RETHINKING DESIGN

ETH Zurich Meets Davos during the World Economic Forum's Annual Meeting (22 – 25 January 2019)

Information, photographs, and video footage

Game Design

Zurich, 15 December 2018

ETH Zurich's Game Technology Center (GTC) not only advances the state of the art in game technology, but also offers young people an entry point into computer science thinking with a mobile game creator app. The mobile game creator app serves as a bridge for outreach efforts to other game communities in Switzerland and throughout the world. As part of the RETHINKING DESIGN exhibition, the Game Technology Center invites visitors to imagine, create, and play – in essence, becoming a game designer. In just a few minutes, creative ideas become a project plan and visitors using the Game Design app build their own virtual world coding and developing art assets. Learning by doing, visitors actually create a professionally looking Xbox game and play their game in a test session.

The Game Design App demonstrates some of the concepts that graduate students tackle in the Game Programming Lab that serves as a capstone course in the Computer Science program and reinforces core Computer Science concepts and specialized topics in Visual Computing. In the lab, students work in small teams to design, develop, test, and deploy a novel video game from scratch. In addition to the technical focus on aspects of game development - such as rendering, animation, simulation, physics, and artificial intelligence - the course also cultivates creative thinking and "soft skills" such as team work, effective communication, time management, and leadership. Games developed in the course have been show-cased at international game conferences and festivals.

The ETH Game Technology Center also explores research that utilizes recent advances in augmented and virtual reality in the context of gaming and education. Researchers use these technologies to craft meaningful interactions between players and with their environments in order to explore particular questions about human behaviour. In this setting, a game becomes a testbed to hypothesize, experiment, and generate targeted data in the search for patterns of learning behaviour. Tangible interfaces and video game technologies allow for a more efficient and rewarding learning experience. One particular project, called the Game Creator, is a mobile app that allows children and novices to design and program their own video game using elements captured from the real world. This project enhances creativity and

improves computer science education for children by combining mobile technology, an adaptive visual programming environment, tangible interaction, intelligent tutoring systems, and augmented reality.

Design team / bios / publications

Professor Bob Sumner, Scientific Director and the Game Technology Center team – contacts:
http://www.gtc.inf.ethz.ch/people.html

References

Game Technology Center website
http://www.gtc.inf.ethz.ch/

Publications
http://www.gtc.inf.ethz.ch/publications.html

Images and video material

The following photographs can be downloaded free of charge for non-commercial use or in news publications provided images are appropriately credited noting the copyright and photographer.
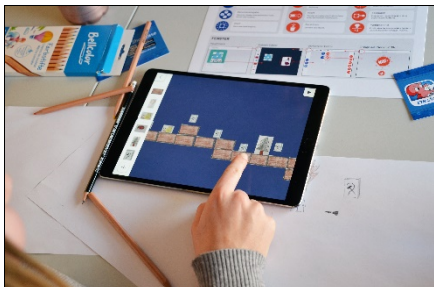
	Image credit: ETH Zurich / Game Technology Center
	Image credit: ETH Zurich / Game Technology Center

Additional images: https://polybox.ethz.ch/index.php/s/Se6udphSaTdhnvq