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RoboGames 2007 – Impossible to Imagine, Impossible to Forget!

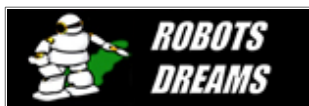
by Lem Fugitt, www.robots-dreams.com

RoboGames is difficult to imagine without actually experiencing it, and almost as hard to explain, even if you've participated as we did this June at the Fort Mason complex in San Francisco.





ZOOM ON COVER



It was the strangest, most exciting, most confusing, most dynamic four days we have ever experienced. Imagine the latest, most advanced robot and AI technology, side by side with brute force Combot monsters that are capable of launching competitors weighing upwards of two hundred pounds so high up in the air that they sometimes put a dent in the ceiling or crack the thick plastic protective walls. It's like dropping Albert Einstein and Isaac Newton along with "Bill & Ted" right into the middle of "Mad Max – Beyond Thunderdome."

The statistics - over 800 entries, 62 different robot events, participants from all over the globe, thousands of spectators every day - are extremely impressive, yet the only tell a small part of the story.

According to David Calkins, the founder and guiding force behind RoboGames, "This is the world's largest open competition. Absolutely anyone can compete." A few purists and academics might be put off by the idea of going up against non-professionals and amateurs that included junior high school students, factory workers, housewives, and even senior citizens. Yet it's exactly that openness and acceptance of anyone that wants to make the effort to compete so uniquely American and exciting.

When we first arrived at Fort Mason and checked in, we were put off by the lack of organization. No one seemed to know exactly where things were, or when the event schedules would be published, or even when we would be getting power to our pit area so that we could start getting our robots setup for the competition. But, realizing that we had already made a major investment in plane tickets, hotel rooms, team shirts and hats, food, taxi fare, etc, we decided to hang in there and see how things developed.



RoboGames isn't just noise and destruction. It's also about skill, technique, and craftsmanship.



It didn't take more than an hour before our attitude changed completely and we fell totally in love with the RoboGames experience. We realized that RoboGames is run entirely by volunteers – people that are interested in robots, often to a fanatical extreme, and care enough to devote a lot of their personal time and effort so that this unique event takes place every year. It's like an old fashioned barn-raising where everyone pitches in to do whatever is necessary for the benefit of the whole community.

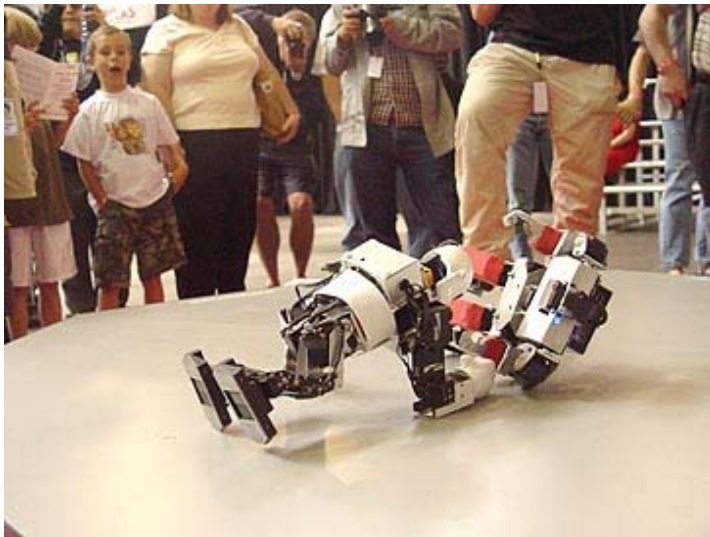




David Calkins and his wife Simone seemed to be everywhere, including acting as judges for the art-bot competitions.

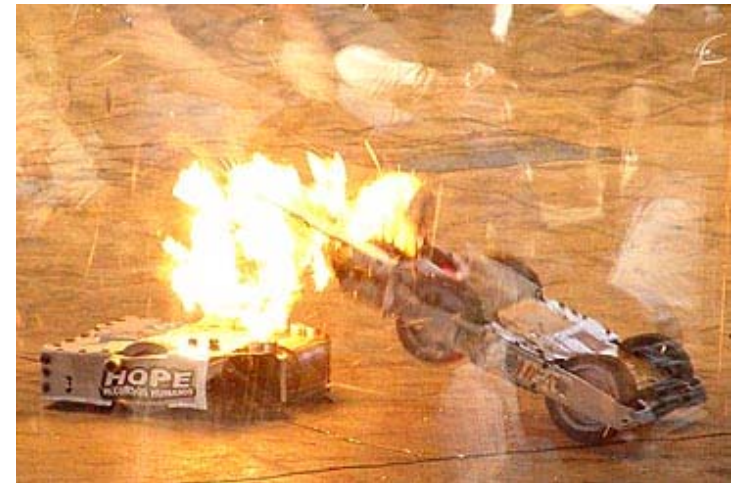


The Robot Magazine booth was always well attended and drew a lot of crowds.



