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Sparki – The Easy Robot for Everyone

PRODUCT ID: 1715

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DESCRIPTION

TECHNICAL DETAILS

DESCRIPTION

Sparki by Arcbotics is a new affordable, easy to use, and fun intro to programming, electronics, and robotics. It is geared towards kids elementary-age and above, educators looking for an easy intro to robotics, parents eager to find something affordable but educational and fun, DIY enthusiasts, and more. It is simple enough for beginners, while being feature-packed enough to be a must-have for pro-users. Sparki is your chance to have your very own robot, completely open source and available to do your bidding. Watch the ArcBotics video demoing Sparki.

The Story:
Sparki is ArcBotics' answer to robotics in education. After ArcBotics' first successful Kickstarter for Hexy the Hexapod, a low-cost open-source Arduino robot designed to be an intro to advanced robotics, ArcBotics were approached by many who asked,"Is there anything for beginners?" When they looked around, they saw that other educational robots were mostly expensive, difficult to use, lacked features, or had closed designs. However, ArcBotics know that the interest in programming and robotics from people of all ages is enormous. So they thought, "why not design an adorable new robot that lets people of all ages enjoy robotics, while offering them a wide range of possibilities, and is – most of all – fun?"

The Robot
Sparki works out of the box with its remote control. To write your own programs, just plug it in via USB, install the custom-enhanced Arduino software and try any of the dozens of example programs. ArcBotics have programs for every sensor and actuator on Sparki:

- 1x Ultrasonic distance sensor (get distance from Sparki to walls/objects)
- 1x 3-Axis Accelerometer (pick-up detection, fall detection, hill climbing)

- 1x 3-Axis Magnetometer (sense the magnetic field around Sparki, coordinate with accelerometer to detect compass heading)
- 3x Light-sensing phototransistors (light following, darkness seeking)
- 5x Line-following and edge detection sensors (mazes, line follow, sumo)
- 1x 128×64 Graphic LCD
- 1x RGB LED (RGB = generate any color!)
- 1x Buzzer (beeping, booping, and musical tones!)
- 1x IR Transmitter (like your TV remote control)
- 1x IR Receiver (like your TV)
- 1x IR Remote control (lots of buttons to control Sparki with)
- 1x TTL Serial port for expansion (talk to an Arduino/Raspberry Pi)
- 1x Bluetooth Serial Module
- Powered by 4xAA batteries (rechargeable or alkaline)
- 2x Geared stepper motors (precise, measured movement down to millimeters/ sub-degrees)
- Marker holder for drawing
- And textured ABS plastic shell for your choice of decoration

Here are some of the things you'll learn how to do with Sparki:

- Edge avoidance
- Line following
- Maze solving
- Wall avoidance
- Room navigation
- Object retrieval
- Follow/hide from light sources
- Shape drawing
- Computer input (make a keyboard/mouse using sensors)
- Games with other Sparkis

And more advanced concepts:

- PID Loops
- Pathfinding algorithms
- Signal Filtering
- Heuristics

The Programming:
Sparki's code is available as Arduino code. All code is made for free to users and open-source. Check out the tutorials here before purchasing
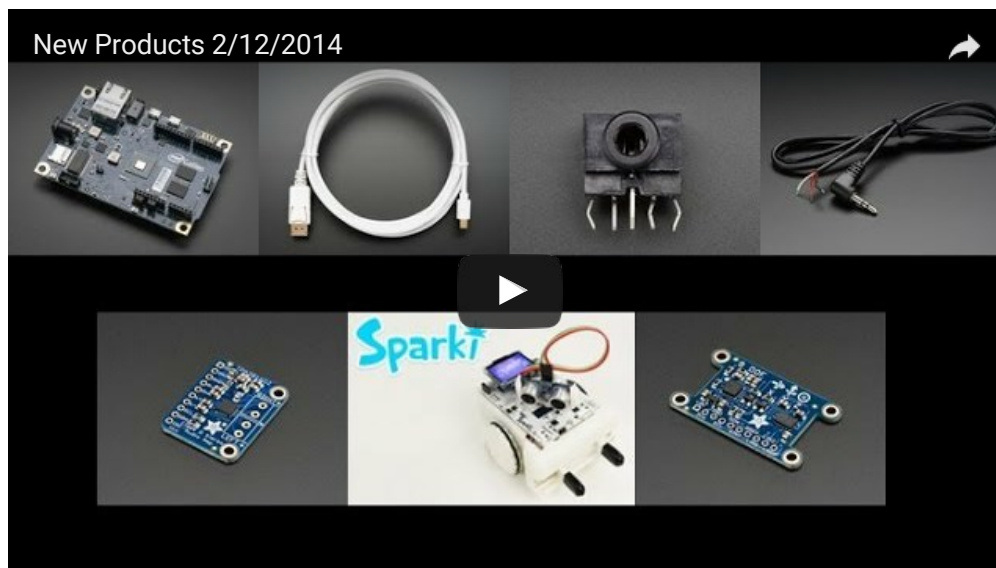
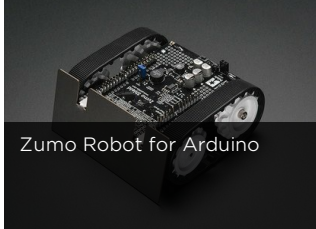Sparki -- The Easy Robot for Everyone (14:55)

TECHNICAL DETAILS

Click here to see more information on all the parts that make up Sparki!

Guide to getting started with Sparki

For all technical issues, replacement and warranty assistance for the ArcBotics products please contact ArcBotics.

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iRobot Create® 2 Programmable Robot

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