



Robotics Tasmania
c/o Australian Computer Society
69 Liverpool Street
Hobart TAS 7000

ABN: 53156305487

Robotics Tasmania – Annual Events’ Report

Report prepared by Peter Wallhead, Neil Harris, Cameron Smith, Chris Bracken, Tiani Pilgrim and Susan Bowler.
28/12/09

Robotics Tasmania ran a number of robotics events aimed at school students during 2009. These events focused on developing robotics within the curriculum and as an extra curricula activity in Tasmanian schools. We hope to further develop the educational side of robotics in 2010 with the help of our valued sponsors and army of volunteers.

Both our participant and audience numbers continued to grow in 2009 as they have for the past few years, which is encouraging for the future of robotics education in Tasmania.

The table below shows the number of teams at our 3 major events; the Regional and State RoboCup Junior Competitions and First LEGO League (FLL)

| <i>Team numbers</i> | | <i>State and Regional</i> |
|-----------------------|---------------------|---------------------------|
| RoboCup Junior | Dance | 29 |
| | Rescue | 37 |
| | Soccer | 11 |
| | FLL Finals | 11 |
| Overall totals | | |
| | Schools | 35 |
| | Participants | 325 |

RoboCup Junior Competition

Friday 31 July – Saturday 1 August 2009
Stanley Burbury Lecture Theatre,
University of Tasmania, Sandy Bay

The Tasmanian State Finals Competition 2009 went off with a bang. The venue was packed with spectators and teams on both days. In the three events, we had 11 soccer teams, 27 rescue teams and 23 dance teams.

A highlight of this year’s event was the introduction of the Dance Theatre section of the Dance event, in which 11 out of the 23 total dance teams entered. Dance Theatre is judged on presentation and robot characteristics in a themed performance, whereas the existing dance event is judged on the robots’ ability to dance precisely in time with the music and their team members.

A Regional RoboCup Junior Competition was held in Devonport for the first time this year, which aimed to attract more northern Tasmanian students in to RoboCup Junior. This event, attended by 50 students from 10 different schools, was a terrific success and a great starting point for future events in the North West of the state,.

RCJ Rescue State Finals

RCJ Rescue this year has continued to grow with increased numbers in both the Rescue and Premier Rescue divisions. Numbers have become so large that a different area will be used for the final rounds in the 2010 competition.

This year’s competition was of a very high standard, exemplified by a team that had competed in the previous year’s National and International events.

Robokid from Ogilvie High School won the Junior division, L & M from MacKillop Catholic College took out the Senior division of Rescue.

A major highlight for RCJ Rescue in Tasmania was the first ever successful rescue of the victim in Premier Rescue. The team, Meh, a private entry did this twice throughout the competition and deservedly went on to win the Premier Rescue competition.

RCJ Dance State Finals

Numbers were up to the point of bursting out of the venue in dance. This year saw the introduction of the new category of Dance Theatre, which by all reports was well received. Dance Theatre allows teams to use as many robots as they like to tell a story or match a theme, without having to focus on choreography. The existing dance is now restricted to two robots that are meant to move with the music and team members.

As always, our Junior dance teams were out in force. These teams brought back some old, well choreographed favourites like The Chicken Dance, as well as some new ones like My Boy Lollybot. The Theatre competition saw demonstrations of life on Mars, some risk-taking spooks before discoing the afternoon away.

In the Senior division, Godzilla trampled the city in the Dance, while the dizzy robots of REMWIZ drew some surprising things.

Soccer

This year's Soccer event continued to demonstrate the new GEN II playing field and an adjusted set of rules which were introduced in 2008.

This year we had 11 soccer teams, ranging from the very experienced to the fresh converts to robotic soccer. The Friday round robin competition was dominated by the custom robots of The Covenant from Rosny College, but LEGO robots made up the majority of the field. The level of play varied, with some robots struggling to find the ball, while other teams managed to make use of the coloured playing field and compass sensors to make decisions on where and how to shoot the ball.

The Covenant were also successful during the finals on the Saturday, beating High and Squeaky from MacKillop Catholic College, to win the State Finals and to become one of the teams sent to the RCJA National Open to represent Tasmania.

For Seb Toombs and Nicholas Smith from The Covenant this is the 3rd year in a row they have won the State Finals and represented Tasmania at the RCJA Australian Open Soccer event.

Many thanks go out to Tiani Pilgrim, Rob Torok, Neil Winter, and Cameron Smith for stepping up to run the event over the two days.

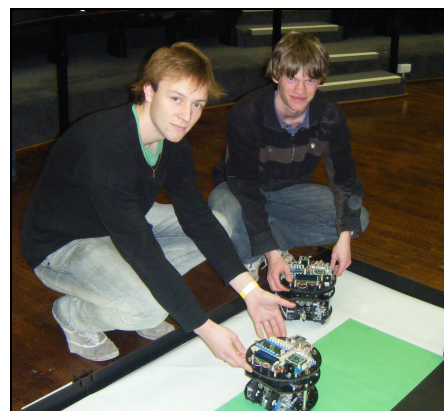


Fig 1. Seb Toombs & Nicholas Smith



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Robocup Junior Australian Open

*Saturday 19 September - Sunday 20
September 2009*
University of New South Wales, Sydney

The Scientia building was packed with students from all over the country bustling around carrying crates of LEGO. The robots ranged from the compact, well-built rescue bots to gingerly held together dance bots and the two preparation rooms were full of students intent on those last minute calibrations.

