



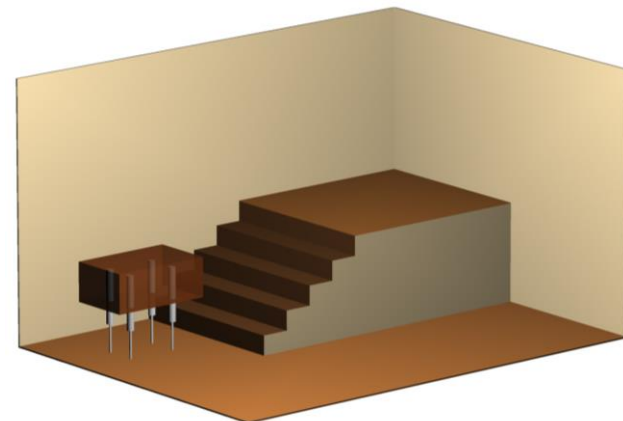
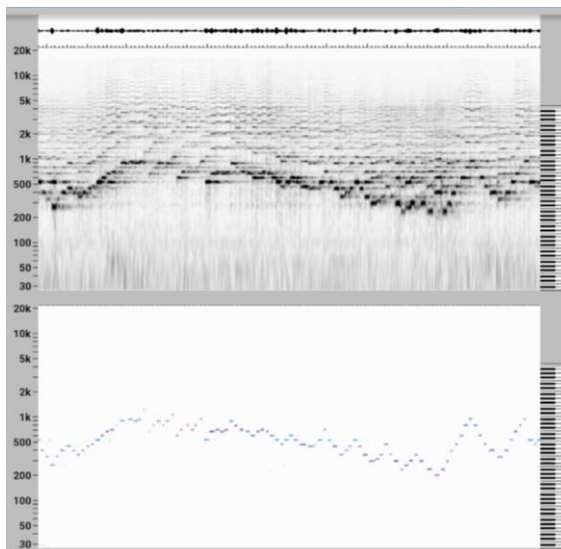
neocortix

A Platform For Intelligence

NICE 2016

Lloyd Watts
Founder and CEO
March 7, 2016

A Platform for Intelligence, on Mobile Processors



Efficient Computation

Early Google Machine, ~1999



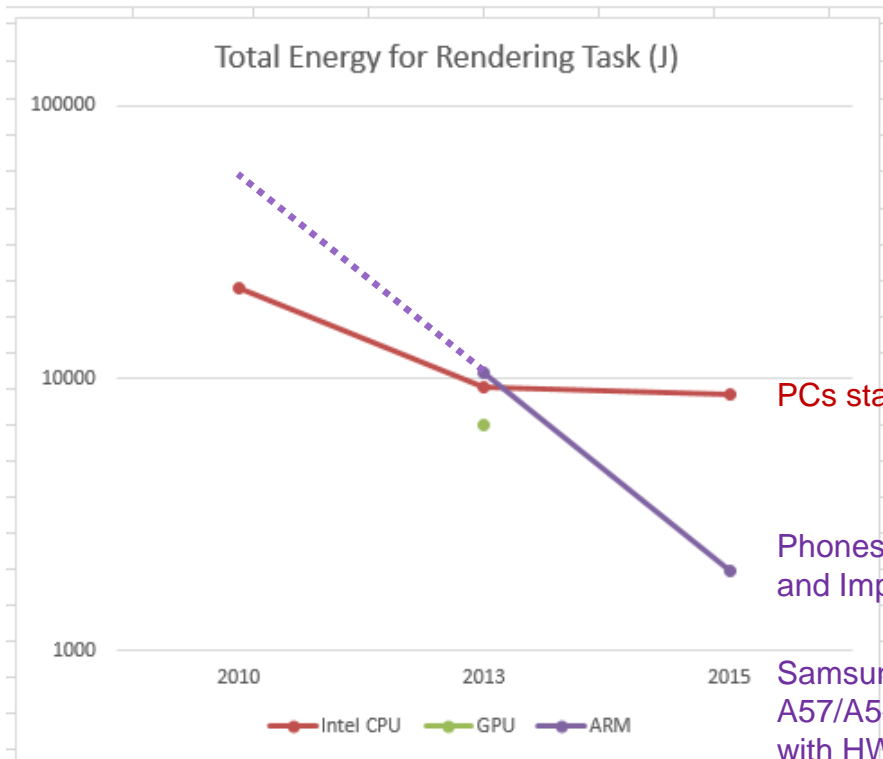
4 PCs, 44 disk drives
Data centers based on commodity PCs

