



## RoboCupJunior OnStage Performance Score Sheet

**Team Name:**..... **Country:**.....

**Category:**  Primary  Secondary **Judge Name:**.....

Category	Examples of robot behaviours which can win you more points	Mark
Entertainment Value	<ul style="list-style-type: none"> <li>● Non-repetitive robot movements and/or a varied robot performance moving around the stage area will be rewarded more</li> <li>● There is a link, or common theme demonstrated in the whole performance. The idea of the performance is well understood.</li> <li>● A digital display that integrates and/or complements the performance</li> <li>● A performance that is engaging throughout</li> <li>● Ambitious use of the stage area</li> <li>● Robot movement(s) are choreographed tightly to the music</li> </ul> <p><u>Only robots and two performers are allowed on stage.</u> <u>No props or scenery are allowed on the stage</u></p>	8
Innovation & Originality	<ul style="list-style-type: none"> <li>● Robots are home-built, not kits. Own unique creation will be rewarded more</li> <li>● Technologies are used in new or different ways not seen before</li> <li>● Unusual technologies are used – for example unusual mechanical, electronic or power systems</li> </ul>	8
Quality of Display	<ul style="list-style-type: none"> <li>● Reliable robots that do not fall apart and work as expected for the duration of the performance</li> <li>● Home-built robot costumes complement the performance and are engaging</li> <li>● A slick and polished performance throughout the display</li> </ul>	8
Technical Complexity	<ul style="list-style-type: none"> <li>● Robot movement around the whole stage area</li> <li>● Synchronization and/or communication between robots</li> <li>● Risky movements by robots</li> <li>● Interaction between digital display and the robots</li> </ul>	8
Sensor & Interactions	<ul style="list-style-type: none"> <li>● Sensors that “add value” to the performance</li> <li>● Sensors are used in ‘original’ or different ways</li> <li>● Communication between robots to develop the performance</li> <li>● Human-robot interaction (not remote control)</li> <li>● Robot-robot interaction</li> <li>● Use of coloured markers (Secondary only)</li> </ul> <p><i>Primary: The use of line tracking robots on mats will NOT be rewarded highly</i> <i>Secondary: No lines or mats are allowed on the stage</i></p>	8
Deductions ?	<ul style="list-style-type: none"> <li>● Each unplanned human intervention: -3</li> <li>● Restarts: -3 for each re-start</li> <li>● Allotted time: -3 for each 10 seconds over</li> <li>● Within area: -3 for each infraction of the boundary</li> </ul> <p><b>Infringement on the rules can will not be allowed in the second performance and marks deducted appropriately at the judge’s discretion.</b></p>	
<b>Total Score</b>		<b>/40</b>



## RoboCupJunior OnStage Technical Interview Score Sheet

**Team Name:**..... **Country:**.....

**Category:**  Primary  Secondary **Judge Name:**.....

*Teams must bring copies of their programs and details of mechanical and electrical hardware to the interview; otherwise, these categories cannot be assessed.*

Category	Examples of how high marks may be achieved are:	Mark
Programming	<ul style="list-style-type: none"> <li>● Using an age appropriate programming language</li> <li>● Able to explain how the program works and interactions between the hardware and software</li> <li>● Creating innovative programming solutions</li> <li>● Developing libraries</li> <li>● Explain decisions made and any limitations of the software</li> </ul>	<u>5</u>
Mechanical Hardware	<ul style="list-style-type: none"> <li>● Implementing reliable mechanical systems</li> <li>● Complex/innovative mechanical systems</li> <li>● Able to explain how the mechanical systems work</li> <li>● Mechanisms that have been developed for very high precision, or for mechanically 'difficult' situations</li> <li>● Appropriate actuators have been used, and there is an understanding of why they have been chosen.</li> </ul>	<u>5</u>
Electronic Hardware	<ul style="list-style-type: none"> <li>● Electronics have been developed/home built (as age appropriate)</li> <li>● An understanding of how the electronics works</li> <li>● Innovative use of sensors/integration of sensors</li> <li>● Innovative use of technologies to aid performance (e.g., cameras, speed controllers/motor controllers, GPS, different micro-controllers etc.)</li> <li>● Explain decisions made and any limitations of the electronics</li> </ul>	<u>5</u>
Robotic Communication & Interaction	<ul style="list-style-type: none"> <li>● Use of effective robotic communication</li> <li>● An understanding of how the communication is occurring</li> <li>● Development of communication architectures</li> <li>● Sensors used to achieve robot-robot interaction, for example robots following robots</li> <li>● Sensors used to achieve robot-human interaction</li> </ul>	<u>6</u>
Deductions (at discretion of judges – up to 15 marks each)	<ul style="list-style-type: none"> <li>● Judges should satisfy themselves that this is the work of the students</li> <li>● Originality of robot software and hardware (<u>no reuse from previous competitions</u>)</li> <li>● Team members are able to discuss their technical involvement with the robot</li> </ul>	
<b>Total Score</b>		<b>/20</b>

Award Recommendations:

Personal Notes:



## RoboCupJunior OnStage Open Technical Demonstration Score Sheet

Team Name:..... Country:.....

Category:  Primary  Secondary Judge Name:.....

### The goals of the Open Technical Demonstration are to:

- Demonstrate the capabilities of the robot(s)
- Explain the robot system and key capabilities
- Demonstrate fully working robot systems which work as described
- Focus on the key, innovative and original capabilities of the robot(s) developed
- Effectively communicates the technical capabilities of the robot to the audience with high quality demonstrations

### Examples of areas on which the demonstration and explanation could cover includes:

- Demonstration and explanation of a working mechanism which is complex, effective, overcomes a particular challenge or addresses reliability and stability
- Demonstration of successful robot-robot or robot-human interactions (e.g. through sensors or communication protocols)
- Successful implementation of a software algorithm
- A specific sub-system which is original and innovative
- Any interesting drive mechanisms and how these are controlled
- Choice of sensors and what the sensors are used to detect or interact with and explanation of algorithms used for sensing
- Any signal processing of sensor data which is used (e.g. analogue/digital/frequency domain)
- Explanation of software architecture developed
- Integration of entire system (eg.: software, electronics, mechanics)
- Any communication mechanisms used to ensure efficient and reliable communication between robots
- The biggest challenges/problem which have been overcome, e.g. sourcing enough power, reliability, interactivity
- Any feedback loops used (e.g. using sensor feedback)

Category	Mark
Demonstration of robots' technical capabilities which are fully-working	/ 15
Explanation of robots' capabilities	/ 10
Clarity and quality of the demonstration	/ 5
Complexity of project idea and innovation of robot(s)	/ 10
<b>Total Score</b>	<b>/40</b>

Award Recommendations:

Personal Notes: