Figure 1
Camtasia Studio 4 interface options including Recording Options (left), Clip Bin (center), Preview Window (right), and Timeline (bottom)

Captivate. Adobe Systems, 345 Park Avenue, San Jose, CA 95110-2704; 408.536.6000; fax, 408.537.6000; <http://www.adobe.com/products/captivate/>; full version, $599; upgrades, $299; academic version, $199.98; Windows operating system.

Camtasia. TechSmith Corporation, 2405 Woodlake Drive, Okemos, MI 48864-5910; 800.517.3001; fax, 517.913.6121; <http://www.techsmith.com/camtasia.asp>; full version, $299.00; upgrades, $89.50; 5-user copy, $995.00; academic version, $179.98; Windows operating system.

Overview

Adobe's Captivate 2 and TechSmith's Camtasia are two of the most widely used screen capture applications for creating demonstrations and electronic learning presentations. Both applications provide user-friendly interfaces and do not require programming skills. Similarities exist between Adobe Captivate 2 and Camtasia Studio 4; however, differences such as cost, types of media that can be produced, and level of difficulty using interface options should be considered before selecting which software to purchase. This review focuses on these issues and discusses the advantages and disadvantages of Adobe Captivate 2 and Camtasia Studio 4.

Creating a presentation

Camtasia's process of creating a presentation (Figure 1) is much like creating a movie, and components of its interface are similar to those found in video applications such as Windows Movie Maker and Adobe Premiere. Full-motion screen recordings are captured from a selected region of the screen, a specific window, the entire screen, or a PowerPoint presentation. Screen recordings, video from a web camera, audio from a microphone, and imported media are stored in an unedited form in a clip bin. To add media to a project, the developer drags content from the clip bin into the timeline. Different forms of media are separated into tracks in the timeline. Camtasia's timeline provides tracks for multiple video and audio recordings and other content such as quizzes and captions. Developers use a preview window for viewing media stored in the timeline and individual clips stored in the clip bin. A storyboard enables developers to quickly locate screen recordings, transitions, title slides, and other content of the file.

In Captivate 2, presentations and simulations are displayed in a slide show format (Figure 2). Captivate 2 allows a user to easily change the pace and control the timing of objects such as visual and audio com-

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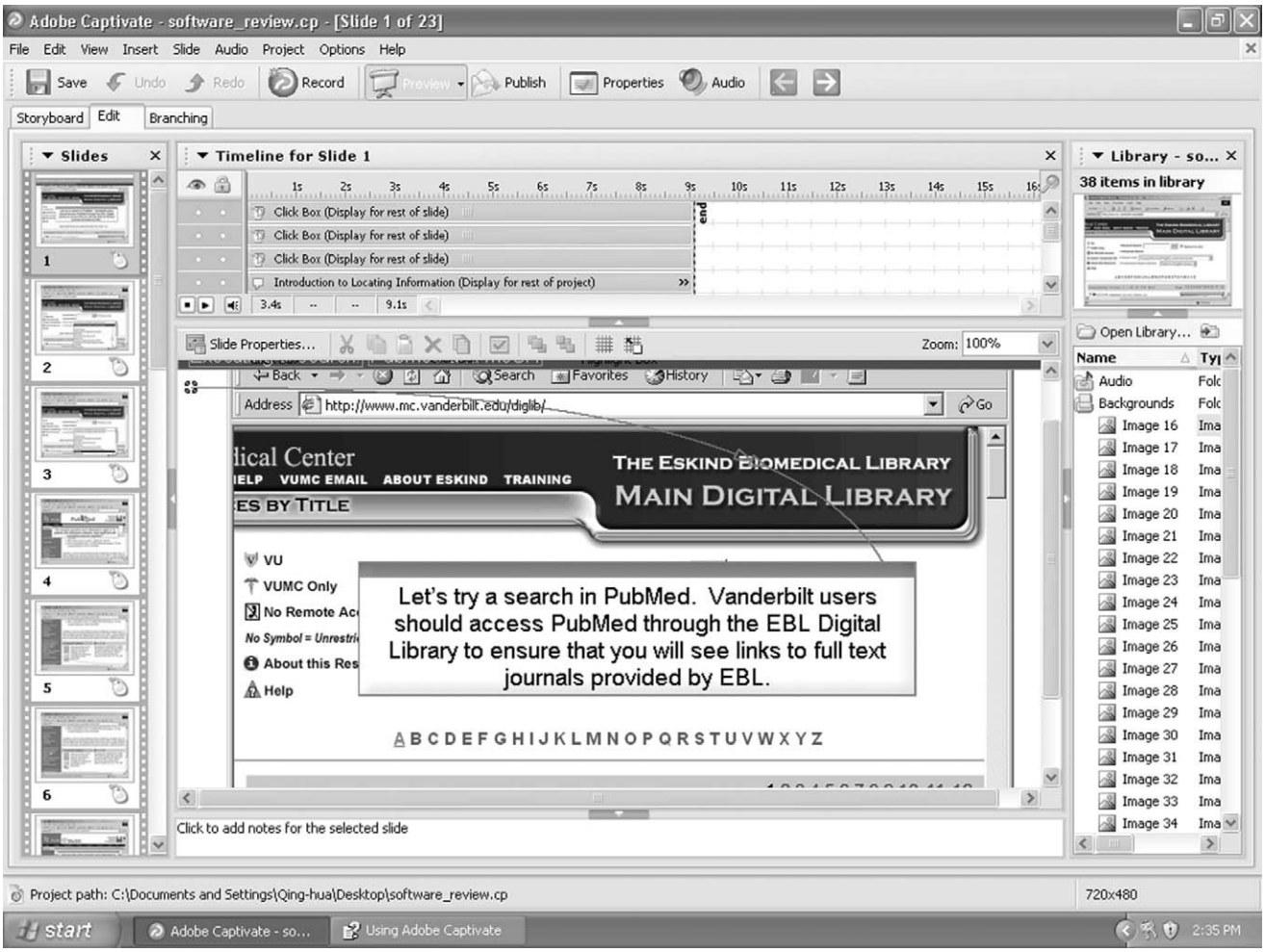
Figure 2
Captivate 2 interface options: filmstrip displaying slides in viewing order (left), Slide Timeline (top center), Slide editing section (bottom center), and Project Library (right)



