

# BUYER'S **guide**

## Multimedia Authoring Tools

By Arlene Borthwick and Irina Lobo

**M**ultimedia authoring applications integrate text, audio, still images, and video to make interactive projects such as simulations, tutorials, or games that others can use to explore and learn about a topic. Students represent their understanding of a topic or phenomenon rather than simply present facts they have found.

As envisioned by Ulises Agüero, the Costa Rican professor who developed CREATE Together, multimedia authoring gives students opportunities to use and create tools to explore answers to more difficult content-area questions. And as emphasized by Ann Hamel, former technology coordinator at Quest Academy in Palatine, Illinois, where Blackspace was being piloted, “Multimedia is a natural form of expression for today’s students.” Such projects enable students to engage in many roles: instructional designer, photographer, graphic designer, programmer, technician, editor, distributor, and user.

Hamel explains that students can more completely express knowledge through multimedia authoring. “It is desirable for them to combine interests and talents to create a product; therefore, students are more likely to put more effort into their work and be more passionate about what they are studying,” she says.

When students are involved in authoring multimedia projects, teachers report enhanced student engagement, purposeful application of critical thinking skills, and increased opportunities for all levels of students to succeed. In the process, student

authors analyze, evaluate, synthesize, and communicate their ideas, creating a product for a real audience—their peers, school, or community.

### Advantages

Using multimedia authoring software lets you and your students be real decision makers during project design. As students add items to the screen, they control the purpose and placement of text boxes, images, and other objects. Beyond that, students design the sequence and options for navigation to various screens.

Adding interactivity to their projects means that students work “behind the scenes,” conceptualizing and making decisions about what happens when a user clicks here or there, chooses right or wrong answers, or drags and drops movable objects. Within CREATE Together and Squeak, for example, students actually engage in object-oriented programming, assigning attributes and actions to objects.

Designing interactive features also enables opportunities for logical thinking and problem solving. According to Lucy Gray, middle school computer teacher at the University of Chicago Laboratory School, “Students become much more cognizant of what makes a project effective. They generally become very analytical. They also learn to help each other figure out complex uses of the software.”

### What to Look For

You should look at: interface, support materials, creative options, how projects can be shared with others, and other special features.

**Interface.** It’s important to know your audience when you select a product. For young students, look for tool-bars with clear, intuitive icons. For older students, the tools, menus, and windows should work together and be grouped logically. The interface should be easy for your audience to learn and remember.

**Support Materials.** Programs typically include manuals and other resources. CREATE Together’s embedded library includes short projects to demonstrate how to create specific effects, such as looping or moving an object to a random position. Atomic Learning (<http://www.atomiclearning.com>) provides a series of short tutorials for Flash, eZedia, and MediaBlender. Serving as just-in-time learning, each tutorial introduces a specific software feature through streaming video and audio. Publisher Web sites often provide sample projects and links to power users. Books can also be helpful for planning multimedia projects in the classroom, whether general texts or software specific titles.

**Creative Options.** Having artistic tools for students to create original computer art caters to this creative skill. Look for tools that allow students to draw pictures. Squeak and Flash allow students to draw their own pictures and then animate them. For easy, yet robust drawing tools for young students, consider MediaBlender. In Blackspace, users can control brightness, hue, and contrast when manipulating graphics, and movement of objects is not bound by margins or grids. Although lacking basic drawing or painting tools, some programs offer advanced options such as video masking (eZedia), changing basic shapes of imported images and making their backgrounds transparent (CREATE Together).

**Sharing.** After a project is completed, students will want to share it with

|                                | Blackspace                                       | CREATE Together  | eZedia MX  | Flash   |
|--------------------------------|--|--|--|---|
| Publisher/URL/Price            | NBOR<br>http://www.nbor.com<br>\$299             | Bytes of Learning<br>http://www.bytesoflearning.com<br>lab-pack (5) \$495; (15) \$1,295                                    | SAFARI Video Networks<br>http://www.eZedia.com<br>lab-pack (5) \$200; site license available | Macromedia<br>http://www.adobe.com<br>\$699   |
| Platform                       | Win 2000/XP                                      | Mac 10.2 or later<br>Win 95 or later   | Mac 10.1.3 or later<br>Win 2000/XP   | Mac 10.3 or later<br>Win 2000/XP  |
| Projects Work Across Platforms | N/A  | No   | Yes  | Yes   |
| Grade Levels                   | 2 and above                                      | K–12   | 2 and above  | 5 and above   |
| Creative Options               | Drawing, sound, and animation tools              | Image editor to put pictures in shape frames and remove backgrounds; animation; sound recording                            | Animate text, graphics, video; mask images and movies; sound recording                       | 2D animation; edit images, record sounds, and create movies   |
| Publish/Share                  | Player   | Player; browser plug-in for Web projects; compress projects “to go”  | Player   | Player  |
| Support Materials              | Online text-based tutorials                      | Library of interactive examples; binder from publisher   | Online video tutorials; manual on CD   | Online Macromedia courses available (additional cost)   |
| Other Features                 | Graphs, desktop publishing, online co-production | Concept map of entire project; collaboration through project libraries; make searchable multimedia encyclopedias and games | Live timer; record playbacks   | Make interactive Web sites; script editor with visual interface for adding interactivity to content |

family, friends, and the world. None of the multimedia authoring tools is a standard like MS Office, so viewers may not already have a player to view the projects. Runtime Revolution embeds its own player in final projects and other programs provide free external players. Flash projects will play on most Internet-enabled computers. Another option is to export projects to HTML for publishing on the Web. MediaBlender and CREATE Together offer this feature. Browser plug-ins, readily available on publisher Web sites, may be required to view projects posted to the Web.