The ROBO-ONE style humanoid wrestling events proved to be extremely popular.

Leo Garza, project manager at Jamie Hyneman's M5 Industries and other robotics houses, staffed the booth.



Combat robots included flame throwers, a real crowd pleaser.



Two Robonova-1s fight.

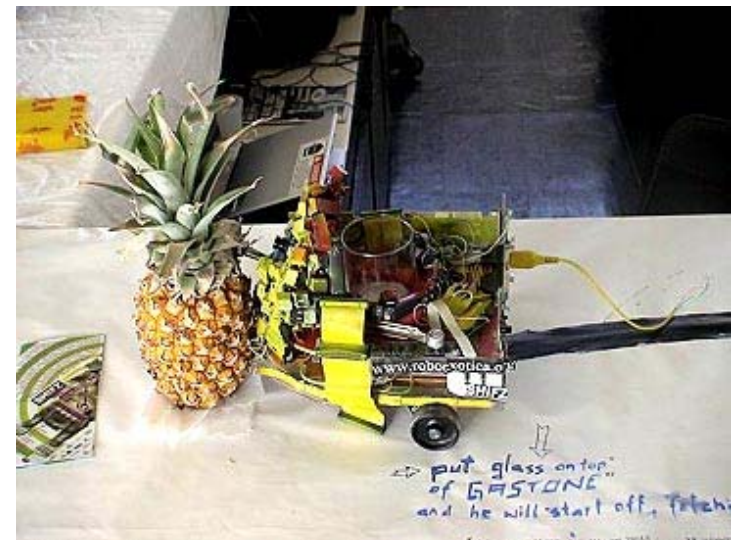


Chris and Rob Farrell, a father and son team from Maine, put on an amazing show for the crowds with their custom designed humanoid robots. It won't be long before they join the ROBO-ONE competitions in Japan.

