RoboCupJunior Dance Rules 2010

RoboCupJunior Dance Technicak Committee 2010:

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These are the official rules for RoboCupJunior Dance event 2010. They are released by the RoboCupJunior Dance Technical Committee. These rules have priority over any other translations.

Changes from 2009 rules are highlighted in red.

The most important rule for RoboCupJunior Dance: It is not whether you win or lose, but how much you learn that counts.

These rules are to be read in conjunction with Appendix 1: RoboCupJunior (International) Robotics Dance - Singapore, 2010.

Preface -- RoboCupJunior Dance performance:

RoboCupJunior Dance encourages teams to create a stage performance in which a robot(s) performs to or with music (1 to 2 min).

There will be two types of dance performances -- **Dance** and **Theatre Performance**.

'Dance' is a performance closely sequenced to music. The robots are required to move in time to the beat or rhythm of the music used, in the same way that a human may listen to the beat of music and dance to it. Dance assessment is closely focused on the choreography and movement of robot(s) with synchronization to music.

'Theatre' is used for a performance where music is part of the performance but the robots are not required to move strictly in time to the rhythm or beat. 'Theatre' tells a story or develops a theme. Theatre assessment is focused on the overall theatrical presentation. The performance will be judged by how effectively the robot(s) are used to present a theatrical theme. Examples: nursery rhymes, Star Wars or movie-inspired presentations, Olympic games, cars, etc.

In order to accommodate the different type of performances, we will have two different performance score sheets for 2010. The Dance and Theatre score sheets can be downloaded from the official RoboCupJunior website (http://robocupjunior.org). Teams are encouraged to use the score sheets when preparing their dance or theatre performance.

Teams must decide in which performance category they will participate. The following are some guidelines that can help with making team's decision (D- for Dance and T- for Theatre):

1. Music is integral to the dance (D) or used as a background to supplement the performance (T)
2. Deliberate, accurate and synchronized movement to music (D)
3. The theme and the story are the main issues and music just support it (T)
4. Focus on choreography (D)

The performance judges may suggest a change in the selection category for a team. Final results will be based on team scores regardless of their category.

1. STAGE.

1.1. Size.

1.1.1. The size of the performance area will be a marked rectangular area of 6 x 4 m for robots (with the 6m side facing the judges). When the whole body (main body itself, not including any huge extension from the body) of a robot moves outside the marked boundary of the performance area, it will not be disqualified, but the team will receives a score penalty. Human performers may be inside and outside the marked area. Any performance involving a height greater than 4m vertically from the stage floor must be discussed with the judges and permission sought. The boundary of the performance area will be marked with a 50mm black tape line, surrounded by a 20mm red tape line. This will enable programming to be used to identify which side of the boundary a robot finds itself. The floor provided shall be made of flat (non-glossy) white painted MDF (compressed wood fiber). Teams are encouraged to practice on the same flooring type to reduce set-up time at the International competition. While floor joints will be taped to make them as smooth as possible, robots must be prepared for irregularities of up to 3 mm in the floor surface.

1.1.2. The dance stage will be made available for teams to practice on. In fairness to all teams who may wish to practice, a booking sheet will be used to reserve the stage for short periods of time. Last team practice on stage before performance time starts must fully clean up the stage and clear the stage area at least 3 minutes before the performance start time.

1.2. Lighting.

1.2.1. The organizers will endeavor to make variable lighting including spotlights available. Teams should not expect the performance area to necessarily be able to be darkened. We cannot guarantee direct, intense spotlights will be available. It is recommended that teams design their robots to cope with variations in lighting conditions, as lighting naturally varies from venue to venue. Teams should come prepared to calibrate their robots based on the lighting conditions at the venue.

1.3. Scenery.

1.3.1. Teams are encouraged to provide their own scenery. Organizers will endeavor to provide a projection screen and projector for teams wishing to use images from a digital source (e.g., computer) at the rear of the performance area as part of their performance.

2. ROBOTS.

2.1. Size.

2.1.1. Robots may be of any size. Any robots taller than 4m from the stage floor must be discussed with the judges and permission sought.

2.2. Team.

2.2.1. There may be any number of robots on a team.

2.2.2. Each team may perform one and only one routine. The performance of that same routine will be repeated if they proceed to the finals for their division. Some modifications (improvements) of the performance using the same music may be accepted. Please consult with judges if you have any questions regarding performance modifications.

2.3. Control.

2.3.1. Robots must be controlled autonomously. Robots must also be 'wirefree' in that they must not be connected to a computer or other management device, including power sources, while performing. No member of the team may make physical contact with the robot while it performs, unless this forms part of the performance and has been discussed and approved by the judges PRIOR to the performance. The team MUST explain the reason for the physical contact to the judges during the interview.

2.3.2. Robots may be started by humans, either manually or with remote control at the beginning of the performance. See also 7.1.3.

