ETH *zürich*

Background information

Student Project House

Showcasing student projects

Zurich, 25 October 2021

More than 2,500 students have already received support from ETH Zurich since the launch of the Student Project House initiative on the Hönggerberg campus in 2016. Below is a small selection of the projects currently underway at the new Student Project House on the Zentrum campus.

Blindbot

Blindbot is a new type of cane for the visually impaired that uses artificial intelligence to make everyday life easier and safer. Its integrated camera records the surroundings and detects potential obstacles, and a small tactile indicator in the handle of the cane tells the user when an obstacle is nearby. Doors and steps are also detected and announced via a loudspeaker and vibration. The project team also plans to include GPS navigation to help visually impaired people find their way around unfamiliar places. The team, consisting of three Bachelor's students, meets regularly at the new Student Project House. "We mainly use the co-working space to work on the software. But the special 3D printers are also very helpful for us, as they would be too expensive for us to buy ourselves," says Alexander Bayer, an electrical engineering student at ETH and one of the three project team members. He would also like to use the results of his Bachelor's thesis at the ETH Computer Vision Lab to develop Blindbot further.

www.blindbot.ch

Background information

no1s1

This project was inspired by rapidly rising real estate prices and increasingly scarce living space in cities. The name "no1s1" (no-one's-one) refers to a meditation space that belongs to no one but itself and also manages itself, thanks to technology such as blockchain and the Internet of Things. The three ETH doctoral candidates from the Department of Civil, Environmental and Geomatic Engineering aim to encourage society to rethink the current real estate market and the ownership model. Their long-term vision is to create an independent, decentralised and transparent real estate system that is not centrally controlled by anyone, making it self-financing and self-organising without traditional corporate models. "The Student Project House has enabled us to implement the project based on our ideas with maximum freedom, flexibility and support, and to inspire large numbers of supporters. This was particularly important for this new and highly futuristic idea," says ETH doctoral student and project team member Hongyang Wang.

www.no1s1.space

Rimon Technologies

"We work at the Student Project House at least three times a week, initially at Hönggerberg and now in the centre," says Kordian Caplazi, former ETH mechanical engineering student and co-founder of Rimon Technologies. He and his co-founder, also an ETH graduate, have developed a system that allows step-by-step instructions to be created with the help of augmented reality (AR). These instructions can be used both with AR glasses and handheld devices. AR guides users so that the right information is displayed in the right place at the right time. With the virtual instructions virtually superimposed on the real machine, users have both hands free and can implement the instructions immediately. This is intended to increase learning success and minimise errors. Initially, the technology will be used primarily in the B2B sector; for example, for SMEs to train employees in the use of new machines. Use by end consumers may also be feasible in the long term.

www.rimon-ar.ch

Background information

Digit Soil

The two founders of Digit Soil are developing a device that allows a real-time health analysis of soil. "Our long-term goal is to develop a soil monitoring system that will help to implement re-sults-based agricultural policies. We also plan to make an internet platform available to farmers that will help them improve the health of their soil," says Hélène Iven, co-founder of Digit Soil and research associate at ETH Zurich. The two team members met during an "Unbox your idea" programme two years ago on the pilot project for the Student Project House on the Hönggerberg campus. Sonia Meller, a doctoral student at the time, presented her idea for a device for immediate soil analysis. Then Master's student Hélène Iven was so enthused by the idea that the two have been working together on it ever since. Their project has already received Pioneer Fellowship funding of CHF 150,000, and in January 2022 they are hoping to found a spin-off. They continue to make regular use of the co-working space, the infrastructure in the workshop and the coaching services offered by the Student Project House.

https://www.digit-soil.com