

Proximal Networks

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Environmental Questions

- “Design motility for a city you want to live in”
- “Design an information system that shows guests the ideas behind the visible work”
- “Make a phone we want to use...”



Back to Reality

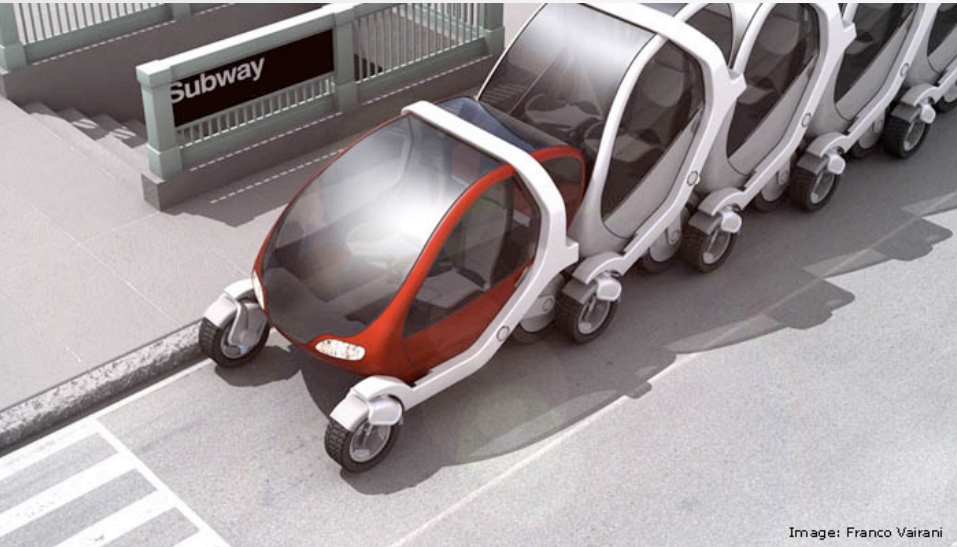
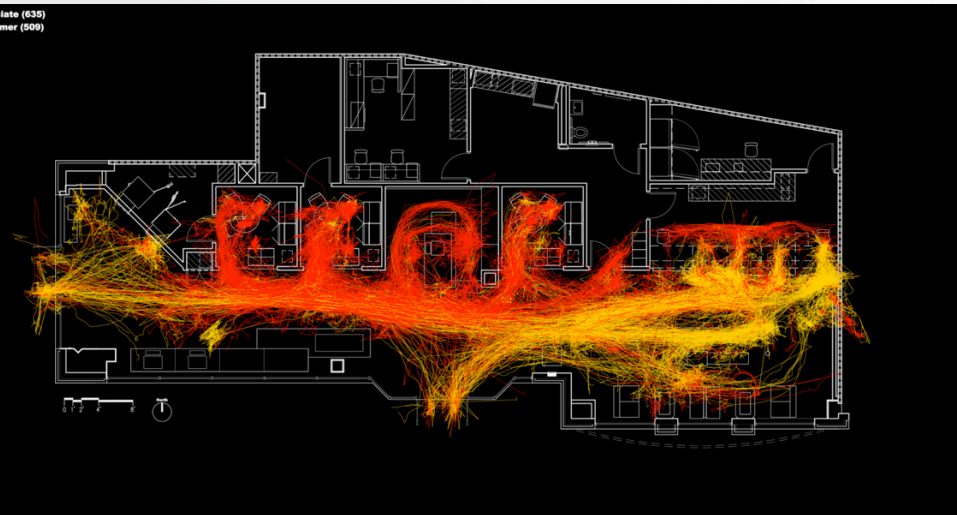


Image: Franco Vairani



Messaging

Twitter: Device independent
Groups, broadcasts, direct
No phone number
Works with things
Automatic linking via apps
Free

