


**FISHCAM**

**THE AMAZING FISH CAM!**

If you are running Netscape 1.1, check out  
[The Continuously Refreshing Fish Cam](#)

1994



**FISHCAM**

**THE AMAZING FISH CAM!**

If you are running Netscape 1.1, check out  
[The Continuously Refreshing Fish Cam](#)

# 1999

*"We need to empower computers with their own means of gathering information, so they can see, hear and smell the world for themselves, in all its random glory. RFID and sensor technology enable computers to observe, identify and understand the world—without the limitations of human-entered data."*

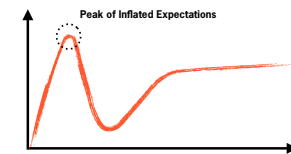
— Kevin Ashton, cofounder of the Auto-ID Center, MIT

<http://www.technologyjournal.com/articles/view/4986>

# 2014



January 13 - Google buys Nest.  
For USD 3.2 billion.  
That's a lot of money.



What the heck happened?

As it turns out,  
Quite **A Lot**

# 1. Computing Performance

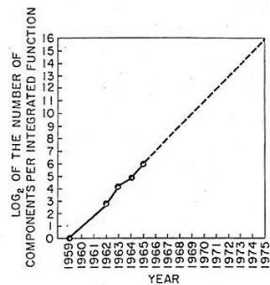



Fig. 2 Number of components per integrated function for minimum cost per component extrapolated vs time.

© Intel Corporation


What?	Say WHAT!?!?	Whose law was it anyway?
IC performance	2 x / 18 months	(Moore/House)
Disk storage	2 x / 14 months	(Kryder)
Data through an optical fibre	2 x / 9 months	(Butter)



Mac Pro

Super fast!

Dirt cheap!



Mac Pro box photo ©iStock.com/martellstudio

## 2. The Smartphone

- a tech lab in your pocket



- Miniaturization
- Radio networking technology
- Power consumption
- Battery performance
- A remote control in your pocket

©iStock.com/martellstudio

## 3. Open









Kinect photo ©iStock.com/kuratsubal

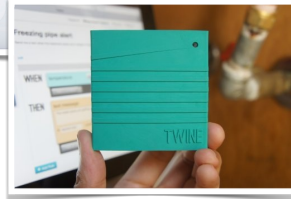
What are people building?



Tile  
BLE + Metcalfe



Philips Hue  
ZigBee + Ethernet



Twine  
WiFi



Fig ALARMclock

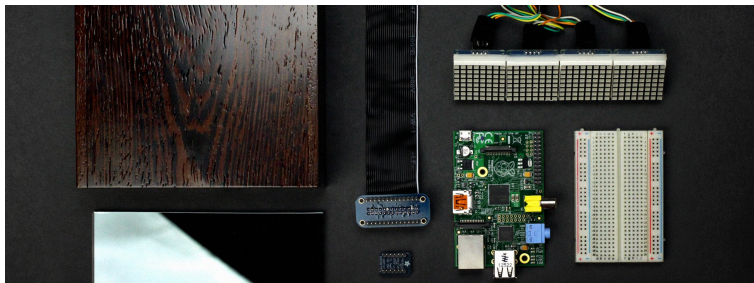


Fig ALARMclock


What is your next project?



# Because You Can

**CITERUS**  
Utvecklar människor och mjukvara

Patrik Fredriksson

 @weakreference