Kris Stewart
CyberBridge – Summer 2010

- Evolution of Computers and Internet as the background for Ethics
- 3d Game Programming as Service Learning for CS students

www.biobridge.us/programs/cyberbridge/who-we-are

http://www-rohan.sdsu.edu/~tarokh/research/people-kstewart.html

How does this relate to us today?

(Qwest's High Speed Fiber located on the Railroad Right of Way)

http://www.stewart.cs.sdsu.edu/infolab/timeline_tech.html

Timeline of Technology (and Stewart's life)

Upd: Jan. 2007/Org: June 2000, SDSU

Thank you for the motivation to reflect on my personal history of life

Date	Technology	Event	Popular Culture	Comments
A **Big Picture** of timelines			World History: HyperHistory Online navigates through 3,000 years of World History	The Info Scout from the University of Wisconsin is useful to me.
February 14, 1946	ENIAC (U. Pennsylvania)			1997 the Association for Computing Machinery (ACM) celebrates its 50 year anniversary, closely tied to the first computer. ACM is the International Professional Society of computer science.
January 10, 1951		Wendy Christine Beard is born		My father (Lt. Col. W.O. Beard) was at Chosin Reservoir, Korea. The attention paid to this **Forgotten War** a few years ago reminded me that my 50th birthday came and went.
July 1955		Disneyland Opens in Anaheim		
Spring 1969	ARPAnet is born (UCLA)		Centeniel of Golden Spike Transcontinental Railroad Ref: Irving Stone's "Men to Match my Mountains" (Doubleday, 1956)	Kris Beard is Vista High Graduate, on to UCSD to major in Math
1978	Kris builds Z80 Microcomputer Kit Email: qb30087@calstate.bitnet (CSU Cyber)	SDSU Masters Project	"Pirates of Silicon Valley" TNT Movie describes this era. Perhaps we will **critically** watch next week.	Numerical Analysis in BASIC, available online from SCRUNCH available from GAMS/NIST
1979	NASA Space Craft (Voyager 1 Encounter) Internet access to email			Stewart joins Mathematical Softwa team at Jet Propulsion Lab, Pasade with MS in Computer Science
1981	Math Software with Cleve Moler, University New Mexico (witness to MATLAB birth)			Stewart starts work on the PhD at the University of New Mexico, Albuquerque
1984	Stewart returns to SDSU as Asst. Prof. in Numerical Analysis		Apple Ads (look at 1984 Movie shown during the U.S. Superbowl)	Stewart works to include computing in numerical analysis curriculum at SDSU
1993	NSF funds STEP at the San Diego Supercomputer Center (1993-1997) www.sdsc.edu/GatherScatter/gsfall94/gsfall_a8.html Supercomputer Teacher Enhancement Program STEP [GatherScatter Fall94]			Stewart introduces high school science teachers to computational science through workshops at SDSC.
Spring 1994	Stewart's Web Page first faculty home page at SDSU			STEP teachers jumped onto the use of the WWW
June 2000	Map the Human Genone June 25, 2000 announcement from White House	Cure for MS? Annette Funicello and I sure hope so.	Chronology/Microcomputers 1995-2001 copyright [watch browser's "location" field] Chronology/Microcomputers 1995-2002 copyright [always try to verify your data]	Author (Who?) Who made available? (Where?) Copyright (When?)
PBS explains computers to public	machine that changed the world WGBH, BBC, ACM, NSF, UNISYS	Triumph of the NERDS PBS Bob Cringely	Nerds 2.0.1 PBS Bob Cringely	Atlas of Cyber Spaces Historial Maps of Computer Networks

