The Past and Future 25 Years of LON-CAPA

Gerd Kortemeyer
Actually: 26 Years of LON-CAPAS

It’s beyond our Silver Anniversary!

What the first CAPA server looked like
History of Course Management Systems at MSU

- **1992-1994**: Multimedia Physics
- **1996**: CAPA
- **1998-2000**: Lecture Online
- **2002-2004**: VU Widgets (Support Tools)
- **2006-2008**: ITDS Public Widgets
- **2010-2012**: DAT Tools (Support Tools)
- **2014**: Google Apps for Education (Support Tools)
- **2016-2018**: Desire2Learn

Academic Year Starting Fall of...

1992

A Tool for Teachers and Students

Understanding Concepts

CAPA

Solving Problems
1992

• CAPA (a Computer-Assisted Personalized Approach) is piloted in a physics class of 92 students, using paper printouts and Telnet to serve and grade personalized homework

• Multimedia Physics gets started with an NSF Presidential Faculty Fellow award, using SuperCard for electronic, interactive course materials
1993

- Multimedia Physics receives NSF ILI award

**Projects**

- New in 2000/01: [Iom-cagan](#): A web within the web (NSF funding)
- Computerized introductory physics lab (NSF funding)
- First Year OnLine (HHMI funding)
- Physics Applet Collection
- Virtual Physics Lab
  - Article in the Chronicle of Higher Education on our virtual lab project.
- Virtual University Classes
  - PHY231C, PHY232C, Advanced Placement Physics (password required for access)
  - Over 1000 students around the country and even in Europe have already completed these courses.
  - Course Information
  - Syllabus, schedule, current info
- ConCam
- Physics Resource Center
- Textbook on cd-rom: cliXX Physik (in German)
- New in 2000/01: Partnership between MSU and Apex Learning to develop Advanced Placement Physics courses for high school students.

**Faculty Members**

- Prof. Wolfgang Bauer
- Prof. Walter Benenson
- Prof. Gary Westfall
1997

Distance Learning via the Internet
Wolfgang Bauer, Walter Benenson, Gerd Kortemeyer, Gary Westfall

Internet site: http://mmp.nscl.msu.edu/

Goals:
- Provide better access to universities and colleges
- Virtual university
- Improve general science literacy
- Increase students’ interest in science classes

Distribution via:
- World-Wide Web
- CD-rom

Integration of Research and Teaching

NSF – Funding Provided by:
- Instrumentation and Laboratory Improvement Grant
- Presidential Faculty Fellow Award
- NSCL

Individualized Interactive Homework and Exams
- Homework can be submitted from anywhere in the USA
- Use of World-Wide Web
- Individualized assignments for each student
- Help on demand
- Immediate feedback

Office Hours on the Internet
- Electronic mail
- Chat rooms
- Video conferencing

Interactive Simulations, Animations, Derivations
- Allow students to explore concepts at their own pace
1998

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1998 Frontiers In Education Conference

Best Paper Award

awarded to

Gerd Kortemeyer, Wolfgang Bauer

Multimedia Collaborative Content Creation (mc³) - the MSU Lecture Online System

November 5th, 1998

Sponsored by: IEEE Computer Society, IEEE Education Society and the American Society for Engineering Education (Educational Research and Methods Division)

In cooperation with: Arizona State University

Presented to:

EDWIN KASHY
MICHAEL THOENNESSEN
YIHJIA TSAI
NANCY E. DAVIS
SHERRY L. WOLFE

Frontiers in Education Conference, IEEE ERM Division, ASEE

November 1998
2001

Netscape: phy231c H: cd014
- Edit Content
- Copy Content
- View Content
- Homework
- Drop/Add
- Set Due-Dates
- Set Email
- Set Bonus

Remote Control
EXTENDED DISPLAY
CALENDAR
ANNOUNCE
- CCAT
- CUSR
- CSTR
- RES
- VBKM
- CLDR
- COM
- PORT
- BLOG
- SRCH
- PREF
- EXIT

L...e
2002

- Version 0.5 of LON-CAPA released
2003
2003
2004 Award For
Effective Feedback To The Instructor
From Online Homework
is presented to
Michigan State
University
For LON-CAPA For Formative And Summative Assessment
That Improves Instructor Awareness Of Learner
Difficulties And Helps Refine Educational Materials
And Facilitate Research In Physics Education.
November 12, 2004
2005

eduCog
2007
2008
2009
2010

- USA: 108
- Canada: 7
- Germany: 3
- Turkey: 1
- Israel: 2
- South Korea: 1
- Switzerland: 1
- Nigeria: 1
- Great Britain: 1
- Brazil: 2
- South Africa: 1
- Taiwan: 1
2015: Some Prototyping
Initiative may save Purdue $1M on textbooks

Joseph Paul, jpaul@jconline.com  Published 11:46 a.m. ET Feb. 22, 2015 | Updated 11:46 a.m. ET Feb. 22, 2015

In the sharing economy, an unused car or an empty couch has the potential to make money for some and save it for others.

If those items can be shared, some Purdue University students ask, why can't textbooks?

Purdue Student Government passed a resolution last month recommending that the Office of the Provost replace existing online curriculum programs like WebAssign, which offers Web-based lessons and collects and grades assignments based on texts from major publishers. It sometimes costs more than $100 for each course.
2018 (this morning)

LON-CAPA Shared Resource Pool, Summer 2018

Year

Number

- Total
- Problems
- Pages
- Images
- Libraries
- Assemblies
- Movies/Sound
- Animations/Simulations
- Other

2018 (this morning)

Now what?!
2018-2044

- >25 years is longer than any other comparable system I know of
  - So: no more “will you be there tomorrow?”

- Still:
  - how do we ensure the next 26 years?
    - preserve value (content!)
    - be nimble (yet preserve legacy)
    - innovate (yet remain “enterprise level”)
    - continue to serve our users
2018-2044

- LON-CAPA is an academic community
- Your Mission (one of two today), should you choose to accept it:
  - Recruitment – talk to your colleagues
  - Projects – grant and sponsored programs
  - Coding – expand open-source coding community
  - Conferences – give talks!
  - Get the news out – try to get your successes into campus news, etc.