



MCCE NEWS

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Developing your own video-based software tutorials

by Vince Long

If you teach students how to use software, I'm sure there are procedures you have taught so many times you can literally do them in sleep. From the simple process of copying and pasting within a word processor to the more complex skills such as rotating objects in 3-dimensional space, demonstrating these procedures is key to the teaching process. However, some students can see a demonstration once and they are ready to practice the skill while other students may need to see the demonstration multiple times before they are successful on their own.

While we are usually at the ready to repeat a demonstration, some students will fail to ask us to fearing they will "look stupid." In other cases, students may need to go through the demonstration at a slower pace, stopping along the way to absorb and practice the steps involved. The solution is to have a recording of the demonstration available to the students to access on demand. In the recent past, recording on your computer desktop required clunky hardware and even clunkier software, but now



there are some simple software-only solutions that make this task quick and easy.

This classification of software comes under the general heading of "desktop recording software," a Google search of which will yield a list of over seven million hits. There are many commercial solutions available including

(Continued on Page 4)

In This Issue

Developing your own video-based software tutorials

Free software captures your screen moves and your narration. Page 1

President's Message Page 2

Making research and citing resources easy

Web site provides multiple references Page 3

A visual approach to learning programming

Alice takes the syntax out of learning how to program. Page 6

Linux ready for the classroom?

Ubuntu comes on strong and targets the classroom. Page 8

Watching out for keyloggers

Who might be watching you type? Page 10

Web site recommendations Page 10

by Staci Auck

It seems like just two weeks ago that we were in Billings for the MEA-MFT Educator's Conference instead of two months ago... and it seems even stranger that we are almost half way through the school year! Gosh, how time flies when we are having fun.

There were many top-notch sectionals provided by MCCE members or under the MCCE curriculum group and the highlight for us was to have a nationally and internationally known technology speaker, John Kuglin, present two sectionals as well as be our keynote speaker. As we all know, technology doesn't just affect computer teachers but touches all curriculums and Mr. Kuglin had some interesting messages that I wish everyone at the conference could have heard. He does such a good job of reaching his audience and inspiring us to do more. If you haven't ever heard him speak, I would strongly encourage you to do so if the opportunity ever becomes available again.

I would like to thank and welcome Sherry McMorris from Sidney as a new member to the MCCE board. Also returning to fill vacancies for board members are Susie Flentie of Lewistown and Cathy Stone from the Helena area. I also would like to extend a hardy invitation for contact names of people that you think may be interested in filling an officer position for MCCE either now or at a future date. (The MCCE president-elect position is still open.)

Our general membership meeting is very much worth attending as many nice door prizes were given away as well as providing a great (free) lunch. I hope you try to make it next year if you didn't this year. Thanks to those on the committee that took care of these details as well as providing the wonderful goodies in the hospitality room and keeping it stocked.

I am not one for New Year's Resolutions but this year I hope you will join me in making one by doing these two things for MCCE: 1) Invite/encourage at least one person to join MCCE and 2) present yourself or invite/encourage someone to present at the 2007 MEA-MFT Conference in Belgrade next year. That to me seems like a very possible task for everyone and a resolution we can all fulfill.

Wishing you a happy and healthy 2007 and a successful second semester of education.

MCCE NEWS

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Software Reviews,
Classroom Technology Tips, Student-
Written Stories, Web Site Reviews



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**NCCE 2007 Technology in Education
Conference
Spokane, Washington
March 6-9, 2007**

Making research and citing resources easy

by Staci Auck

One of the new internet research tools I recently learned about was www.answers.com. I don't have students do many research projects for the type of classes I teach, but I now wish I did after playing with this handy site.

Once at the site all you have to do is type in the topic you are researching and this search engine will do all of the following:

1. Gives the dictionary definition, if applicable.
2. References the Britannica encyclopedia.
3. References subject related encyclopedias or manuals (such as science, history, music, etc.) depending on the topic.
4. References Wikipedia, if applicable.
5. Gives links to many external sites.
6. Provides many images, if applicable.