NSF Celebrates 50 years

www.nsf.gov/news/special_reports/nsf-net/

1960s

Note: 4 computers
Speed 4000 baud

1970s

188 computers
4800 baud

1980s

159,000 computers
1,400,000 baud

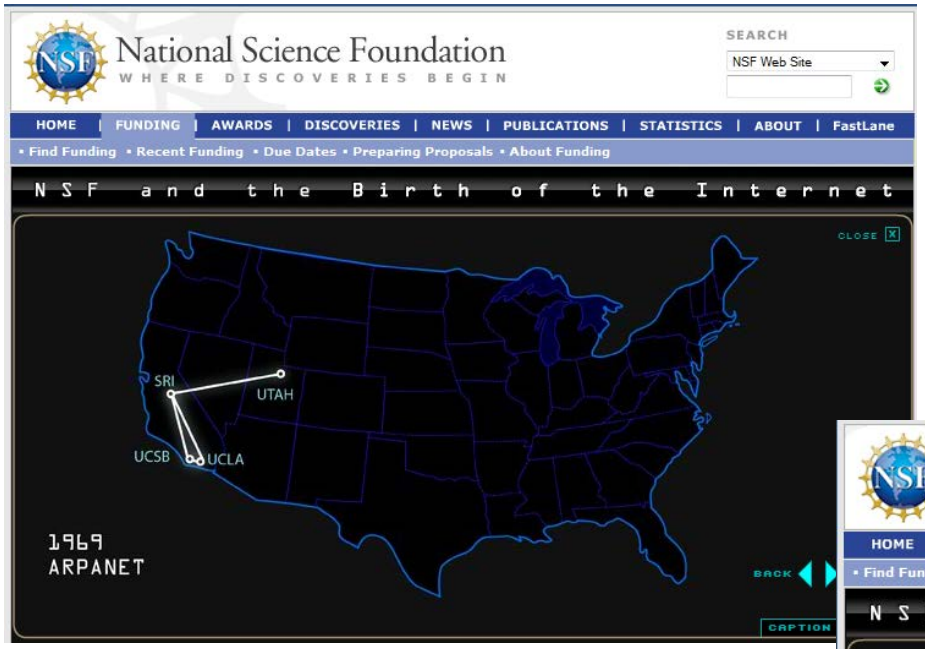
1990s

248,000,000 compute
10,000,000 baud

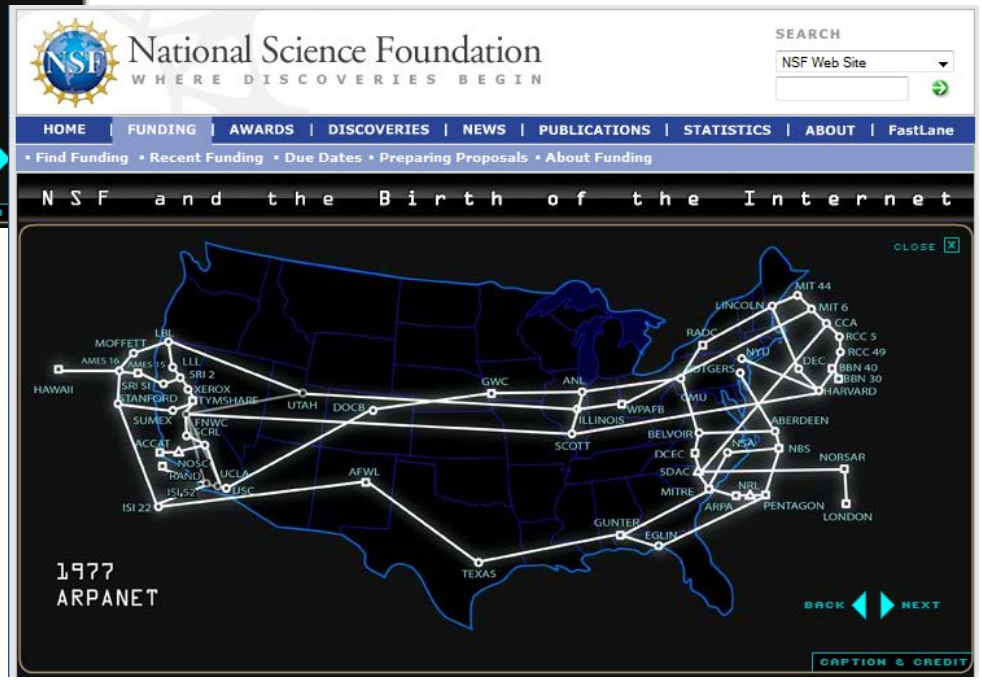
2000s

1.2 G computers
20,000,000,000 baud

Evolution of Network-1

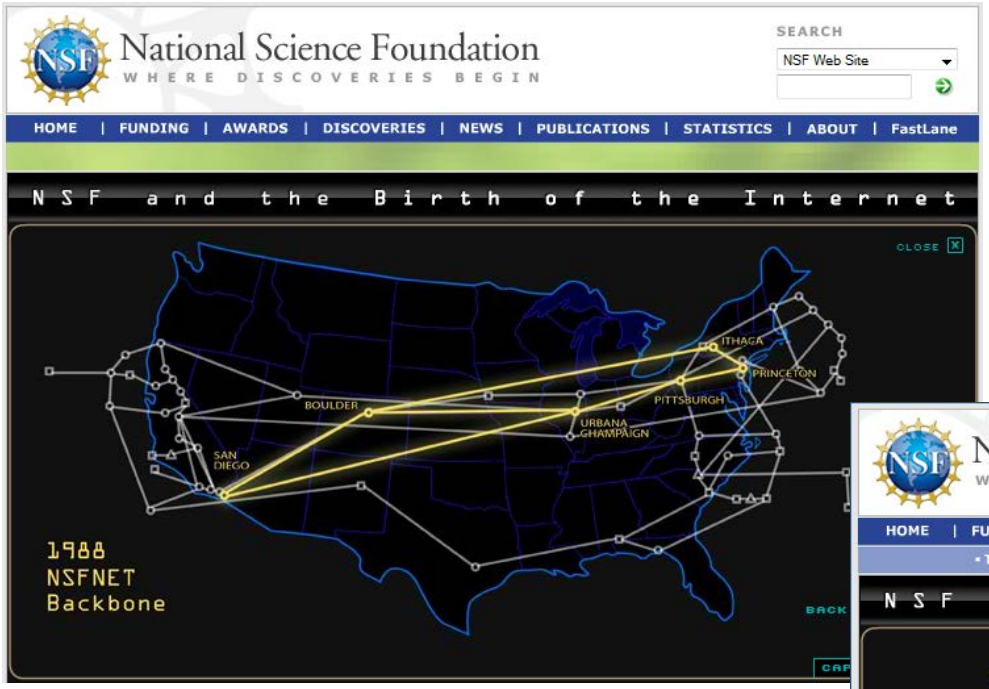


ARPANET 1969

