Celebrating the Magic of Teachers

Dr. Charles Severance - University of Michigan
School of Information / Informatics
www.dr-chuck.com
A Wandering Tale...

One teacher’s experiences wrestling with technology over 15 years or so...
1996

Figure 16-5: Benchmark stone wall
IEEE 754: An Interview with William Kahan

If you were a programmer using floating-point computations in the 1960s and 1970s, you had to cope with a wide variety of configurations, with each computer supporting a different range and accuracy for floating-point numbers. While most of these differences were merely annoying, some were very serious. One computer, for example, might have values that behaved as non-zero for additions but behaved as zero for division. Sometimes a programmer had to multiply all values by 1.0 or execute a statement such as $X = (X + X) - X$ to make a program work reliably. These factors made it extremely difficult to write portable and reliable numerical

rumors that Intel was building floating point on a single chip, the i8087. And when they heard rumors of what was going to be on that chip, they were aghast.

CS: Out of this thinking grew IEEE 754?

WK: People have said from time to time (as a joke) that the other Silicon Valley companies got worried and joined the IEEE 754 working group. I realized at this first meeting that the members of the committee were very serious. CDC didn’t bother to attend that meeting in November 1977 because it was a microprocessor committee—they had no idea that microprocessors would mean anything at all. Cray felt the same way. IBM was only there in an observer capacity—they knew microprocessors were coming but they couldn’t say much.

CS: What were the meetings like?

WK: One of my friends said that attending one of these meetings was like a visit to the Grand Canyon: just awesome. In the usual standards meeting everybody wants to grandfather in his own product. I think that it is nice to have at least one example—and the floating-point standard is one—where sleaze did not triumph. Cray, CDC, and IBM
Welcome to HyperCard

on mouseup
answer "Hello Wikipedians!" with "Cool"
ask "What is your name?"
answer "You claim to be "t&i"."
end mouseup
Calculator

- The text has a nice example of a program which performs the functions of a calculator. It is particularly interesting because it highlights the utility and abstraction of functions.

1997
Title: Using Asynchronous, Web-based, Video to Humanize Distance Education
1998

You are Here

Trend 11.3%
Bands +& - 20%
Bringing the World Wide Web to America

Paul F. Kunz
<paul_kunz@slac.stanford.edu>
Stanford Linear Accelerator Center

On Dec. 12, 1991 the first Web server in America was installed, by me, on SLAC’s IBM mainframe.

Today, if you don’t have access to the Web, you are probably considered disadvantaged

• How did it happen that research in High Energy Physics invented the Web?
• What role did academic research, and HEP in particular, play in developing the ingredients needed for this?
1999

Robert Cailliau
co-Inventor of the
World-Wide Web
A Lecture About Food

Dr. Charles Severance

http://www-personal.umich.edu/~csev/csev/projects/cb2k/index.htm
Microsoft Exchange + Learning Modules =

Microsoft Learning Network (MLN)
Welcome to NCSA Mosaic, an Internet information browser and World Wide Web client. Mosaic was developed at the National Center for Supercomputing Applications, University of Illinois in Urbana-Champaign. NCSA Mosaic is now maintained by the Board of Trustees of the University of Illinois (UI), Urbana-Champaign.
SAKAI Picture

Jan 04 – Jul 04 – May 05 – Dec 05

Michigan
- CHEF Framework
- CourseTools
- WorkTools

Indiana
- Navigo Assessment
- Eden Workflow
- Oncourse

MIT
- Stellar

Stanford
- CourseWork
- Assessment

OKI
- OSIDs

uPortal

“Best of Refactoring"

SAKAI 1.0 Release
- Tool Portability Profile
- Framework
- Services-based Portal
- Refined OSIDs & implementations

SAKAI Tools
- Complete CMS
- WorkTools
- Assessment

SAKAI 2.0 Release
- Tool Portability Profile
- Framework
- Services-based Portal

SAKAI Tools
- Complete CMS
- Assessment
- Workflow
- Research Tools
- Authoring Tools

Activity: Ongoing implementation work at local institution...