Sign-up inertia
Critical mass:
Multi-tasking mobile device

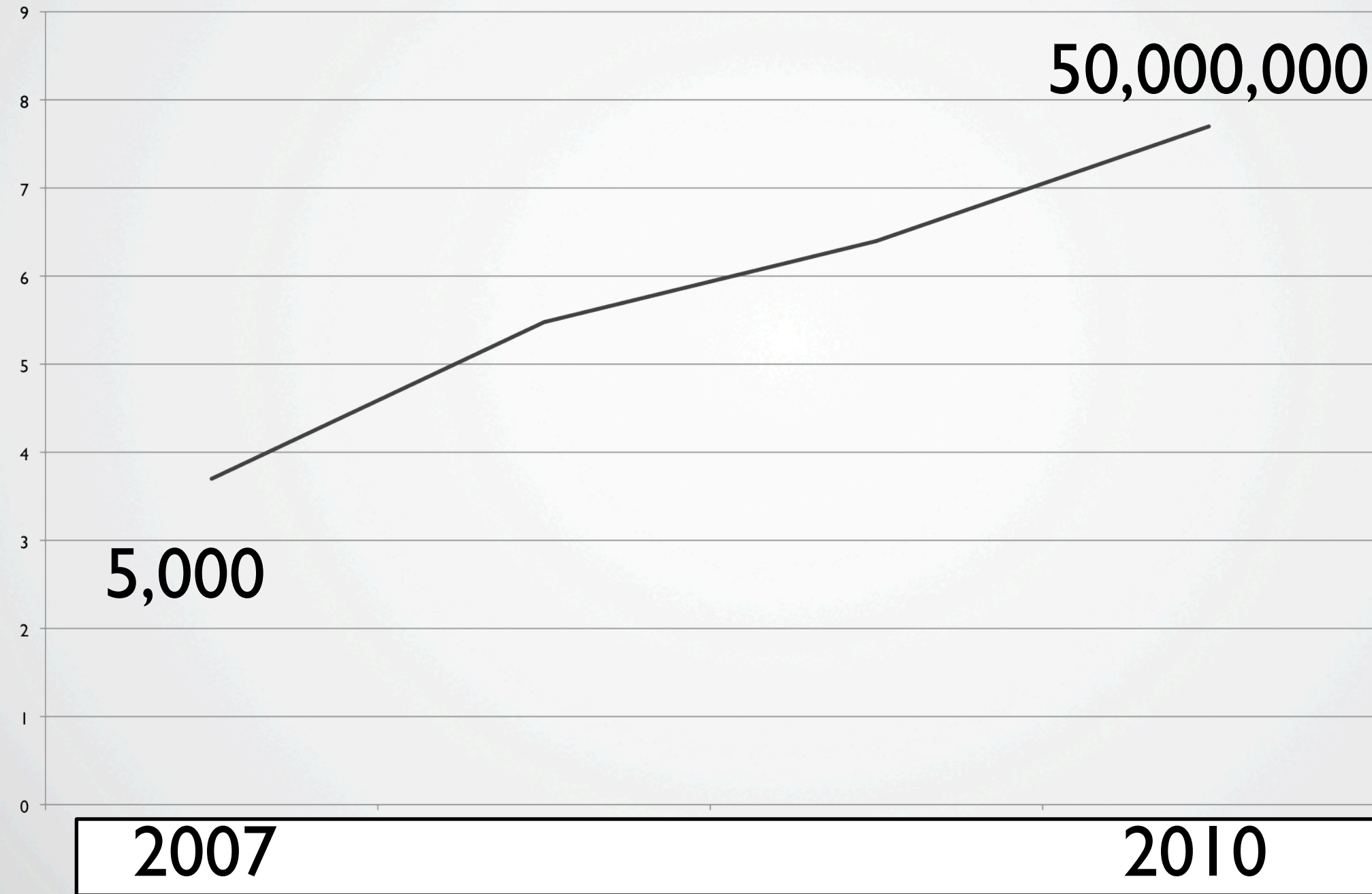
Messaging

SMS: Runs on all phones
Foreground operation
No signup
Sort-of free

Wedded to phones
Requires account
Gateways to gardens

Messaging

Tweets

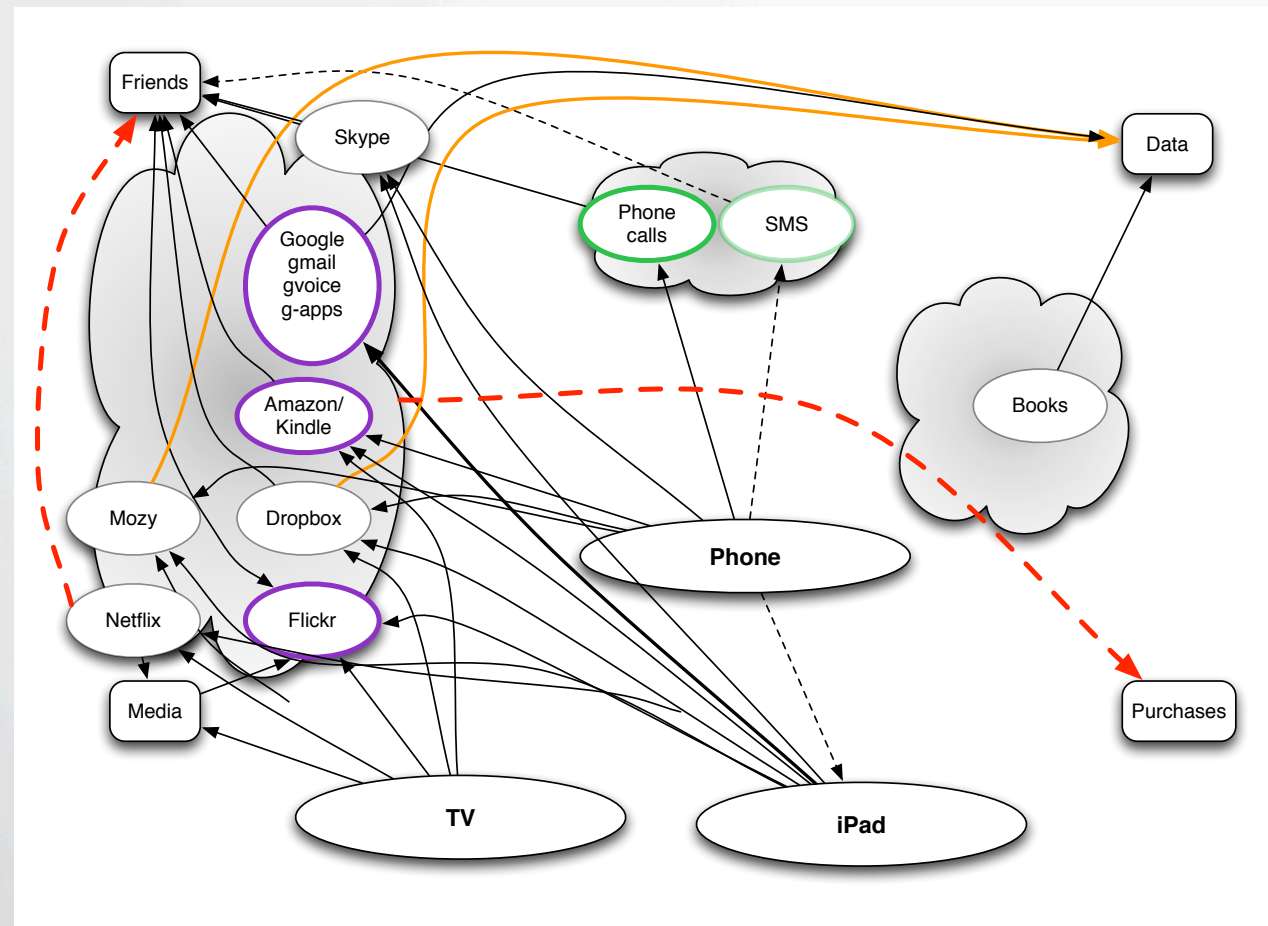


Mobility is an Ecology

Device is battery limited

No magic processor technology is evident

Our approach is the “third cloud”

