# RoboCupJunior Dance 2013: *Technical interview Score Sheet*

**Team name** ..... **Secondary / Primary Dance / Theatre Judge's initials** .....

| | |
|---|---|
| **Construction: Inside of Robot, the chassis, drive systems and mechanisms. (9 marks)** | |
| **Robots are designed and constructed by the students as opposed to using standard kits** Commercial robot (eg. AIBO) = 0; kit (eg. LEGO) built using instructions = 1/2; Using own design =3/4; Own design and hand-built =4. | /4 |
| **Gearing, linkages, pivots, motors (other non-basic features) are used in design and drive mechanisms** Reward design for design complexity IF it aids robot movement | /3 |
| **Reliable and robust construction and problems of robot balance have been addressed** (eg. What have you done to prevent your robot(s) from falling over or breaking if they fall?, How did you stop x from becoming loose during the performance? Have you taken risks with the construction? Reward innovation.) | /2 |
| **Sub-total** | **/9** |
| **Construction: Outside of the robot, the "body", costume, decoration, scenery & props. (6 marks)** | |
| **Robotic costumes/props/scenery are innovative and well-made** Interesting/innovative use of materials. Robotic costumes/props/scenery are designed and made by the students (not "ready-made"). Robot does not have to have external costume to gain marks here. | **/3** |
| **Additional technology used** eg lights/moving parts/ sound or light effects used on robot or scenery/props. Reward dynamic more that static representations and innovative use of technology. | **/3** |
| **Sub-total** | **/6** |
| **Innovative use of technology: Electronics.(10 marks)** | |
| **Design and construction of own electronics.** Use of kits such as NXT but understanding of its operation = 1-2; Some home built circuitry used alongside kits = 2; Teams built owns board = 3**.** | /3 |
| **Understanding of electronics used.** Understands operation of electronics (inputs, outputs, power, memory, processors, communications, sensors etc). eg What is the function of each board? How are the voltages regulated? How are motor speed/direction controlled (hardware)? What types of batteries are used? | /3 |
| **Innovative use of technologies to aid performance** (e.g. communication between robots (using IR, Ultrasonic waves or other means) to trigger events, keeping in sync with other robots, novel use of technologies such as RFID, digital camera, built-in timer to monitor duration of performance, construction and control of non-kit servo motors/sensors, etc.) | /4 |
| **Sub-total** | **/10** |
| **Sensors. (8 marks)** | |
| **Understanding of sensors used on the robot** eg. What types of sensors are on the robot? How do they work? How are they programmed? Are sensors used to trigger next part of performance? How effective are the sensors used? How did you place your sensors? Did you encounter interference when the sensors were used? etc.) No sensors used = 0 | /4 |
| **Effective use of sensors that aid the performance** eg programming to respond to sensors, using sensors to trigger next part of the performance, how effective are the sensors. Sensors must be effective in affecting the performance. No sensors used = 0 | **/4** |
| **Sub-total** | **/8** |
| **Programming. (9 marks)** | |
| **They can explain, describe and understand their program and programming language(s)** (eg. What does this section of program tell the robot to do? If I changed this command what effect would that have on the robot? What does this feature of the language do? What programming problems did they have and how solved? Why did they choose that programming language? ) No program shown = 0 | /3 |
| **They are able to explain connections between the program and their performance** (eg: How do you get your robot to synchronize to music ? If your robot(s) performs in a Theatre style, how is the robot programming related to the music? Limited programming so that robot is vaguely in time with music = 1; Robot programmed in full sync. with the music or performance = 3.) No program shown = 0 | /3 |
| **Complex, innovative or original programming used appropriate to age and level of expertise** (eg. Simple commands = 1; Use of jumps/lands, loops, nested sections, creation of own icons or sequences = 2; Use of multiple languages/assembler and use of interrupts/ innovative programming = 3) No program show= 0 | /3 |
| **Sub-total** | **/9** |
| **Team Work and Evidence of Authenticity. (8 marks)** | |
| **Teams bring all their robots, props/scenery, poster and programs (printed or on laptop) to the technical interview plus a completed "Robotic Dance Technical Sheet".** Teams can demonstrate the robots/props/scenery etc | /2 |
| **Evidence of authenticity and evolution** Students should be prepared to discuss ideas tried and discarded, the progressive evolution of their design and original ideas and problems encountered and solved. Team should use their posters to provide evidence such as photographic record of robot build. | /3 |
| **Team shared the work and collaborated as a team** (eg: How did you work as a team? Share the tasks? How did you make decisions? How many were really active in building or programming the robot? How did they solve problems as a team? Did they have sub-teams? Ask how the team has managed to complete multiple tasks. Did they have sub-teams? Did they get any help/support from adults or/and friends? If yes, ask what/how) | /3 |
| **Sub-total** | **/8** |

*Note: Significant mentor involvement including (during the competition) will cause points reduction or being disqualified..*

**Recommend for awards:**

- Programming
- Construction
- Use of Sensors
- Costume
- Electronics
- Best Poster Award

**TOTAL SCORE /50**

**Judges notes including any feedback to teams (turn over)**