First Neocortix Machine, April 2015



10 cell phones
Data centers based on commodity cellphones
4.5X more efficient than PCs, and still improving

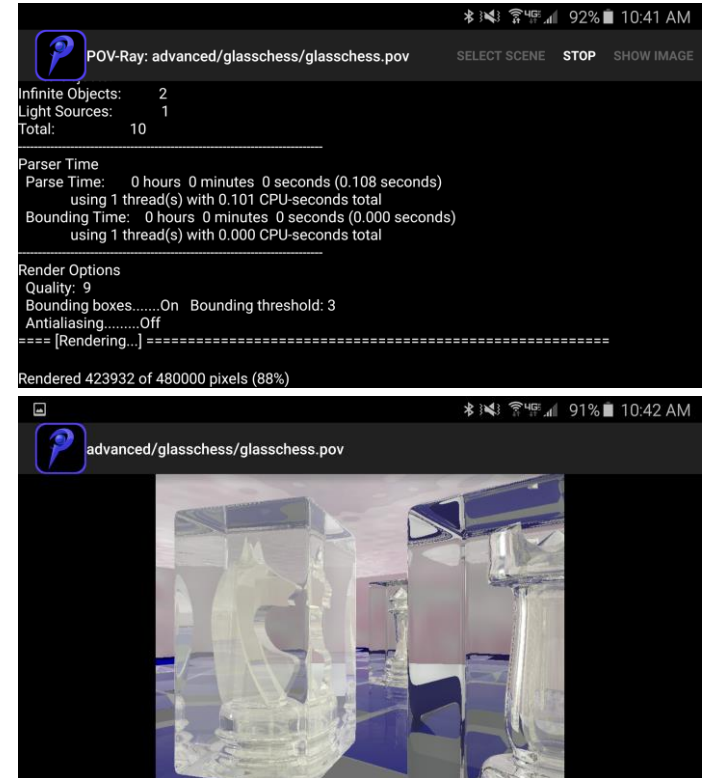
Efficient Computation



PCs stagnant

Phones 4.5X better, and Improving Fast!

Samsung GS6: A57/A53 64-bit ARM core with HW double-precision floating-point (4Big.4Little).