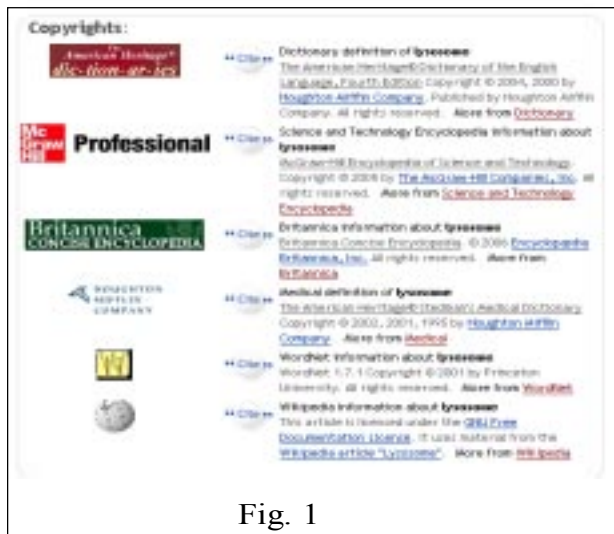


Fig. 1

7. Includes many bibliographies for the references.

And the best part

8. Provides a citing resource for copyrights.

This was the amazing part to me. At the very bottom of the page (you may have to scroll, and scroll, and scroll to get there) but for each of the copyrights (Fig. 1) they have a link which takes you to a page that also lets you choose your citing style (Fig. 2) and once you click the style it formats the reference and all you have to do is a copy and paste into your document. (Fig. 3)

It is that simple. How could a student not reference a site with this great tool?



Fig. 2



Fig. 3

Video-based tutorials

(Continued from Page 1)

MyScreenRecorder (\$29.99), Camtasia (\$299.00), BB Flash Back (\$199.00), Adobe Captivate (\$599.00), TurboDemo (\$299.00), InstantDemo (\$299.00), Matchware ScreenCorder (\$249.00), Mr. Captor (\$29.00), and Madcap Capture (\$89.00). Each of these tools comes with an array of features that may, or may not, suit your needs. However, if you simply want to capture what you are doing on your desktop, there is a solution available from the free software world.

CamStudio (<http://sourceforge.net/projects/camstudio/>) is an open source project that enables you to capture any area of your Windows desktop as a streaming video and, as part of the open source software movement, CamStudio is completely free of charge. Downloading the program is a snap as it is very small, only 1.3 megabytes, meaning that it even fits on a floppy disk. Installation takes only a moment or two before you are ready to start capturing.

There are a variety of settings, which we will review in a moment, but if you want to just try it out, click on the red Record Button and your cursor will change into a pointer that you use to draw a window around the desktop area you wish to capture. As soon as the window is drawn, the recording starts. To stop recording, click on the Stop Button and you will be asked to provide a name for the file. The software then processes the file and opens the Player window so you can review your work. That's it, you've just made your first screen capture.

The program is not exactly feature-rich, but that lack of bloat is part of what makes it so easy to use. The resulting videos can be saved in either AVI or SWF (Flash) formats. The Video Options settings give you some control over the type of video compressor the program uses, the quality of the video it makes, and the frame rate settings. Other settings control the how the cursor will look in the video, whether your desktop can pan within the capture window, and a complete set of options that allow you to define your own hot keys. The capture area can be defined using the aforementioned selection window, or specified in an options menu.

Not only does the software capture what appears on the the desktop, you can also capture audio along with it. The audio can be whatever sound is playing through your computer, including your own voice narrations. Just plug in and enable your microphone and you can talk the student through your demo just like you do in the classroom.

If your student does not have audio available on their computer, you can provide Screen Annotations, which are a variety of images that contain text describing what is going on in the presentation. These annotations can pop up and out during your presentation whenever you desire. The predefined shapes include arrows, rectangles, and clouds but you can, with an external paint program, create and import your own shapes. You have complete control over the text: font, size, format, positioning.

Displaying the Tutorials

Once you have the video made, it is up to you how you will make it available to your students. You could just place it in a folder on the desktop and the student could view it with Windows Media player. You could also place the file on your local network. The files, when saved in the AVI format, will be quite large. For example, 2-minute and 30-second video sized about 650 x 650 pixels is 180 megabytes without any audio. In these days of inexpensive storage this might not seem like much, but consideration does need to be made for how you will deal with files of this size, especially if you have many of them.

