

Media Relations

UNH "Smash & Wrecker" Robot Takes On Competitors At RoboGames April 23

Apr 15, 2010



Team Smash & Wrecker, UNH electrical and computer engineering students who have created a battlebot as their senior capstone project. Left to right: Max Reuning, Aaron Stewart, Kyle Maroney, Corey Marceau (a marketing major assisting the team), Amy Schwarzenberg, Austin Wolfson, faculty advisor Frank Hludik, and Kamal Mohamed.
Credit: Mike Ross, UNH Photographic Services

DURHAM, N.H. – The microwave didn't stand a chance.

It was no match for Smash & Wrecker, 205 pounds of slicing, pounding robotic destruction created by six University of New Hampshire engineering students as their senior capstone project. To prepare for the battlebot's debut at the international RoboGames competition in San Francisco next week, the electrical and computer engineering majors put Smash & Wrecker to the test in a Kingsbury Hall parking lot with the discarded microwave serving as its scrimmage partner.

UNH's first-ever battlebot – a remote-controlled robot designed to take on similar battlebots in competition – stands just over a foot tall and about three feet square; its unassuming shape features a ramped front that will let it scoop the competition and throw it over. It rolls on four wheels, contained within its Wildcat-blue frame, and draws the equivalent of power it takes to run a single house. Offensive might comes from two menacing 12" circular saws protruding from each side and a pneumatic hammer that fires crushing blows from the top of the machine.

While team leader Kyle Maroney initiated the creation of a battlebot – "I had always wanted to do it, ever since I saw 'BattleBots' on TV," he says – Smash & Wrecker epitomizes a team effort. The robot comprises six major systems: communications between the remote and the receiver, power, drive system, saws, microcontroller, and pneumatics. Each student on the team -- Maroney, from Towson, Md., Kamal

Mohamed (San Diego, Calif.), Amy Schwarzenberg (Plaistow), Aaron Stewart (Pelham), Austin Wolfson (Wilton), and Max Reuning (Sawtry, U.K.) – oversaw one area.

"It's been a great application of what we've learned in our course work," says Mohamed, noting that the team began the project in September and learned to draft proposals and meet deadlines in addition to the technical skills of building the robot. "It's very much like the real world."

The real challenge of the project, says faculty advisor Frank Hludik, instructor in the electrical and computer engineering department, came in uniting the systems into a mean, lean fighting machine. "I think they did an excellent job of getting their subsystems working so they could put them together and test them," he says, lauding the team for leaving themselves several weeks to work out the kinks.

Smash & Wrecker owes its expected success ("If they don't take at least second place they only get half credit," Hludik jokes) to significant external support, too. In addition to naming inspiration, Black & Decker provided funding for Smash & Wrecker, covering the cost of materials as well as the team's trip to the competition in San Francisco. Omni Services provided the pneumatics, and the team welded the robot's frame at H & S Machines in Lawrence, Mass., owned by Schwarzenberg's father.



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As they prepare Smash & Wrecker for its advance journey to California, the team reflects on its chances in the competition, which runs April 23 – 25 in San Francisco and features competitors from around the world in more than 70 events (learn more here: <http://robogames.net/index.php>). Their steel-welded frame gives them a defensive advantage, they think, but “we could be up against someone like us, or we could be up against a legend,” says Wolfson.

To see Smash & Wrecker in action, go to <http://www.youtube.com/watch?v=eYumCq4Tewg>. Learn more about the project at <http://xenia.unh.edu/ece791/Projects/BattleBot/battleBotWriteUp.pdf>.

The University of New Hampshire, founded in 1866, is a world-class public research university with the feel of a New England liberal arts college. A land, sea, and space-grant university, UNH is the state's flagship public institution, enrolling 12,200 undergraduate and 2,200 graduate students.

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Photographs available to download:

http://www.unh.edu/news/cj_nr/2010/apr/bp15smash_03.jpg

Caption: Team Smash & Wrecker, UNH electrical and computer engineering students who have created a battlebot as their senior capstone project. Left to right: Max Reuning, Aaron Stewart, Kyle Maroney, Corey Marceau (a marketing major assisting the team), Amy Schwarzenberg, Austin Wolfson, faculty advisor Frank Hludik, and Kamal Mohamed.

Credit: Mike Ross, UNH Photographic Services

http://www.unh.edu/news/cj_nr/2010/apr/bp15smash_02.jpg

Caption: UNH senior Kyle Maroney performs some last-minute adjustments on the battlebot Smash & Wrecker as his teammates (left to right: Aaron Stewart, Austin Wolfson, Corey Marceau, faculty advisor Frank Hludik, Kamal Mohamed, and Max Reuning) look on.

Credit: Mike Ross, UNH Photographic Services

http://www.unh.edu/news/cj_nr/2010/apr/bp15smash.jpg

Caption: The official logo for Smash & Wrecker, a battlebot created by UNH electrical and computer engineering seniors. From left: Kamal Mohamed, Austin Wolfson, Max Reuning, Amy Schwarzenberg, faculty advisor Frank Hludik, Kyle Maroney, Aaron Stewart.

Credit: Stratus Worldwide

Reporters and editors: Smash & Wrecker team leader Kyle Maroney is available at 585-749-6186 or kdd4@cisunix.unh.edu. UNH marketing major Corey Marceau, who is assisting the team with marketing and communications, is available to coordinate interviews at 603-205-2814 or csw8@cisunix.unh.edu.

Media Contact: [Beth Potier](#) | 603-862-1566 | UNH Media Relations



T-hall

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