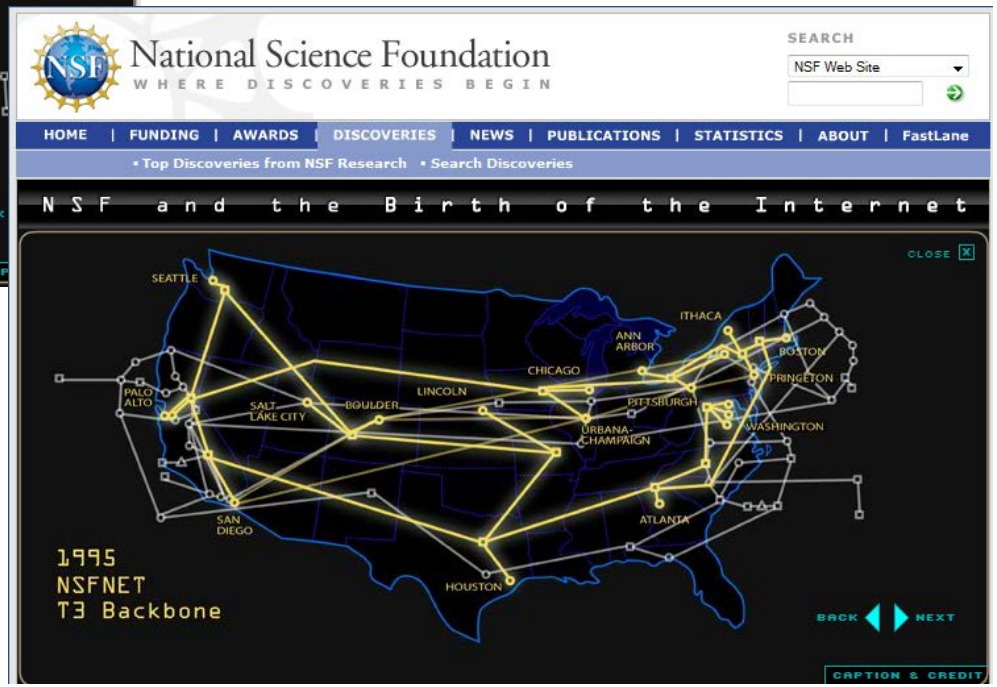


NSFNET 1977

Evolution of Network-2

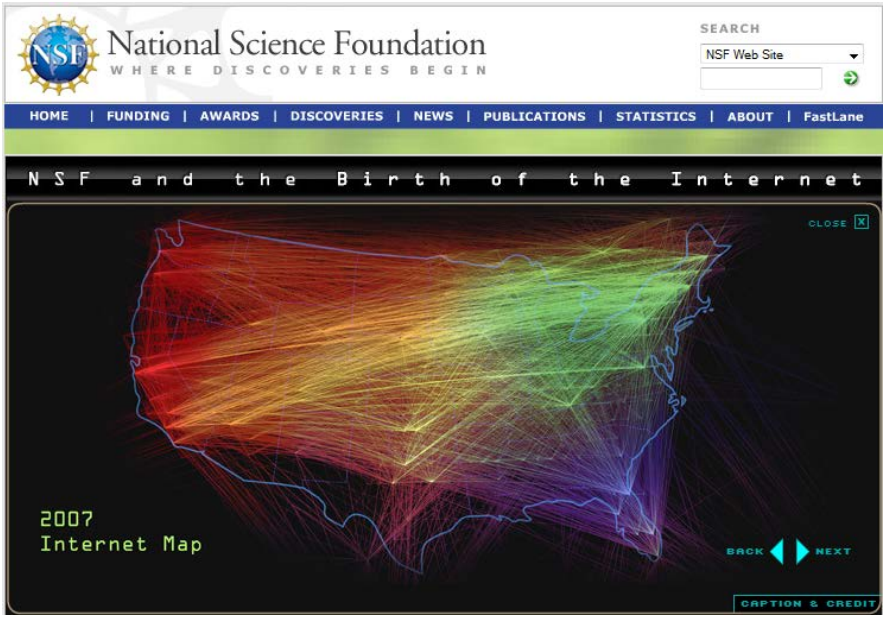


1988 NSFNET Backbone



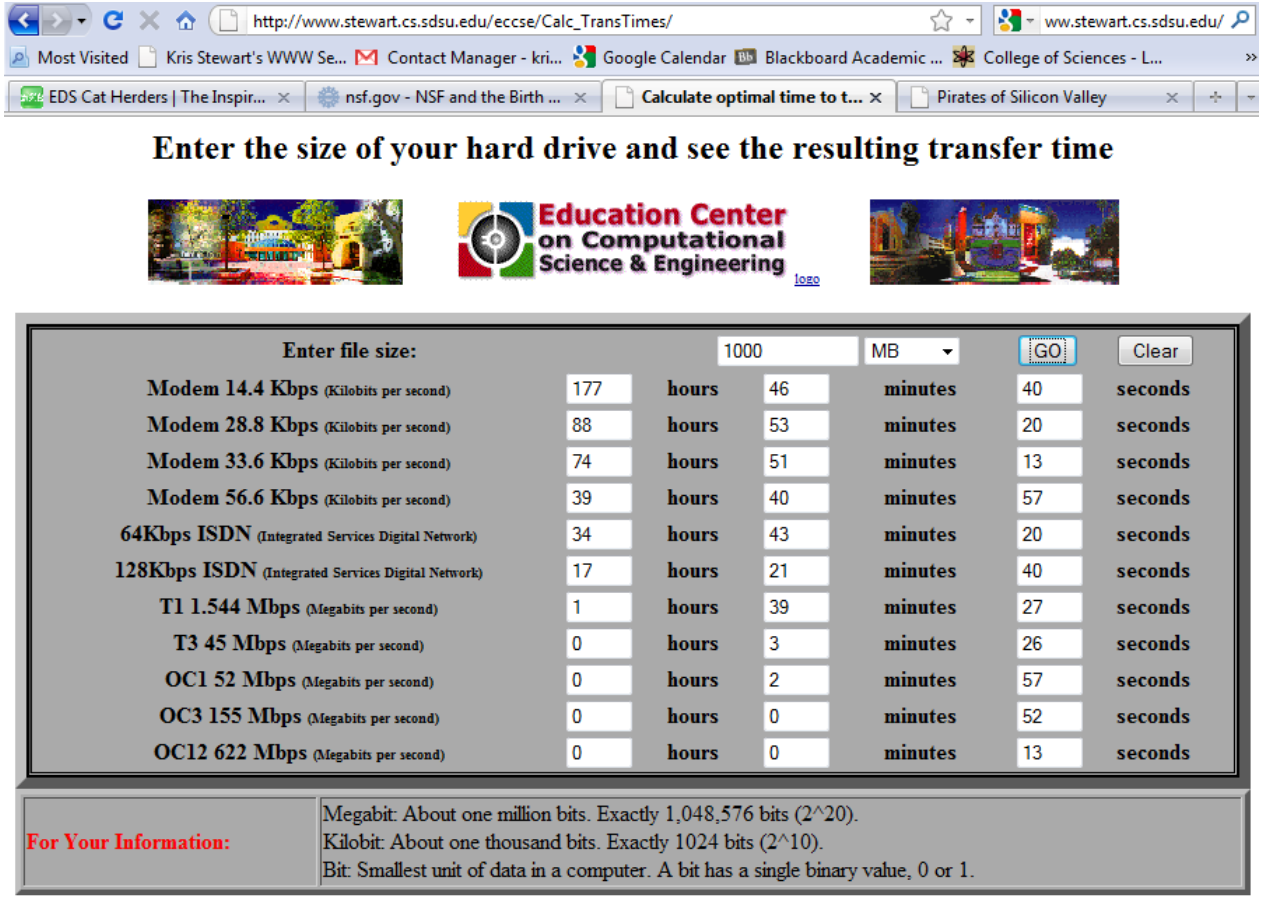
1995 NSFNET T3 Backbone

Evolution of Internet-3



2007 Internet Map of US

Calculate Transmit Time for your 1GB HardDrive vs. Network Speed



Stewart Background / Refs

- 1973 BA Math UCSD (unsuccessfully UCB PhD)
- 1976-79 MS Computer Science SDSU (Imsai 8080/Z80 microcomputer kit)
- 1979-81 Jet Propulsion Lab, Pasadena Ca
- 1981-87 UNM PhD Applied Math/CS
- 1984 hired SDSU Numerical Analyst faculty
- 1993-96 Supercomputer Teacher Enhancement Program (SD High Schools with SDSC resources)
- 1995 HPC at SDSU with SDSC resources
- 1997-2006 NPACI (HPC at CSU with SDSC/net resources)
- 2005 Engaging People in CyberInfrastructure (EPIC) using Game Engines as Curriculum Tool