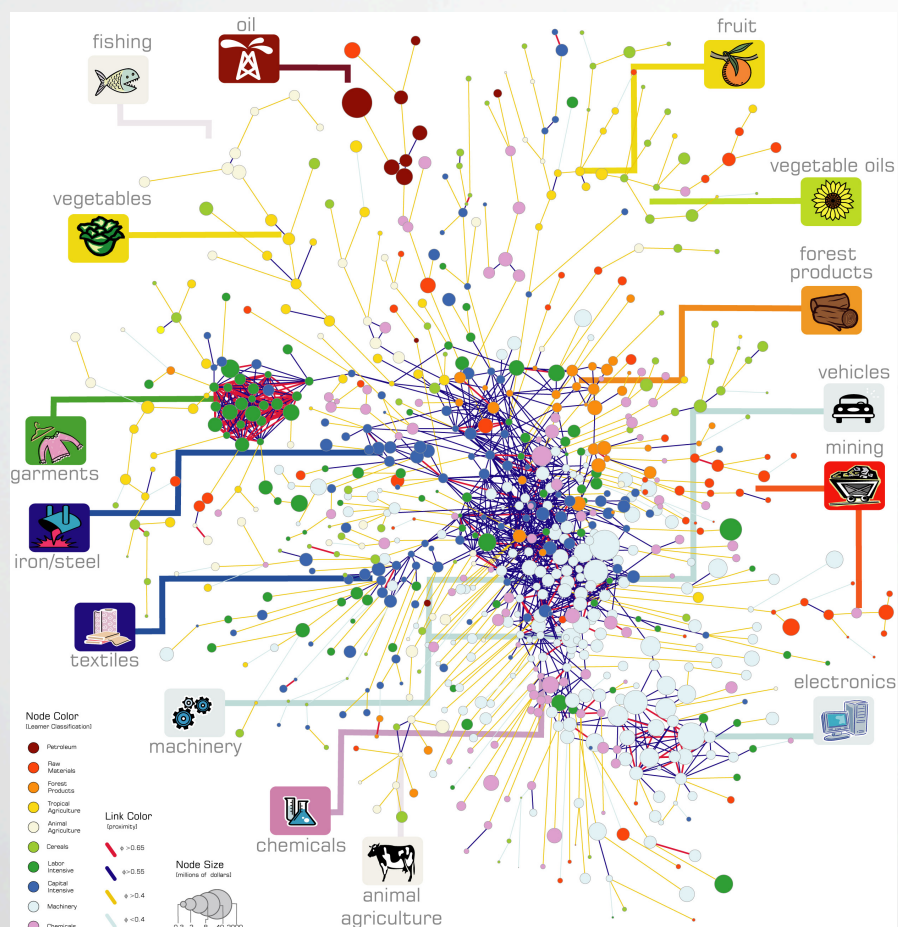


Major hurdles are crossed

Sensors, effectors, cameras and displays are there

Emergent tools for analysis and interaction

Knowledge is becoming networked



Proximal network themes

Connectivity

Nearness: physical, social, temporal

Relationships: Intention, services

Actions: orientation, position, velocity

Architecture

Broadcasts: Offers and requests

Simultaneity: many connections

Agency: Actions on your behalf

FlashlinQ

Heartbeat discovery, 2% overhead

Private channels rest of the time

Operates at 2km

Infrastructure free

Synchronous

FlashlinQ

Essentially a digital “Citizen’s band.”

Emergency operation?

Carrier model?

US-Wide operation?

Specific OFDM-MA radio system, global timing,
agreement on discovery and channel use

