

STMicroelectronics & L2EP laboratory of Lille1

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STMicroelectronics is involved in the PROTOTOUCH project to provide its expertise with the industrial process and Thin-Film actuators. At ST we focus on introducing friction modulation to commercial devices and exploring their new uses:

Building new demonstrators

While a few devices implementing Squeeze film have been created by our team and other, our current goal is to produce fully functional tablets and smartphones running on Android. This imply major redesigns of the electronic and control schemes.

Adapting technology to industrial process

Currently Squeeze Film modulation is done using ceramic piezo-actuators to create the necessary vibration of the surface. We aim to create new kind of actuator based on Thin-Film technology. These actuators reduce the price, facilitate the integration in new devices and reduce the control voltage from 150V pp to 10V pp. All these ameliorations will make it possible to integrate Friction Modulation in new smartphones.

Research on the Human-Machine Interaction through Friction Modulation

Once fully functional tablet prototypes are developed we will be able to focus on psychophysics experiments to assess what functionalities of a smartphone can be improved by adding Friction Modulation. The aim is to improve significantly the user satisfaction while browsing or typing on a smartphone.

People Involved in the PROTOTOUCH Project:

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