Trend expected to continue
Gap expected to widen
Crossover happened recently

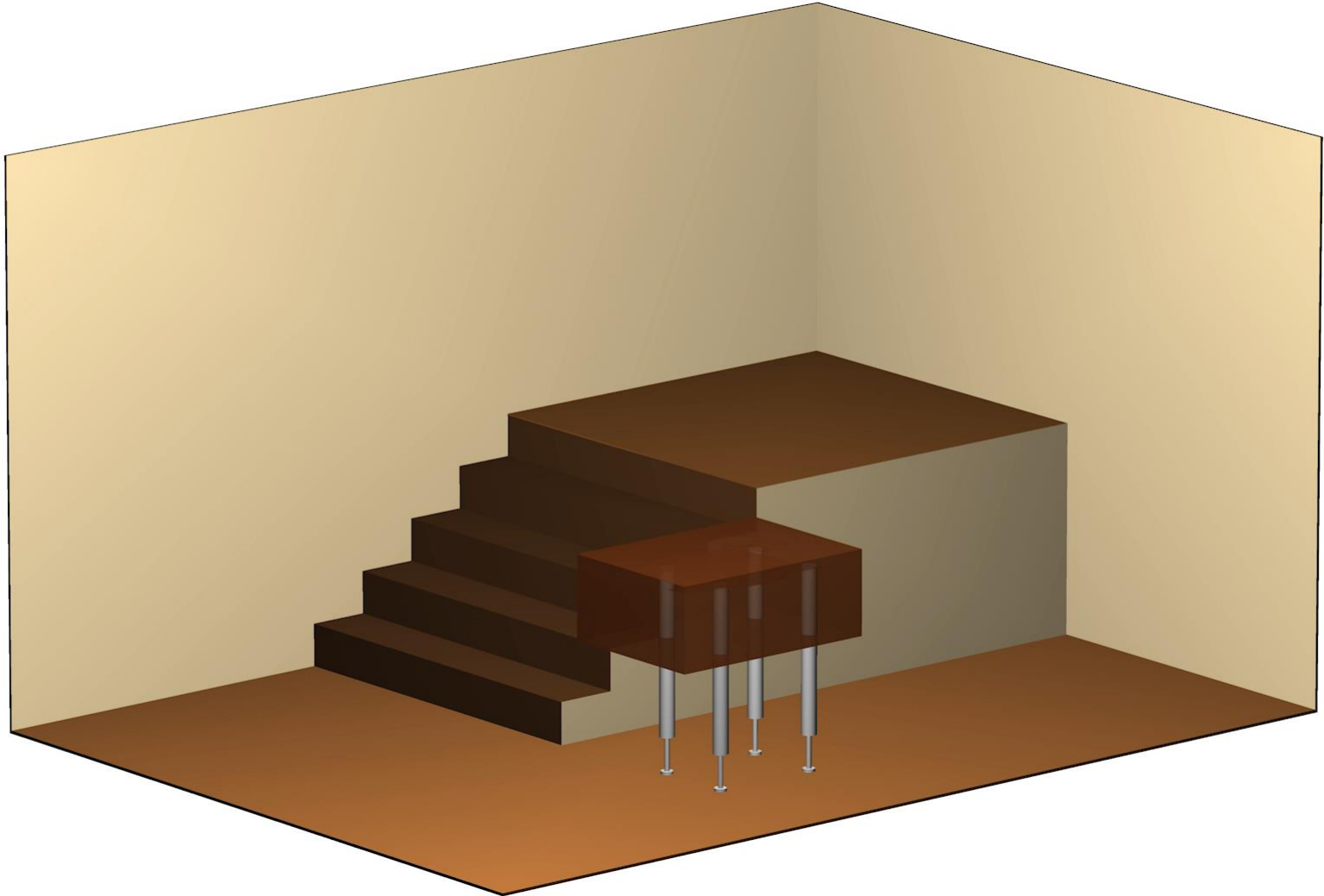
Fast Wireless Communications (5ms)

```
> status
N000/a7e1ad0db5517ba2 [owner] (135:22:15 since start
N000/a7e1ad0db5517ba2: reset 0 times (avg 0:00:00)
  N001/add8861b58b9bf94 [192.168.7.75]: ACTIVE
  N001/add8861b58b9bf94: reset 0 times (avg 0:00:00)
  N002/4ee4a7f788587398 [192.168.7.77]: ACTIVE
  N002/4ee4a7f788587398: reset 0 times (avg 0:00:00)
  N003/614a5c28921f3a90 [192.168.7.78]: ACTIVE
  N003/614a5c28921f3a90: reset 0 times (avg 0:00:00)
> speed
testing speed...
N001/add8861b58b9bf94: 5ms
N002/4ee4a7f788587398: 5ms
N003/614a5c28921f3a90: 5ms
done
```

