



Research Consortium in Speckled Computing

ProSpeckz64: A Testing Grid For SpeckNets

Matthew Barnes

University Of Edinburgh

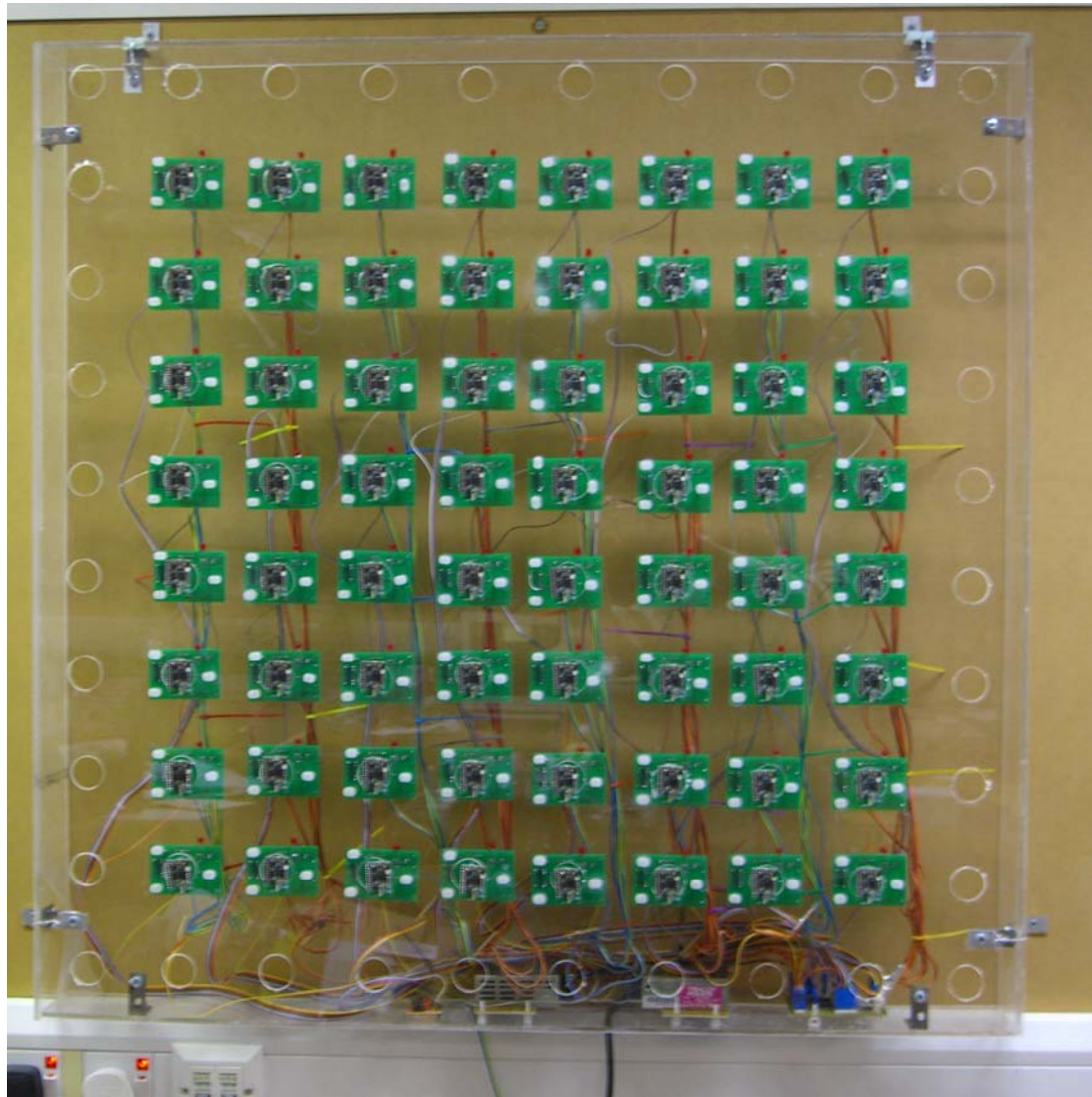
m.barnes@sms.ed.ac.uk



Project Overview

- A Hardware Evaluation grid for Specknets
- Provides a densely populated network of prototype specks.