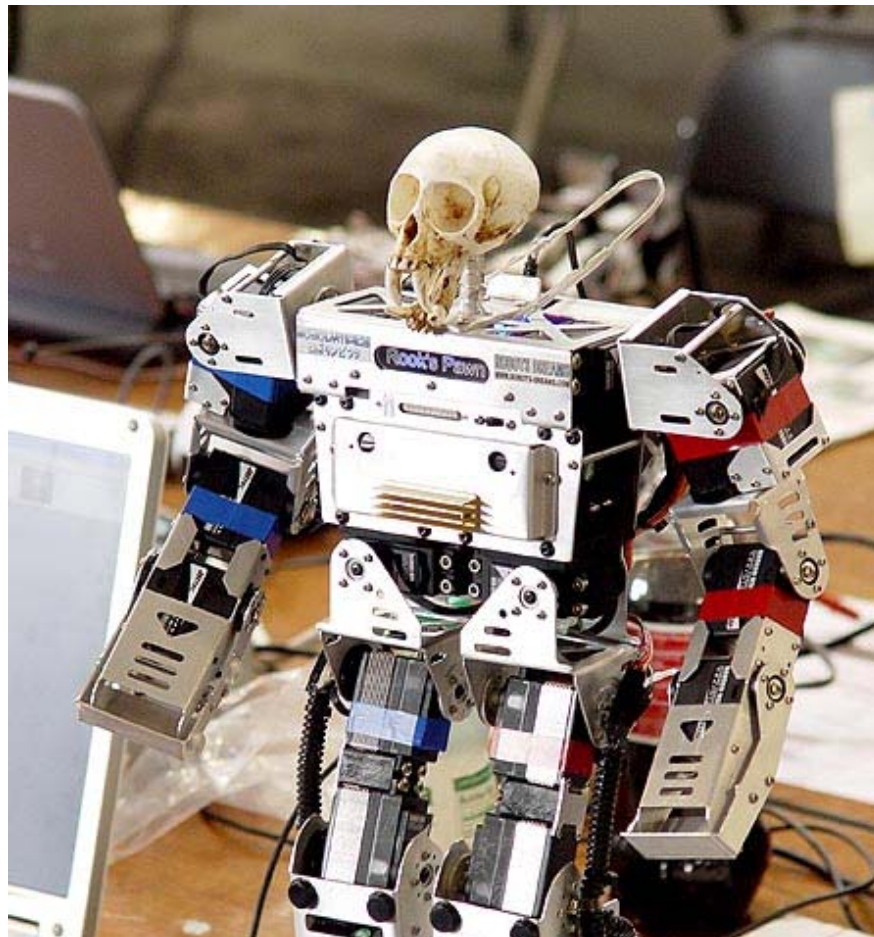


Instead of cold metal, RoboGames awards special gold, silver, and bronze electronic metals to the top placing competitors in each event.

Circuitry embedded in the metal displays the winners name and other information on a scrolling LED display panel.



Bartender bot.



The number of robot entries has steadily increased each year, and set a new record of 850 this time around. More important, the breadth and diversity of the robots and the technology it took to build them, was breath taking. Of course, we've read about some of the advanced AI driven robot soccer projects, the life sized extremely realistic Chinese android, Tetsujin (Iron Man) robots, and others, in magazines and on the internet. But here they all were – all in one location, showing off their skills, abilities, and sometimes shortcomings, for everyone to see and enjoy.

Without exception, their creators where not only willing to answer questions – they welcomed the opportunity to share their knowledge and expertise with anyone that expressed sincere interest.

As regular readers of Robots Dreams are already aware, we have a real preoccupation with humanoid ROBO-ONE type robots. We were really curious to see how the level of the US builders has evolved.

It was a pleasant surprise to find quite a few competitors, like Matt Bauer, Rob and Chris Farrell, and others, who can definitely

compete in robot wrestling at the same level as their Japanese counterparts. [<http://www.robots-dreams.com/2007/07/robogames-200-1.html>].

Currently, their one weakness is dealing with obstacles, like climbing a set of stairs [<http://www.robots-dreams.com/2007/06/robogames-200-2.html>].

But it's obvious that they have the necessary technical skills and know-how, so with practice they will quickly catch up, and perhaps even pass, the Japanese level fairly quickly.

There were robots, and robot events at RoboGames that we had never seen before, or even imagined, like the autonomous humanoid robots playing basketball. Granted, they were slow, and sometimes had difficulty finding the hoop, but the fact that they could play at all was both amazing and inspiring. In another event, autonomous humanoid robots were following a blue tape line that snaked back and forth across the floor for at least 20 meters. And there were 'Magellan' robots competing outside on the grounds of Fort Mason in a mini version of the DARPA Challenge. Every place we turned there was some new and exciting robot or competition to learn about and enjoy.

CRASH COURSE IN ROBOTICS

While RoboGames is a uniquely "American" competition in style and spirit, the competitors come from all over the globe like the "RioBotz" team that flew in from Rio de Janeiro lead by Professor Marco Meggiolaro. Their robots "Touro" and "Touro Light" captured the gold metals for both the middleweight and lightweight combat robot events.

When asked how he felt about RoboGames, professor Meggiolaro responded, "RoboGames is a 3-day crash course in Robotics. We've learned more during these 3 days than during the entire past year."

He also had some great comments about the value of robotics to motivate and inspire students, "My students easily and gladly pull off all-nighters when it is about building robots. Nothing else could get them so much motivated. And they're learning in the process. When something breaks or just doesn't work well, I tell them how important calculations are, and they actually get interested in studying Calculus or Physics! They'll read an entire boring book if necessary, or spend weeks searching the web, just to make sure our robots can improve somehow."



The younger generation doesn't seem to share their parents fears or concerns about robots.



Living in Japan, where Combot robot competitions

[<http://www.robots-dreams.com/2007/07/robogames-200-2.html>] are basically unknown, we had never had the opportunity to experience the event first hand. Watching the competitions up close for the first time at RoboGames filled us with new respect, and awe at what the Combat robot builders have been able to accomplish. They take traditionally dry textbook physics formulas and principles, bring them to life, and turn them into massively powerful, and sometimes humorous, robots.

One of our favorite Combat robots, "The Red Baron,"

[<http://www.robots-dreams.com/2007/07/robogames-2007-.html>] a heavyweight red dog house complete with Snoopy on the roof wearing his flying scarf and goggles, and a menacing flamethrower, put on a terrific show for the crowds. Unfortunately he didn't make it into the finals, but did end up with a metal in the "Best of Show" category.