First Neocortix Machine, April 2015



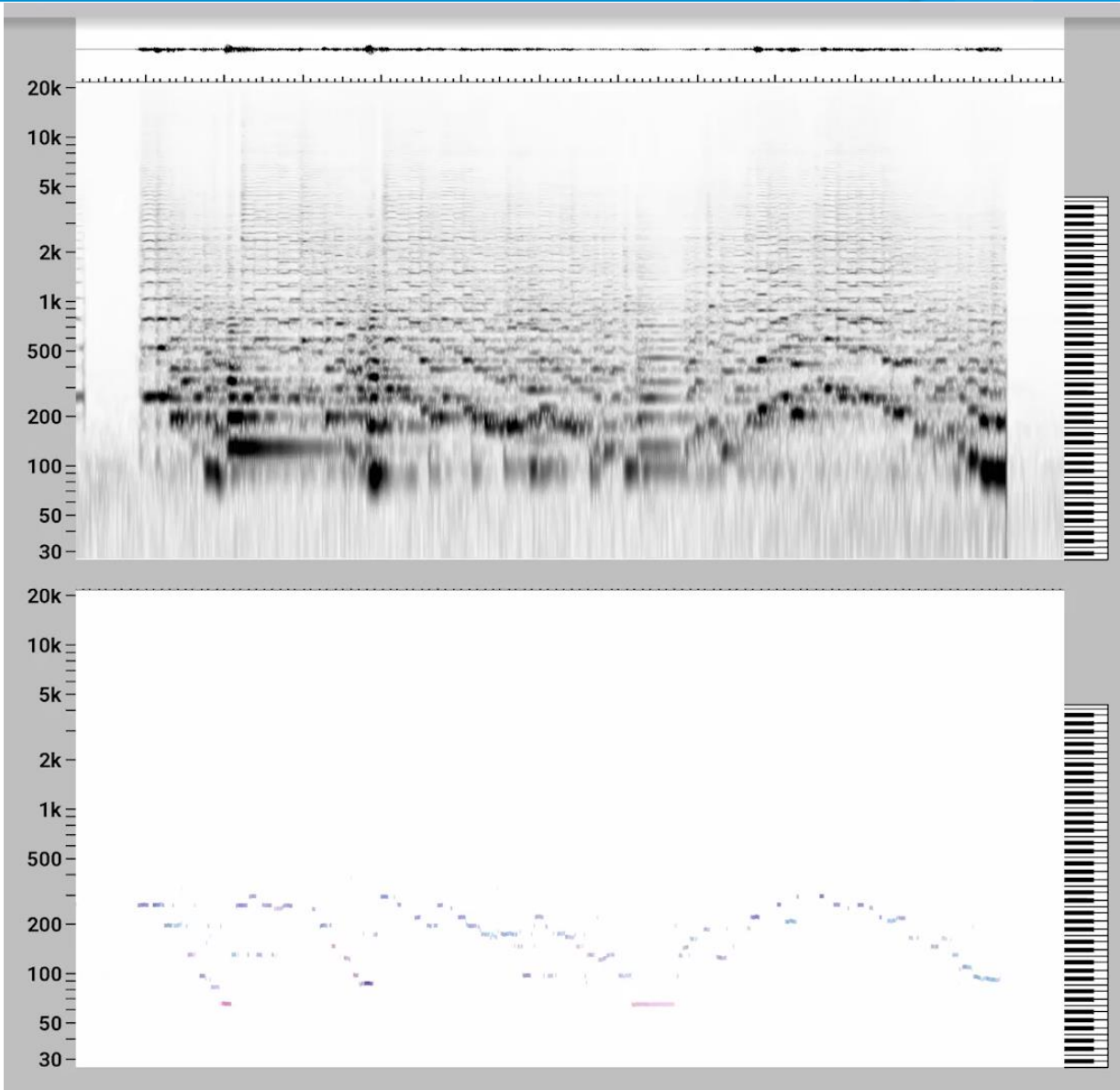
Robotics – Quietly Carry 40lb. Payload Up Stairs



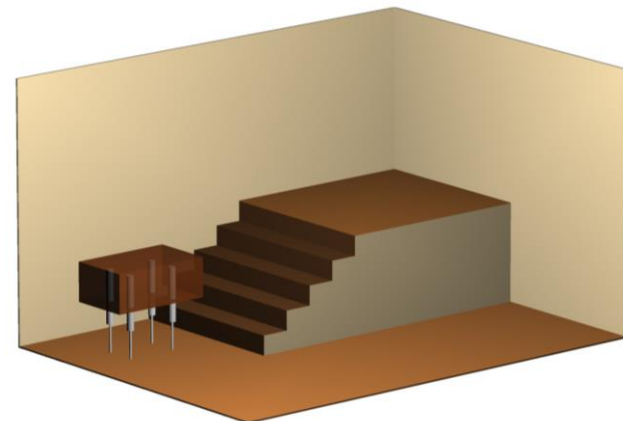
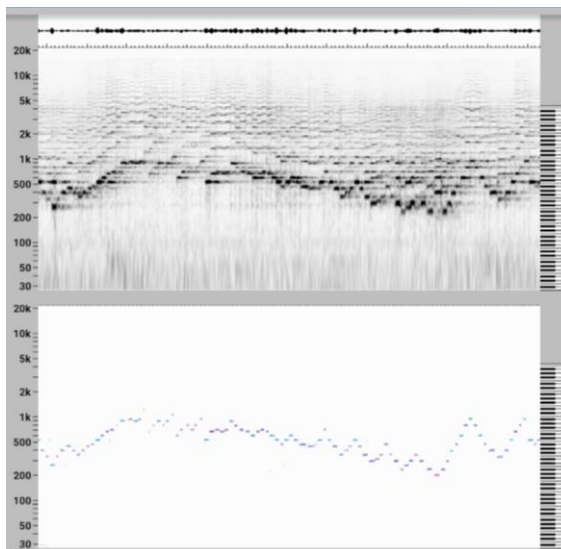
Leg Assembly (Battery Powered, Wireless Control)



Sensing – Real-time Audio Processing using Deep Learning



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