2.4. Costumes.

2.4.1. Costumes for robots and/or human performers are encouraged, and will be awarded points.

3. ROUTINE.

3.1. Duration.

3.1.1. Each team will have a total of 5 minutes for their presentation. NOTE: This time includes the time for set-up, a possible and encouraged introduction and the performance, including any re-starts due to factors under the team's control. It does not include time needed for packing up and clearing the stage.

3.1.2. The duration of a performance routine is no more than 2 minutes and no less than 1 minute.

3.1.3. If a team exceeds the time limits explained in 3.1.1 and 3.1.2 in any way by reasons that are their own fault, the team will be penalized. The judges will start one clock at the moment a team member steps on the stage for the maximum five minutes period, and another clock at the beginning of the music for the minimum one to a maximum of two minutes for the performance period.

3.2. Music.

3.2.1. Teams must provide their own audio source (music) in a Compact Disc (CD-R, CD-RW) in Audio track or MP3 file. You must submit one (and only one!) file or audio track for the entire routine. Music should be given to the sound technicians during a team's practice period. Teams are encouraged to bring more than two copies of the CD. Each CD should contain only one copy of the music that the team uses for their performance.

3.2.2. Teams are strongly encouraged to bring a good quality audio source (music), since their evaluation depends also on the music quality.

3.2.3. The music should commence at the beginning of the audio source (music), after a silent leader of a few seconds.

3.2.4. The audio source (music) should be clearly labeled with the team's name.

3.3. Humans.

3.3.1. Human team members may perform with their robots. They will be considered as 'props.' There is no penalty for humans not performing with their robots.

3.3.2. Human team members must not touch the robots (except to start them). See 2.3.1.

3.3.3. No member of the team may make physical contact with the robot while it performs, unless this forms part of the performance and has been discussed with and approved by the judges PRIOR to the performance (See 2.3.1).

3.4. Start of Routine.

3.4.1. An official will start the music for the routine.

3.4.2. One human team member (or several members if a team uses multiple robots and props) will start each robot, either by hand or remote control. Teams are very strongly encouraged to program their robot to begin the routine a few seconds after the music starts. This is because it is extremely difficult to judge precisely when the music will sound after the audio source is started. It is hard to time the robot's choreography without knowing exactly when the music will begin. Also, depending on the configuration of the dance stage and the sound system at the venue, it is possible that the human starting the robot will not be able to see the official starting the audio source; and vice versa. Teams should come prepared for these conditions.

3.5. Restarts and repeats.

3.5.1. Teams are allowed to restart their routine if necessary, at the discretion of the officials. Any restart, unless due to a problem which is not the fault of the team, will result in a score penalty. A maximum of two restarts will be allowed. After two restarts, the team must continue with the penalty or leave the stage.

3.5.2. Teams are allowed to repeat their routine at the discretion of the officials.

3.6. Security.

3.6.1. In order to protect participants, officials and bystanders, routines may not including explosions, smoke or flame, use of water, or any other hazardous substances. Each team whose routine includes any situation that could be deemed hazardous, including the possibility of damaging the stage, must submit a report outlining the content of their dance routine to the chief judge BEFORE the competition. At his/her discretion, the Chief Judge may request a demonstration of the activity. Teams not conforming to this rule may not be allowed to present their routine. Wherever possible, teams shall avoid the use of none battery source of electricity for any aspect of their performance. If necessary, teams may apply to the Chief Judge PRIOR to performance for exemption from this rule. At his/her discretion, the Chief Judge may disqualify the performance for safety reasons.

4. COMMUNICATION BETWEEN ROBOTS

4.1 During the performance, any robot on stage may communicate with another robot from the same team that is also on stage, however the source of communication must be infrared (IR), Ultrasonic, or BlueTooth. It is the responsibility of the teams to take care that their communication will not interfere with other teams' robots when practicing or performing. No team is permitted to use radio frequency (RF) signals like WLAN wireless communication, as this may interfere with robots in other leagues. Teams with robot communication MUST explain the device as well as the program to the judges at the interview. Teams may to contact the Dance Technical Committee Chairperson, Eli Kolberg (Israel), at: elik3@bezeqint.net for more information.

5. JUDGING.

Note: There will be different performance scoring sheets for the Dance and Theatre categories. The Dance and Theatre score sheets can be downloaded from the official RoboCupJunior website (http://robocupjunior.org).

5.1. Authenticity and Originality.

5.1.1. All teams will be judged in an interview and during the performance. Each team's overall score will be decided by the total of their (best) performance and their interview.

5.1.2. The performance is to be unique. Teams who, in the opinion of the judges, have knowingly produced duplicate robots, costume or performance movement (duplicate music is allowed) of another team or reused previous year's robots of the same team will be interviewed by a panel of three Dance officials. Penalties range from a possible 10% score reduction to a maximum penalty of exclusion from the competition.