Can be overloaded >5600 radios in a region

Can be scaled and modified for priority

Essentially two-way, controlled broadcast

Proximal Networking Values

Junkyard Jumbotron

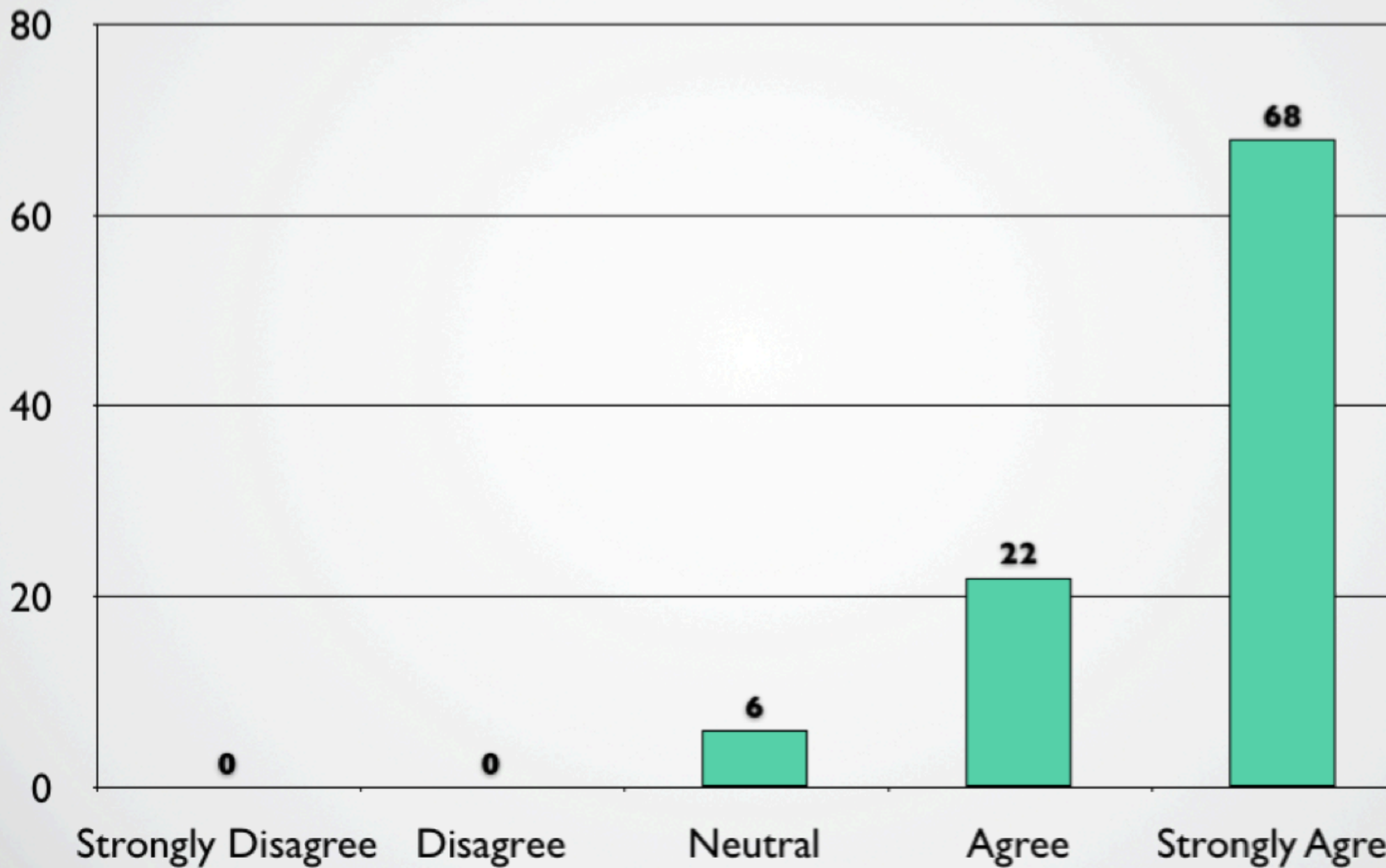
Optical Networking

Glass Infrastructure

