

## **The Automatic Bartender**

### **Technion Computer Science Students have Developed ROBODRINK – a Bartender that Serves a Variety of Cocktails at the Press of a Button**

Three students from the Technion Faculty of Computer Sciences have developed ROBODRINK, a robot for mixing alcoholic beverages. The robot was designed by Michal Friedman, Yoav Mizrahi and Zorik Gechman as part of an Arduino systems programming course, under the guidance of Prof. Yossi Gil, tutorial teachers Boris van Sosin and Marina Minkin, and Dr. Nir Levy, academic relations director at Microsoft.

This is essentially an automatic bartender, explains Michal Friedman. “It can mix drinks from a built-in list and prepare cocktails based on personal preferences. We built a machine that has brackets for holding eight bottles. We programmed it to mix drinks using combinations from three bottles of juice and five alcoholic beverages. Users choose a cocktail from the menu in the application we developed. When a glass is put on the platform at the edge of the track, the robot prepares the drink within seconds, based on a precise recipe.”

“We built everything from scratch,” says Zorik Gechman. “This is a project that combines both hardware and software. We assembled the electronic components and built the electrical circuits. We wrote the software for an Arduino processor and developed an app that communicates with the robot via Bluetooth, based on recipes located on the cloud.”

“We very intensively worked on this project for three months,” adds Yoav Mizrahi. “We are software people, but in order to complete our project we taught ourselves how to build the robot. We read a lot on the Internet and overcame a great many challenges.”

During the process of building the robot the students consulted with experienced bartenders who advised them regarding the most common cocktails. “The bartenders we consulted were very enthusiastic and loved the robot idea,” says Michal. “They said they’d be very happy to install one in their bars.”

The Arduino systems programming course is held in conjunction with Microsoft R&D, and provides students with the opportunity to use innovative technologies and software during their studies, including smartphones and tablets for running their applications during the development stage. The course, which was designed to challenge the students in the independent construction of products, included the planning of smart systems that combine hardware and software on the Arduino platform.