Another option is to stream the video right into your web browser as Flash video files. This can be accomplished by converting the AVI files to a Flash format and placing the files on the computer where they are to be viewed, or on a computer on a local network or, if your school has a website where you can place pages for your classes, by placing the files there. The video file you created in your capturing step will need to be converted into an SWF file, which is an Adobe Flash format, and that option is built right into CamStudio. The conversion will also create an HTML (web page) that will set up a player in that web page. Next, you upload the files to a folder on your server and direct your students to that web address. I will say that I had some problems with this method. The embedded player worked well when viewing it locally, that is, off my hard drive, but getting the file to load from my webserver did not always work. Also, it only works with Internet Explorer, not the Firefox web browser. This could be an issue with the HTML code generated by the CamStudio SWF converter.

However, I have had great success using CamStudio to build a set of tutorials for AutoCad, a drafting program and getting them online. I've tried several ways for the students to access them and there are some pros and cons to each. Stored as an AVI on the network is the easiest and provides the highest quality but those files are only

(Continued on Page 5)

Video-based tutorials

(Continued from Page 4)

accessible through the local network. Converting to SWF, as mentioned above, has issue with browser compatibility. However, there is a third way to display videos in a web browser, one that is used on some popular web sites, such as YouTube. With this method the AVI file is converted into an FLV file, which is another Adobe Flash format. To do the conversions I use a free program called Riva FLV Encoder (<http://www.rivavx.com/>) and set its quality setting to the highest level. The program produces an FLV file which is 20% of the original file size. I then build a web page for the file that calls for a separate video player. I use the free FlowPlayer (<http://flowplayer.sourceforge.net/>) for this and upload all three files to the server, that is, the HTML page, the FLV video, and the FlowPlayer.swf files.

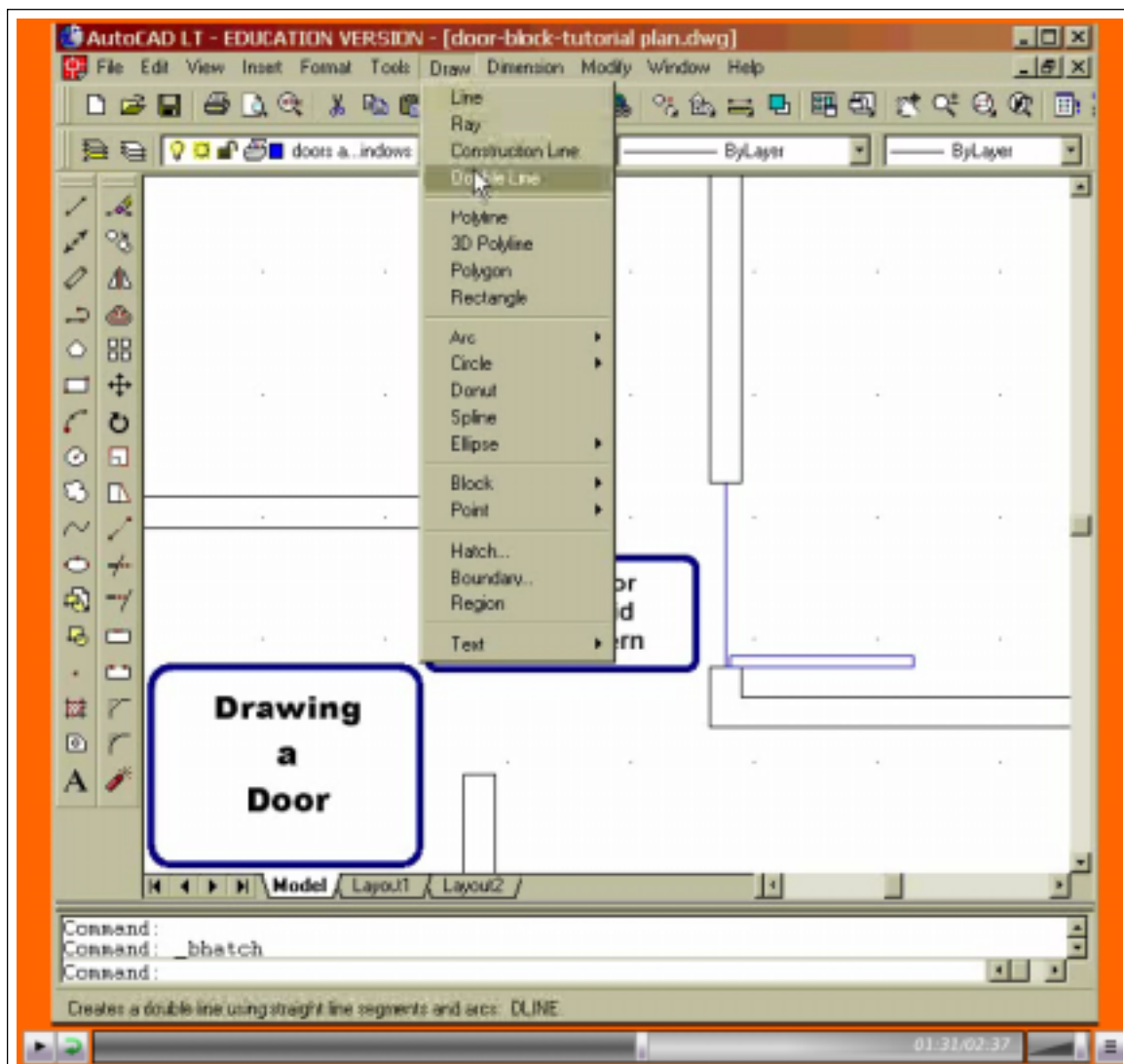
The resulting video plays well, the quality is high, and the user has pause, play, and rewind controls.