Project Result

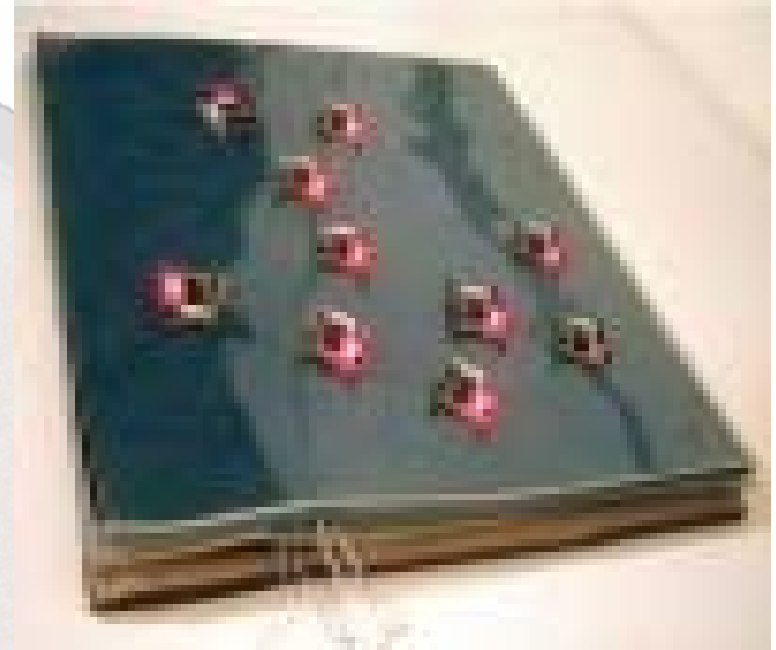


Uses of the ProSpeckz64

- Hardware Testing of Network Layer Algorithms for Specknets
- Relative Power Consumption of different implementations provides a new metric for comparison

Related Work

- PushPin Computing System
 - MIT Media Labs.
 - Current research project implementing Sensor Network Hardware and algorithms
 - A power supply board with a number of mounted PushPin devices
 - PushPins are prototype sensory devices similar to the Prospeckz

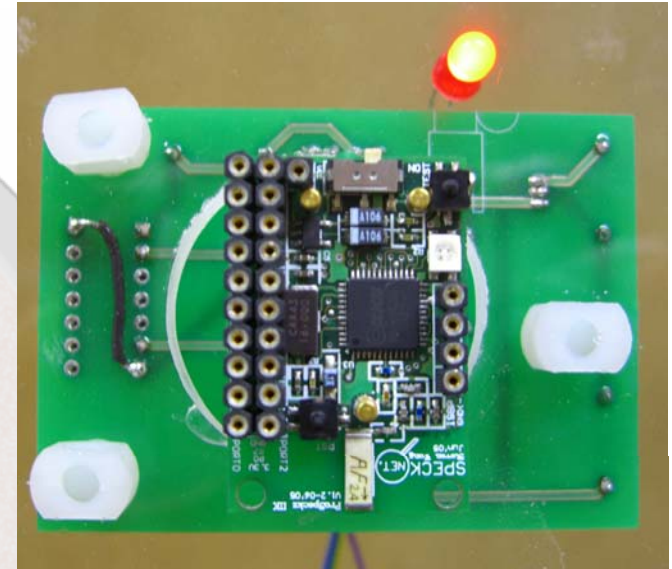


Features of The PerSpeckz Platform

- Densely Populated Specknet
- Mains power removes the need for batteries
- Current draw measurement is available from each power board
- Total network current draw measurement
- Connection to Prospeckz and a PC for control of supply to each device

PerSpeckz Platform Hardware 1

- 64 Prospeckz IIK
- 64 Power Supply Boards
 - Separate speck and control power supply
 - Act as mount points for the Prospeckz on the Perspeckz panel



PerSpeckz Platform Hardware 2

- Digital Logic Controller Board
 - Digital IC latches to store state of the unit
 - Distributes mains supplied power to all devices



- Prospeckz IIK used as a controller
 - Interfaces to the logic board via a column address and supply vector
 - RS232 standard serial connection to a PC

And Finally...

- The Prospeckz64 is a great resource of specks so if you have something you think would put it to good use or would benefit from using it then let us know.
- Go take a look be but please be gentle, I don't want to have to build a new one 😊