The History of the Root® Coding Robot
Real World Coding in the Classroom.

Born at one of Massachusetts' distinguished cross-disciplinary research institutes in 2011, the Root coding robot is practical tool for teaching progressive coding skills.

Its story began in a lab whose focus is on developing bioinspired systems to address real-world challenges. As part of this research, the lab was intrigued by the possibility of a robotic system that could climb and navigate magnetic structures, such as whiteboards, to complete complex tasks.

The first functional prototype was built by Research Engineer Raphael Cherney. Not only could the robot be programmed to navigate a whiteboard, but also to detect marks and erase them. The success of this prototype lead to the immediate realization of its educational potential.

Identifying the whiteboard as a great environment within which to be able to control

a robot, the team expanded the Root coding robot's capabilities to support drawing. This ability to interact with the robot by programming it to drive, draw, detect and erase opened the door for using it to deconstruct abstract STEM concepts into simple, exciting experiences.

Recognizing the importance of digital literacy in 21st century education, the team embraced

the idea of using robots to improve coding education. In 2013, Cherney started developing the Root® coding robot full-time with Zivthan Dubrovsky, Head of Robotics, and other members of the research lab.

The team expanded the robot's repertoire of features to include touch detection, colored lights, a speaker and more. The addition of these capabilities increased the robot's ease of adoption across academic subjects, along with its ability to appeal to learners' natural interests.
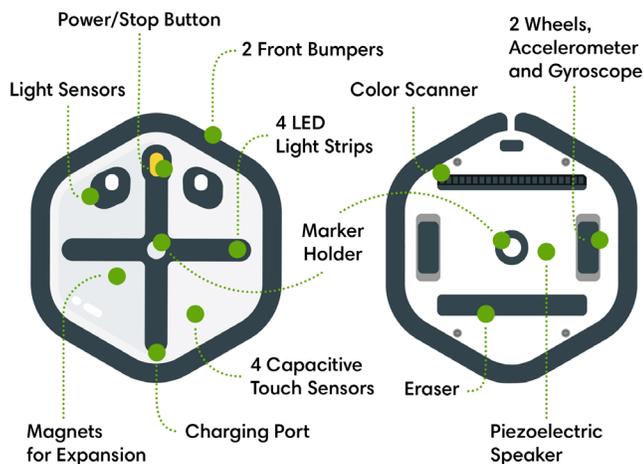
Led by expert app developer Julián da Silva Gillig, the team also developed a programming app to allow control of the robot using three progressive levels of code: graphical coding, hybrid coding or full-text coding. Including the unique ability to convert code across levels, the app is designed to support learners by advancing with them as their skills evolve.

After successfully piloting and refining the Root coding robot in homes, classrooms and even a local Boston museum, the team launched a crowdfunding campaign to gauge public interest. Receiving support from over 1,800

backers globally and a pledge of nearly $400k, the campaign exceeded its goal of $250k.

With this vote of confidence, Cherney and Dubrovsky co-founded a start-up that received exclusive rights to the Root coding robot's unique hardware and programming software. Their mission: To transform the way coding abilities are developed from youth through college, using the Root coding robot.

Knowing that one of the greatest challenges in education is finding learning tools that appeal to a broad audience of ages, skill levels and interests, the start-up continued to refine the Root coding robot's educational value. This resulted in the release of curricula modeled after educational standards, along with an app-based simulator environment for coding virtual Root coding robots.
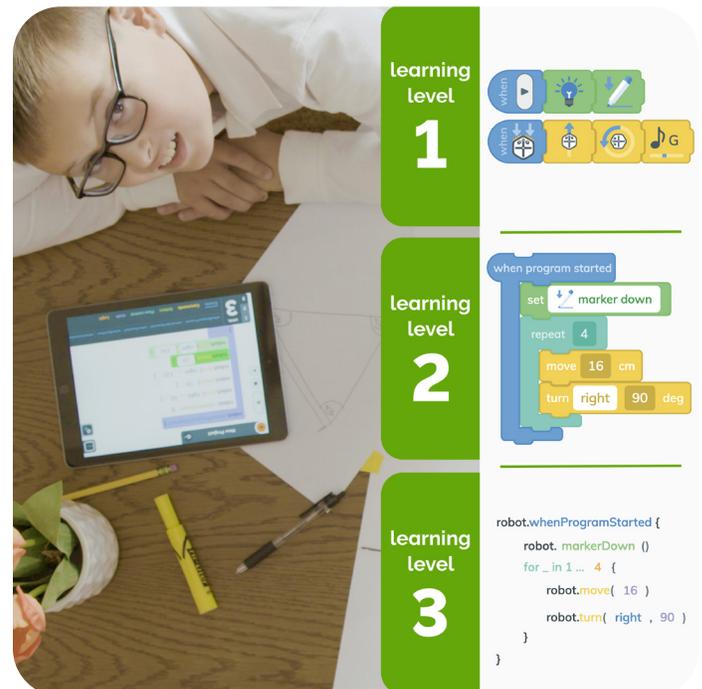
Progressive levels in the Root coding robot's learn-to-code app.

Two years later, the start-up was acquired by iRobot Corporation, the leading global consumer robotics company. Recognized by their mission to empower people to do more, the acquisition of the Root® coding robot allowed iRobot to broaden the impact of its STEM efforts with a commercially available, learn-to-code robot already used by educators, learners and parents.

Announced in 2020, iRobot launched iRobot™ Education: its educational sub-brand dedicated to using robots to empower the next generation of innovators. The sub-brand houses the Root coding robot alongside iRobot's existing Create® 2 robot—a programmable version of its popular Roomba® robot vacuum.

iRobot Education is focused on expanding the Root coding robot's portfolio to amplify learners' access to STEM education and has already released:

- The Root coding robot's new companion iRobot® Coding App, compatible with Windows, Chrome OS, iOS and macOS operating systems.

- A new, family-oriented model of the Root coding robot with fewer classroom features balanced by a decrease in price (model rt0).

- A new Root™ Brick Top accessory, enabling learners to build onto Root® coding robots using a variety of common building blocks.

- Two professional development classes to guide and support educators through using iRobot Education's learning tools.

To learn more about the Root® coding robot and how it works, visit edu.irobot.com/root