Regardless of the method you use, CamStudio does an excellent job of doing what it was designed for, that is, straight forward desktop captures. While its use might be generally targeted for making demonstration videos, it can also be used to capture streaming audio and video from other web sites.

If you want to look at a sample tutorial I developed, there is one on our website:

http://senior.billings.k12.mt.us/mcce/00temp/06winter/camstudio/How_to_Draw_a_Door.htm

Screenshot of AutoCAD tutorial



A visual approach to learning programming

by Vince Long

Alice is a free programming environment designed to teach students who are new to the world of software development the concepts behind object-oriented programming without writing much computer code. The software was developed by Carnegie-Mellon University in association with Electronic Arts, a computer gaming company.



The idea is rather than to teach programming concepts with an actual production language, such as Java or C++, the student performs the basic operations by dragging and dropping tools in a timeline. Instead of struggling with the syntax that is native to true programming languages, Alice lets the student focus on concepts in the object-oriented, event-driven model. Additionally, the program lets students focus on storytelling instead of series of computations.

At Billings Senior High I have two students working with Alice this semester. Both have completed a semester class where they learned basic sequential programming using Qbasic, built web pages by writing in HTML, and learned computer animation with Flash. During the second semester we decided to experiment with Alice. One student moved from databasing assignments to Alice while the other student learned some PHP programming before giving Alice a try. Both have provided positive feedback about their Alice experiences. One, Oisha, shares her experience below.

Alice is free and can be downloaded from <http://www.alice.org/>

by Ouisha Toenyas

Alice programming provides students with a programming language that initiates an interest in programming, simplifies difficult concepts, and allows students to form a visual of the relationship between the programs commands and its ability to function. The ability to create a three dimensional world builds student's desire to innovate. The program's visual appeal, however, is not the only aspect that involves students in programming. It also captures their ability to choose to assemble any type of world such as a world that takes place in the old west or a city floating in the sky. This allows students to feel some enjoyment in what they create. Instead of a simple lines of text, the screen can be filled with a race between the tortoise and the hare. Through this program the student learns key concepts that are then firmly placed in their minds because they are engaged in the process.

Alice programming teaches students the concepts behind basic programming using a simplified version of commands. For instance, instead of using "do-loop" or "loop-while," Alice uses the command loop. The student accesses the command just by dragging the word loop off the tool bar onto the screen and then specifying the number of times the action should repeat. This is one example of how Alice teaches students how to organize a program.

When learning to program without Alice, students must learn the vocabulary as well as its concept but with Alice the students are learning the concept without even realizing it. Learning these concepts is also enhanced by the visual image the program provides the students. Alice uses blocks to help students visualize their programs. Commands such as loop, do in order, or do together are dragged onto the screen and placed in sequence or within one another. This provides the student with a visual

(Continued on Page 7)

Visual programming

(Continued from Page 6)

