Visual Programming Language for Thymio II Robot

Jiwon Shin, Roland Siegwart, Stéphane Magnenat

Goal

Learn programming with a robot

Principles

- Lower floor
- Wide walls
- Simplicity
- Tinkerability
- Support for self-learning

Event-based

If and then

Event State Action(s)

advanced mode

Available Events

Buttons touched
grey: ignore the button, red: must be touched

Obstacle detectors
grey: ignore detector, red: object close, white: object far

Ground detectors
grey: ignore detector, red: ground, white: no ground

Robot tapped
Robot felt a shock.

Hand clapped
Robot heard a loud noise.

Timer elapsed
The timer has timed out.

Available Actions

Set motor speeds
Set left and right motor and wheel speeds.

Set top colour
Set a mixture of red, green and blue to robot’s top.

Set bottom colour
Set a mixture of red, green and blue to robot’s bottom.

Play music
Choose pitch, white twice the duration of black.

Start timer
Timer elapsed event will occur after some duration.

Set robot’s state
Set the 4-bit internal state of the robot.

Interface

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