

PRIMAŠKOLÁK



Technical Documentation
OnStage

Contents

All robots	3
Vaiana	4
Maui	6
The Heart of TeFiti	8
Cave	10
Waves	12

All robots

For our robots, we use 3 EV3 control units, 1 NXT control unit, 8 control units of MicroBit units. We use 3x NXT motors, 2x EV3 medium motors, 6x EV3 large motors.

We have a gyro sensor, an NXT ultrasonic sensor, a touch sensor, and an infrared sensor.

We also use MicroBites with led strips



Pic.1.1 Robots of Vaiana, Maui, heart of TeFiti



Pic.1.2 Waves with led strips

Vaiana

Intendet use:

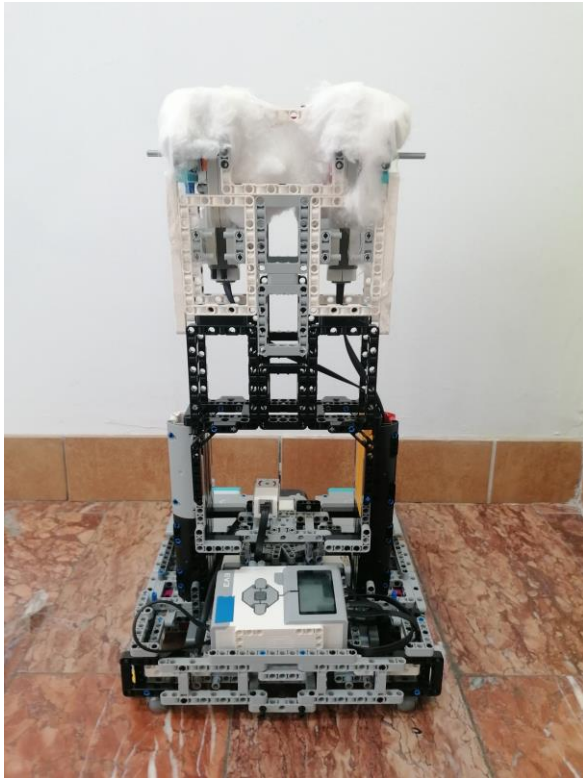
One of the main robots who is looking for a heart and dancing with Maui

Composition and use of the robot:

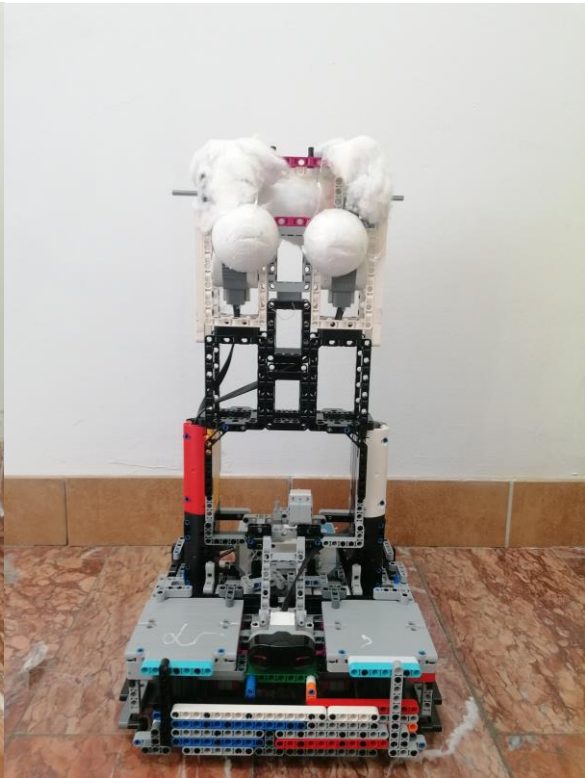
- 1pc EV3 Control Unit
 - o Controls the movement of the robot
 - o consists of EV3 cube
 - o power 6pcs AA 1.5V batteries
 - o Programming with LEGO MINDSTORM
- 2pcs Large Engine
 - o They move the robot
- 1pc Gyro Sensor
 - o Used to level the robot
- 2pcs NXT motors
 - o Use to to move the hands
- 1pc Infrared sensor

Robot Vaiana is built from lego and we used about 200 lego bricks.