ponents through a timeline in each slide. Timelines in Captivate 2 have separate tracks for storing content such as animations, Flash video files, mouse movements, highlight boxes for spotlighting areas in a slide, and click boxes for directing users to a different slide or URL. Audio and video media can be synchronized by adjustments to the timeline. Content can be inserted into a slide through the Insert menu at the top of the main interface. A feature added in the release of Captivate 2, the Project Library, lists all the media and objects used in the project and enables developers to easily drag and drop objects from the library onto a slide. Whenever an item is inserted into a slide, it is automatically added to the library. A storyboard tab provides quick access to slides in the project, while a preview icon enables the developer to view the content in the project, the current, or the next five slides.

Screen captures

Camtasia and Captivate 2 use different procedures for screen captures. For recording screen captures in Camtasia, the developer first selects capturing video from the desired window and designates whether audio from a microphone and video from a web cam will be simultaneously recorded. In addition, Camtasia provides an option for recording directly from Microsoft Office PowerPoint 2003 or PowerPoint 2007. In both recording types, all actions, such as mouse movements in the selected window and audio through a microphone, are saved in a Camtasia recording file at the end of the screen capture. The Camtasia recording file can then be inserted into the timeline by selecting and dragging it from the clip bin. Real-time recording works well when the length of the screen capture is long in duration or when a high level of interactivity occurs. A disadvantage to this approach is the difficulty in editing content in the video and deleting errors that occurred during the recording. When deleting one or more frames in the video and audio tracks, it is often difficult to match up frames so that the video and audio flow smoothly.

Unlike Camtasia, Captivate 2 captures screen recordings as slides

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Table 1
Advantages of Camtasia and Captivate 2

Camtasia	Captivate 2
■ Produces a wide range of media types ■ Is well suited for lengthy presentations ■ Integrates with web cameras ■ Can result in smaller file size for completed presentations	■ Has easily edited content ■ Utilizes a Project Library for quick access to previously used content ■ Provides branching for simulations ■ Uses auto-recording, manual, and a combination of both procedures for screen capture ■ Provides options for creating printouts

and creates a new slide when interactivity such as the clicking of the mouse occurs. Saving screen captures in a slide format is advantageous because editing in or deleting a single slide is easily done. As an example, the editing interface allows developers to quickly simulate the movement of the mouse cursor in the timeline of a slide. The large number of slides that are created for a lengthy presentation may be a disadvantage for some users. As with Camtasia, the audio and video can be recorded separately. In addition to the default auto-recording procedure, developers can choose to record screenshots manually by pressing the Print Screen button to create a new slide. This can further assist the developer in capturing only the desired screenshots for the Captivate project.

