

Funding Support for ATP

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Faculty and Staff

Donn A. Clark, Director
Emeritus Professor of Electrical
Engineering
donn_clark@uml.edu
(978) 934-3341

Alan Rux, Technical Coordinator
alan_rux@uml.edu
(978) 934-3330

Senait Haileselassie, Technical Coordinator
senait_haileselassie@uml.edu
(978) 934-3342



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University of Massachusetts Lowell
One University Avenue
Lowell, Massachusetts 01854
(978) 934-3330 <http://atp.uml.edu>



Francis College of
Engineering

Assistive Technology Program



Electrical engineering student helping a client with his scanning control unit for home environment.

Engineering Skill Development through Community Service

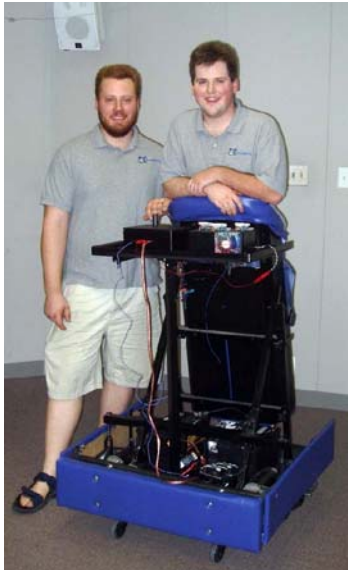
Francis College of Engineering
University of Massachusetts Lowell
One University Ave, Lowell MA 01854
(978) 934-3330 • FAX (978) 934-3061
<http://atp.uml.edu>

What is Assistive Technology?

- Any service, product or device which is used to increase, maintain or improve the functional capabilities or improve the lifestyle of individuals with disabilities

Examples of Assistive Technology:

- Adaptive switches that allow physically or mentally impaired children to play with toys
- Adjustable workstations for employees with disabilities
- Augmentative communication devices that assist individuals to participate in regular classes at work, home or in the community
- Devices that improve the quality of life for the young or aged
- Automated mobility devices for that enable or increase access
- Motorized stander for mobility in a standing wheelchair rather than sitting position



Electrical Engineering students with their "Motorized Stander" senior design project

What is the Assistive Technology Program (ATP) at UMass Lowell?

Started in 1991, the Assistive Technology Program allows faculty, staff and students in the College of Engineering to assist disadvantaged persons with special needs and problems.

Administered by faculty and staff in the Department of Electrical and Computer Engineering, the Assistive Technology Laboratory is housed in the Ball Building with various computer and electronics labs and machine shop space located within the various Engineering Departments.

Through senior Capstone design projects, students interact directly with clients, propose solutions to challenging problems, then design, construct and deliver their projects directly to the clients.

There is a major initiative to broaden the availability of the ATP program to all interested students within the College of Engineering as well as students in related fields such as Nursing, Physical Therapy and Occupational Therapy.

The Assistive Technology Program is a large component of the initiative to integrate *Service Learning* throughout the College of Engineering.



Child with step-sensing shoe device to help correct and improper gait.

How does the Assistive Technology Program operate?

- the ATP solicits problems from supported community partner organizations and individuals
- these problems are communicated to senior students interested in ATP-based Capstone design projects for review
- the ATP provides financial and technical support for students and student teams working on selected projects successful projects are delivered to the client at no cost to the client
- successful projects are delivered to the client at no cost to the client

Community Partners

Supported organizations include Non-Profit Organizations, Independent Living Centers, Rehabilitation Hospitals, State and Private Schools, State Institutions, Children's Hospitals and private individuals such as:

- Perkins School for the Blind, Watertown, MA.
- Franciscan Children's Hospital
- Kennedy Day school, Boston
- Mass. Department of Mental Retardation
- Hogan Center, Hathorne, MA
- Anne Sullivan Learning Center, Lowell, MA.
- Intensive Needs Program at the Lincoln Elementary School, Lowell, MA.
- The Professional Center for Children, Andover, MA.
- New England Sinai Rehabilitation Hospital

Completed Projects

A small sample:

- Voice-Controlled apartment (individual)
- Talking telephone training aid (Perkins School for the Blind)
- Sip-Puff pinball arcade game (New England Sinai Hospital & Rehab. Center)
- Environmental control device for child (Franciscan Children's Hospital)
- Voice-controlled electric wheelchair (individual)
- Suction control switch interface (individual)
- Single switch talking scanning device (Franciscan Children's Hospital)
- Time switch control radio training device (Kennedy Day School, Boston)
- Telephone switchboard interface device (Perkins School for the Blind)