



Rescue Maze - Technical Challenge

RoboCupJunior Rescue Committee

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Evacuation Mission

Scenario

A building has caught fire, and your robot has been deployed to carry out a critical evacuation mission.

Inside the structure, multiple **victim zones** have been identified. Each zone represents trapped victims that must be safely evacuated.

The robot must:

- locate all victim zones,
- determine how many victims are present at each location,
- and transport the victims back to safety.

All recovered victims must be **accounted for at the evacuation point**.

Field

General Layout

- The field consists of a **6 × 4 grid of tiles**
- **Red tiles** in the field represent holes, which the robot must avoid.

Victim Zone

- 2 victims are located on a black tile
- 1 victim is located on blue tile

(Environment Simplifications)

- No obstacles, speed bumps, stairs, ramps, no checkpoints, no letter victims, no cognitive targets, no dangerous zone
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Play

Start of Game

- Each team has a maximum of **8 minutes** (calibration + run)
 - The robot starts on the **start tile (silver tile)**
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Rules

1. Victim Identification

When the robot visits a victim zone, it needs to identify the zone by using the victim identification of the maze rules. Difference to the maze rules: The black tile is identified by blinking for 6 seconds while stationary and the blue tile by a static light for 6 seconds while stationary. The robot is **not allowed** to drop **any rescue kits** on the victim zones.

2. Rescue Kit Deployment (victim deployment)

The rescue kits resemble the victims which are found in the victim zones. Depending on the number of victims found the robot needs to drop a rescue kit for each victim on the start tile.

3. Misidentification

The robot identifies a victim zone without visiting the blue or black tile.

5. Lack of Progress

Lack of Progress is defined as in the main rules. Except for:

- No LOP on blue tiles
- Visiting a red tile

After a Lack of Progress:

- the robot resumes from the start tile

6. Successful Exit Bonus

Is received when the exit bonus condition is performed like in the maze rules on the start tile and the correct amount of victims are dropped..

Scoring

The overall score can not go below 0.

Action	Points
Successful victim zone identification	+10
Successful victim deployment after the victim zone was identified	+5 per victim



Successful exit bonus when correct amount of victims dropped +10

Penalties

Action	Penalty
Misidentification	-5

End of Game

The game ends when:

- the robot reaches the start tile and performs the exit bonus condition as in the maze rules
- the time limit expires
- the team captain ends the run