

## Senior Project - DigiPlumb

### A General Purpose Function Network Workbench and Simulator

*Senior Project: 1989-1990*

**David Braun, Paul Kooros and Bassam Saliba**

#### **Cleveland Clinic Foundation**

Neurological Computing Group  
Cleveland, OH

#### **Solbourne Computer, Inc.**

Longmont, CO

One facet of research at the Cleveland Clinic, an internationally recognized hospital and medical research institution, is the study of epilepsy by a team of neurologists. A digital signal processing test bed was needed to assist in this study. The Clinic would use such a test bed to develop diagnostic tools for the analysis of electroencephalograph (EEG) data. A DSP workbench that would allow rapid prototyping of signal analysis ideas was required. The project provided an X Windows based graphical interface, allowing the user to interactively construct a network of generators, function blocks, and display elements, which could be used to analyze EEG data. The system also allowed for the rapid construction of new DSP filters and their incorporation into the workbench. The workbench was implemented using OI, an object-oriented C++ based user interface toolkit developed by Solbourne Computer.

---

Department of Computer Science  
College of Engineering and Applied Science  
University of Colorado Boulder  
Boulder, CO 80309-0430 USA

**Questions/Comments?**  
Send email to  
[Bruce.Sanders@Colorado.EDU](mailto:Bruce.Sanders@Colorado.EDU)

Engineering Center Office Tower  
ECOT 717  
+1-303-492-7514  
FAX +1-303-492-2844

---

XHTML 1.0/CSS2

©2012 Regents of the University of Colorado  
[Privacy](#) · [Legal](#) · [Trademarks](#)

May 5, 2012 (14:07)

---