Inventing a New Internet: Learning from Icarus

Dewayne Hendricks
Tetherless Access

Past EE380 Talks

- This will be my 3rd talk
- First in the '90s on wireless MANs
- Second, May 2000, Networking Tonga from the Ground Up and the Sky Down'

Personal Log

- Native of Detroit
- Left 1970 to SIU Carbondale & World Game
- User of ARPANet in 1974
- Silicon Valley 1976
- Serial Entrepreneur
- Wireless Internet startup in 1990
- Many wireless projects in developing countries

Personal Log (cont.)

- Member of NSF team that brought the Internet to Mongolia in 1996.
- Dubbed 'Broadband Cowboy' by Wired Magazine in 2002.
- Primary mentors: Bucky Fuller & Paul Baran
- Back to Detroit in 2010

Myth of Icarus

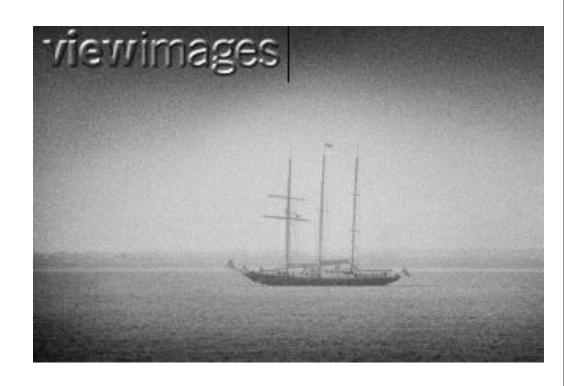
- Historical perspective: Start before 19th century
- Icarus framing & narrative courtesy of Mike Liebhold, Senior Fellow, Institute for the Future (IFTF)
- Little is really new...
- James Burke's 'Connections' methodology
- The Adventure Begins...

First Premises

- First comes a technology
- As time passes it becomes more accessible/ affordable
- "Good Enough" is acceptable for most folks
- More then we know is always happening under our 'radar screens'
- Wireless is one of our technologies which is most akin to magic (Clarke's 3rd Law)

As fast as it gets





Telegraph - 1830's



From 'Foot Speed to 'Light Speed'

Early "Wire Head"



The Victorian Internet

Tom Standage

Subterranean Telegraph

Example of startup proposal to the Congress in 1854 https://dl.dropboxusercontent.com/u/52479790/

Telegraphic Networking

- Access
- Infrastructure
- Networking Protocol Suite
- Internetworking
- Costs

Telephonic Network

- Deployed in the latter part of the 19th century
- Similar access and architectural issues as telegraphic
- Major difference was access to network provided by a 'network access device' deployed at the home or business

First signal across Atlantic - 1901

St. Johns, New Foundland

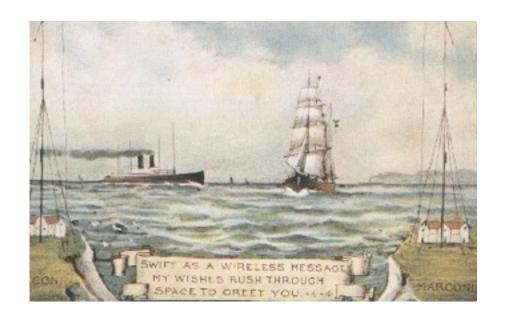


Cornwall, England

Wireless Commercial Service started in 1903

Early "Wireless Heads"





"From Lightspeed to Lightspeed"

Wireless Networking

- Access
- Infrastructure
- Networking Protocol Suite
- Internetworking
- Costs

Commercial Internet

1995 'From Lightspeed to Warpspeed'

Internet Networking

- Access
- Infrastructure
- Networking Protocol Suite
- Internetworking
- Costs

'Internet'

'You keep using that word and I don't think it means what you think it means!'

At only 45 years old... the Internet will be laid to rest in 2014. And Silicon Valley is thrilled. Because they know... The Economist believes the death of the Internet "will be transformative."

In fact, the CEO of Cisco Systems -- one of the largest tech companies on the planet -- says somebody's going to bank "\$14.4 trillion in profit... from one concept alone." And this FREE video gives you what you need to capitalize on the little-known company behind this concept...

R.I.P Internet - 1969-2014

What the Internet Is, and Should Continue To Be

By David P. Reed http://www.reed.com/blog-dpr/?p=132

Second Curve Internet

- Free Network Foundation (FNF) Innovation under Austerity
- New America Foundation Open Technology Institute (OTI) - Commotion Project

Darknet

- Another 'loaded' word...
- More going on there then you're aware
- "All for on and one for All' protocols
- Innovation w/o permission
- Example of second curve Internet

Person of Interest

- Top rated CBS TV show
- Produced by JJ Abrams (Lost, Fringe)
- Using approach pioneered by Roddenberry with Star Trek
- Explores how a global surveillance state might evolve
- NSA on a trajectory to build 'The Machine'

Person of Interest

"You are being watched. The government has a secret system: a machine that spies on you every hour of every day. I know, because I built it. I designed the machine to detect acts of terror, but it sees everything. Violent crimes involving ordinary people; people like you. Crimes the government considered 'irrelevant'. They wouldn't act, so I decided I would. But I needed a partner, someone with the skills to intervene. Hunted by the authorities, we work in secret. You'll never find us, but victim or perpetrator, if your number's up... we'll find you".

Questions?