Primary SAKAI Activity
Architecting for JSR-168 Portlets,
Refactoring “best of” features for tools

Primary SAKAI Activity
Refining SAKAI Framework,
Tuning and conforming additional tools

Activity: Maintenance & Transition from a project to a community
Learning Tools Interoperability
Latent Heat of CLE Innovation

- **Frozen**: Many different “imperfect” CLEs and LMSs
- **Melting Point**: Sakai
- **Boiling Point**: Gas - Innovation can spread to cover the space of T & L practices

True change in T & L happens in ways we cannot anticipate. CLE/LMS’s can take completely new forms and directions...
Common Cartridge

2005
IMS Tools
Interoperability
Demonstrator
Sheffield, UK

2005
Dr. Chuck Travel 2004-2006
Self-Service Exit Interview

- Bring enterprise-level open source LMS into the Market
- Collect bright worldwide developer community and achieve sufficient adoption for sustainability
- Focus on ease of adding new tools
- Create market to enable the free exchange between teachers
- Get teachers writing tools
Teach
Relax
Reflect
Recharge

2007-2008
Standards

- **IMS Tools Interoperability** - Allows tools and content from multiple servers to be mashed up across the web

- **IMS Common Cartridge** - Allows an interoperable cross-Learning System Import and Export of an entire class
IMS Common Cartridge

- Angel Learning is shipping with IMS CC
- D2L has announced support for IMS CC
- Development of IMS CC support for Etudes is underway
- McGraw Hill is producing *Etudes-specific* cartridges until IMS CC Support is available

2009
IMS Tools Interoperability

Demosntrations

IMS LTI Tool

2009 since 2004

Etudes

Sakai

Blackboard

ANGEL Learning

MIR
Hello: csev@umich.edu (Instructor) from SI 301 W09

Thank you for your guess

Enter Guess:

Enter Name (opt):

Submit

Average: 105 Count: 1
csev@umich.edu, 105
The important thing is not to stop questioning.

-- Einstein

Testing Tools Interoperability
Wisdom of Crowds

Hello: csev (Instructor) from DEMO CSEV 101 DEV

Enter Guess: 

Enter Name (opt): 

Submit
Nervous System: Introduction

The human nervous system is the body's "command central." It is like a computer and communications network all rolled into one. It carries messages back and forth between brain and body; controls and regulates the body's vital functions; and gives rise to both voluntary and involuntary movements.

Because the nervous system is complex, we will go on to examine its subsystems one at a time.
IMS Learning Tools
Interoperability
Technical Detail
TsugiProject Goals

- Easy to Use Tool Building Environment (ETUBE?)
- Supports IMS Learning Tools Interoperability
- Written in Python, Free, Open Source
- Hostable on Google for Free
- Teachers writing tools - students writing tools (Thousands)

www.tsugiproject.org
Using Google App Engine

Building Web Applications

Charles Severance

High School
College
Freshman Level

Programming
HTML
CSS
Database
JavaScript
New: Learning Google Application Engine [www.appenginelearn.com](http://www.appenginelearn.com)

For the best effect to learn Python on your own, you must go through the materials in order. If you want to attend a course, make sure to install the appropriate software on your system as provided under the "Software" tab.

This site should not be a substitute for a course in Python. The one you are taking is using the same textbook. Each course may take its own approach and pace through the materials.

**Basic Python**

- Writing Simple Programs (Chapter 2): [Handout](#), [Assignment Data](#)
- Computing with Strings (Chapter 4): [Handout](#), [File Again](#)
- Decision Structures (Chapter 7): [Handout](#)
- Computers and Programs (Chapter 1): [Handout](#), [most commits](#)
- Loop Structures and Booleans (Chapter 8): [Handout](#), [Sample Code](#), [Audio](#), [Assignment 5 - Statistics with](#)

---

Hello: test@fakemail.com (Instructor) from IN101

Enter Guess:

Enter Name (opt):

Average: 15 Count: 1
test@fakemail.com, 15

[Submit](#)

---

[Figuring out who has the most commits](#)

---

[Reading through a file](#)

---

[Reading Through a](#)

---

[Assignment 3 - Reading Through a](#)

---

[Assignment 5 - Statistics with](#)

---

[CloudSocial](#)
After over a decade of effort, 2 million airplane miles, and four job changes, my goal is still to

find ways to put educational teachnology directly in the hands of teachers - so they can use it to teach.
My technical objective is to make it so that teachers can easily trade software and content between each other (like virtual baseball cards).

Regardless of what learning management system (or systems) their institution has adopted.
Thank you