UCSD=U.California, San Diego, SDSU=San Diego State U., UNM=U.NewMexico, HPC=High Performance Computing, SDSC=San Diego Supercomputer Center, NPACI=National Partnership for Advanced Computational Infrastructure

Curriculum Development

- SUE (Supercomputing and Undergraduate Education) workshop for CSU faculty 1990-93
- STEP (Supercomputer Teacher Enhancement Program) workshops for High School Teacher Teams 1993-96
- NPACI (National Partnership for Advanced Computational Science Infrastructure) 1997-2005
- KUCSEC (Keck Undergrad Computational Science Education Consortium) 2002-2006
- EPIC (Engaging People in Cyberinfrastructure) using Game Engines in University Undegrad Curriculum 2005-07

Key Points in video for Modern Computer History

- 1984 Superbowl commercial announcing Apple Macintosh http://en.wikipedia.org/wiki/1984_(advertisement)
- Pirates of Silicon Valley [TV movie] http://en.wikipedia.org/wiki/Pirates_of_Silicon_Valley
- The Machine That Changed the World [TMTCTW] BBC & PBS http://waxy.org/2008/06/the_machine_that_changed_the_world/
- Triumph of the Nerds PBS Bob Cringely http://www.pbs.org/nerds/
- Nerds 2.0.1 Bob Cringely, PBS http://www.stewart.cs.sdsu.edu/cs440/nerds_2_0_1.html
- CatHerders Superbowl commercial http://www.computerworld.com/s/article/print/9152078/Top_10_Super_Bowl_tech_ads?taxonomyName=Hardware&taxonomyId=12

Superbowl Commercials from Tech Companies (over time)

My choices are 1984 (Apple Macintosh premier, directed by Ridley Scott and EDS Cat Herders

Xerox: "Monks" (1976)
Apple: "1984" (1984)
Intel: "Play That Funky Music" (1997)
CompuServe: "Not Busy" (1997)
Lotus: "Capitalism" (1997)
Iomega: "Bermuda Triangle" (1998)
Network Associates: "Missile Silo" (1998)
EDS: "Cat Herders" (2000)
Computer Associates: "Amnesia" (2002)
Garmin: "Napoleon" (2008)

http://www.computerworld.com/s/article/print/9152078/Top_10_Super_Bowl_tech_ads?taxonomyName=Hardware&taxonomyId=12

Online Resources (a moving target)

- What criteria to use to evaluate? (date, biases, focus, intended audience, how supported …)
- Anything from ACM (Association for Computing Machinery)
- Research and Documentation in the Electronic Age – Diana Hacker
  http://dianahacker.com/resdoc/
- Scout Report Results. Solutions. Knowledge.
  Since 1994, the Internet Scout Project has focused on research and development projects that provide better tools and services for finding, filtering and delivering online information and metadata.
  http://scout.wisc.edu/

Students need to question web resources – much is invalid

- Research and Documentation in the Electronic Age – Diana Hacker
  http://dianahacker.com/resdoc/
- Campus Infrastructure – SDSU Reference Librarians provide guidance:
- Evaluating Sources of Info:
  http://infodome.sdsu.edu/research/evaluate/evaluate.shtml

What resources do you have in your school?
How much support for you (teacher) and your students?

