

Media Kit for “Wink” by Plum Geek

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Kickstarter Start: Wed October 28, 2015, 7AM PST
Kickstarter End: Tue November 17, 2015, 1PM PST



PLUM GEEK



Learn to code the easy way!

Wink is an Arduino based robot designed to help transition students from graphical programming to more powerful written code languages. His low cost and smarts are perfectly suited to STEM education and learning workshops. He's also a perfect introduction for grownups interested in tinkering with robotics that don't know where to begin.

The Scratch programming environment has become a popular way to introduce kids to basic programming concepts. The graphical interface is easy and inviting.

Eventually students need to move on to writing actual code. We designed Wink to be the next logical step - allowing students and grownups to learn actual written code with small simple steps while having fun along the way.

The Wink project was born out of collaboration with educators who were looking for a robot platform to bridge the simplicity of graphical style programming to "real world" programming languages like Java, Python, C, and C++. Wink is a great solution. He is low cost, fun to play with, and well suited to teach the basics of written code in an engaging way.

Wink was designed in Portland, OR, by founder Kevin and his family. The robots are manufactured in our own family owned shop.

Kickstarter Campaign

Wink was launched on Kickstarter on October 28, 2015 where the campaign shot past the funding goal of \$6000 in just under 7 hours. Wink was named a Staff Pick at Kickstarter and as of morning of the second day, is nearly 300% funded. We are so thankful to the incredible Kickstarter community that has come out to support this project in such a major way.



Wink Teaches Basic Robotics

Wink includes hardware and sensors necessary to teach common beginner level robotics tasks. Students learn how to write code to implement and tune these and other behaviors.

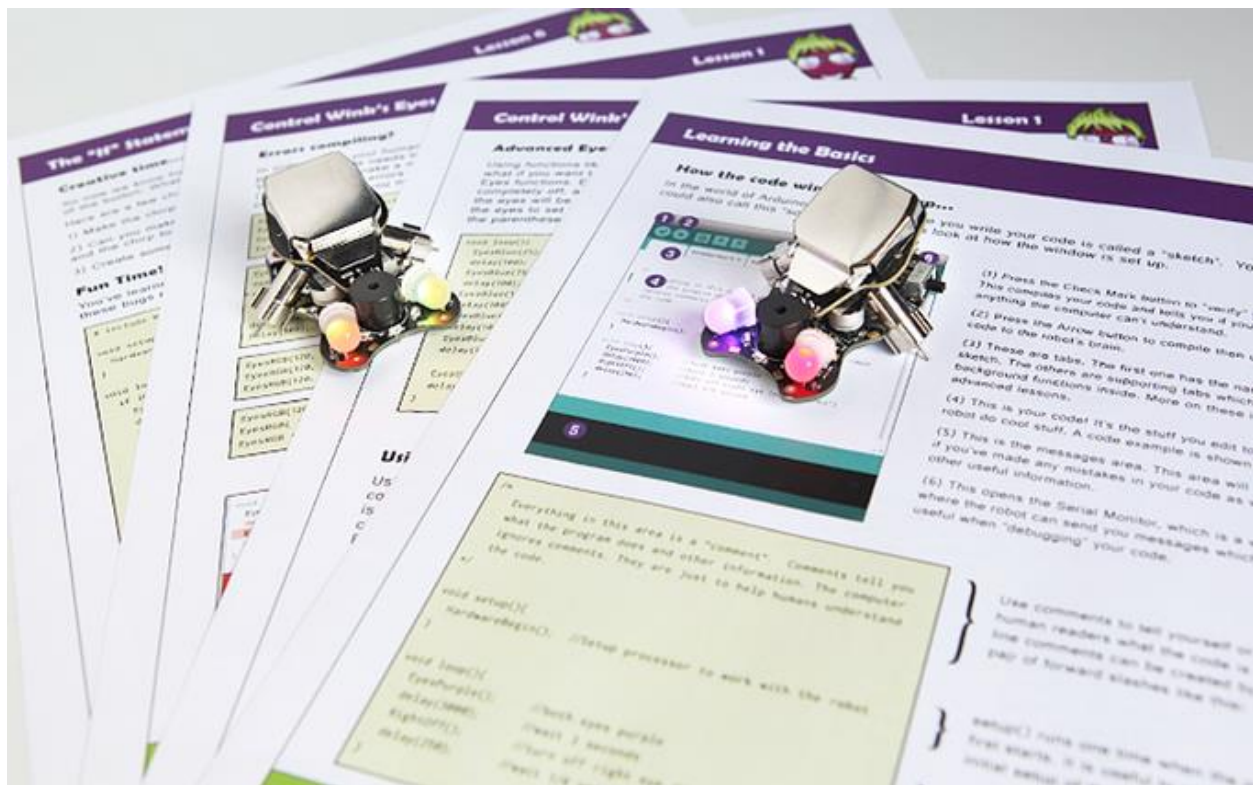
- High speed line following is possible with four infrared sensors along the front underside of the robot.
- Barrier detection is possible using an infrared headlight together with the ambient light sensors. Objects can be detected several inches from the robot.
- Light seeking is possible with three ambient light sensors situated around the front of the robot.
- Can be programmed to respond to button presses.
- Functions have been written that are extremely simple to use.
- Through the lesson plan, students advance from super simple basics to learn a base foundation of the C programming language.



