Marty the Robot Tech Specs

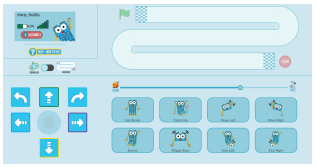
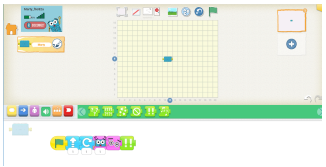
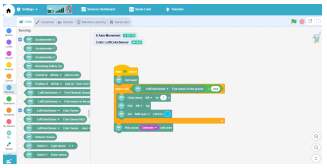
9 DoF biped with all metal geared smart servos
ROS compatible via WiFi, USB or onboard Raspberry Pi via expansion header

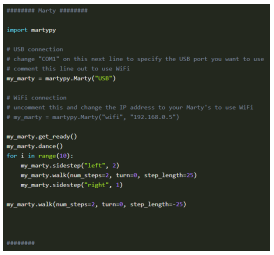
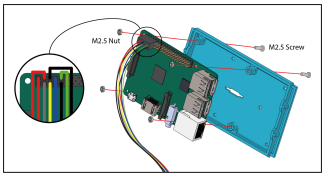
Hardware Features

Outputs	Sensors	Other Features

• 9 x Individually controllable metal geared smart servo motors
  ○ 3 per leg
  ○ Both arms
  ○ Eyebrow movement
• A full speaker for text-to-speech and playing music
• 2 x Ring of 12 individually programmable RGB LEDs
	• 9 x Position and force sensing on each motor
	• 2 x Ground contact sensor
	• 2 x IR obstacle sensor
	• Color sensor
	• 3 axis accelerometer for motion and tilt sensing
	• Optional: distance sensor, light sensor, noise sensor
	• Camera and mic via raspberry pi
		• 3200 mAh rechargeable battery, class packs come with 1 spare battery per robot and multiport charger
		• Connect over BLE, WiFi or USB (python only)
		• Auto power off
		• Automatic motor jam and fall sensing and deactivation
		• Raspberry Pi compatible
		• 2 yr no quibble warranty

Interfaces

Unplugged	Controller / Sequencer	Jr Blocks	Blocks
			
• Color tiles give instructions directly to Marty • Screen free coding for ages 4+	• Remote control to move Marty • Then start sequencing to solve challenges	• Icon based blocks • Top down Marty simulator • Program movement, sound and lights • Based on Scratch Jr	• Text based blocks • Sensor data inputs • Make custom movements, react to the environment… • Based on Scratch

Sensor Dashboard	Python	Raspberry Pi	ROS2
			ROS 2™
• Capture data from any of Marty's sensors • Use within blocks or export as csv	• Martypy library provides easy access to all Marty's features • Control multiple Martys from one script over WiFi!	• Make Marty fully autonomous! • Use camera for onboard vision processing • Run ROS onboard	• Python node over WiFi, USB or UART • ROS2 Wrappers in progress now