MASSIMO BANZI

Massimo Banzi, working at the Interactive Design Institute in Ivrea in Northern Italy, has made the most significant single technical contribution to the development of physical computing. The most important component in a physical computing system is the computer. Banzi and his colleagues selected a particular family of microcontrollers, the ATmega range, which was designed by the chip manufacturer Atmel. A microcontroller is a complete computer, without the 'peripheral' devices such as a screen and keyboard, on a single silicon chip.

By itself a microcontroller is very difficult to do anything with unless you are a professional engineer. Banzi developed a 'prototyping board', the 'Arduino'. The ATmega chip is mounted on the circuit board together with additional components. These provide a stable electrical environment with the correct voltages, they enable connections to be made to other devices and, most important, the means for a laptop (or desktop) to connect with the microcontroller. Programs can be written on the laptop and then 'uploaded' to the ATmega chip. Once this is done, the microcontroller can run independently.

Accompanying this is a program which can be run on the laptop which enables the program to be edited and 'debugged'. This can be downloaded at no charge. To enable novice users to get started, Banzi has also written an introductory book 'Getting Started with Arduino'. The whole system was designed to be 'open source' which has resulted in users sharing their experience. And probably most important, all of this has been conceived as a means to enable people without an engineering background to learn. Indeed, it was originally aimed at artists and designers.

Massimo Banzi currently teaches Interaction Design at SUPSI in Lugano and is a visiting professor at CIID. You can hear him talk about the Arduino here: https://bit.ly/1xvAYIU

SUPSI is the University of Applied Sciences and Arts of Italian Switzerland.

CIID is the Copenhagen Institute of Interaction Design.