Wink Project Includes a Lesson Plan

The Wink project includes a lesson plan that is free and open. The curriculum is designed to be easily adopted at home and by workshops and school programs. Lessons will be accompanied by introduction videos allowing teachers to host sessions even if they have no coding experience of their own.

- Kids (and grownups!) can learn at home
- After school programs
- Workshops
- Core classroom instruction
- Clubs such as Girl Scouts, Boy Scouts, etc.
- Maker space / Hacker space events



Lesson Plan Summary

Lessons are split into three skill levels. The first skill level is intended for kids 8 years and older (younger kids can also learn with the help of a grownup). Skill level one is also a great start for adults who would like to learn but don't know where to begin. Level two introduces some core concepts common to all programming languages. Level three gets slightly more advanced.

Level 1 Lessons List

- Lesson 1: Quick introduction to the Arduino programming interface.
- Lesson 2: Controlling Wink's eyes.
- Lesson 3: Making Wink's motors go.
- Lesson 4: Reading Wink's button. Making light and sound chirp when button is pressed.
- Lesson 5: Time for fun. Drag race. Make Wink go fast.
- Lesson 6: Simple Light Seeking.
- Lesson 7: Tuning the simple functions by passing "arguments".

Level 2 Lessons List

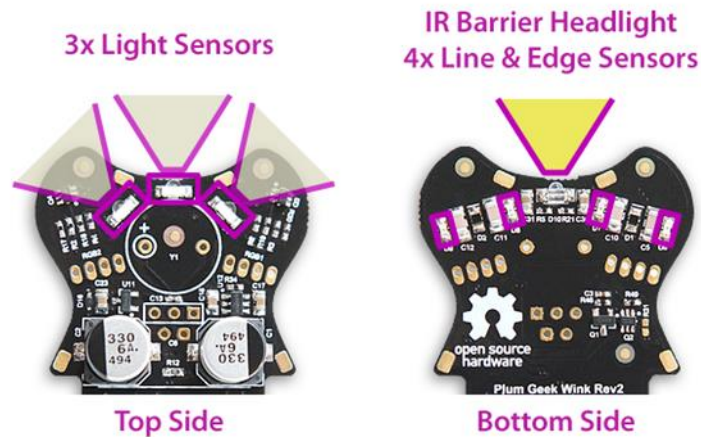
- Lesson 8: Using Variables.
- Lesson 9: Serial.print functions for debugging.
- Lesson 10: Making decisions with "if", "else", and "while".
- Lesson 11: Looping with "for".
- Lesson 12: Making and understanding functions.
- Lesson 13: Fun time. Make early Skill Level 1 examples smarter and better controlled by using your new lesson 8-12 skills.

Level 3 Lessons List

- Lesson 14: Other Data Types.
- Lesson 15: Arrays.
- Lesson 16: Boolean Operators & more complex expressions in "if" and "while".
- Lesson 17: Storing data forever in EEPROM memory.
- Lesson 18: Advanced Functions and variable "scope".
- Lesson 19: Understanding "bits" and "bitwise" operators.
- Lesson 20: Other good stuff to know.
- Lesson 21: Using your knowledge to do powerful stuff in easy ways.

Technical Details

Wink is based on the popular Arduino UNO hardware board with the Atmel ATmega328p microprocessor. It is programmed using the Arduino development environment which is free and open source.



Fast Motors: Wink's motors are FAST. At full speed he can zoom across a floor or table in the wink of an eye. Each motor can be independently driven forward or backward and at any variable speed.

RGB Eyes: Wink's eyes can be made any color you can think of and controlled individually to give your Wink a personality. Eye brightness can also be carefully controlled.

Ambient Light Sensors: Three light sensors on the top side can measure light from directly ahead, as well as 45 degrees to either side. The sensors enable light seeking and behaviors activated by lights.

Barrier Headlight: An infrared barrier headlight is tucked under Wink's nose. This can be used together with the ambient light sensors to detect obstacles several inches in front of the robot.

Line and Edge Sensors: An array of four bottom sensors along Wink's front bottom allow for high speed line following as well as edge detection.

Button: You will learn how to read the user button in your code and change how Wink reacts to it.

Sound: A piezo sound element allows simple tone chirps for audio feedback and creating alarm behaviors.

Battery: An onboard rechargeable 240 mAh LiPo battery provides hours of run time.

Charging: A complete automatic charging solution is provided right onboard. Simply plug Wink into the programming adapter and he automatically charges and stops charging when full. A charge in progress LED tells you when he's completely charged.

Our Story

We launched our first Kickstarter in February 2015 for the Ringo robot which was a huge success. Ringo was a fun project between Kevin King and his kids that eventually grew into the Plum Geek company.



Continuing in the same open source spirit that drove the Ringo design, we went back to the drawing board with Wink to design a super simple, low cost robot that could be used as a basis for teaching super newbie programmers to write actual code. We built a couple by hand for our kids then shared Wink with the world. 😊



Kevin spends his days thinking up and designing fun stuff. Nona handles shipping and admin, and Juston is the master of the assembly machines. He can solder anything. Our two awesome kiddos Parker and Hailey hang out around the shop once in a while entertaining us all. They are responsible for final approval of all of Dad's designs. Sadie (not pictured) greets the mail man daily, begs treats from the UPS guy, chases flies and flash lights, and woofs at anything that moves outside the shop.