Electric Pricetags

Insights from Adaptive Speed Meet

You just had a good or fun conversation with your partner



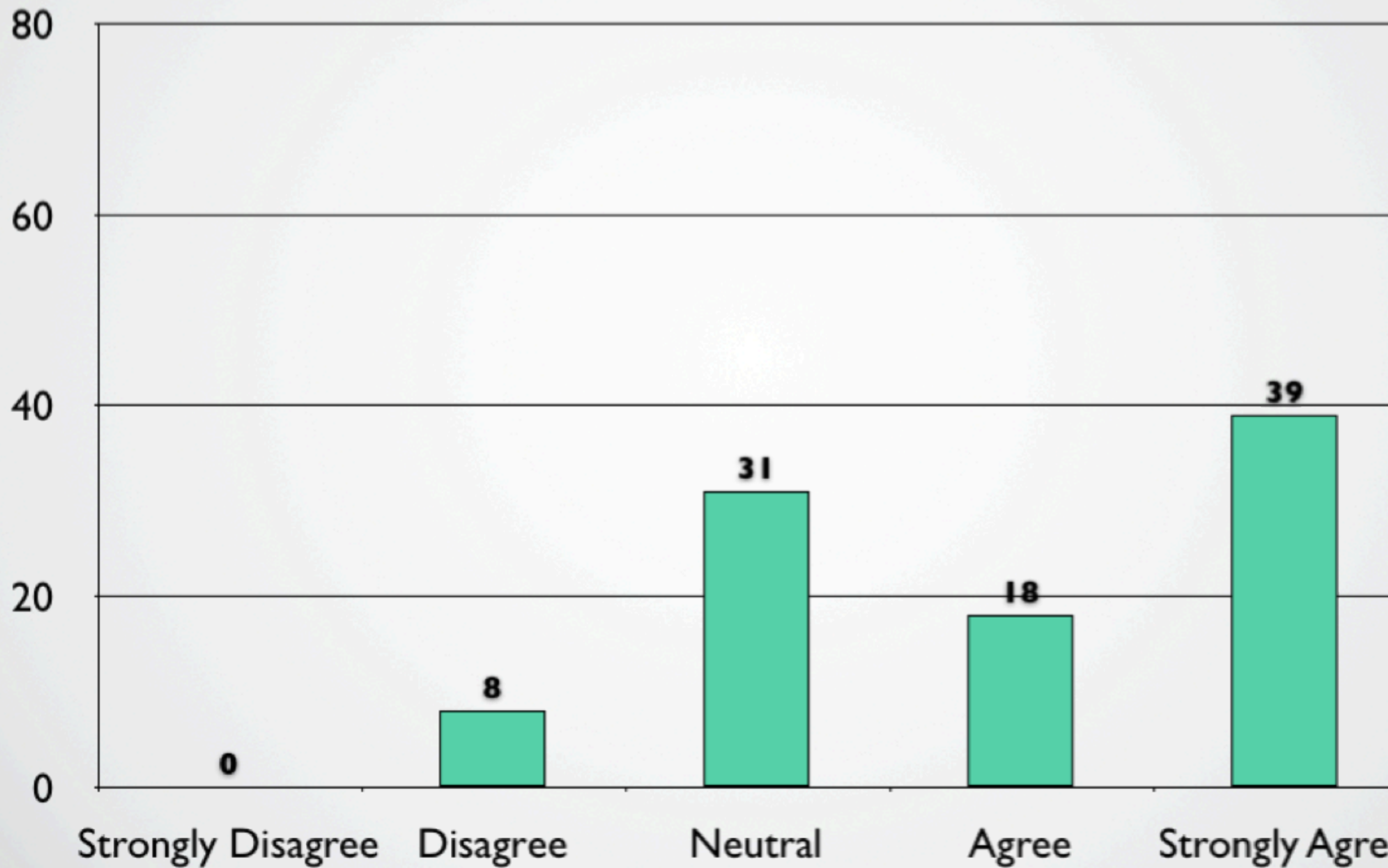
**And the Worst
Conversationalist Was...**

And the Worst

Conversationalist Was

Participant 9d4xl (kidding :)