There were a few teething problems with the venue, as light crept in around shades and from displays so that garden umbrellas were needed to keep the soccer robots happy. Spectators could get an eagle eye view of the proceedings from up on the galleries that lined the venue.

The three events were lined up across the floor; the dance floor as you entered, rescue fields adjacent, and soccer fields up the end of the hall. Interviews were conducted up on the galleries.

Junior dance was held on the Saturday, along with the Junior Rescue event and the preliminary rounds of Soccer. Senior Dance, Premier Rescue and the Soccer finals were all held on Sunday.

Tasmania was represented at the National competition by five teams: Meh, RoboSoldier and Robokid in rescue, The Covenant in premier soccer, and REMWIZ in the senior dance theatre. Robokid made it through to the rescue finals, but unfortunately was knocked out without a podium placing. REMWIZ, despite some alignment difficulties, managed to draw and write on the dance floor, with their novel concept and exceptional interview gaining them first place in the Senior Theatre

challenge. Finally, The Covenant, having mastered the Tasmanian competition a month earlier, gave us a nail-biting finale to the National Soccer challenge. They were up, 3 goals to 1, on the Memristors from Queensland at half time, but the gremlins struck again, with The Covenant's goalie getting confused as to which end of the field was which. The score was 4 - 4 with one minute remaining, but The Covenant scored their final and winning goal with 45 seconds on the clock.

The final results for Tasmania at the Nationals were outstanding with two first places in two very competitive divisions. This speaks volumes about the quality of teams from Tasmania and is a real boost to our local competition.

FIRST LEGO League Tasmanian State Finals Tournament

Thursday 5 November 2009
Mackillop Catholic College

The Inaugural FLL Tasmanian Finals tournament was a very exciting day for everyone involved.

11 teams from 8 different schools, totalling over 60 students, had great fun both watching, participating and importantly learning.

Features of the day included:

- Seeing so many pairs of eyes at any one time focused on the two robotics mats, while so many points were being obtained.
- The quality and diversity of the project presentations.



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- The comments from the Teamwork judges as to how inspiring it was to see the collaboration and learning from each team at the interviews

Congratulations to the SVC Constructicons from St Virgil's College on their well deserved victory. Their robot was very impressive, as was their presentation and team interview. They accepted the Robotics Tasmania travel assistance award for the winning team and headed to Brisbane in late November for the National finals.

The Robotics Tasmania committee would like to thank:

- The spectators: Who had a ball and got an idea as to what FLL is all about.

- All the judges and volunteers on the day: Who had a smile on their faces all day and the real sense that giving of their time was a valuable experience. The students certainly appreciated it.

- The mentors: Who did an amazing job to prepare their students over only 6-8 weeks.

- MacKillop College: Who supplied the venue, personal and support to make the day a success.

And finally the students, whose enthusiasm, effort and gracious professionalism was very special and an enduring memory for all on the day. It was also nice to get some media coverage on WIN Television- a great promotion of our day.

Another wonderful highlight was to have Sandra Googin present - Head of LEGO Education for Australia, New Zealand and China. She commented that she thought it was one of the best FLL tournaments she

has ever seen and was very impressed by the talent of the Tasmanian students.

National Smart Moves First Lego League Tournament

The National First Lego League Tournament was held in Brisbane on 28 November at the Queensland University of Technology.. The event was actually two in one, encompassing a Brisbane Open with the National event. This enriched the event by adding diversity through a larger number of participants. 25 teams were present.

The event consisted of four sections:

1. Smart Moves Robotics Challenge - a series of challenges centred around collection of objects whilst avoiding obstacles.
2. Team Challenge - this challenge was given to each of the teams. This year the teams had to figure out the mass of 1 bouncy ball, with a six minute time limit. They were given 4 Styrofoam cups, 5 bouncy balls, straws and 200 grams of rice. The objective was to see how the team worked together, not necessarily getting the correct mass of the ball.
3. Team Interview - the interview consisted of questions about the team's approach to building, programming and testing the robot. They were also asked about how they worked together as a team and how they shared the responsibility for the project and robot challenge.
4. Team Project Presentation - the project challenge was to address a problem specifically related to transport in the community, defined by the team, and then a solution to solve it.

All of these sections were fascinating to watch. The highlight had to have been the



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Robotics Challenge. Two teams would compete at once and there was some excellent play-by-play commentary throughout, adding to the excitement. After a very full day, the teams and mentors were gathered for the Awards Ceremony.

Although the SVC Constructicons, representing Tasmania, did not win overall, they were second in the Robotic Challenge and placed very well in the other 3 divisions. They can be proud of their trail blazing efforts and the future opportunities it has provided for themselves and other teams from Tasmania.

