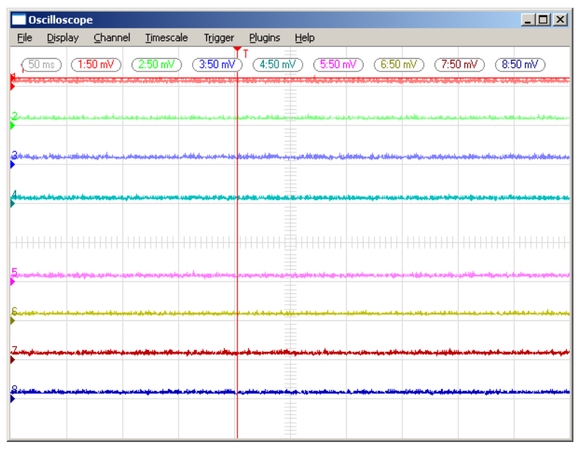
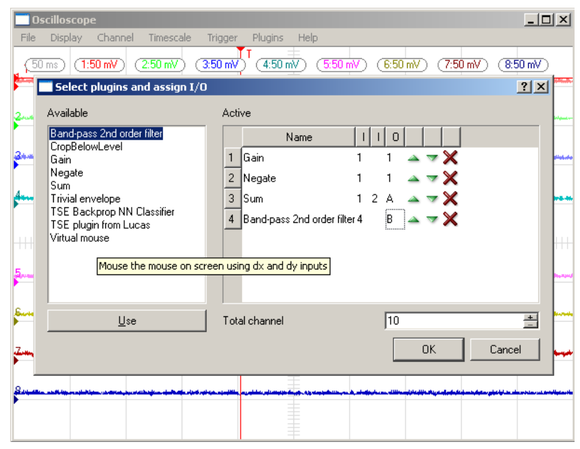


Osqoop

The open oscilloscope

http://lsn.unige.ch/osqoop

18 April 2006



Osqoop in brief

Osqoop is an open source software oscilloscope. It features an arbitrary number of channels and long acquisition durations. Signal processing and external peripherals control is possible through a plugin architecture. Data sources are plugins as well. Osqoop is a multi-platform program (tested on Linux and Windows).

Features

Osqoop is easy to learn thanks to an ergonomic user interface. For the power user, keyboard shortcuts allow fast and effective interactions.

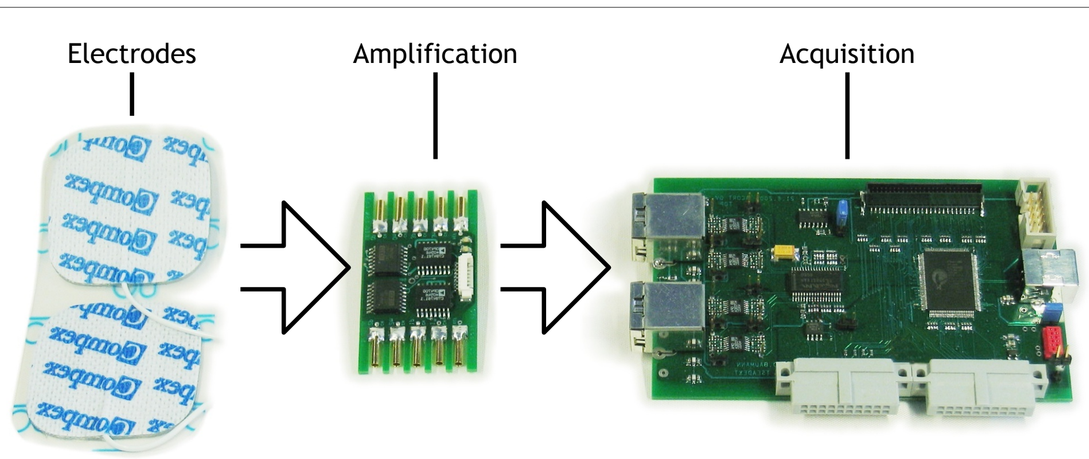
Osqoop provides the following features:

- Arbitrary number of channels and acquisition durations (required memory = nbChannels * nbSamples * 2)
- Data sources as plugins:
  - Externals or software
  - Examples and writing guide provided
- Signal processing through plugins:
  - Control of external hardware possible
  - Examples and writing guide provided
  - Save and load of plugins configurations
- Modular architecture, documented C++ code
- Trigger support
  - Simple, automatic, none
  - Up slope, down slope, both
- Rich display
  - Points or lines
  - Zoom on part of the signal
  - Instant freeze on key press
  - Permanent mode with progressive fadeout

Osqoop at LSN

At the Laboratory of Digital Systems, Osqoop is used in several projects:

- In the TSE (processing of electromyographic signals) research project, whose goal is the control of an orthesis for myopathic people. In this case, the data source is an acquisition board (8 channels, 25 kHz, 14 bits/channel) connected on USB2. Osqoop allows us to test several digital signal processing algorithms, varying their parameters and observing the result in real-time.
- In a student project, whose goal is the creation of a new fast data source, based on an FPGA and connected through USB2.
- In several projects as testing tool, for instance to measure new analogue sensors.