Pic. 2.1. Back view



Pic. 2.2. Front view



Pic. 2.3. Side view

Maui

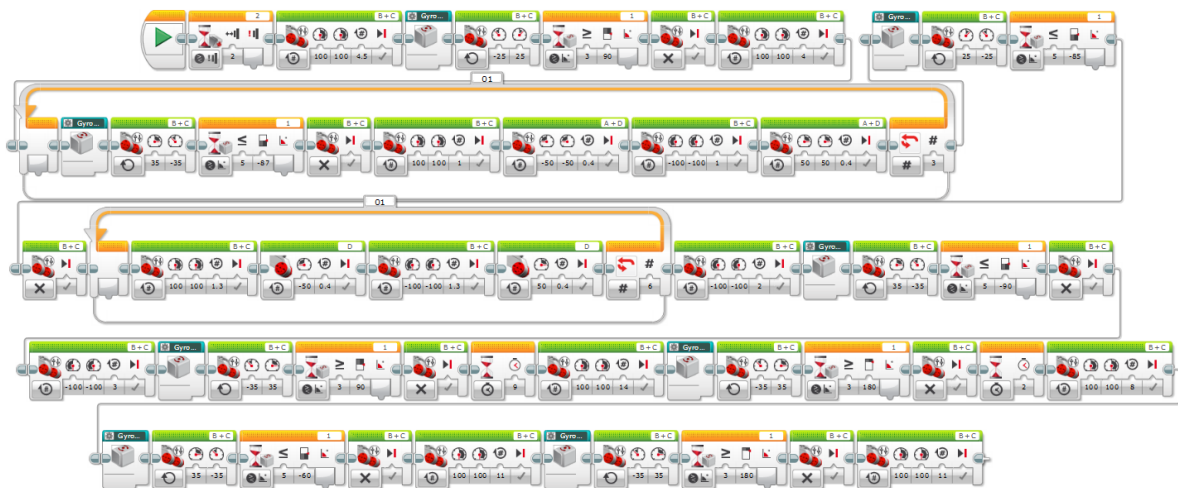
Intendet use:

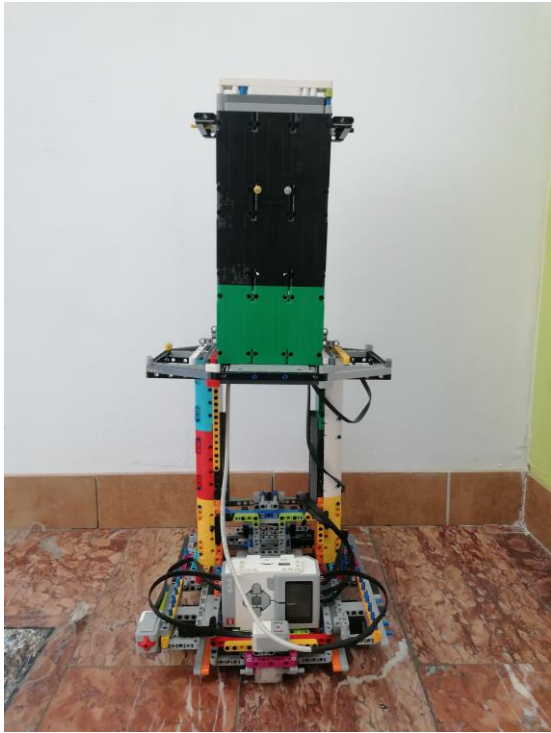
One of the main robots who is looking for a heart and dancing with Vaiana

Composition and use of the robot:

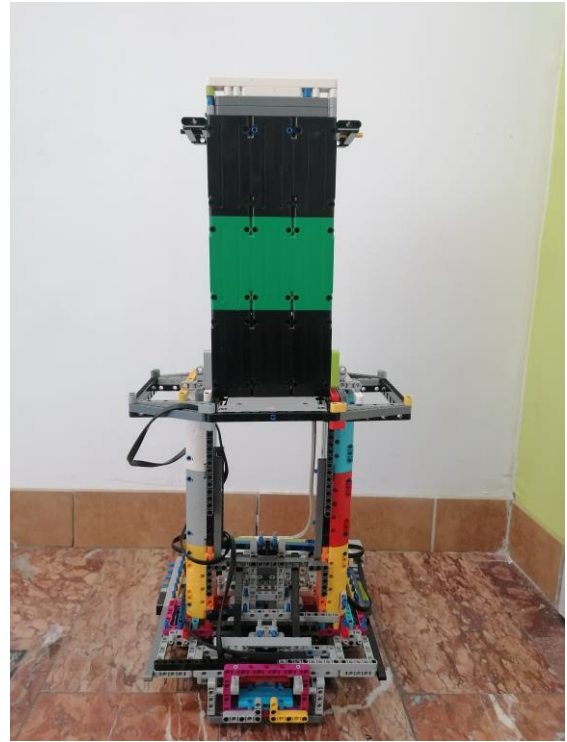
- 1pc EV3 Control Unit
 - o Controls the movement of the robot
 - o consists of EV3 cube
 - o power 6pcs AA 1.5V batteries
 - o Programming with LEGO MINDSTORM
- 2pcs Large Engine
 - o They move the robot
- 2pcs Large Engine
 - o They move arms
- 1pc Gyro Sensor
 - o Used to level the robot

The robot is built from lego and we used around 200 lego bricks.





Pic. 3.1. Front view



Pic. 3.2. Back view



Pic. 3.3. Side view

The heart of Te Fiti

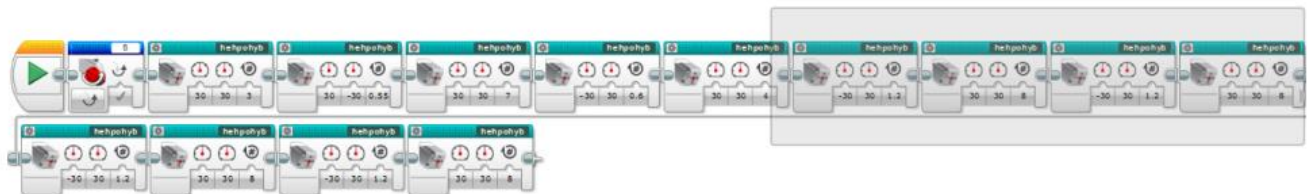
Intendet use:

It symbolizes the heart of Te Fiti fleeing from maui and vaiana. Then it is caught and it returns to the cave.

Composition and use of the robot:

- 1pc EV3 Control Unit
 - o Controls the movement of the robot
 - o consists of EV3 cube
 - o power 6pcs AA 1.5V batteries
 - o Programming with LEGO MINDSTORM
- 2pcs Middle Engine
 - o They move the robot
- 1pc MicroBit
 - o LED strip

The robot is assembled from Lego. We took advantage approximately 30 lego bricks.



Pic. 4.0. Program



Pic. 4.1. Front view



Pic. 4.2. Side view



Pic. 4.3. Back view

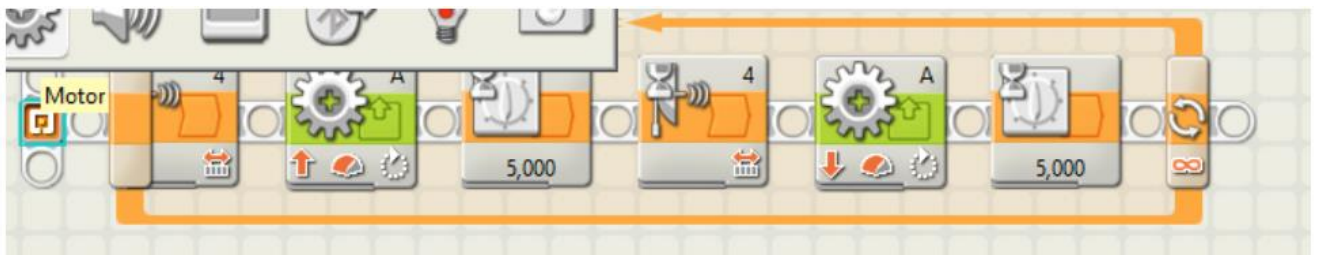
Cave

Intendet use:

It is used to turn off and on the led strip that is supposed to symbolize life

Composition and use of the robot:

- 1pc NXT Control Unit
 - o Controls
 - o power 6pcs AA 1.5V batteries
 - o Programming with NXT 2.1 Programing
- NXT motor
 - o turn on and off LED strips on the cave
- NXT ultrasonic sensor
 - o to detect movement in front of the sensor





Pic. 5.1. Front view



Pic. 5.2. Back view

Waves

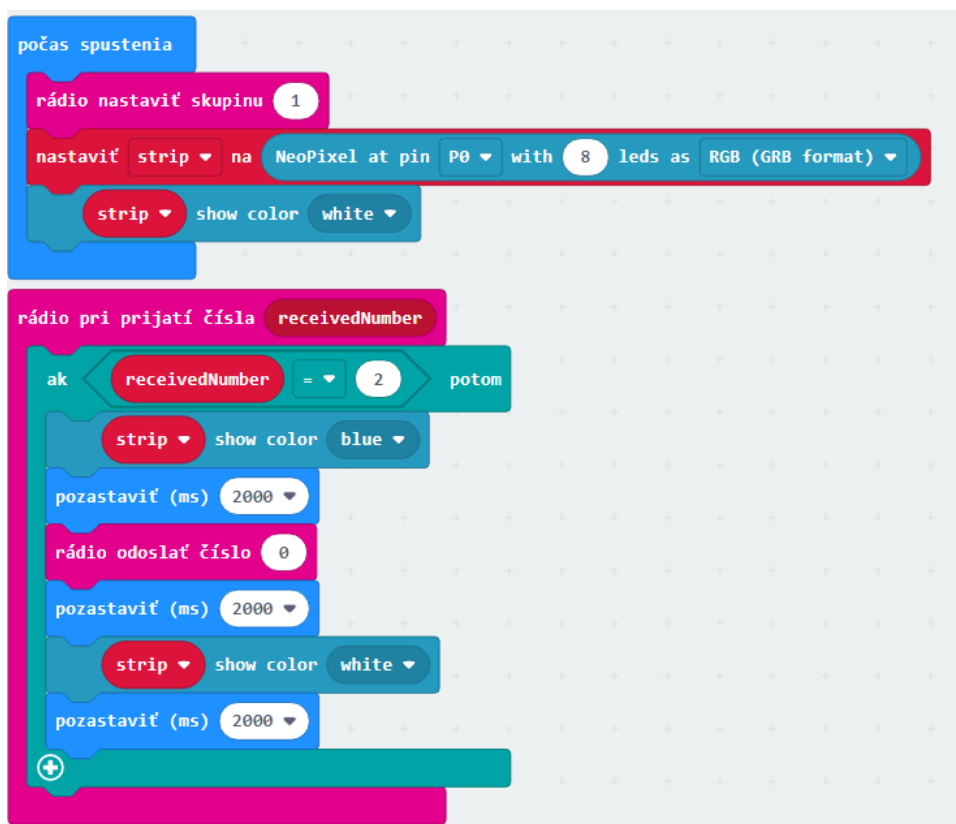
Intendet use:

Lighting effects using led strips

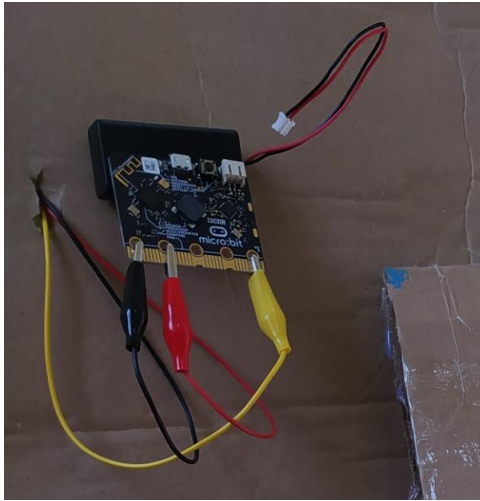
Composition and use of the robot:

- MicroBites

o LED strips



Pic. 6.0. Program



Pic. 6.1. Microbit close up



Pic. 6.2. Led strips