

PINECREST | PALMETTO BAY | CUTLER BAY | PERRINE

# NEIGHBORS

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ALEXIA FODERE/FOR THE MIAMI HERALD

## RELIEF FROM HEAVY LIFTING

A team of students at Gulliver Preparatory in Pinecrest have invented a way to help janitors lift bags. Senior Vidjai Doerga, 18, shows Patrick Joseph how to use the device with teammate Carolina Ragolta watching. **PAGE 3**



## GULLIVER PREPARATORY

# Teens design device to help with big bags

■ An engineering team from the Pinecrest school has come up with a new way to help janitors in South Florida.

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On Saturday nights, when they could have been at the movies or at parties, five teens were inside a classroom, building a machine that will make life easier for hundreds of disabled people in South Florida.

The device, which picks up heavy trash bags at the touch of a button, is a godsend for more than 300 special-needs employees at Miami's Goodwill Industries who clean 137 federal buildings in Miami-Dade and Broward counties.

Known as an Assistive Bag Lifting Enabler (ABLE), it will help workers haul trash without straining their backs, shoulders, arms and hands.

The project also has helped the budding engineers from Gulliver Preparatory in Pinecrest.

They have seen firsthand how their brains and brawn can score them high points in a national engineering competition — and also make a difference to others.

"We're doing things that have a purpose in the community outside of school," said senior Vidjai Doerga, 18, who served as the team's chief builder and designer. "It makes me extremely happy."

On Wednesday, the five teens came to Goodwill Industries, 2121 NW 21st St., to show its employees how to operate the ABLE machine.

Last fall, Doerga of South Miami, Carlos Armada and their friends were brainstorming machine ideas they could design and build for the annual Junior Engineering

### On the Web

■ To see more about Gulliver Preparatory team's Assistive Bag Lifting Enabler, which will help workers haul trash without straining their backs, shoulders, arms and hands, go to a video at <http://vimeo.com/2787855>.

### Technical Society (JETS) competition.

The contest emphasizes designing new apparatus that help people with disabilities.

"We were looking for jobs that were hard to do if you have a disability and I noticed the janitors at school had trouble lifting the trash bags because they were heavy," Armada said.

The teens turned to Goodwill Industries because they knew the organization hired people with disabilities and tried to get them back in the workforce, he said.

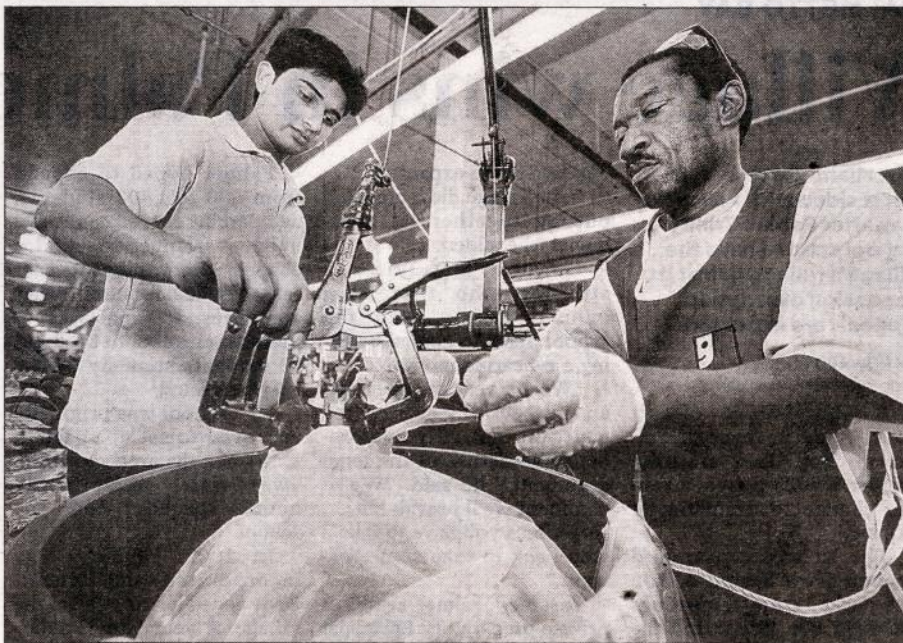
ABLE is made of three parts: a metal frame that wraps around the trash can, an electric arm that raises and lowers the garbage bags and a clamp.