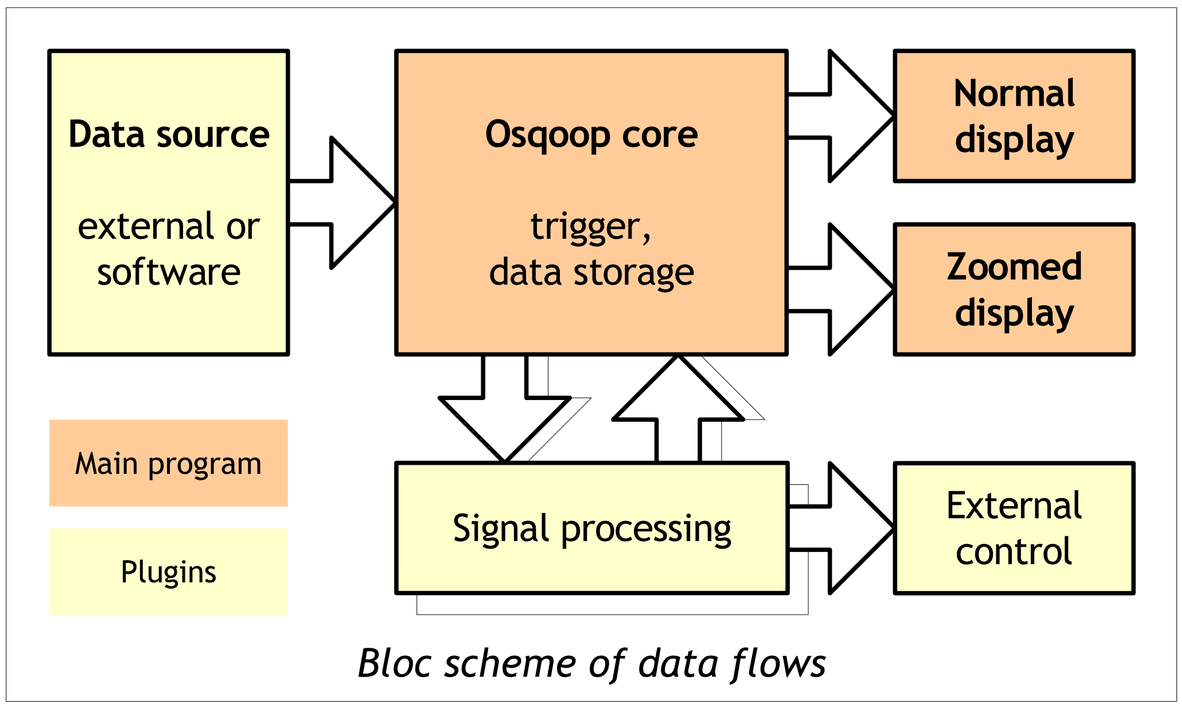
Data acquisition system used by the TSE project

Contacts

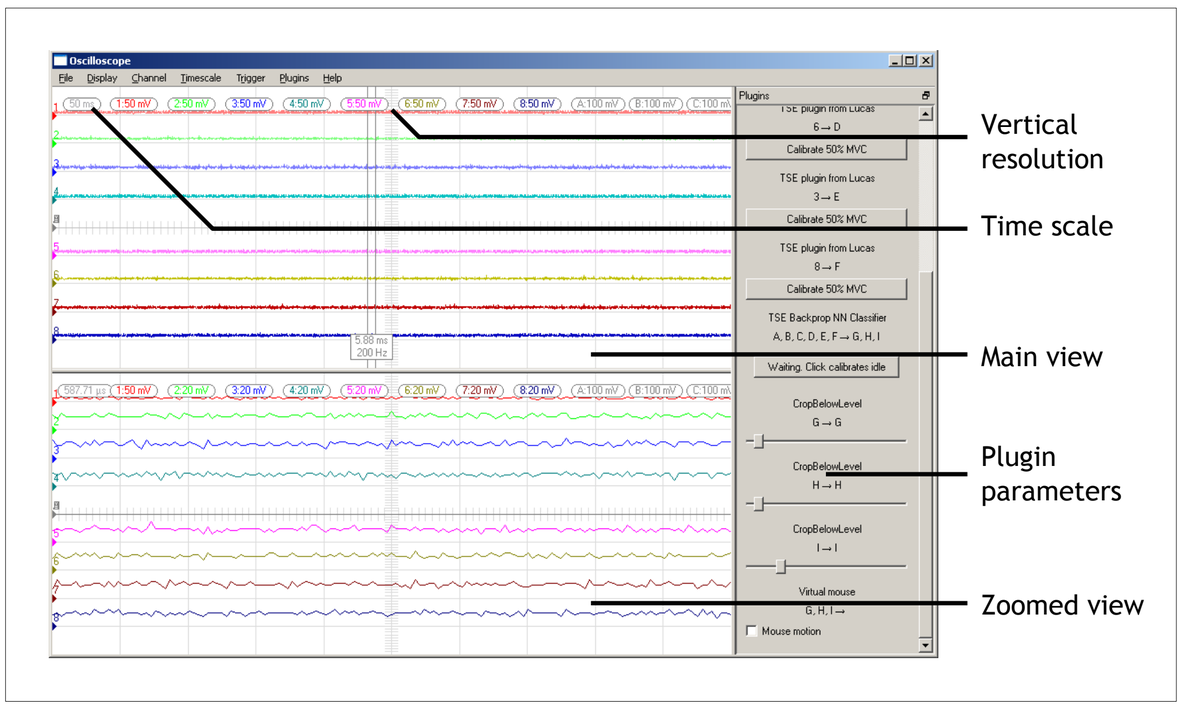
Osqoop, based on Qt 4, a graphical user interface library, is free software under the GPL license and can thus be used and modified freely.

For any further information, please contact:

- Stéphane Magnenat — stephane at magnenat dot net
- René Beuchat — rene dot beuchat at hesge dot ch



Bloc scheme of data flows



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Laboratoire de Systèmes Numériques, Ecole d'Ingénieurs de Genève,
rue de la Prairie 4 CH- 1202 Genève
Tél. ++41 22 338 04 51, Fax. ++41 22 338 05 75

Hes·so
Haute Ecole Spécialisée de Suisse Occidentale