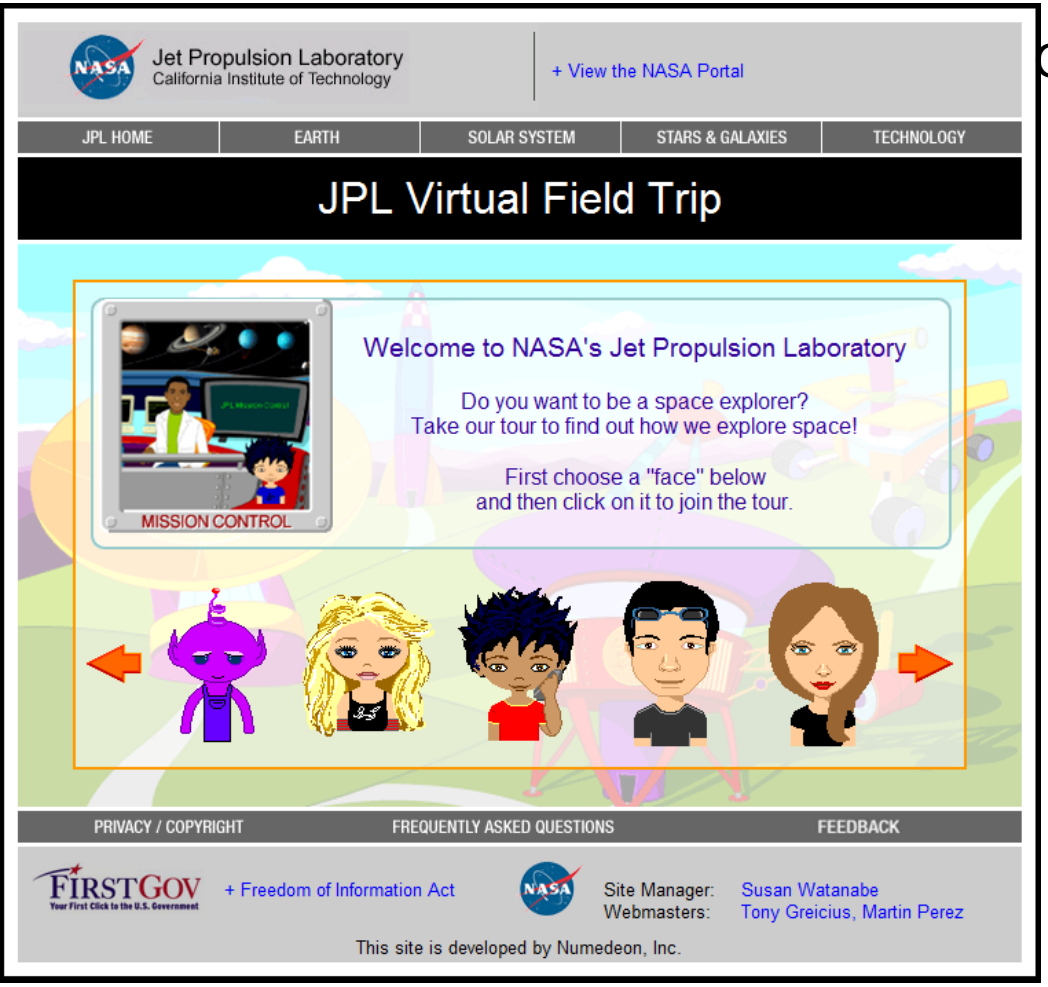
My Favorite online resources

- Scout Report (weekly email and archives)
- ACM Tech News (3 times/wk & archives)
- WayBack Machine
- Wikipedia – how to use effectively. Point out to students its View History [alt-h]

Resources found on web can be included, if acknowledged correctly

- Avoid Plagerism charges (cheating)
- Respect Copyright and other individuals Intellectual Property (IP)
- It is the “right thing to do” (cultural differences)

Programming for Middle- and High-school



Computer Science Teachers Association

http://www.csta.acm.org

Dec 5-11, 2010 Computer Science Education Week (CSEdWeek)
U.S. Congress

References

- **SUE** http://portal.acm.org/citation.cfm?id=224209
- **STEP** http://www.stewart.cs.sdsu.edu/SC97/
- **NPACI** http://www.sdsc.edu/pub/envision/v14.1/edcenter.html
- **KUCSEC** http://www.stewart.cs.sdsu.edu/KUCSEK/
- **EPIC** http://portal.acm.org/citation.cfm?id=1516586
- **CyberBridge** http://www.scivee.tv/tag/kris_stewart
- **CSTA** http://www.csta.acm.org
- **Wayback Machine**

http://www.stewart.cs.sdsu.edu/step/wayback_machine.html

- **Scout Report** http://scout.wisc.edu/
- **ACM Tech News** http://technews.acm.org

What resources do you have at your school?

- What resources?
- What technical support?
- What policy restrictions on use of the Internet?

- What interests you?
  Responsible Internet Usage
  Computer Games and Programming

The Scout Report

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Best of 2009-2010 June 10th, 2010

The Internet Scout staff takes an incredible amount of pride in providing pointers to some of the best online resources to our readers in our weekly Scout Report. Although we feel all of the resources we cover are valuable, inevitably there are some that stand out from the pack. In this year's 'Best of' issue we will share some of our favorite sites from the past academic year with our readers. The process of choosing which sites to include was not easy, as the interests of our staff vary as much as those of our readers. Whether it is the design of the site, the fascinating subject area and content, the site's ease of use, or its usability in the classroom, Scout staffers all have different rationale for preferring one online resource over another. Nevertheless, we were able to produce a top ten list that pleased everyone on the staff and we hope our readers as well.

The list is not intended to be inclusive of all our favorites, or every great resource, but it is meant to remind our readers of some of the outstanding resources the Scout Report has covered over the past academic year. So we hope you enjoy this list, and maybe take a few minutes to revisit some of our favorite sites from 2009-2010. As always, we look forward to providing you with a new batch of fantastic resources throughout the upcoming year.

