Technical Description Paper

Team Information

Sub-league:	Preliminary or Advanced
Team Name:	
Country / Region:	
Need a translator? If yes, in what language? :	
	Yes or No
Has your team read the 2021 OnStage rules? :	
	Yes or No
	By selecting "Yes", you confirm that you have read the rules for competition, you understand them and agree to fully comply with them. These can be found at the official website (http://junior.robocup.org). If in doubt, please access the site and download the latest one.

The Participants Name and their Technical Role:
What are the roles of each team member? Please indicate each team member's name and their role. We would like to know how you contributed to the project as a team member.

Member 1:

Member 2:

Member 3:

Member 4:

Member 5:

Photo of Stage Area and measurements:

Stage Width:

Stage Height:

Technical Information

Overview:
What is the theme of your project? If you made plural robots, please write the number and kinds of all robots.

Mechanical Innovation:

All the ingenuity that the team made to realize difficult movements of the robot, such as moving smoothly, keeping balance, grasping objects, and so on.

Special Material:

Any materials used in constructing robots for the purpose of weight reduction, strength preservation, improvement of finish, etc.

Micro-controller:

Indicate the name and kind of controller(s) you are using. For example: NXT, Arduino, Raspberry Pi, EV3, etc.

Sensors:

Which sensors are you using? For example: Touch, Light, Sound, Rotation, Shaft encoder, Compass, Proximity, Ultrasound, Color, Compass, etc.

Self-made Electric Parts:

Have you developed any of your own electronics? For example: motor controllers, voltage regulators, amplification circuits, etc.

Wireless Communication:

Are you using wireless communication(s)? If so what type? For example: InfraRed (IR), Bluetooth (BLE or Classic), Zigbee, etc. No team is allowed to use Wi-Fi. Please refer the rule 1.4.

Battery:

What kind of battery is built into your robot? Please clarify the name and type of battery together with current and voltage. (Teams should comply with the rule 1.3.4)

Programming Language:

What programming language(s) are you using?

Performance Information

The Highlight:
The point what you want the audience and judges to show. The most important scene of your performance.

Robot-Human Interaction:
Do you interact with the robot? (i.e. human to robot interaction) If so, how?

Robot-Robot Interaction:
Are there any Robot-Robot interactions in your performance? How do robots move?

Challenges and Difficulties:
What challenges and difficulties the team has had? Did you overcome them? If so, how?

Photos and Images of the robot(s):
If there is a design drawing of the robot or if you have photos or notes of the development process, please provide them. Those will be useful to show and proof team's activities. If you would send photos or some documents, please make them fit within five sheets of A4 size paper.

Main code for robot(s):
Please attach the latest version of your code for each of the robot(s). The code is allowed to be modified after submission and will not be used during the judging process, only to inform the judges of the team's skill level and the programming language.

Collaboration:

Would you like to share your portfolio or journal with us?
Can we share it with other members of your RoboCup OnStage community?

It is always important to share our expertise and learning. RoboCup is a great way to learn more, share your experience and aspire to new project goals. Learning opportunities are the ultimate goal of the RoboCup Community.