

Goals for builders

To learn basic maker skills on an inexpensive and extendable starter project to the extent that they may independently pursue new projects. These skills include:

1. Fabrication (cutting, drilling, assembly). The project will be suitable for fabrication from commonly available materials with hand tools, but with the option for learning basic CNC work and 3D design and printing.
2. Electronics (introductory soldering and working with both prefabricated electronic modules and basic components and wiring). Parts will be inexpensive, commonly available, and well supported.
3. Programming (installing a programming environment, setting up drivers, and working within a high-level programming environment). The programming environment will be wildly accessible but allow for professional-level work.
4. Skill at participating in physical and online support communities of peers.

Goals for developers

To learn how to shepherd a project from idea through prototypes, community building, crowd-sourced funding, to project evolution and support.

The starter project

The program's initial focal point will be providing access to a small, autonomous robot design that uses the Arduino microcontroller and costs approximately \$50 to build.

Audience

The target audience is individuals or groups age 16+ who aren't afraid to learn to use saws, drills, or soldering irons, to install software, share what they learn, or make mistakes.

Project milestones

1. Construct a series of prototypes of the starter project.
2. Based on a final prototype, prepare a bill of materials, a list of part vendors, a set of assembly and set up instructions, and basic software libraries.
3. Disseminate the project online, at maker events, and with local partners to obtain feedback.
4. Conduct a crowd-sourced funding campaign to finance a run of kits.
5. Prepare and disseminate the kits. Support the project with robust online information and community.
6. Generate new starter project ideas advancing the same general goals. Provide a path to graduate builders to developers.
7. Lather, rinse, repeat.