Multimedia Authoring Tools

Multimedia authoring tools provide the important framework you need for organizing and editing the elements of multimedia like graphics, sounds, animations and video clips. Authoring tools are used for designing interactivity and the user interface, for presentation your project on screen and assembling multimedia elements into a single cohesive project.

Authoring software provides an integrated environment for binding together the content and functions of your project. Authoring systems typically include the ability to create, edit and import specific types of data; assemble raw data into a playback sequence or cue sheet and provide structured method or language for responding to user input.

Types of Authoring Tools

The various authoring tools can be classified in three categories based on the metaphor used for sequencing or organizing multimedia elements and events.
- Card or page based tools
- Icon base, event driven tools
- Time base and presentation tools

Now let us discuss each of them in detail.

(1) Card or page based tools
In these authoring systems, elements are organized as pages of a book or a stack of cards. These tools are best used when the bulk of your content consists of elements that can be viewed individually, like the pages of a book or cards in a card file. The authoring system lets you link these pages or cards into organized sequences. You can jump, on command, to any page you wish in the structured navigation pattern. It allows you to play sound elements and launch animations and digital video.

(2) Icon based, event driven tools

In these authoring system, multimedia elements and interactions cues are organized as objects in a structural framework or process. Icon-base, event-driven tools simplify the organization of your project and typically display flow diagrams of activities along branching paths. In complicate structures, this charting is particularly useful during development.

(3) Time based tools
In these authoring systems, elements and events are organized along a timeline, with resolutions as high or higher than 1/30 second. Time based tools are best to use when you have a message with a beginning and an end. Sequentially organized graphic frames are played back at a speed that you can set. Other elements are triggered back at a given time or location in the sequence of events. The more powerful time based tools let you program jumps to any location in a sequence, thereby adding navigation and interactive control.

Features of Authoring Tools

Features of multimedia authoring tools are as mention below:
- Editing features
- Organizing features
- Programming features
- Interactive features
- Performance tuning features
- Playback features
- Delivery features
- Cross-Platform features
- Internet Playability

Now let us discuss each of them in detail.

(1) Editing features
The elements of multimedia – image, animation, text, digital audio and MIDI music and video clips – need to be created, edited and converted to standard file formats and the specialized applications

provide these capabilities. Editing tools for these elements, particularly text and still images are often included in your authoring system.

(2) Organizing features

The organization, design and production process for multimedia involves storyboarding and flowcharting. Some authoring tools provide a visual flowcharting system or overview facility for illustrating your project's structure at a macro level. Storyboards or navigation diagrams too can help organize a project. Because designing the interactivity and navigation flow of you project often requires a great deal of planning and programming effort, your story board should describe not just graphics of each screen but the interactive elements as well. Features that help organize your material, such as those provided by Super Edit, Authorware, IconAuthor and other authoring systems, are a plus.

(3) Programming features

Authoring tools that offer a very high level language or interpreted scripting environment for navigation control and for enabling user inputs – such as Macromedia Director, Macromedia Flash, HyperCard, MetaCard and ToolBook are more powerful. The more commands and functions provided in the scripting language, the more powerful the authoring system.

As with traditional programming tools looks for an authoring package with good debugging facilities, robust text editing and online syntax reference. Other scripting augmentation facilities are advantages as well. In complex projects you may need to program custom extensions of the scripting language for direct access to the computer's operating system.

Some authoring tools offer direct importing of preformatted text, including facilities, complex text search mechanisms and hyper linkage tools. These authoring systems are useful for development of CD-ROM information products online documentation products, online documentation and help systems and sophisticated multimedia enhanced publications.

With script you can perform computational tasks; sense and respond to user input; create character, icon and motion animation; launch other application; and control external multimedia devices.

(4) Interactivity features

Interactivity empowers the end users of your project by letting them control the content and flow of information. Authoring tools should provide one or more levels of interactivity:

Simple branching, which offers the ability to go to another section of the multimedia production.

Conditional branching, which supports a go-to based on the result of IF-THEN decision or events.

A structured language that supports complex programming logic, such as nested IF-THENs, subroutines, event tracking and message passing among objects and elements.

(5) Performance tuning features

Complex multimedia projects require extra synchronization of events. Accomplishing synchronization is difficult because performance varies widely among the different computers used for multimedia development and delivery. Some authoring tools allow you to lock a production's playback speed to specified computer platform, but other provides no ability what so ever to control performance on various systems.

(6) Playback features

When you are developing multimedia project, your will continually assembling elements and testing to see how the assembly looks and performs. Your authoring system should let you build a segment or part of your project and then quickly test it as if the user were actually using it.

(7) Delivery features

Delivering your project may require building a run-time version of the project using the multimedia authoring software. A run-time version allows your project to play back with out requiring the full authoring

software and all its tools and editors. Many times the run time version does not allow user to access or change the content, structure and programming of the project. If you are going to distribute your project widely, you should distribute it in the run-time version.

(8) Cross-Platform features

It is also increasingly important to use tools that make transfer across platforms easy. For many developers, the Macintosh remains the multimedia authoring platform of choice, but 80% of that developer's target market may be Windows platforms. If you develop on a Macintosh, look for tools that provide a compatible authoring system for Windows or offer a run-time player for the other platform.

(9) Internet Playability

Due to the Web has become a significant delivery medium for multimedia, authoring systems typically provide a means to convert their output so that it can be delivered within the context of HTML or DHTML, either with special plug-in or embedding Java, JavaScript or other code structures in the HTML document.