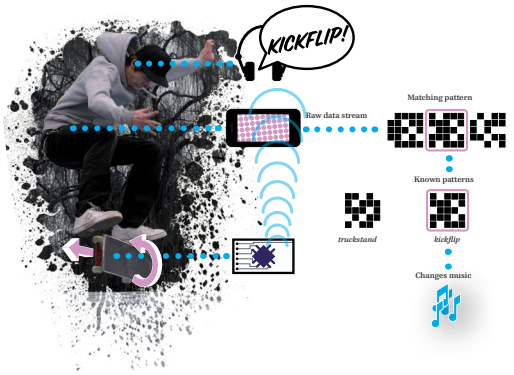
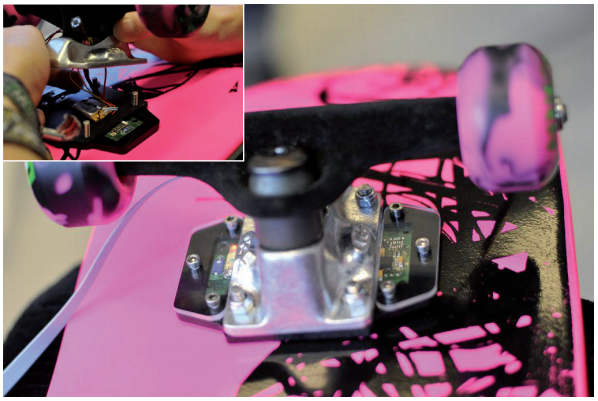
solderin skaters

The Idea

Do you remember the good old times, when the kids were out on the streets terrorizing the town with their skateboards? It seems they all have swapped their boards with couches and video consoles, skating virtually now. No doubt, this is cool, but we want the kids back on the streets. So what about skating on a real board while listening to cool tunes and getting points for your kickflip or 180? We took the challenge to pimp a skateboard with electronics and a N900, so you can enjoy the advantages of modern skating video games in your favourite real-life skatepark.





The sensor board is placed under the trucks.

The start screen of the tilt 'n' roll game.

How it works

Our work can be divided into three separate tasks. There is the hardware – a modded skateboard – the analysing software and the video game, both running on a Nokia N900.
We developed a microcontroller based on an Atmel ATMega168 and with a triple-axis accelerometer, two dual-axis gyrometers as well as a onboard Bluetooth module. This board is placed between the trucks and the deck, encased in a specially produced spacer pad. The battery is placed inside the hollow space of the trucks. There is one sensor board under each truck. The sensor data is transmitted to the N900 via a Bluetooth connection.
Classifier software running on the N900 analyses the incoming data and reports recognised trick patterns to the video game component. The video game reacts to these incoming signals and records the performed tricks, gives points and plays audio feedback confirming the trick.

The Team

The Solderin‘ Skaters team consist of nine members. Each member contributes with his/her very own special skills.

Keywan Tonekaboni
Keywan is a communication and media science student interested in new experimental user interfaces. He was involved in developing the concept and is part of the GUI team when not busy with project management.

Jan Anlauff
Jan just finished his computer science studies with a thesis on tactile sensing. Jan developed the sensor board and is member of the hardware group.

Florian Fusco
Florian studies textile and surface design in Berlin Weissensee and is working in interdisciplinary projects connecting art and design. He took care of game design, artwork and presentation.

Nick Thomas
Nick is a passionate DJ and computer science student. He works on the sound design as well as music for the game and is part of the pattern recognition team.

Lennart Wrede
Lennart is skating on a regular basis for the last 14 years, being more interested in the street thing than skating contests. He consults the team in skating questions and performs the tricks we are testing with the system.

Alexander Lenhardt
Alex is a PhD student in computer science and is currently working on Brain-Computer Interfaces for his thesis. He has a lot of experience in finding hidden patterns in high-dimensional and noisy data, primarily EEG data. With this background he joined the pattern recognition team.

Erik Weitnauer
Erik studies computer science and just graduated about physic engines and robots. He is part of the pattern recognition team and also helps building the GUI of the game.

Stefanie Schirmer
Stefanie Schirmer is a PhD student in computer science. In her spare time she is exploring the area of wearable computing. She is the lead developer behind the GUI of the game.

Sebastian Zehe
Sebastian has just started his thesis in computer science on wearable sensor networks. He is an enthusiastic tinkerer and also likes to skate from time to time. He is part of the hardware team and developed the spacer pads for the sensor board.

Contact

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