It was a great day for all full of fun, camaraderie and satisfaction.

Thank you

Robotics Tasmania would like to warmly thank all our sponsors for their donations during 2009 because without your continued support our committee would not be able to offer the great Robotics orientated events to Tasmanian students.

We would also like to thank all our fantastic volunteers for their tireless hours of extra effort to both organise and help run our events this year and hopefully we can look forward to your assistance again in 2010.

Results

FIRST LEGO League Tasmanian State Finals Tournament

1st Place Overall – SVC Constructicons – St Virgil's College

2nd Place Overall – MackTrack – MacKillop Catholic College

3rd Place Overall – Bish Bash – Robosquad (Ogilvie, Friends and Sacred Heart students)

Robotics

1st -- SVC Constructicons – St Virgil's College

2nd – Cheese – Robosquad (Ogilvie, Friends)

Presentation

1st – Delicious Cake – Taroona High School

2nd – Bish Bash – Robosquad (Ogilvie, Friends and Sacred Heart students)

Team Interview

1st – MackTrack – MacKillop Catholic College

2nd – Bish Bash - Robosquad (Ogilvie, Friends and Sacred Heart students)

RoboCup Junior Competition

Rescue Results

Junior Rescue

| | Team Name | School |
|---|-----------------|--------------------------------|
| 1 | RoboKid | Ogilvie High School |
| 2 | Demolition Crew | West Launceston Primary School |
| 3 | Hato | Princes Street Primary |
| 4 | Maja | Princes St Primary |

Senior Rescue

| | Team Name | School |
|---|---------------------------|----------------------------|
| 1 | L & M | MacKillop Catholic College |
| 2 | The Return of The Awesome | New Town High School |



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| | | |
|---|------------------|----------------------------|
| | Chickens of Doom | |
| 3 | Streamliner | MacKillop Catholic College |

Premier Rescue

| | Team Name | School |
|---|------------------|-----------------------|
| 1 | Meh | Private Entry |
| 2 | Resuscitators | Riverside High School |
| 3 | The Can Is A Lie | New Town High School |
| 4 | The Claw | Clarence High School |

Highly Commended

| Team | School |
|------|--------------------|
| Maja | Princes St Primary |

UTAS Computing Prize (\$150):

Best Overall - All Rescue

| Team | School |
|------|---------------|
| Meh | Private Entry |

Dance Results

Junior Dance

| | Team Name | School |
|---|---------------------|----------------------------|
| 1 | Space Odyssey | Norwood Primary School |
| 2 | The Hippy Hippies | Montagu Bay Primary School |
| 3 | The Rocket Roosters | Riverside Primary School |
| 4 | Lollybots | Collinsvale Primary School |

Junior Dance Theatre

| | Team Name | School |
|---|--------------------------------|-------------------------------|
| 1 | Disco Delirium | Norwood Primary School |
| 2 | Mountaineer's Spooky Nightmare | Princes Street Primary School |
| 3 | Team Martian | Scotch Oakburn College |
| 4 | SOC Loonies | Scotch Oakburn |

| | | |
|--|--|---------|
| | | College |
|--|--|---------|

Senior Dance

| | Team Name | School |
|---|-------------------------------|--|
| 1 | DillyGaff | MacKillop Catholic College |
| 2 | Playing It Cool With Coldplay | Don Campus Tas Polytechnic & Tas Academy |
| 3 | Daughters of Darkness | Clarence High School |
| 4 | | |

Senior Dance Theatre

| | Team Name | School |
|---|------------------------------|--|
| 1 | REMWIZ | Ogilvie High School/The Friends School |
| 2 | Efflorescent Ephemeral Ewoks | Don Campus Tas Polytechnic & Tas Academy |
| 3 | Ultimate | MacKillop Catholic College |
| 4 | Viet-bots | Mackillop Catholic College |

Highly Commended

| Team | School |
|-----------|----------------------------|
| Lollybits | Collinsvale Primary School |

UTAS Computing Prize (\$150):

Best Overall - All Dance

| Team | School |
|--------|--|
| REMWIZ | Ogilvie High School/The Friends School |

Soccer Results

| | Team Name | School |
|---|--------------|---------------|
| 1 | The Covenant | Rosny College |



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| | | |
|---|------------------|----------------------------|
| 2 | High and Squeaky | MacKillop Catholic College |
| 3 | NERDS FC 1 | Clarence High School |
| 4 | Hybrid | New Town High School |

Highly Commended

| Team | School |
|--------|----------------------|
| Hybrid | New Town High School |

UTAS Computing Prize (\$150)
 Best Overall - All Soccer

| Team | School |
|--------------|---------------|
| The Covenant | Rosny College |

UTAS School of Engineering Award:

Junior (\$250 Cash prize)

| Team | School |
|--------------|--------|
| Robo Soldier | LCGS |

Senior (\$250 Cash prize)

| Team | School |
|--------------|---------------|
| The Covenant | Rosny College |

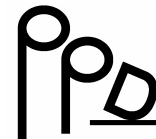
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MacKillop Catholic College



Proactive

