

[HOME PAGE](#) [MY TIMES](#) [TODAY'S PAPER](#) [VIDEO](#) [MOST POPULAR](#) [TIMES TOPICS](#)[Get Home Delivery](#) [Log In](#) [Register Now](#)**The New York Times**

# Business

☒ Business ☐ All NYT

Search

[WORLD](#) [U.S.](#) [N.Y. / REGION](#) [BUSINESS](#) [TECHNOLOGY](#) [SCIENCE](#) [HEALTH](#) [SPORTS](#) [OPINION](#) [ARTS](#) [STYLE](#) [TRAVEL](#) [JOBS](#) [REAL ESTATE](#)**AUTOS**[MEDIA & ADVERTISING](#) [WORLD BUSINESS](#) [SMALL BUSINESS](#) [YOUR MONEY](#) [DEALBOOK](#) [MARKETS](#) [RESEARCH](#) [MUTUAL FUNDS](#) [MY PORTFOLIO](#) [ALERTS](#)

**STAPLES**  
that was easy.®

Check out our weekly ad.

See all the deals

Advertise on NYTimes.com

## NOVELTIES

## What Did the Professor Say? Check Your iPod



Whether it's an iPod showing an art history podcast, left, an iPod Touch showing slides, right, or a laptop displaying a biology lecture, new software is helping many students to review for exams..

By ANNE EISENBERG  
Published: December 9, 2007

STUDENTS staring at their [iPod](#) screens may be taking a break with a music video — or they may be reviewing a tough chemistry lecture.

[Enlarge This Image](#)**More Articles in Business »**

**Explore your alternatives.**  
The HP ProLiant DL385 G5 server featuring Integrated Lights-Out Management.

Upgrade to our iLO Select Edition for remote collaboration capabilities.

**» LEARN MORE**  
Powered by the Quad-Core AMD Opteron™ processor.

[SIGN IN TO E-MAIL  
OR SAVE THIS](#)[PRINT](#)[REPRINTS](#)**MOST POPULAR - BUSINESS**[E-MAILED](#)[BLOGGED](#)



These days, students who miss an important point the first time have a second chance. After class, they can pipe the lecture to their laptops or MP3 players and hear it again while looking at the slides that illustrate the talk.

SHARE

ARTICLE TOOLS  
SPONSORED BY  
**CHOKe**  
SEPTEMBER 26

At least two companies now sell software to universities and other institutions that captures the words of classroom lectures and syncs them with the digital images used during the talk — usually PowerPoint slides and animations. The illustrated lectures are stored on a server so that students can retrieve them and replay the content on the bus ride home, clicking along to the exact section they need to review.

When it's time to cram, the replay services beat listening to a cassette recording of a class, said Nicole Engelbert, an analyst at Datamonitor, a marketing research company in New York.

"Students already have an iPod and they already use them all the time," she said. "You don't need to train them."

Professors who know less than their students do about MP3 players won't be at a disadvantage, because the systems require little technical skill to operate. "The best lecture-capture solutions simply require the speaker to turn on a mike and push a button to start the recording," she said. "They are simple to use."

Long before audio files, of course, students were doing "lecture capture" by taking notes, but even rapid writers may fall behind in fast-spoken, highly detailed deliveries. The new technology may help some of these students, especially those in large lecture classes. "But it doesn't necessarily make sense for all groups," Ms. Engelbert said, "for instance, in a more collaborative environment like an advanced composition class with a lot of discussion."

The [University of Central Florida](#) uses a lecture-capture system from Tegrity, a company in Santa Clara, Calif., at its college of engineering and computer science in Orlando to

1. [Trying to Save by Increasing Doctors' Fees](#)
2. [Given a Shovel, Americans Dig Deeper Into Debt](#)
3. [The Food Chain: Mideast Facing Choice Between Crops and Water](#)
4. [Women Are Now Equal as Victims of Poor Economy](#)
5. [Uncomfortable Answers to Questions on the Economy](#)
6. [Savage Stands by Autism Remarks](#)
7. [As Papers Struggle, News Is Cut and the Focus Turns Local](#)
8. [Roche Offers \\$43.7 Billion for Shares in Genentech It Does Not Already Own](#)
9. [Everybody's Business: Lessons in Love, by Way of Economics](#)
10. [Bank Beats Forecasts, Reassuring Investors](#)

[Go to Complete List »](#)

**Americans dig deeper into debt**

Also in Business:

- [What's next for Rudy Giuliani's firm?](#)
- [The FedEx guy, and 2 movie producers](#)
- [Get Dealbook news on your BlackBerry](#)

ADVERTISEMENTS

record all sessions of about 300 classes a year attended by roughly 2,500 students, according to Alfred Ducharme, an assistant dean.

**Need to know more?**

Get 50% off home delivery of The Times.

Tegrity software indexes every word shown on the computer screen during lectures in a database.

“Students don’t have to review the whole lecture,” he said. “They can type in key words on their computer, do a [Google](#)-like search, and open the lecture at that point.”