5.2. Officials. (Previously in Appendix 1)

5.2.1. Performances will be judged by a panel of at least three officials, at least one of whom will judge all performances. The interview judges may not be the same as the performance judges. Interviews will be judged by two officials, at least one of whom will be the same as one of the performance judges.

5.2.2. At least three officials for performances and at least two officials for interviews will be designated prior to the tournament.

5.2.3. The officials shall not have close relationship with any of the teams of the teams in the age-group they judge.

5.3. Categories.

5.3.1 Performances will be judged according to the following categories:
Programming (e.g., use of loops, jumps, sub-routines, type of programming language used, etc)
Construction (e.g., robots should be of sound construction, components should not fall off , appropriate use of gearing, smooth and reliable operation, interesting movements, effective use of mechanics to achieve a purpose, designing own electronics, etc)
Using Sensors effectively (e.g., to trigger different parts of the program, for detection of boundary line, etc. This category also includes 'other technologies' apart from sensors. Teams can earn more points for complexity and creativity of the sensor use.)
Choreography (e.g., robots to move in time with music, and change actions as music changes tempo or rhythm. Choreography of humans and robots will be scored separately, etc.)
Costume (e.g., costume of both humans and robots will be scored).
Entertainment Value (e.g., how much does the performance entertains or delights the audience? Originality and creativity of the presentation will be scored, etc.)

5.3.2 Each category might be weighted differently. Teams are encouraged to study the score sheets during their preparation of the performance.

5.3.3 Standard dance and theatre score sheets will be used for judging the interviews and performances.

5.4. Awards

Note: Rules 5.4.1 and 5.4.2 are not obligatory for national events.

5.4.1. Awards will be given to individual teams that achieve the highest total score in the following categories:
Programming;
Construction;
Using Sensors;
Choreography;
Costume; and
Entertainment Value.
There will be also some special awards for the following categories:
Collegiality Award (the team who, by popular vote, has given the greatest support to other teams) -- this support can be demonstrated in a number of ways, such as providing assistance with components, developing friendships and/or giving encouragement to other teams). See 5.5.
Best Poster or Best Electronic Demonstration
Novice Team Award -- the primary and the secondary team placed highest in the competition overall, and where ALL members of the team are competing at RCJI for the first time (this does not include a team having a team member(s) who has (have) competed in other challenges).

Note: Choreography, costume, and entertainment value awards will be awarded to teams performing dance or theatre upon the discretion of the judges and will not depend upon their performance score.

5.4.2. There will be three RCJI Dance Champion teams for the primary division, and three RCJI Dance Champion teams for the secondary division. The winners of each of these two divisions are the teams (or group) that achieve the highest total score as determined by combining the interview and their best performance score. Dance and theatre performances will be regarded as one league.

5.4.3. Recipients of all awards will be presented with a trophy for their team. Any further awards are at the discretion of the organizing committee.

5.4.4. Ties are allowed.

5.4.5. RoboCupJunior is an educational project. It is important that team members learn from their experiences with RCJI, and have the opportunity to improve in later years if they so choose. The organizers will provide feedback on each team's performance by providing a modified score sheet to each team captain after presentations are made at the conclusion of competition. The sheet will indicate to the team their areas of strength and also areas needing improvement, as rated by the event judges. It is important to note that these sheets are not to be used to debate positions, decisions or competition scores with the judges.

5.5. Collegiality.

5.5.1. Each participating team will have one vote to nominate the team that displayed the greatest cooperative interactions with other teams. The score will be calculated by the following equation: $score = 10 \times \left(\dfrac{number\_of\_votes\_received}{number\_of\_participating\_teams} \right)$

5.5.2. In keeping with the spirit and collegiality aspects of RCJI, a party will be provided by the organizers for all team members, mentors and supporters. It is strongly requested that all such individuals delay their departure sufficiently to attend, even if the party is held after the finals and presentations. The organizers request all team members bring business-sized cards to share with other teams at the party. These cards could include the team's name, the team members' name(s) and contact details, so students can remain in contact with each other after the event. This is optional, but encouraged. It is also requested, but not compulsory, for team members to wear either national dress, or some icon that identifies them with their country. This can be done in a humorous manner, such as an animal mascot from their country or another creative idea.

6. CREATIVITY.

6.1. The Dance challenge is intended to be very open-ended! Teams are encouraged to be as creative and entertaining as they can. Teams who show creativity and innovation will be rewarded by the judges with high point scores in the relevant sections.

7. CODE OF CONDUCT.

7.1. Fair Play.

7.1.1. Humans that in any way cause deliberate interference with robots or damage to the stage will be disqualified, if part of a team. If not part of a team they will be ask to leave the venue.

7.1.2. The team is responsible for removing all debris left from their routine that may interfere with the performance of subsequent activities.