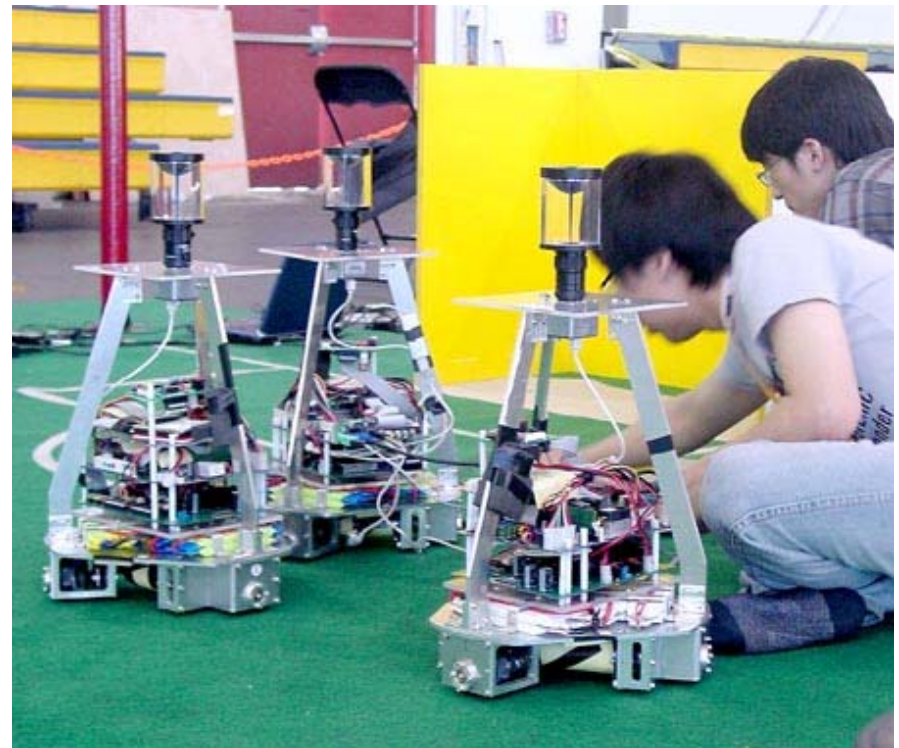
There's a 'human side' to RoboGames as well. We had the chance to spend some time with Monty Reed [<http://www.robots-dreams.com/2007/07/robogames-200-3.html>], who has consistently earned gold metals in the Tetsujin (iron man) events. His involvement in robotics was triggered by personal need when was injured in a parachute accident as a US Army Airborne Ranger. Faced with a doctor's prognosis of paralysis, Monty began sketching out the first concepts that he eventually turned into his award winning "LifeSuit." Luckily, he was able to regain almost complete mobility without the need for external augmentation, but has dedicated the last twenty plus years to developing and improving the LifeSuit series to provide disabled people with enhanced mobility and independence. At RoboGames 2007, he established new assisted weight lifting records, and demonstrated the ability to actually jump using LifeSuit.

BEHIND THE SCENES TECH

Even the behind the scenes technology and effort supporting the event is surprising. For example, the combat robot arena, which may look like a large greenhouse/shed to the untrained eye, is actually a massive piece of engineering design. Measuring 32 feet long by 36 feet wide, the arena tips the scales at 18 tons (36,000 pounds) and takes two crews of 8 workers each, working double shifts, close to 18 hours to setup for battle. The floor is cold rolled steel welded to thick steel channel, and the see through walls are dual layer polycarbonate up to waist level and single layer above that. Since some of the heavier combat robots, which can weigh up to 360 pounds, sometimes go flying through the air, the arena roof is double layered, shrapnel absorbing wood.

Of course, the real test of how well you like anything is whether or not you would go out of your way to experience it again. Would we attend RoboGames again? Is it that important and meaningful to us?

Absolutely no question. We wouldn't miss it for the world.



Soccer robots came in all different shapes and sizes, and used very different sensors and techniques.

RoboGames 2008 is scheduled for June 12-15th, 2008, in San Francisco. We'll be there with bells on. Whether you're a spectator, a builder, an avid competitor, a technologist, a student, or just someone that's curious to find out what it's all about, we'd love to see you there too!

RoboGames, robogames.net

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