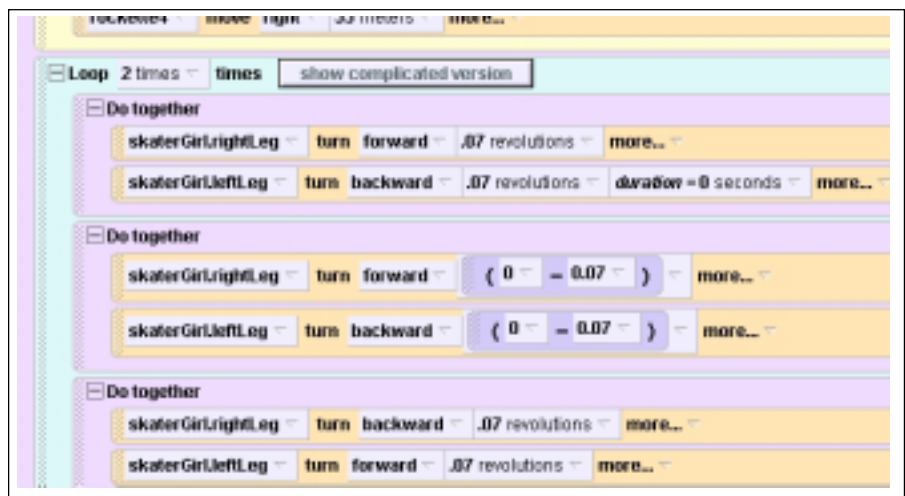
understanding of the concept of nesting. Students are also able to understand how the information they put into the program controls actions as the program plays.

Alice presents basic programming in a way students can easily adapt to. It also gives students a hint at the possibility for invention in the world of programming. While more limited than other programming languages, it takes a small part of programming and teaches it well. Alice creates a world for students to learn programming that is less intimidating and more engaging. Alice uses its appeal to students to cement programming concepts in student's minds and prepare them for a future programming.

Ouisha is a senior at Billings Senior High.



The Alice programming interface



Sample scene created in Alice

Edubuntu makes Linux ready for the classroom

by Vince Long

Even though I've dabbled with Linux for over a dozen years, I've held back writing much about it, let alone even recommending it to the educational community. Yes, it is an alternative operating system that can replace the dominate Windows platform and the previous king of the classroom, Macintosh. Yes, it is more secure than the competition. Yes, it is free as are most of the applications that run on it. Yes, it operates well on computers that are a generation or two older than what is currently available. So, what's not to recommend?

Knowing that ease of use is what made the Macintosh successful in schools, and seeing how closing this gap has brought Windows into the classroom, I knew that Linux had to accomplish this task if it could become a viable alternative in an educational setting. Not only does it need to be easy to use, it needs to be easy to install, and it is this last point that has kept me from whole-heartedly recommending it, until now.

I've installed several varieties of Linux on an equal assortment of computers over the years: Slackware, Red Hat, and Mandrake. I went with Mandrake a few years ago in the classroom because it was the only one that would



install without major issues. The bane of installing Linux has always been getting it to recognize all the hardware on board, however, with the entry of Ubuntu into the Linux world two years ago,

this part of the process is almost pain free.

Ubuntu is a variation of Debian Linux and unlike other flavors of Linux which target the server world, Ubuntu has been optimized for the personal computer. The man behind this project is Mark Shuttleworth, a South African entrepreneur, space tourist and philanthropist. Ubuntu, an African word for "humanity towards other," has as its primary goal to make an operating system "for human beings." To accomplish this Ubuntu has to be easy to install as well as to use, and it has accomplished these tasks very well.

I have installed Ubuntu on a variety of computers and find it nearly as easy to do as Windows. My standard classroom computer is a Pentium 3, 500 MHz, 128 MB RAM, 10 GB hard drive on which I have installed Windows 2000. I have selected the Edubuntu flavor of Ubuntu as it has an additional collection of software with it that is suited to the classroom. Installing the system is a matter of booting the computer from the Edubuntu CD and following the on-screen prompts which ask the usual questions about language, time zone, date, and user name.

The only step of the process that can be dicey is partitioning the hard drive. I will say that I experimented on a "sacrificial computer" to make sure I got it right (which I didn't the first time.) Since Windows is already on the computer, and I want to have a choice as to which operating system I can launch, Linux will create two addition partitions, or places, on the hard drive which it will format. I ended up going with the default setting that let it take one half of the remaining hard drive space, but you can set this to whatever you would like. From that point it's a matter of stepping back and watching progress bars come and go for about 2 hours.



The Edubuntu Desktop

(Continued on Page 9)

Edubuntu and the classroom

(Continued from Page 8)

The installer will set up GRUB (GRand Unified Bootloader) which pops a menu on the screen whenever the computer boots and gives you the choice of going into Windows or Ubuntu. Which one it will go to by default and how long you have to make a choice are configurable from within Linux.