You want more heated debate in the next round



	Question	Mean	StdDev
Highest average at start (high value ~ gree)	In twenty years, more people will believe in evolution than creationism; democracy will replace theocracy.	3.09	1.15
Lowest average at start (high value ~ gree)	The only way communications systems are workable is if they are monopolies (or vertically integrated).	1.75	0.95
Highest standard deviation at start	Free wireless access for everyone in the world is a human imperative.	3.06	1.44
Lowest standard deviation at start	The only way communications systems are workable is if they are monopolies (or vertically integrated).	1.75	0.95

Rethinking Mobile Apps:

“Mobile Social”

Driving Shared Experiences

Driving Shared Understanding

We Crave Shared Experiences



They help calibrate shared understandings

Electric Pricetags



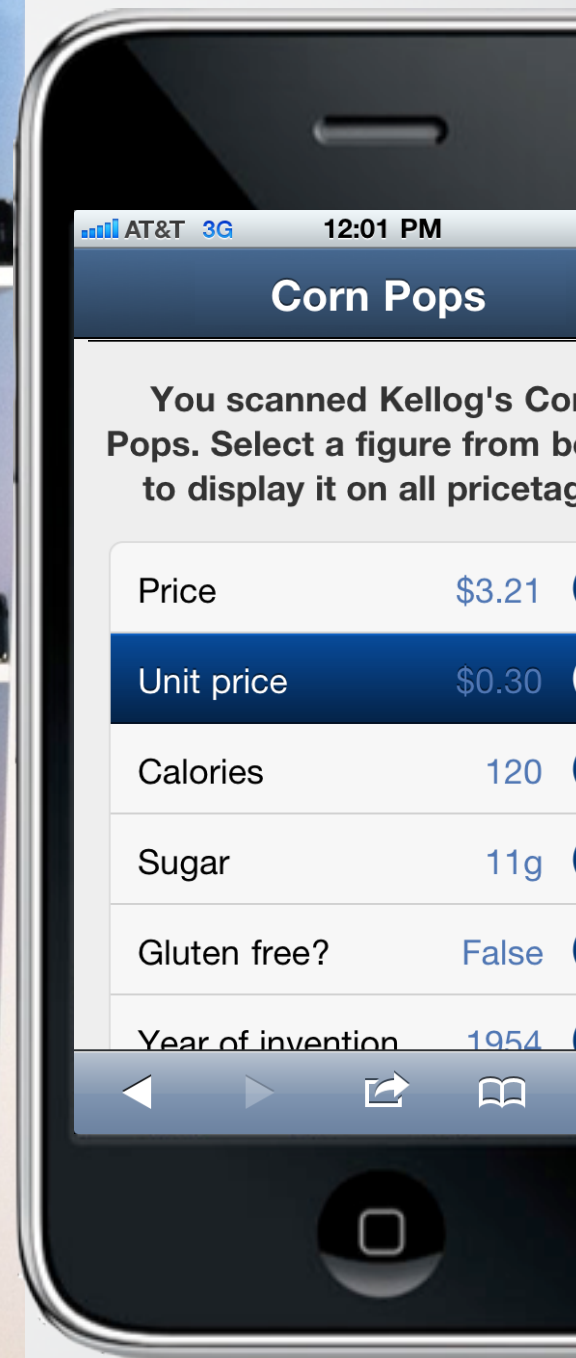
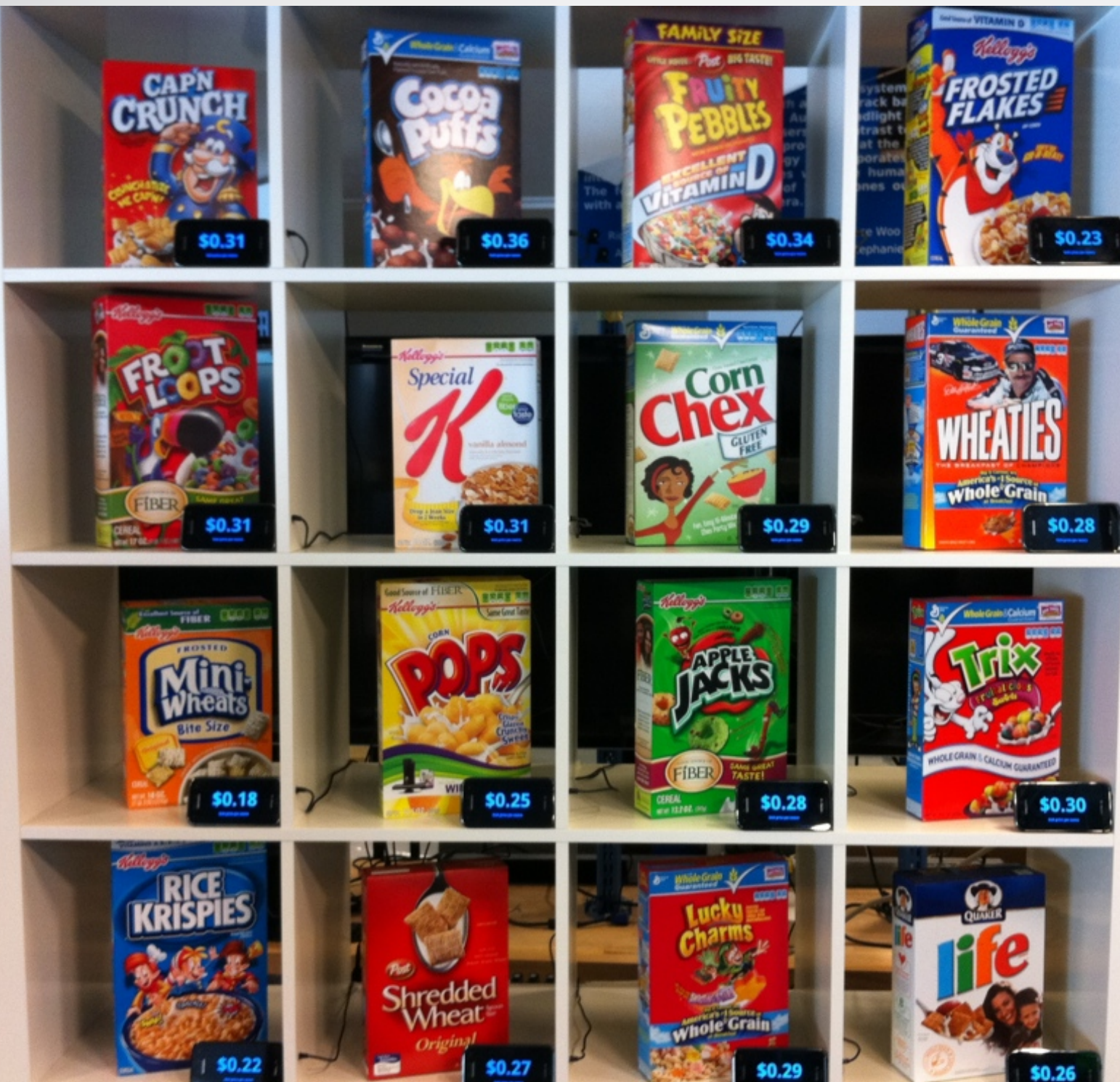
Shredded
Wheat