To use ABLE, the machine's metal frame is placed around a garbage can.

A button is pressed to lower the arm. At the end of the arm, a clamp is fastened around the garbage bag.

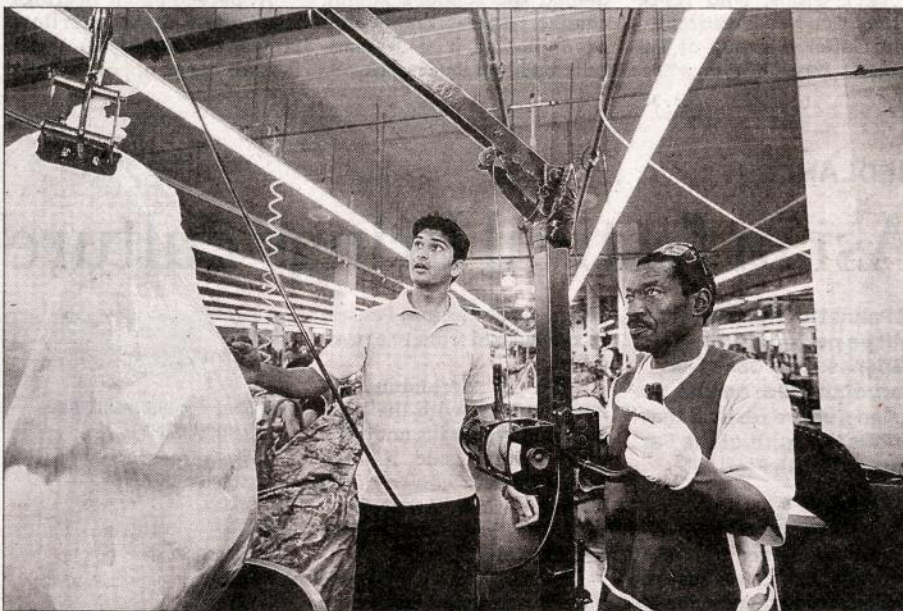
Another button is pressed to raise the arm and lift the bag away from the can. Finally, the machine's handle bar is swiveled so the bag can be moved to another Dumpster.

The teens went to Goodwill four times since November to test the prototype with employees, get their feedback and make changes, Doerga said.



PHOTOS BY ALEXIA FODERE/FOR THE MIAMI HERALD

**A HELPING HAND:** Above, Vidjai Doerga, 18, shows Patrick Joseph how to lift a bag with the ABLE device at Goodwill headquarters in Miami on Wednesday afternoon. Jackson lifts the bag with the device below.



The latest modifications: "We got a bigger clamp, made the bottom frame skinnier so it could fit through doors and we changed the arm so you can adjust its height," Doerga said.

Harry Ramsarran, who heads Goodwill's janitorial division, said he would like to see three to four machines at the federal buildings that his employees clean.

"It cuts down people's

injuries and reduces our Worker's Compensation costs," he said.

A typical workplace injury could cost the company \$50,000, Ramsarran said.

Claude Charron, head of Gulliver's high school engineering department, said while the team didn't make it to the finals, it still placed in the top 12 out of 250 teams in this year's JETS competition.

"We're looking to patent

the device in the next few weeks," he said.

Have the long hours and the endless tweaking paid off? Senior Carolina Ragolta, 18, thinks so.

"When we didn't make it to the JETS final, we came to school the next day and we were upset. We felt that our work was for nothing. But we saw the larger picture, the need for this device. That's the most important thing."