7.1.3. It is expected that the aim of all teams is to participate in a fair and clean competition.

7.1.4. Remember: "Helping those in need and demonstrating friendship and cooperation are the spirit of RoboCupJunior as well as for making a better world."

7.2. Behavior.

7.2.1. All movement and behavior is to be of a subdued nature within the tournament venue.

7.2.2. Competitors are not to enter set-up areas of other leagues or other teams, unless expressly invited to do so by team members.

7.2.3. Participants who misbehave may be asked to leave the building and risk being disqualified from the tournament.

7.2.4. These rules will be enforced at the discretion of the referees, officials, conference organizers and local law enforcement authorities.

7.3. Mentors. (Previously in Appendix 1)

7.3.1. Mentors (teachers, parents, chaperones and other adult team-members) are not allowed in the student work area, except to assist carrying equipment in or out of the area as teams arrive or depart, and to assist with moving equipment on or off the stage.
If a problem is encountered with a computer or other device that is clearly beyond the reasonable ability level of a student to repair, a mentor may request permission from the organizers to enter the work area for the sole purpose of attending to that repair. They must leave the work area immediately after this is completed. Rule 7.3.3 still applies at these times. Mentors may not set up such equipment on stage, as this should be the responsibility of the team members. Organizers will assign volunteers to teams that need assistant for stage set-up. Teams should request this assistance from the officials. A mentor found in the student work area without an acceptable reason may lose his/her access to the venue.

7.3.2. Organizers will endeavour to provide sufficient seating for mentors to remain in a supervisory capacity around the student work area.

7.3.3. Mentors are not to repair robots or be involved in programming of students' robots. See 7.3.1.

7.3.4 Teams will be responsible for checking the updated information during the event. The updated information will be provided on notice boards in the venue, and possibly on the RCJ website. The information about website information will be announced at the beginning of the event and will be posted on the notice boards as well.

7.4. Sharing.

7.4.1. An understanding that has been a part of World RoboCup Competitions is that any technological and curricular developments should be shared with other participants after the competition.

7.4.2. Any developments may be published on the RoboCupJunior Web site after the event.

7.4.3. Sharing information furthers the mission of RoboCupJunior as an educational initiative.

7.5. Spirit.

7.5.1. It is expected that all participants, students and mentors, will respect the RoboCupJunior mission. In addition, participants should keep in mind the values and goals of RoboCupJunior. Any presentations that include violent, military, threatening or criminal elements will be excluded. Any team using an inappropriate name or logo will also be excluded. Participants are asked to carefully consider the wording and messages communicated in their presentations. What seems acceptable to one group may be offensive to friends from a different country or culture.

7.5.2. The referees and officials will act within the spirit of the event.

7.5.3. It is not whether you win or lose, but how much you learn that counts. You will really lose if you don't take this opportunity to fraternize with students and mentors from all over the world. Remember this is a unique moment!

8. DOCUMENTATION (previously in Appendix 1)

8.1. Authentication.

8.1.1 All teams are encouraged to bring written and/or photographic documentation describing their preparation efforts. The documentation must be present during the interview, and may be called upon to help establish the authenticity of a team's entry.
This should take the form of photographs and brief notes showing the development of the robots and should be no more than 5 A4 pages in length. Team should also complete the Dance Technical Robot Information Sheet before the interview. See Interview Score Sheet for more details.

8.2. Displays.

8.2.1. Teams will be given some public space to display their materials on a poster board. Since the space available could be limited by the local organizers, teams are encouraged as an alternative to bring some kind of electronic presentation in Power Point and/or other electronic format that will be displayed in the venue. The organizers will provide screening equipment. The size of the area available for a team's presentation will be announced prior to the event.

8.2.2. Posters or electronic presentations should be made in an interesting and entertaining format, as they will be viewed not only by the judges, but by other teams and the visiting members of the public. Presentations will be judged and an award made to the Primary and Secondary team with the best presentation. The presentation should provide information about the team and how you prepared for the international event. Areas that need to be covered include: team name, division (primary or secondary), team members' names (and perhaps a picture of the team members), your country, your location in your country, a little about your district and school, pictures of the robot(s) under development, and information about your robot and team. Viewers will be interested to lean about:

What you hope to achieve in robotics
What made you decide to come to RCJI this year?
Who/what helped you to get to RCJI?
Any interesting or unusual feature about the team, robot, your background or your entry.

8.2.3. Officials will review the documentation and may discuss the contents with team members. A prize will be awarded to the team with the overall most outstanding presentation.

8.2.4. Teams are encouraged to visit each other's posters.

8.2.5. Teams are encouraged to have a Web site where they describe their projects to the RCJ community.

Queries regarding these rules or their interpretation may be sent to the Chairman of the Technical Committee for Dance, Eli Kolberg (Israel), at: elik3@bezeqint.net.