



disability designs:

the national engineering design challenge for high school students

The National Engineering Design Challenge (NEDC) is coordinated by the Junior Engineering Technical Society (JETS) and the Javits-Wagner-O'Day (JWOD) program, NEDC encourages students to consider engineering by immersing them in real-world challenges that people with disabilities face every day. Teams begin by completing an Internet Scavenger Hunt during which they increase their awareness of disabilities, discover disability employment issues, and see how technology assists people with disabilities. They also learn more about the fields of rehabilitation and biomedical engineering.

Armed with this information, the teams either choose a problem they have discovered or tackle one suggested by the competition staff. Students must then interview people with disabilities to learn exactly what their challenges are, and what solutions they are already using.

Using the Engineering Design Process, the teams design and build a working prototype that is evaluated by a panel of judges. Teams are required to submit a dimensioned sketch of their project. The sketch can be drawn by hand, or created using software such as the drawing tools in Word or sophisticated 3D CAD software. SolidWorks® (<http://www.solidworks.com>) is helping sponsor this year's competition and is providing free licenses for their software. The top three to five teams travel to Washington, DC during National Engineering Week for the final competition.

More than 1,000 students in nearly 50 schools competed last year, and Leann Yoder, executive director of JETS, said that this year 75 schools and 1,500 students are participating. Last year's first place entry was an ergonomic, electronic box opener that reduced pressure and increased

safety for users. Other projects earning accolades included an all-purpose photoelectric counter used in manufacturing facilities and a gripping device that lets users pick up items from the floor/ground or on shelves without suffering from repetitive stress injuries.

“Real-world experience is a powerful means of attracting students to productive engineering careers,” said Marie Planchard, SolidWorks’ director of education. “The JWOD/JETS NEDC competition is a terrific opportunity for students to design products that could really make a difference. We’re proud to support such an important program that makes teaching engineering design concepts affordable and meaningful to all students.”

Registration for this year began in September and closed October 16th. For more information about the competition, JETS, and the challenge of fueling students’ engineering enthusiasm, listen to the podcast at <http://www.solidworks.com/mediapodcast>. While entry to the competition is closed for this year, please take a look at the JETS web site <http://www.jets.org>. You can still use the challenge as an activity in your classroom. Judge your students’ enthusiasm for a project like this and get prepared to enter your team or teams next year.



(Top) 2006 First Place winner Gulliver Preparatory, Pinecrest, FL — Simple Electronic Ergonomic Box Opener.

(Bottom) The Handy Grip documentation

About JETS

JETS is a national educational organization dedicated to promoting engineering and technology careers to America’s youth. Each year, JETS connects more than 40,000 students and 10,000 teachers to the vast opportunities found in engineering and technology. From exciting student competitions and top academic resources to assessment tools and career exploration materials, JETS programs immerse students in engineering and technology and offer a unique approach to learning for students and their teachers. The NEDC national sponsor is the Javits-Wagner-O’Day (JWOD) program; providing employment opportunities for people with severe disabilities. For more information, visit the Web site (www.jets.org).

About SolidWorks Corporation

SolidWorks Corporation, a Dassault Systèmes S.A. company, develops and markets software for design, analysis, and product data management. Visit the company’s Web site <http://www.solidworks.com>.

Last Year's Finalists

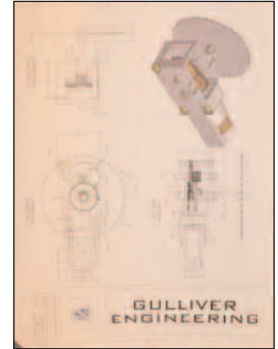
Gulliver Preparatory, Pinecrest, FL won the competition with their Simple Electronic Ergonomic Box Opener

Opener Team Members: Claudio Di Leo, Andi Potamin, Matt Shore, Dan Helmers, and Joel Perez **Coach:** Claude Charron



Bacon Academy, Colchester, CT received an honorable mention for their entry. The Handy Grip Team Members are Josh Hodgson, Gary Clauss, and Jake Barnowski. Coach: Amy Hopkins.

“Based on the data received from our surveys, it was concluded that the S.E.E.B.O. increased safety and comfort and decreased pressure. Even though 50% of those surveyed found the X-Acto knife easier to use, the original purpose of the device, which was to reduce pressure and increase safety and comfort, was achieved.”

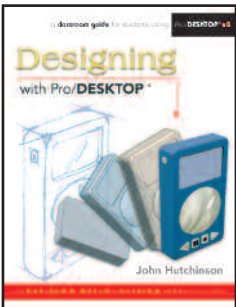


“Based on our evaluation of the Handy Grip, the Bacon Engineering Team believes that the device will improve the productivity of individuals with disabilities. It was originally designed for an older individual who was experiencing repetitive strain injury to his wrist while working as a groundskeeper. The Handy Grip is a durable and practical solution that can alleviate this problem, and in addition can be useful to other individual of varying ages and physical capabilities. The reasonable cost of the Handy Grip also makes it accessible to a broad market.”

NEW

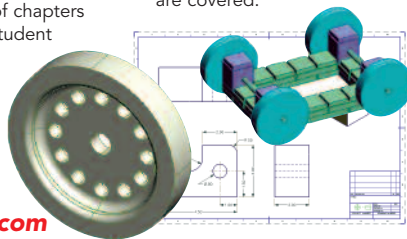
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