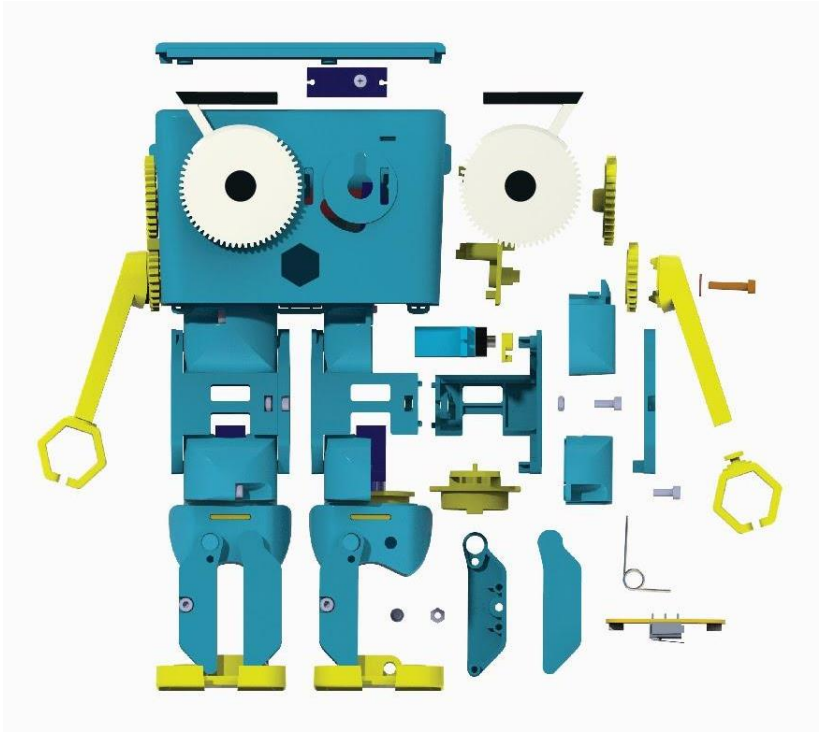




# MARTY THE ROBOT V2

robotical.io

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<b>Programming Languages</b>	<ul style="list-style-type: none"><li>• Scratch (block based coding)</li><li>• Python</li><li>• JavaScript</li><li>• ROS (Robotic Operating System) / C++</li><li>• Open API for extendability</li></ul>
<b>Software</b>	<ul style="list-style-type: none"><li>• Scratch programming platform for Marty works in your browser or on iPads and Android tablets</li><li>• Control &amp; Program Marty over WiFi or Bluetooth, and follow an ever-growing set of curriculum-linked (but fun!) activities and challenges suitable for beginners and medium coders</li><li>• Advanced programmers can get stuck in with our ROS interface and advanced user tutorials</li></ul>
<b>Motors</b>	<ul style="list-style-type: none"><li>• 9 metal geared high torque smart servo motors</li><li>• Every motor has built in force sensing and position feedback</li><li>• Expandable motor bus makes it easy to add more!</li></ul>
<b>Mechanics &amp; Movement</b>	<ul style="list-style-type: none"><li>• A real walking robot! Can balance on one leg, walk, and sidestep</li><li>• Unique 3-motor and spring walking mechanism means Marty can walk, turn, dance, kick a ball and more!</li><li>• Can walk with step times from half a second to super-slo-mo</li><li>• Design your own Marty moves from while you program Marty</li></ul>
<b>Connectivity</b>	<ul style="list-style-type: none"><li>• WiFi</li><li>• Bluetooth</li><li>• USB</li><li>• Serial</li></ul>