Spoon
Size

Original



Scan the QR code
with your phone
to take control of
the display shelf!

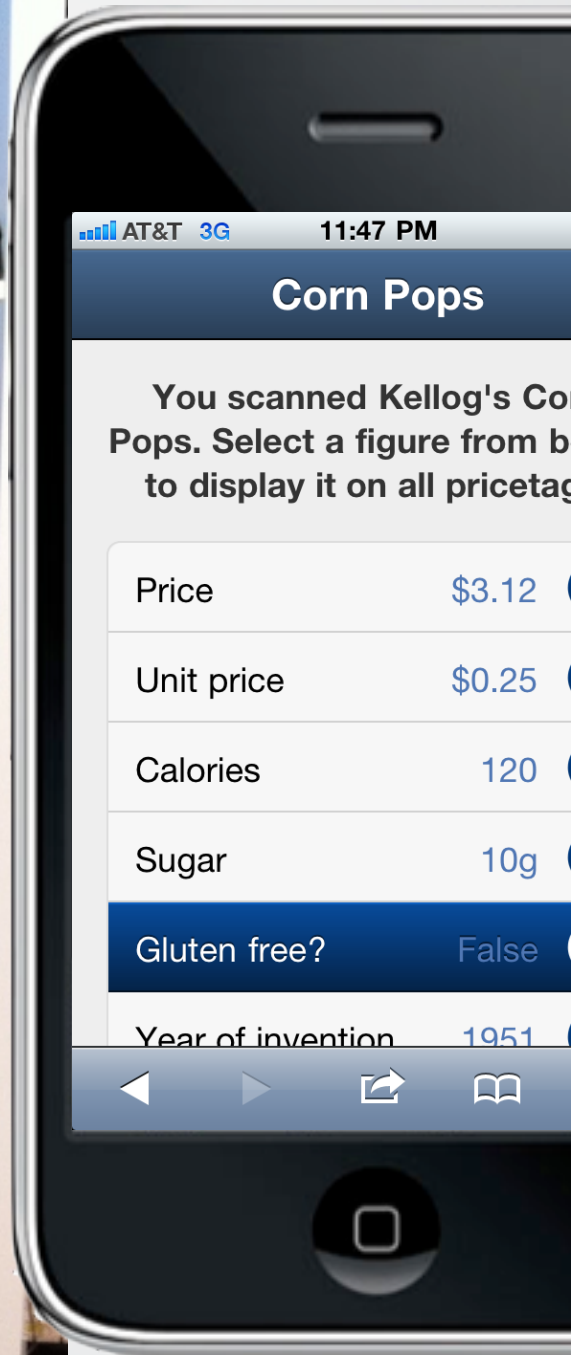


AT&T 3G 12:01 PM

Corn Pops

You scanned Kellogg's Corn Pops. Select a figure from below to display it on all price tags.

