

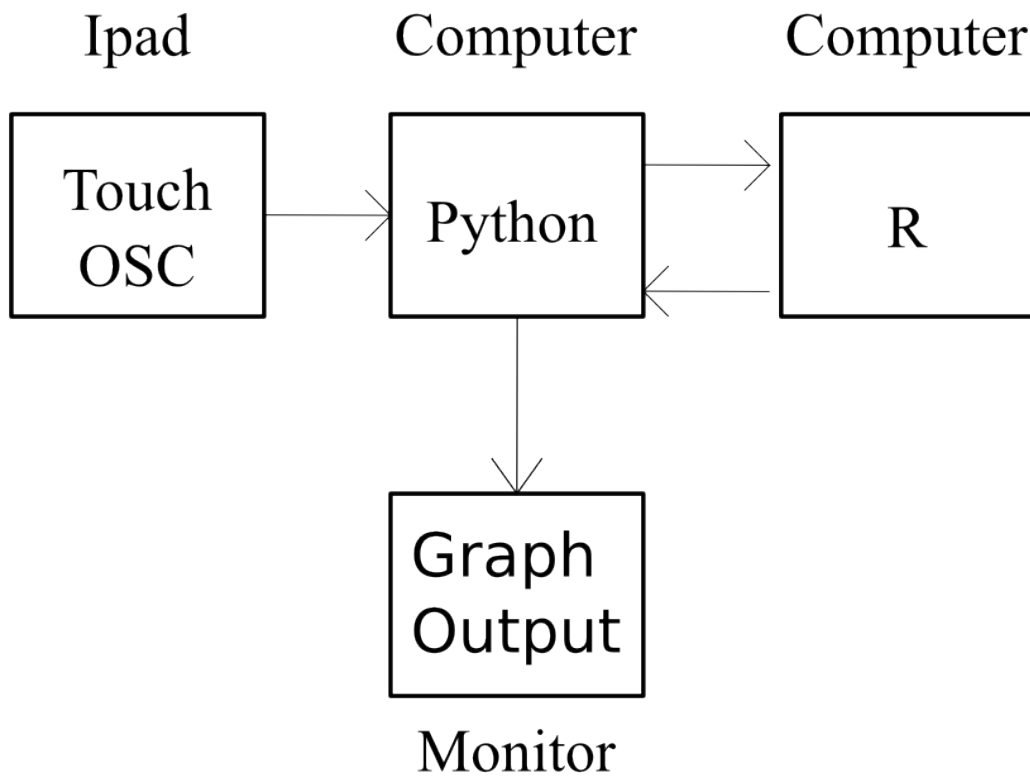
Self-Awareness of Hardware Modules in Tangible Interaction Devices

By Rachel Bradford and Landon Rogge

Scalable Interaction Hardware Modules – Landon Rogge



iPad Interactive Visualization





Meuse Dataset

- River in France
- Full dataset
 - Difficult to find
- Applicable to other datasets
 - Oil spill

Analysis

```
library(gstat)
data(meuse)
class(meuse)
names(meuse)
coordinates(meuse) = ~x + y
class(meuse)
summary(meuse)
coordinates(meuse)[1:5, ]
bubble(meuse, "zinc", col =
c("#00ff0088", "#00ff0088"), main
= "zinc concentrations (ppm)")
```

distance to river (red = 0)





Tangible Visualization

- 2-4 cartouches
 - Datasets
 - Parameters
- TouchOSC



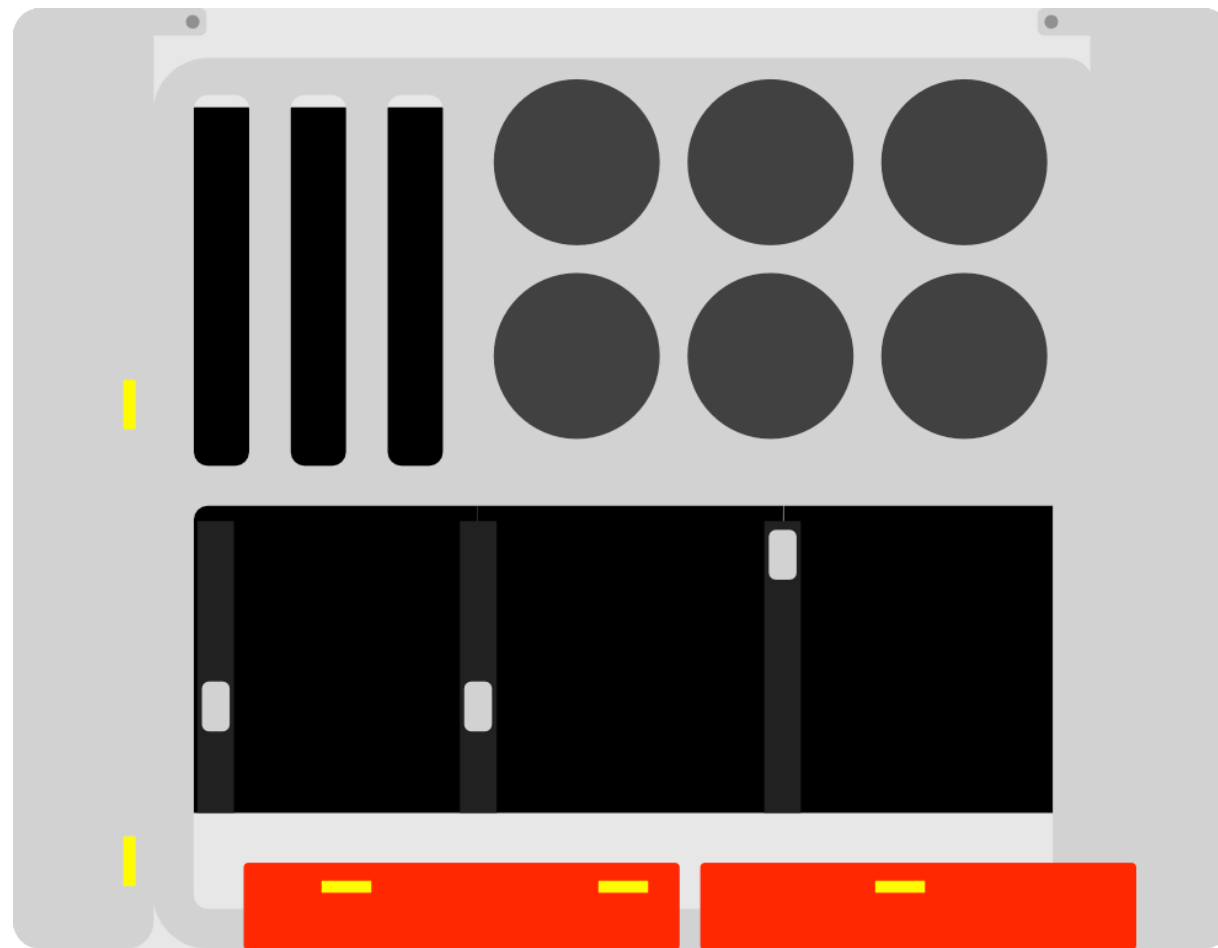
Results

- Tangible interface
- Produces graphical outputs
- Comprehensible to all education levels
- Relevant to everyday life

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- Introspection and Reflection
 - Overall Benefits of Introspection and Reflection
 - Application to Blades and Tiles
- Use of Blades in iPad Visualization Environment

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Goals Summarized

- Use the iPad to create user-friendly visualization manipulation
- To integrate physics, mathematics, and computer science in a single, engaging project
- To create a system of reflection-enabled hardware modules