

WHY WALK, WHEN YOU CAN CRAWL?

- 176 roller bearings
- 12 aluminum legs
- 2 cordless drills
- 1 inspired mechanical engineering class

It all adds up to the Cajun Crawler, a one-of-a-kind people mover designed and built by UL Lafayette students. It resembles a Segway, but instead of wheels, it has mechanical legs.

Discovery Channel Canada sent a New Orleans production crew to shoot the Crawler on campus in early May. It featured the vehicle on its science show, "Daily Planet," on May 14.

A video that shows the Crawler in action has been viewed on YouTube more than 235,000 times.

The vehicle's development began in Fall 2008, when Dr. Terrence Chambers' students were brainstorming a design project. He's an associate professor of mechanical engineering and associate dean of the College of Engineering.

"One of the students in the class suggested we look at the work of Theo Jansen," Chambers recalled. Jansen is a Dutch artist and engineer who creates larger-than-life moving sculptures. His fantastic "beests," as he calls them, are immense, intricate skeletons made of yellow plastic tubing, some as much as 20 feet tall. Harnessing the wind, they walk along the beaches of Holland, stepping gracefully across the wet sand.

Chambers' students borrowed Jansen's beest leg design for the legs of the Cajun Crawler.

Don Tomasaitis, a graduating senior who led the design and construction team, explained the design's appeal: "When a person walks, you kind of have this up-and-down movement: whenever you take a step, some of your energy is going toward lifting your weight.

Jansen's design avoids

that up-and-down movement."

So, the Cajun Crawler's platform remains parallel to the ground, while the feet below move like a mechanical chorus line. "The way these all work together, it transfers the weight from one foot to the next without any of that vertical movement," Tomasaitis said.

Before they began building the Crawler, students tested the design in a lab, using computer-aided drafting software. "We did a lot of 3-D modeling," Tomasaitis said.

Five UL Lafayette alumni were part of the team: Chris Menard, Dustin Prejean, Kevin St. Aubin, Kurt Trahan and Spencer Malsh. They all graduated in December 2008.

The Cajun Crawler is powered by two cordless drills. The triggers, incorporated into the left and right sides of the handle, set the Crawler's legs in motion. The drills' motors and rechargeable batteries are tucked neatly beneath the platform.

"It made sense to use something that was already put together as a working system. It also helped keep the cost down," Tomasaitis said.


He estimated that the Crawler cost about \$1,200. Students contributed about \$600; cash and in-kind donations from area businesses covered the rest. One company donated aluminum. Another cut the metal into parts.

Asked whether the Cajun Crawler has any practical applications, Tomasaitis shrugged. "Not really," he replied. "It might be a cool toy, if somebody wants to be the first on their block to have one."



Don Tomasaitis

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