Price	\$3.21
Unit price	\$0.30
Calories	120
Sugar	11g
Gluten free?	False
Year of invention	1954



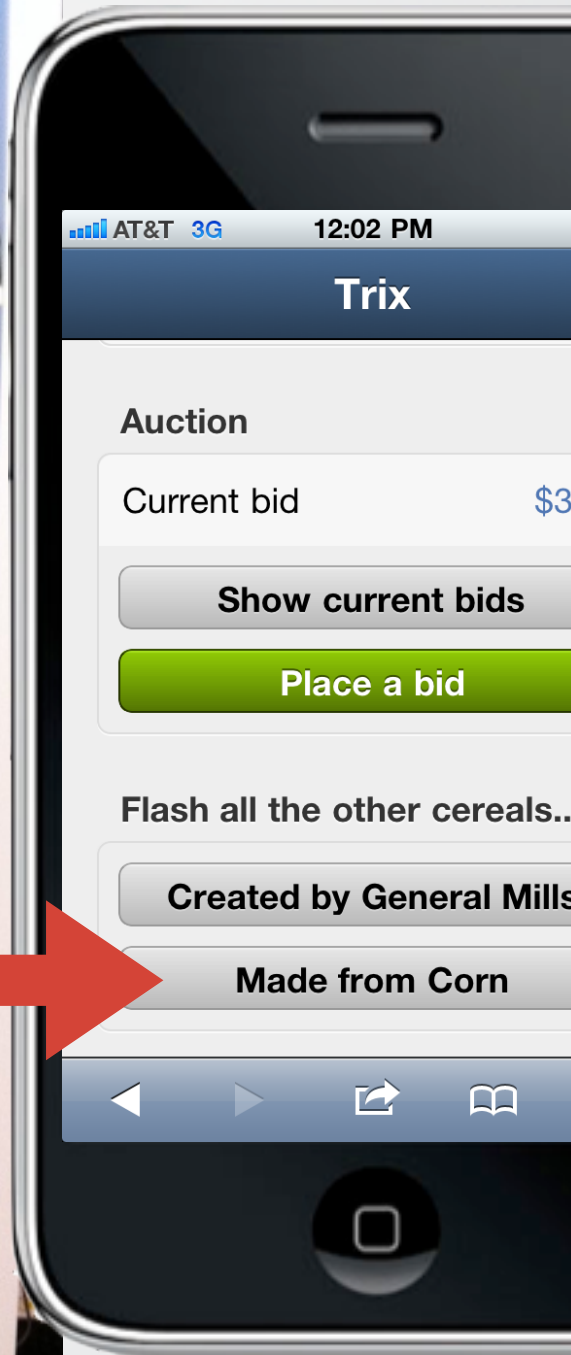
AT&T 3G 11:47 PM

Corn Pops

You scanned Kellogg's Corn Pops. Select a figure from below to display it on all price tags.

Price	\$3.12
Unit price	\$0.25
Calories	120
Sugar	10g
Gluten free?	False
Year of invention	1951





AT&T 3G 12:02 PM

Trix

Auction

Current bid \$3.00

Show current bids

Place a bid

Flash all the other cereals...

Created by General Mills

Made from Corn



Glass Infrastructure



Information Ecology

All groups

We have become reliant on digital information for communication, commerce, and entertainment. This information needs to be always available, whether stored locally on our computers, on enterprise servers at work, or via third-party services like Gmail. Most importantly, we should have choices beyond desktop computers or smartphones to access it. The Information Ecology group explores ways to connect our physical environments with information resources. Through the use of low-cost, ubiquitous technologies such as sensors and consumer electronics, we are creating seamless and pervasive ways to interact with our information and with each other.

People

- Daniel
- David
- Greg
- Henry
- Jee Yeon
- Li
- Matt
- Polychronis

Projects

- Konbit
- NeXtream Social Television
- Takeover TV
- Twitter Weather
- The Glass Infrastructure
- Home Fabratory
- Consumer Electronics
- B/DI Screen
- Proverbial Wallets
- Bird's-Eye-View
- Glasses-Free HD3DTV
- Tableau
- Constant Crit

People (Bottom)

- Matt (Tap to logout)
- Beast
- CityCar Folding Chassis
- Just-in-time Social Networking
- LuminAR
- MeBot
- Mouseless
- Preference Networks (PreNets)
- Sensetable
- Sittables: Physical Interactions with Digital Media
- Six-Forty by Four-Eighty: An Interactive Lighting System
- SixthSense
- Ron (Tap to logout)

Harold
Tap on a nearby person to login.

Junkyard Jumbotron