Quizzes and surveys

Both software packages allow creation of online quizzes and surveys. Each product enables developers to provide users with immediate feedback and record results through email or Sharable Content Object Reference Model (SCORM)–compliant software [1]. Captivate 2 provides an additional choice for integrating quizzes and surveys into any Aviation Industry Computer-based Training Committee (AICC)–compliant software [2]. SCORM and AICC software are available through both commercial and open source learning management systems (LMS) [3]. As an alternative to purchasing or developing an LMS, institutions using Captivate 2 can choose to publish presentations and simulations through Adobe Connect Enterprise, which provides an LMS. Adobe Connect Enterprise can be hosted by the institution or Adobe. TechSmith provides a service, Screencast.com, for hosting presentations created in Camtasia. However, this service does not currently support recording data using SCORM.

Additional features

One of the most interesting recently added features of Captivate 2 is the branching tab. This feature enables developers to create real-world simulations that direct users down different paths depending on their choices. A project wizard assists developers by providing a set of building block slides for creating paths in the simulation.

In comparison to Captivate 2, Camtasia provides a higher level of flexibility in the number of media types that are available when producing a presentation. Developers using Camtasia can save presentations as Adobe Flash, Windows Media streaming video, Quicktime movie, DVD-ready AVI video, iPod/iTunes video, RealMedia streaming media, MP3 audio, and animated GIF formats. Some forms of content such as quizzes and surveys restrict the media types that are available when saving a presentation. For example, projects containing a quiz or survey can only be saved in the Flash format.

As with Camtasia, the predominately used output media type in Captivate 2 is Flash. When producing a presentation as an Adobe Flash file, Captivate 2 provides the developer with options for choosing from different types of preset playback skins for the completed project. An important feature in Captivate 2 that is not available in Camtasia is the production of a project as a Word document, which is useful to developers and users for printouts. Captivate 2 provides a menu so that a project can be formatted as handouts, lessons, step-by-step procedures, or storyboard.

Pricing

Camtasia Studio 4 has a price advantage for upgrade, full, and academic versions. The full version of Camtasia is priced at approximately half the price of Adobe Captivate 2. Software prices from the Camtasia Studio site list upgrades at $89.50 and the full version at $299.00. A 5-user copy can provide considerable savings at $995.00, and an academic version is available for $179.98. System requirements for Camtasia limit the user to a Windows operating system.

Adobe provides updates to previous Macromedia Captivate and RoboDemo 5 versions for $299.00, while the full version lists at $599.00. An academic version is also available at $199.98. Multiuser pricing is not listed on the Adobe website. Captivate 2 can be used in combination with other Adobe software including Adobe Connect Enterprise. As with Camtasia, Captivate 2 is only available in a Windows version.

Conclusion

Camtasia's procedure of creating a presentation through an individual movie works best for developers who are familiar with video applications. Developers unfamiliar with the procedure may have increased difficulty with the editing procedure in Camtasia because screen captures occur in real time. Frame synchronization of video resulting from modification or deletion of errors including audio misspeaking or incorrect mouse movements can be tedious in Camtasia. A script outlining the elements of a screen capture can help alleviate errors during recordings. Camtasia's real-time recording method is most advantageous to developers needing detailed screen captures who do not mind editing video content in the timeline.

Editing content through slides in

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Captivate 2 is generally less tedious than the movie format used in Camtasia. The main drawback is that lengthy presentations can result in a large number of slides that can be time consuming to sort through and result in a larger file size for the Flash file that users access. When creating presentations with either Captivate 2 or Camtasia, the developer should consider the lowest speed connection that is acceptable for users to access the e-learning presentation or simulation.

Institutions should consider the types of media that will need to be produced and the type of content that will be included. As an example, developers wishing to produce content for the iPod will be limited to Camtasia, while those mainly interested in producing simulations will want to select Captivate 2. After these issues, additional items such as the level of expenditures available for purchasing screen capture software, developing an LMS, and hosting licenses should be addressed. Table 1 provides a quick comparison of the two software packages.

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DOI: 10.3163/1536-5050.96.1.75

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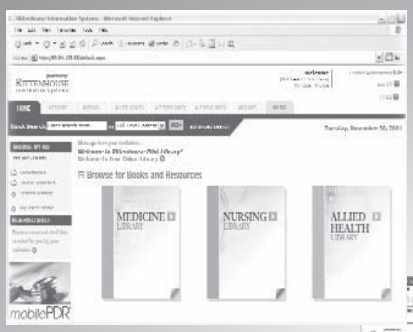

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