



# MAKING THE Connection

TO  
Career Technical Education

Thursday, January 12, 2017

## Utica Community Schools students build prosthetics for nonprofit organization

**ETHAN CARTWRIGHT**

UTICA HIGH SCHOOL'S ARROW EDITOR-IN-CHIEF



**MAKENNA GALUI**

UTICA HIGH SCHOOL'S ARROW MANAGING EDITOR

In a world where it's often difficult for adults with autism, down syndrome, cerebral palsy, visual impairment, or other cognitive disabilities to perform meaningful work, Special Dreams Farm is a 31-acre place of employment exclusively for developmentally disabled adults. Not only do these farmers contribute, but they also gain self worth and confidence, while allowing social interaction.

After hearing about the difficulties some of the farmers were having performing tasks, Utica High School teacher Warren Day's CTE students are once again applying their classroom skills to help solve real-world problems.

Day recruited a group of students to build prosthetics meant to help workers at special dreams farm.

The tool Day's students are tasked with inventing is one that simultaneously digs a hole and drops a seed, making it easier for those with a handicap to farm.

"It's a real-life situation," senior Justin Janulewicz said. "It's not school as usual."

Junior Vincent Bommarito has a family connection to the farm and project, as his uncle works at the farm, and his grandparents founded the farm.

"Everyone does a wide range of jobs, like farming, cooking and making crafts," Bommarito said. "They sell the crafts, as well as farm vegetables and fruits."

The class plans to take the prototype to the farm as a way to test the design. If it works, the

project will go into full production; if not, the project gets sent back to square one.

The CTE students are also entering their prosthetics into a contest sponsored by AbilityOne, one of the largest sources of employment for those who are blind or have significant disabilities. The "SourceAmerica Design Challenge" is a national engineering competition aimed at creating innovative workplace technology for people with disabilities.

"It's amazing the things engineers can do to help," principal Thomas Lietz said. "Any time you do something that helps you, and helps another person, it's very good."

Last year, Day's students worked on a similar project to apply labels to plastic bottles.

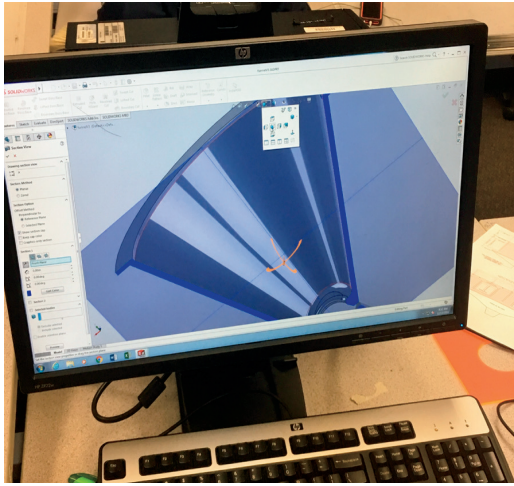
"We were able to make and construct a design last year," senior Robert Wycowski said. "However, we didn't enter it into the competition."

The students decided to get a head start this year to meet the Jan. 12 deadline, submitting a video and written description of the invention.

Day's students are utilizing a state-of-the-art 3D printer in their lab to create parts. As with most construction projects, the class has multiple designs and prototypes that are being tested.

The first design had one flaw, in which too many seeds were released at one time. The second design only allowed one seed into the mechanism at one time, in theory.

Projects like this give our class a purpose," junior Hunter Davies said. "I've helped with the design of the first and second seed planter, and I plan on going to the farm to test the designs soon."



Software, paired with a state-of-the-art 3D printer, helps students create prosthetics. **ETHAN CARTWRIGHT PHOTO**

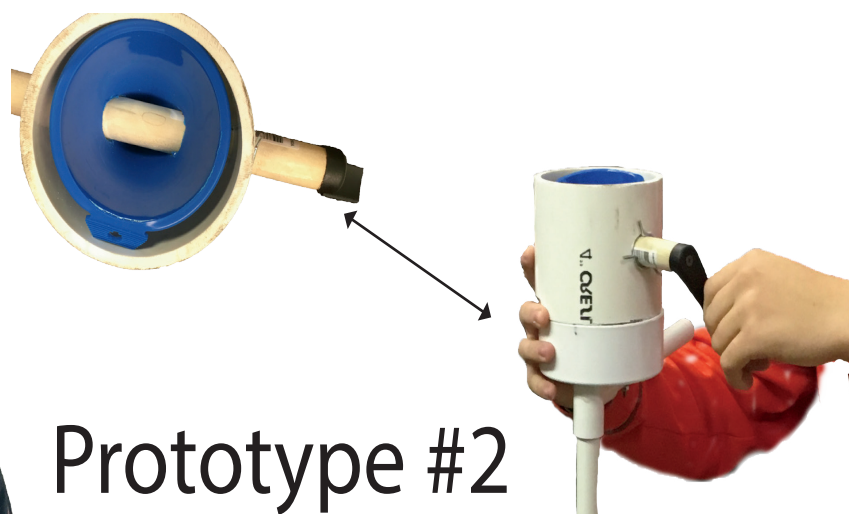
### Prototype #1



The trigger, once pulled, is meant to release a seed to travel down the tube.

This ligament is used to dig a hole for the next seed

The seed falls down this tube and lands in the dirt.



### Prototype #2

The new prototype keeps the same base, but switches up the top portion, due to too many seeds being released in the first design. The team added a crank on the side that releases a single seed through a funnel they printed.

MAKENNA GALUI DESIGN  
ETHAN CARTWRIGHT PHOTOS

Anchor Bay Schools  
Armada Area Schools  
Center Line Public Schools  
Chippewa Valley Schools  
Clintondale Community Schools  
East Detroit Public Schools  
Fitzgerald Public Schools  
Fraser Public Schools  
Lake Shore Public Schools  
Lakeview Public Schools  
L'Anse Creuse Public Schools

For more information about CTE, contact  
Scott Palmer at 586.228.3488 or spalmer@misd.net



**Macomb Intermediate School District**  
44001 Garfield Road  
Clinton Township, MI 48038  
586.228.3300

For more information about  
the MISD and the 21 school districts, go to  
**www.misd.net**

Mount Clemens Community Schools  
New Haven Community Schools  
Richmond Community Schools  
Romeo Community Schools  
Roseville Community Schools  
South Lake Schools  
Utica Community Schools  
Van Dyke Public Schools  
Warren Consolidated Schools  
Warren Woods Public Schools