A Fractured Fairy Tale History of the Internet
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Fractured Fairy Tales presented familiar fairy tales and children's stories, but with storylines altered and modernized for humorous effect.

[Link to Wikipedia article on The Rocky and Bullwinkle Show]

Pick one of the following moments in Internet History: (a) the building of the National Science Foundation’s NSFNet for academic use, (b) the creation of the World-Wide-Web at CERN, or (c) the development of the Mosaic web browser for Macintosh and PC computers. Assume that the event never happened and describe how you think that the current network environment would be different today.

[Brazil (1985) ad]

What year was this ad on Television? What company made the ad?

[Link to YouTube video of the Brazil (1985) ad]
December 11-14, 1995

Research Networks

- 1960's - 1980's
- What is the best protocol fairly to solve all of the competing needs?
- Should we go with commercial solutions from IBM or Digital Equipment? Or should we build something "open"?
- ARPANET was an exclusive Club

Source: Unknown

Supercomputers...

- As science needed faster and faster computers, more universities asked for their own Multimillion dollar supercomputer
- The National Science Foundation asked, “Why not buy a few supercomputers, and build up a national shared network?”

University of Illinois at Urbana-Champaign

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NCSA - Innovation

- We now “assume” the Internet and the Web - it was not so easy...
- A number of breakthrough innovations came from the National Center for Supercomputing Applications at Urbana-Champaign, Illinois
- High Performance Computing and the Internet were deeply linked

Larry Smarr, NCSA

http://www.vimeo.com/6982439

(2:51)

NSFNet @ University of Michigan

- University of Michigan failed to get one of the five Supercomputer Centers
- Partners: University of Michigan, Merit Network, IBM Corporation, MCI, and State of Michigan
- Proposed a $55M high-speed network for $15M
- Operated from 1988-1995

Doug Van Houweling
President and CEO, Internet2

http://www.vimeo.com/11044819

2:49

Source: http://hpwren.ucsd.edu/~hwb/NSFNET/NSFNET-200711Summary/
NSF Net

- NSFNet was the first network that was “inclusive”
- Standardized on TCP/IP
- Initially the goal was all research universities
- In the early 1990’s commercial companies (Internet Service Providers) could join and resell service

The Beginning of the Web: CERN

- The Internet was infrastructure - the web gave the Internet a "user interface and URLs"
- The Web was invented at CERN by Tim Berners-Lee and Robert Cailliau
- CERN developed browsers and servers - with a goal of worldwide hyperlinked documents
The First Web Server in America

- Stanford Linear Accelerator (SLAC) - Dr. Paul Kunz
- It was a database of 300,000 research papers
- December 12, 1991
- The first "search engine"?

http://www.youtube.com/watch?v=lOggP2yoKwc

1993: Gopher is Dominant

- Internet Engineering Task Force (IETF) Meeting
- March 29-April 2, 1993 - Columbus, Ohio, USA (638 attendees)
- Gopher BOF - 200 attendees
- World-Wide Web BOF - 15 attendees including Tim Berners-Lee
- P.S. DVD is invented this year

Mosaic - Netscape - Mozilla - Firefox

• Mosaic was developed at NCSA - Unix / Windows / Mac - Easy Install
• NCSA created the httpd web server which is the basic for the Apache web server
• While most of the NCSA programmers formed Netscape and made their fortunes, NCSA released their browser for free and focused on building standards to keep the web open with the World-Wide-Web Consortium

http://www.vimeo.com/7053726

1994: Year of the Web

• Netscape Founded - April 4, 1994
• WWW Conf: May 25-26-27 1994, CERN, Geneva (Switzerland)
• WWW Conf: October 17-19, 1994, Chicago, IL
• October 1994, Tim Berners-Lee founded the (W3C) at MIT
• November 8, 1994 - Windows 95 beta 2

Larry Smarr wanted to make supercomputers available to physicists
• University of Michigan snuck in 1.54Mb/sec instead of 56kb/sec backbone for the NSFNet
• Tim Berners-Less and Robert Cailliau were building a system for network hosted documentation
• Paul Kunz was trying to make his article database easier to use
• Joseph Hardin wanted to make supercomputers more user friendly

http://www.youtube.com/watch?v=sYNUcFMCJzw
What is the flaw of the logic of the 'You Will' commercials?

Monopoly and innovation are seldom co-located.

My Dystopian Present

- The network would be from AT&T
- Our laptop would be from AT&T
- Our PDA would be from AT&T
- E-Mail addresses would be numeric and have an area code (517) 684-0982-4016 - there would be no spam - caller id for e-mail
- We would be charged for every byte we transferred

My Dystopian Present

- Hardware would work flawlessly
- Hardware would be seldom be upgraded
- Technology hardware would be very uniform
- No user-servicable parts inside- repairs would be at a AT&T service center
- There would be no free Wifi at airports - nothing would be free
1997: The Web Land Rush...

- In the late 1990's there were many fortunes to be made - simply by being first in a market
- Many things were “novel” when it was re-invented on the web
- New brands were quickly established and became dominant

http://www.vimeo.com/7048422

The Modern Internet

- In the late 1990's in the boom there was a great deal of Fiber optic that was installed in the US
- High speed and long distance were cheap and common
- Many national backbone networks emerged - commercial, government, academic, etc
- These networks swap data at “peering points” so we see one seamless Internet - after about 1999 - this was all pretty boring - it just worked

http://en.wikipedia.org/wiki/Internet_Exchange_Point

The “Web Effect”

http://www.zakon.org/robert/internet/timeline/
Moar Dr. Chuck Videos...

Richard Stallman
Free Software Foundation

http://www.vimeo.com/7307422

http://www.vimeo.com/6215179

Thank You

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