In This Issue

Best of 2009-2010

- Xeno-Canto: Bird Sounds From the Americas [Real Player]
- Nasa eClips
- Vincent Van Gogh: The Letters
- Exploratorium 40th Anniversary: Speaking of Music Rewind [iTunes]
- National Science Foundation: Science Nation [Flash Player]
- The Mathematical Association of America: Podcast Center
- Balzac's Paris: A Guided Tour
- BioEd Online: Podcasts Plus Lessons
- HistoryWorld
- Nature Milestones

Informed Citizenry

http://www.humanmedia.org/catalog/player/playsingle.php?f=excerpts/151_informed_republic_1.mp3

Large set of curricula at related site

http://www.icivics.org/

Addresses journalism vs. "local TV news" as a source of information and the "fall of newspapers"

http://www.stewart.cs.sdsu.edu/step/wayback_machine.html

ferry victoria bc to washington

File Edit View Favorites Tools Help

Snagit Convert Select

Google ceili irish name Search Share Sidewiki krisst...

Favorites Sugg... Get ... Coll... Goog... Goog... Blac... roha... CS 5... Kris... Pica...

10aug2007_re... BC Ferries - Br... Mr. Peabo... http://cohofe...

Page Safety Tools

Mr. Peabody and his boy Sherman
WayBack Machine by Kris Stewart

Upd: 29May2010

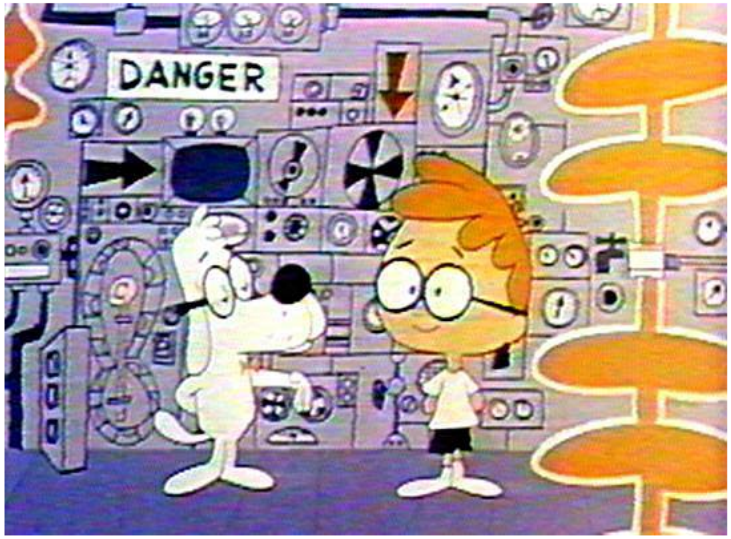
The www.archive.org/, WayBack Machine

The WayBack Machine, is an Internet archive that keeps track of "the internet" in its entirety, by year. By entering a URL, you may find web page that you remember "used to be there" but is "unfound" now.

en.wikipedia.org/wiki/The_Rocky_and_Bullwinkle_Show [wikipedia]