**Special Features.** Multimedia authoring programs may also include tools for collaborative efforts. eZedia and CREATE Together enable students to collect and share files (e.g., images, video) through project libraries. CREATE Together also enables students to work together to construct a searchable encyclopedia by making

entries in a library. Several programs enable students to add timers to their projects, to add a delay when showing selected objects or to report the length of time it takes users to complete a task. Best of all, multimedia authoring tools minimize the amount of programming syntax required of young authors, yet enable them to think logically about actions and effects.

### Getting Started

Although learning to use new software may seem to require a bit of courage on the part of classroom teachers, we have found students unafraid and even excited to pilot new software. Baker Demonstration School Technology Coordinator Irina Lobo noted only minor differences in project outcomes for 4th graders using familiar and new multimedia authoring software. Graduate student Paula Tousignant found similar use of class time for instruction and student

hands-on work across class sessions for both groups. “Students using the ‘old’ software had a bit more time to tweak their screen layouts and font or color choices, but otherwise the projects were similar,” says Tousignant.

Choosing a project related to classroom curriculum is an excellent way to get started. As described by Mary Salani of Kenosha Unified School District #1 (Wisconsin), “Classroom teachers are well-versed in content, sequencing, and even storyboarding. These are things they already know and enable them to be the guide for multimedia projects, even if they don’t know the software inside and out.”

As they become familiar with toolbars and icons, authors will find similar features across programs, although specific terminology may differ. New users should take a moment to understand the structure of the product and the underlying metaphor, if any, for its use. CREATE Together, for example,

| MediaBlender  | Runtime Revolution  | Squeak   |
|---|---|--|
| Tech4Learning<br>http://www.tech4learning.com<br>Lab-pack (5) \$299.95; Site license (35) \$1249.95                                 | Runtime Revolution<br>http://revolution.runrev.com/<br>Single user: \$299 | Viewpoints Research Institute<br>http://www.squeakland.org<br>Free   |
| PowerMac<br>Mac OS X or later<br>Win 2000/XP  | Mac 9.0 or later<br>Win 95 or later<br>Unix/Linux                         | OS X or later<br>Win 98 or later<br>Unix/RiscOS  |
| Yes   | Yes   | Yes  |
| K–12  | K–12  | 3–12   |
| Drawing tools and resource folder of images, movies & sounds  | Record sounds; video capture; text to speech                              | Drawing tools; sound, graphics, and video support; plug-ins to play and manipulate sound files, 2D and 3D graphics |
| Player applet; HTML export  | Player  | Browser plug-in; “SqueakFest” held each summer in Chicago and local conferences around the world                   |
| Online text-based tutorials   | Online video tutorials  | Online text-based tutorials; online project guides; DVD documentary, “Squeakers”                                   |
| Important HyperStudio stacks; students can work on projects from home (additional cost); scripting language for advanced activities | Write code once and run on any platform                                   | Open source code; active community of users in several countries   |

has students “produce” and “rehearse” scenes. Deconstructing projects completed by other teachers and students is a great way to see how a particular feature works or to explore methods for achieving a desired effect.

Teaming up with colleagues to learn new software is an important learning strategy. Forming grade-level teacher teams, enlisting cross-grade student helpers, or introducing new software with the aid of the computer lab teacher increases teacher confidence and enables quicker response to student questions. When learning new software, teachers at Baker Demonstration School created their own projects, taking on the role of student during their class time in the computer lab. At Disney Magnet School in Chicago, Technology Coordinator Brad Fisher observed, “The importance of software training has been that even if classroom teachers don’t feel confident enough to initiate

a lesson using Flash, they are at least familiar enough with it to collaborate with the lab teacher, thus allowing students to continue the projects that they began in the lab.”

When introducing new software to students, teachers will need to decide how much structure to provide. Perhaps students will begin by using a template developed by the publisher or the teacher, or perhaps students will begin with a “blank slate” as the teacher introduces various tools, starting with text boxes and picture assistants. Rich Booth, Hillcrest Elementary third grade teacher in Richfield, Ohio, introduced new tools over a period of days, finally teaching children to name and “program” movable objects for drag-and-drop matching activities.

### Conclusion

Although there is no one “right” product, you can expect positive outcomes from taking the time for mul-

timedia authoring. You will find students to be active participants in their learning, taking into consideration audience, screen design, navigation, and interactivity as they design multimedia projects. Using the advanced logic features of multimedia authoring software, students can move away from producing linear presentations of factual materials. Moreover, they will investigate, synthesize, and review content-area material as they develop and repeatedly test and tweak the outcomes of their efforts. As shared by Baker student teacher Paula Ryan, “I just see a different level of excitement... It is a way for students to really enjoy the curriculum. And the curriculum is what they are learning.”

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