

# Kids Learn Java at Robot Competition

## Torrey Pines High School Wins Again

By Vic Wintriss



First place Team TPHS with friend. (L-R) Samvit Ramadurgam, Prabhav Jain, Joel Jauregui, Jesse Vismonte, Alex Baratti, Mark Vismonte, Theresa Lee, Ling Yeung.



Judge Bob Martynec confers with (L-R) Alex Gillespie, Alex Baratti and team mentor Aaron VonderHaar.



(L-R) Chief Judge Paul Webber, Robot Wranglers Jared and Aaron Schrock, Judges Dave Massey, Duncan McGehee, Rod Schrock, Ian Brandt.

Creative Solutions in Escondido.

Most teams utilized a wall-hugging algorithm to navigate through the maze by staying close to one wall, a method that will always get you through a maze, albeit slowly. Some teams, like Team Squirrel, resorted to dead reckoning, where navigation directions were pre-programmed into the SPOT controllers. "If I had not mixed up a right turn with a left turn, we would have won," said Sean Kemper. His team included brother Ryan Kemper and Matt Allen, and came in third with 600 total points.

The Gunn High School team from Palo Alto included team leader Anand Gupta, team mentor Joshua Paley, Lisa Fawcett, Ryan Mast, Michael Buchman, Audrey Ho, Bonan Zhang, Ryo Asai, Michael Rivlin, Anton Savinov and Nate Levine. Team MVJRT09 from Monta Vista High School in Cupertino included team leader Sam Sharps, Greg Klein, Madhav Srinivasan, Rahul Nadkarni and Tim Wheeler. Team Torrey Pines High School lead by Mark Vismonte included Jesse Vismonte, Jacob Cole, Prithvi Undavalli, Minh Luong, Joel Jauregui, Samvit Ramadurgam, Prabhav Jain, Ling Yeung and Theresa Lee.

Local attorney Randy Moore sponsored Team Alaska from Soldotna, Alaska, which included team leader Will McDermid, Mark Youngren, Anton Krull, David Swedberg and mentor Doug Gordon.

Wintriss Technical School Teams included Team Squirrel with team leader Sean Kemper, Ryan Kemper, Matt Allen and mentor Stanley Kurdziel; Team Shwayze with team leader Carl Kyrillos, Owen Gallahue and mentor Erik Colban; Team Awesome with team leader Alex Gillespie, Alex Baratti and mentor Aaron VonderHaar; Team Numerator with team leader Kaia Colban, Andreas Colban and mentor Erik Colban; Team Poole Brothers with team leader Henry Poole, Andrew Poole, Charlie Poole and mentor Aaron VonderHaar.



Clark Scheff's robot in the maze.

Judges Ian Brandt, Bob Martynec, Dave Massey, Rod Schrock, Woody Zuill and Duncan McGehee assisted Chief Judge Paul Webber. Robot Wranglers were Jared Schrock and Aaron Schrock.

Competition sponsors included the San Diego County Fair, Sun Microsystems, Asymtek, Outsource Manufacturing, Vision Design, Johnston Creative Solutions, UCSD Jacobs School of Electrical and Computer Engineering, San Diego Java Users Group and Breezeaire.

"Teaching Java to kids gives them an incredible head-start towards highly profitable and fulfilling careers," said Vic Wintriss, Executive Director of Wintriss Technical Schools. "We have been teaching Java to children, starting in the fifth grade, for three years at our

"It was a very exciting weekend for many young programmers," said Shawn Poole whose sons, Henry and Andrew, won second place with 650 total points. "They are thrilled to have the prize of \$500! That is serious money." Team Poole Brothers was one of eleven teams participating in iARoC 2009, the second annual International Autonomous Robot Competition, sponsored by Wintriss Technical Schools in conjunction with the Kids Best program at the San Diego County Fair on June 27<sup>th</sup> and 28<sup>th</sup>.

"Andreas and Kaia both had a great time," said Erik Colban, whose two children gave themselves the name Team Numerator, since they are above the bar. Andreas, a third grader at Del Mar Hills Elementary School, was very proud of the trophy that they won for the coolest robot. "It seemed to mean a great deal to him. Now he demands that I find a place in the house where everyone will see it," said Colban. Kaia, who will be attending seventh grade at Carmel Valley Middle School, was happy with third place for their technical presentation. "Now that they understand what the competition is all about they will be more prepared for next year. They have learned that they will need to start on the project much earlier so that they will not need to stress so much during the last week before the competition," Colban said. Team Numerator placed fourth with 450 total points.

Preparations for the competition began at the Sun Microsystems campus in UTC with a weeklong Robo Camp sponsored by Sun (which was recently acquired by Oracle). Participants worked twelve-hour days practicing with a sample maze constructed in the Blue Whale conference room under the supervision of Eric Arseneau, a Sun employee and Java programmer. "The kids are great," said Arseneau who also acted as Master of Ceremonies for the competition. Alex Baratti, a fourth grader at Pacific Rim Elementary School in Carlsbad and Alex Gillespie, a home-schooled seventh grader (Team Awesome) spent the entire week there with their mothers, Carole and Katrin. "They loved it," Carole said. "Alex was happier here than at Disneyland."

The competition consisted of The Urban Challenge (a maze) where the best time wins and The Gold Rush Challenge (a free-for-all) where the first to finish wins. Points were also awarded for excellence in a technical presentation to the judges. The school division was open to any student through high school, and a demonstration division was open to anyone interested in having fun by entering a robot. Two adult teams entered: Team Spot On (Zeb Evans and Clark Scheff) and Team UCSD Micro Mouse (Alex Forencich and Jeffery Wurzbach). Demonstration teams were awarded certificates, but were not eligible for cash prizes.

Any robot design was acceptable, within certain size limits, but unlike many other robot competitions, the iARoC competition emphasis is on autonomous navigation through the courses, without any help from the outside world. Most contestants, therefore, chose the iRobot Create vacuum cleaner model for their robots, connected to a Sun Microsystems SPOT controller for intelligent control. The iRobot Create is a robot vacuum cleaner without the vacuum cleaner parts, made by iRobot especially for robot purposes, and requires no additional construction aside from adding more sensors. Most programs were written in the popular Java language, which is taught at Wintriss Technical Schools. The student programs running in the SPOT controller provided all the intelligence for the robots. No radio control or other remote control of the robots was permitted.

Teams were presented with competition T-shirts, uniquely color-coded for each team. Team Squirrel member Matt Allen designed the T-shirt with help from Jim Johnston of Johnston



Second Place Team Poole Brothers. (L-R) Andrew Poole, Henry Poole.



(L-R) Kaia and Andreas Colban with their Lego trophy.



Master of Ceremonies Eric Arseneau



The Gold Rush starting line (L-R) Henry Poole, Ryan Kemper, Greg Klein, Carl Kyrillos, Anand Gupta, Alex Gillespie.



Vic Wintriss presents third place prize check to Team Squirrel (L-R) Ryan Kemper, Sean Kemper, Matt Allen, team mentor Stanley Kurdziel.