	<ul style="list-style-type: none"> <li>• I2C</li> </ul>
<b>Battery</b>	<ul style="list-style-type: none"> <li>• 2,600 mAh Li-Ion rechargeable battery with inbuilt charger</li> <li>• USB-C charging cable included</li> <li>• Marty will run for 2-3 hours on a charge</li> </ul>
<b>Electronics</b>	<ul style="list-style-type: none"> <li>• Robotical's Robot Interface Controller (R.I.C.), with Bluetooth, WiFi, and USB-C.</li> <li>• Can control and interface with up to 100 motors, sensors, LED outputs and more via expandable smart bus</li> <li>• 9 general purpose expansion ports (motors, sensors and outputs) and external connector for Raspberry Pi or other SBCs.</li> </ul>
<b>Sound</b>	<ul style="list-style-type: none"> <li>• Mini Speaker on board</li> <li>• Can learn short phrases and play short songs</li> </ul>
<b>Sensors</b>	<ul style="list-style-type: none"> <li>• Built-in: <ul style="list-style-type: none"> <li>○ 3 axis accelerometer &amp; tilt sensor</li> <li>○ Motor current sensing on every motor, detects motor force and interactions</li> <li>○ Motor position sensing on every motor</li> <li>○ Fall detection</li> <li>○ IR proximity &amp; beacon sensor</li> </ul> </li> <li>• Optional: <ul style="list-style-type: none"> <li>○ Distance sensor(s)</li> <li>○ Colour &amp; line sensor(s)</li> <li>○ Noise sensor(s)</li> <li>○ Light sensor</li> <li>○ Compass for direction sensing</li> <li>○ Temperature &amp; environment sensing</li> </ul> </li> <li>• With Raspberry Pi: <ul style="list-style-type: none"> <li>○ Camera for computer vision (object and face detection)</li> <li>○ Microphone</li> </ul> </li> </ul>
<b>Assembly</b>	<ul style="list-style-type: none"> <li>• Available as kit or assembled</li> <li>• Build takes around 1 hour, suitable for ages from 10+ <ul style="list-style-type: none"> <li>○ Only requires a screwdriver, which is included!</li> </ul> </li> <li>• Using metal nuts rather than screws into plastic, Marty is designed to be taken apart and reassembled many times.</li> </ul>
<b>Customisability</b>	<ul style="list-style-type: none"> <li>• Sticker sets included with every Marty for instant customisation</li> <li>• Add-ons and extensions let you customise further</li> <li>• All parts are 3D printable, and the CAD designs are available to base your designs on</li> </ul>
<b>Expandability</b>	<ul style="list-style-type: none"> <li>• Supports and holds an optional Raspberry Pi – Zero, 2 or 3. <ul style="list-style-type: none"> <li>○ With a Raspberry Pi you can run ROS and use a camera and/or microphone</li> </ul> </li> <li>• 8 general purpose expansion ports for motors, sensors, flashy lights, etc.</li> <li>• Modular I2C based bus means you can add as many expansions as you like!</li> <li>• 1 extension port for connection to a Raspberry Pi or other controller</li> <li>• ROS (Robot Operating System) for real world robotics experience.</li> <li>• Various add ons and upgrades available. <ul style="list-style-type: none"> <li>○ Disco Marty will be available straight away! A Marty covered in programmable colour changing LEDs</li> </ul> </li> </ul>
<b>Plastic components</b>	<ul style="list-style-type: none"> <li>• 50 tough injection moulded plastic parts</li> <li>• Marty is the most robust walking robot around</li> </ul>

<b>Multiple robots?</b>	<ul style="list-style-type: none"> <li>• Get as many Martys as you want on the same network.</li> <li>• Good for classes, football,</li> <li>• Control multiple Martys from one computer for synchronised Dances</li> </ul>
<b>Compatibility</b>	<ul style="list-style-type: none"> <li>• Program from PC, Android and iOS devices</li> <li>• Expandable with Raspberry Pi.</li> <li>• Arduino.</li> <li>• BBC MicroBit compatibility coming soon</li> </ul>
<b>Support</b>	<ul style="list-style-type: none"> <li>• Extensive support from dedicated team and through the Martyverse community.</li> <li>• Online resources for fun, learning and support at all stages, including video guides, tutorials, coding materials and extensive documentation).</li> </ul>

## Support & Contact us

For further information on Robotical's products or advice on how you can integrate Marty into your classroom please contact [finlay@robotical.io](mailto:finlay@robotical.io).

For enquiries into the distribution or sales of Marty please contact [Myles@robotical.io](mailto:Myles@robotical.io).