

## UNIVERSITY OF ROCHESTER — ONE-HANDED CYCLING CONTROL SYSTEM BICYCLE



University of Rochester Senior Engineering Major, David Narrow, along with his senior design group including Travis (Jackson) Block, Sara Hutchinson, Dominic Marino and Martin Szeto, set out to create a revolutionized bicycle with a one-handed cycling control system that encompasses the steering, braking and gear-shifting controls of a standard bicycle. This would allow the bike to be more accessible for amputees, stroke survivors and handicap individuals whose core weakness often prevents the use of operating an upright bicycle.

Given LeChase Construction's long standing relationship with the University, LeChase Superintendent, John

Gustvason, was approached by David after he consulted with BME0 Engineer Art Salo. Art had met John during the construction of the BME0 cleanroom project which LeChase worked on – along with numerous other projects throughout the campus.

David had run into an issue finding the right sized piping for the handlebar. He had a very exact outside diameter size that was needed in order to fit the grip handle properly. When David talked about this issue with Art he immediately thought of John and introduced the two to see if John could help in regards to finding a suitable pipe size as well as assist with the pipe bending process.

John was happy to research pipe sizes and he was able to match the pipe size at Swagelock — an in-town supply house that supplied many different piping/tubing products for the gas piping in the BME0 cleanroom project. Once the pipe was purchased, John consulted with Mark Pratt from Connors-Haas Electric who was able to fabricate the handlebar to David's designed sweeps with conduit bender.

This group effort helped David build the bicycle he envisioned. He recently spoke with John and told him that they are moving forward with a Provisional Patent Application for the new equipment and they hope it will eventually be used for future war veteran amputees, stroke victims and other handicap individuals. David also recently got accepted into John's Hopkins University's graduate program.