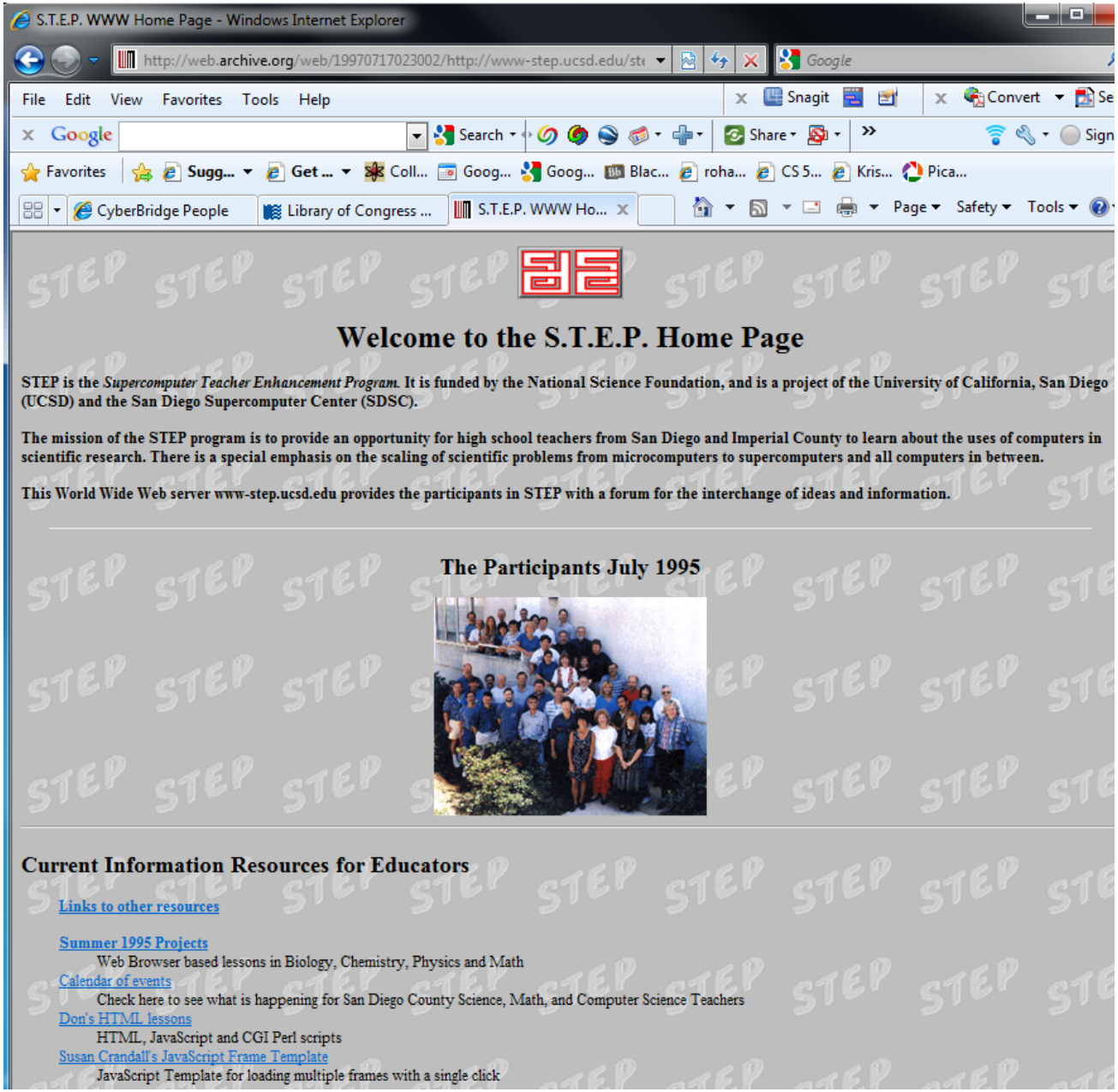
Kris Stewart (formerly Wendy Beard) is a big fan of the cartoon Rocky and Bullwinkle. I always liked Bullwinkle best, Rocky was just too goody-two-shoes for me. Second best was Dudley Do Right of the Mounties. I guess I was destined to marry a Canadian, eh?

en.wikipedia.org/wiki/Mister_Peabody was created by Ted Key.



Mr. Peabody and his boy Sherman in front of the WayBack Machine preparing for another **Peabody's Improbably History** adventure.

URL indicates the Wayback Machine



http://web.archive.org/web/19970717023118/www-step.ucsd.edu/step/

STEP Participants

Ana Alvarez
Counselor at Hoover High School
Don Anderson
UCSD faculty, STEP Principal Investigator
Bobbie Ball
Chemistry Teacher at Bonita Vista High School
Steve Bartram
Marine Science Teacher atRancho Buena Vista High School
Diana Bentley
Biology Teacher at Mira Mesa High School
Peter Burrell
Math Teacher at Scripps Ranch High School
John Cavanaugh
Physics and Chemistry Teacher at San Pasqual High School
Hal Cox
Physics & Chemistry Teacher at Hoover High School
STEP Lead Teacher
Susan Crandall
Biology Teacher at Escondido High School
Olin Elliott
Math teacher at Moutain Empirre High School
STEP Lead Teacher
Mark Falvo
Math, Chemistry & Physics Teacher at Morse High School
Lynne Gordon
Biology Teacher at San Diego High School
Dave Harlow
Computer Teacher at Gompers Secondary School
STEP Lead Teacher
Barton Hays
Biology and Marine Science Teacher at Morse High School
Henry Herms
Earth Science Teacher at LaCosta Canyon High School
John Hoang
Math Teacher at Hoover High School
Jay Klopfenstein
Biology Teacher at Valley Junior High
Susan Lafo
Chemistry Teacher at Mountain Empire High School
Jeffery Mandrake
Science Teacher at Gompers Secondary School
Jay Maness
Chemistry Teacher at Southwest High School
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Robert North
Chemistry Teacher at Hoover High School
Andres Parra
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Paul Pucci
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Chesley Ross
Biology Teacher at Escondido High School
Cheri Rossi
Biology Teacher at Morse High School
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Biology Teacher at San Pasquel High School
Steve Wavra
Biology Teacher at Southwest High School
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Chemistry Teacher at LaCosta Canyon High School
Karen Woodworth
Chemistry teacher at Ramona High School
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Last Updated July 19, 1996 by Tim Towler