Booting into Edubuntu will bring you to the Gnome desktop which looks something like a Windows desktop. It has a taskbar, recycle bin, a clock, and the other items found in most desktop environments. Unlike a Windows installation, Ubuntu also pre-installs a slew of useful applications with it. These include the complete office suite OpenOffice (word processor, spreadsheet, presentation, database, drawing), the image editing program The Gimp, Firefox web browser, an integrated email and calendar program, and music and video players.

What makes Edubuntu different from the standard Ubuntu are the additional educational applications that come pre-installed. These include SchoolTool project software. This



TuxPaint for kids

program allows scheduling and other administrative tasks as well as a database for student information and skill tracking. For students there are TuxPaint, TuxMaths and TuxTyping programs and Gcompris, a full set of applications targeted at kindergarden for increasing math and reading skills. There are many others and additional software is also free for downloading.



The Ubuntu File Browser

So, after reluctantly waiting for Linux to reach the level of maturity where I would be able to recommend it for the classroom, my wait is over and recommend it I do. It is not a replacement for Windows as only Windows will run Windows programs, however, the ability to have both, at no cost, is hard to pass up. With second-hand computers fairly easy to come by, setting up Ubuntu workstations in your classroom may only incur a time investment. If you would like to take Ubuntu or Edubuntu out for a test drive, there is a CD available that will run it on your computer without installing it. This is a safe way to give it a try.

All Ubuntu distributions can be found at:

<http://www.ubuntu.com/>

Guarding against keylogging

by Vince Long

We use our classroom computers for many secure or confidential transactions which require us to enter user names and passwords. These include logging in to attendance systems, grading programs, student records access, as well as our normal email programs. Because of classroom computers are not physically secure, that is, others have physical access to them, we need to be mindful of the security hazards surrounding the use of keyloggers.

A keylogger is a program that records keystrokes entered into a computer and periodically sends that data to someone, usually via email. While there are several arguments for legitimate use of these programs, for instance, monitoring a computer for illegal activity, knowing whether a keylogger is installed on your computer is an import step in maintaining your security and guarding against identity theft.

A keylogger could end up on your computer in several ways. If you were to open an email file attachment that contained one, you might not even be aware that you had just installed the software. This is why it is a good idea to never open unsolicited file attachments, even from someone you know. Perhaps a more common way for a keylogger to be installed on your computer is when you let someone else, perhaps a student, use it. This is probably common in a school environment where teachers share their computers with students. A stealthy student could bring the keylogger program in on a flash drive and, given a few moments of access, could easily install the program.

To prevent the unwanted installation of a keylogger, the best solution is to ensure that you are the only one who uses your computer. Since this is difficult in a school setting, keep your anti-virus and anti-spyware software up-to-date and running. If you are doubt, there are several programs that specifically look for installed keyloggers. One comes from Blazing Tools (www.blazingtools.com) who, no-so-coincidentally, also make one of the leading keylogger programs as well. PC Tools (www.pctools.com) has Spyware Doctor and Webroot (www.webroot.com) features its Spy Sweeper program. These are all commercial programs although some have free demo versions that will detect the bad software but you will have to buy their product to remove it.

Web site recommendations

eSchool News

<http://www.eschoolnews.org/>

This site focuses on the latest happenings in the world of educational technology. You must register to read the articles on the site, but it is free. Be sure to catch their cover story on “Six ed-tech trends to watch in 2007” and “The Top 10 ed-tech stories of 2006.” The latter features articles on cell phones, one-to-one computing, video-gaming in the classroom, social-networking web sites, and building 21st-century learning environments.

The Association for Supervision and Curriculum Development

<http://www.ascd.org>

Not only does this site have information regarding curriculum development, their daily newsletter picks up the top headlines in the nation on educational issues and delivers them with links right to your email. To sign up for the newsletter, click on Newsletters under the Publications link on their main page. Then scroll down and click on ASCD SmartBrief.

Digg

<http://www.digg.com>

Digg is a new type of news site. Rather than a group of editors selecting which stories they will place online, visitors to the site do it. Registered users (it's free) submit and vote on submitted stories. Stories receiving a certain number of votes in a given time frame get moved to the front page. Each story has a brief description and a link to the site where the complete article can be found. A blog-type discussion board is available under each submission. While the topics are generally technology-related, this might be a glimpse at news sites of the future.

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