RoboCupJunior Rescue (Line/Maze) 2026

Team Description Paper

Team Name

General information for this template

- This template contains the structure for your Team Description Paper. Please look into the official rubrics posted on the official RoboCup website and the community website to see which areas of your TDP will be scored.
- The document should be a **maximum** of **10 pages** long (from Abstract to Conclusion). Please **keep the formatting** (font size and type, margins, line spacing, etc.), number figures and tables from this template. All text in blue is included for clarity and can be removed. Text in black must remain. It's not necessary to maintain the bullet format. You may write continuous paragraphs within sections.
- Use diagrams, flow charts, etc. throughout this document to better **illustrate your work.**
- Submit the TDP as a **PDF file**.
- The competition organizer might ask the team to submit the TDP in a web form. The details for this format would be shared by the competition organizer.

Abstract

- Abstract should be between **150-250** words. Describe your robot, its main capabilities and what sets it apart from competitors. **Do not** describe your RoboCupJunior Rescue sub-league in detail.

1. Introduction

a. Team

- Brief description of each team member's roles, their past experiences, and what they contributed to the team.
- Suggestion of 20 - 100 words per team member description.

2. Project Planning

a. Overall Project Plan

- Describe your team's objective for the competition
  - Define requirements that your robot and team must meet based on constraints (i.e. physical constraints, time constraints, competition rules, etc.).
- Describe the overall project plan
  - Highlight key milestones with a project schedule/timeline (i.e. include deadlines)
  - Description of each milestone
  - Associate each milestone with a function/team member
  - Include gates to review project progress (if needed)
- Explain how the team agreed on the schedule/plan, examples include:
  - Include analysis of task and competition constraints

- What is the sequence of milestones and why (i.e. building mechanical robot then programming software)
- What conditions will be tested during each iteration
- Impact of past performance on subsequent iterations/runs

b. Integration Plan

- Explain how the team integrated their solution to achieve the objective for the competition
  - Include diagrams and images
  - Explain how each component satisfied the requirements they developed
  - Explain how each component of the robot communicates with each other
- Support your explanations with illustrations

3. Hardware

- Give a high-level overview of the hardware design of your robot
- Highlight important features and talk about how everything works together

a. Mechanical Design and Manufacturing

- Provide a detailed overview of each aspect of the robot's mechanical design. Notably:
  - Main Structure
  - Actuators and Power Train
  - Subassemblies/modules, etc.
  - Rescue mechanism (Line only) / Rescue kit deployment mechanisms (Maze only)
- Provide drawings, diagrams, or images to support your explanations and reasoning for your design choices. Reference requirements outlined during the project planning.
- Explain the testing procedures used to validate the design. Include relevant testing data.
- Highlight innovative and unusual solutions/approaches. Link back to constraints and requirements.

b. Electronic Design and Manufacturing

- Provide a detailed overview of each aspect of the robot's electronic design and explain the used tools. Notably:
  - Sensors used
  - Main controller
  - Power subsystem
  - Actuators, etc.
- Provide drawings, diagrams, or images to support your explanations and reasoning for your design choices. Reference requirements outlined during the project planning.
- Explain the testing procedures used to validate the design. Include relevant testing data.
- Highlight innovative and unusual solutions/approaches. Link back to constraints and requirements.

4. Software

- Provide an overview of the software.
- Do not include the source code in this document!

a. General software architecture

- Describe the general structure of your software
- Use diagrams and flowcharts to illustrate your explanations
- Explain how the software/code solves any problems that arose during integration
- Describe the tools that your team used or developed (e.g. libraries, algorithms, AI models)

b. Innovative solutions

- Explain any innovative and unusual solutions/approaches used to tackle the competition challenge
- Explain the testing procedures used to validate the design and present relevant testing data

5. Performance evaluation

- Evaluate the performance of the robot against competition challenges
- Describe the testing procedures implemented to verify the robot's performance
- Explain how the test results were analyzed and how they impacted the development

6. Conclusion

- Brief conclusion of this paper.

Appendix (optional)

- N.B.: The appendix will NOT be evaluated towards the score. The appendix should only be used to provide external links.

References

- References to external sources used for major parts of the development process