Isaac Segal, the president of Tegrity, said its fees are based on the number of students in the institution or department. Annual fees typically run \$25,000 to more than \$100,000, he said. Of the 90 institutions now using Tegrity, about half have campuswide installations.

Ronald Danielson, a vice provost at Santa Clara University, which has a site license from Tegrity, said that students use the review system efficiently. “They are very expert at clicking back and forward to the exact spot they want,” he said. “They don’t listen from start to finish.”

[Purdue University](#) in West Lafayette, Ind., plans to use a software application from Echo360, of Sterling, Va., that records lectures and accompanying slides for replay on iPods, iPod Touches, Zunes and other devices, said Edward J. Evans, Purdue’s interim executive director for teaching and learning technologies. The university is testing the program in as many as five classes this January, he said, and hopes to extend it to 300 classrooms in the fall.

Echo charges universities \$10,000 for an annual site license for audio-only podcasts, and \$20,000 for enhanced podcasting with visuals, said Mark Young, senior vice president and general manager. In January, Echo will introduce a new podcasting service for \$50,000 that includes dynamic displays like computer animations.

The pressure to buy lecture-capture software has come mainly from students who need to study away from school — during a commute, for instance, said Bryan Vandiviere, the Web presentation technology coordinator at [Kansas State University](#), which has a site

license from Tegrity.

Laura Martho, a student at El Centro College in Dallas, finds the replay service invaluable. Mrs. Martho, who has four children, commutes 45 minutes each way four days a week to a hospital for clinical work in echocardiology. During the commute, she plugs an iPod into her car radio to review lectures, and checks visuals during lunch. "Every second counts," she said.

Limor Raz, a Ph.D. candidate at the Medical College of Georgia in Augusta, reviews lectures in her neuroscience class by computer. "I can't stress enough how much it helped me prepare for exams," she said. "There's a tremendous difference between viewing the lecture once and seeing it again. It's not exactly easy, neuroscience. Trust me, it's very tough."

But Professor Danielson at Santa Clara said that not everyone on his campus was won over to the replay systems.

"Some professors are concerned about having less-than-perfect classroom moments captured for posterity," he said.

*E-mail: [novelties@nytimes.com](mailto:novelties@nytimes.com).*

[More Articles in Business »](#)

**Need to know more? 50% off home delivery of The Times.**

**The New York Times STORE**

### Browse Local Business Services

Find businesses near you on The New York Times Business Services Directory.

[Advertising & Marketing »](#)

[Business & Financial Services »](#)

[Business Cash Advance »](#)

[Home Remodeling »](#)

[Legal Services »](#)

[Limousines »](#)

[Miscellaneous »](#)

[Nightlife Entertainment »](#)

[Public Relations »](#)

In partnership with DirectoryM

Ads by Google

[what's this?](#)

#### **Bose® headphones**

Noise reduction, lifelike audio. Your choice of styles. Ships free.  
[www.Bose.com](http://www.Bose.com)

#### **Anatomy and Physiology**

Exam Questions & Answers Audio MP3, CDs, DVDs, Downloads  
[www.MinNay.com](http://www.MinNay.com)

#### **Audio Lectures**

Everything to do with Lectures items.

[Yahoo.com](#)

## Tips

To find reference information about the words used in this article, double-click on any word, phrase or name. A new window will open with a dictionary definition or encyclopedia entry.

## Past Coverage

[To Cut or Not to Cut](#) (July 30, 2006)

[Student Notebook](#); [Disconnections](#) (November 9, 2003)

## Related Searches

[Lectures and Lecturing](#)

[Add Alert](#)

[Computers and the Internet](#)

[Add Alert](#)

[Recordings and Downloads \(Audio\)](#)

[Add Alert](#)

[Colleges and Universities](#)

[Add Alert](#)

## INSIDE NYTIMES.COM



### HEALTH »



[Russia Scorns Methadone for Heroin Addiction](#)

### SPORTS »



[Asthma Medications: Not a Clear Advantage](#)

### WORLD »



[Dutch Rebuild Tradition, One Windmill at a Time](#)

### OPINION »

## The Legend of Heretic

No present politician would embrace an agnostic the way some did in the 19th century, a Campaign Stops contributor writes.

### ART & DESIGN »



[New House, Available for Delivery](#)

### OPINION »



[Op-Ed: Mary E. Peters on Runway Gridlock](#)

[Home](#) | [World](#) | [U.S.](#) | [N.Y. / Region](#) | [Business](#) | [Technology](#) | [Science](#) | [Health](#) | [Sports](#) | [Opinion](#) | [Arts](#) | [Style](#) | [Travel](#) | [Jobs](#) | [Real Estate](#) | [Automobiles](#) | [Back to Top](#)

Copyright 2007 The New York Times Company | [Privacy Policy](#) | [Search](#) | [Corrections](#) | [RSS](#) | [First Look](#) | [Help](#) | [Contact Us](#) | [Work for Us](#) | [Site Map](#)