently and productive lives. Lester W. Cory and associate director Philip Viall and many university's students, have developed individualized computer systems with a person's specific needs
The computer systems are costly; however SHARE depends on donated equipment and funds. No one is turned away because of money, and many are helped.
By the term "Mobility Impairment" we are referring to disabilities that affect the ability to move, manipulate objects, and interact with the physical world. These people are confined to wheelchairs or bed or people with incapacitated hand movements. Some physical problems the mobility impaired users face include:
–Total lack of muscular control in part or most of the body.
–Weakness, such as lack of muscle strength
–Interference with control, where muscles are tense and contracted

There are many solutions that Lester Cory and his team designed for many disabled individuals. The X10 Scanning Controller (XSC) provides an interface between a single switch operator and an X10 remote module controller. The device has 8 LED's that display the current state of up to 8 devices. The LED is OFF if the device is off, and ON if the device is on. The same LED's are also used during scanning.

The Ultrasonic Mobility Aid (UMA) is a portable battery operated device able of detecting within 12ft of the user, which could be used by someone who is blind or deaf. Visually impaired individuals who need to navigate their way through unfamiliar surroundings can use the UMA. The person points the sensor in the direction of travel and moves the senor in all direction. By doing this a variable tone is generated alerting the user to the presence of objects and their proximity to the user.
An object is close by corresponds to high frequency tone while objects that are further away correspond to a lower frequency tones. If an object is not within 12-ft radius, then there will be no tone



The Basic Needs Communicator is a device used by non-speaking, physically disabled people who have the physical ability to operate a single switch. "Mounted on the front panel of the communicator are 10 LEDs. Pictures, each representing a specific need, are placed over the LEDs. The pictures are sequentially illuminated by the LEDs. A need is selected (or expressed) by pressing the switch when the corresponding picture is illuminated. Located on top of the device are an audio output jack for connection to a speaker, a potentiometer to control the volume, s potentiometer to control the scanning rate and a switch input jack."

SOURCES
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