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Product review

## A product review of Macromedia Authorware 6.5

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### 1. Introduction

*Authorware* is Macromedia's product for creating multimedia interactive learning applications for the Web, Intranet, or CD-ROM. Version 6.5, released in September 2002, introduces new features for usability, extensibility, and accessibility. New usability enhancements include improvements to script functions and liberal use of drag-and-drop operations. The new script function features let developers create reusable scripts both inside and outside of Authorware. Since scripts can be invoked from external URLs and text files, they can be maintained separately from the Authorware application, and they can be used to define application behavior dynamically at runtime. This not only makes Authorware easier to use, it makes it extensible as well. Other extensibility features include an extensible commands menu, nonmodal commands, and "Xtras" for third-party plug-ins.

The new accessibility kit included with version 6.5 enables courseware developers to create applications for use by learners with disabilities. The kit uses text-to-speech software, such as the Microsoft SAPI facilities, to read text aloud. Note that the Authorware accessibility kit requires familiarity with several advanced Authorware features, such as scripting and list handling, and there are significant limitations in the text-to-speech capability. The accessibility kit handles only predefined, static text, and it cannot handle program-controlled text or text supplied by a database. Developers who wish to provide accessible products should design their designs with this in mind.

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## 2. Features overview

With the release of version 6.5, Authorware continues its support for rich media, including a wide variety of formats and capabilities, such as Macromedia Flash MX, Windows Media Player, Shockwave Audio, Media Synchronization, MP3 Streaming Audio, Anti-Aliased Text, Rich Text Editor, and Low-Bandwidth Audio. Support for Flash MX means that developers can import the latest version of Flash animations into their Authorware applications. Authorware also provides features for animation control such as zooming, playing, and pausing. Developers can even create Flash event handlers within Authorware, allowing Authorware developers to add interaction and other event-based behavior to Flash animations from within the Authorware environment. Media synchronization enables developers to synchronize text and graphics with audio and video. Shockwave audio and MP3 Streaming Audio allows integration of voice, music, or other sounds into the courseware. For Web applications, developers may prefer to use low-bandwidth audio to provide better support for dial-up connections. The Rich Text Editor allows the use of formatted text within the application. Developers may compose the text in Authorware or import rich text from a word processor.

Standards supported include built-in data tracking, XML, a SCORM (Shareable Courseware Object Reference Model) Metadata Editor, ActiveX, and compliance with several industry learning standards. Data tracking enables Authorware courses to communicate with any learning management systems using the Aviation Industry CBT Committee (AICC) format ([Aviation Industry CBT Committee, 2001](#)). XML support enables data-driven applications to import XML documents at runtime, providing interoperability with other XML applications. XML is also used in the SCORM Metadata Editor, which may be used to create SCORM metadata descriptions. ActiveX support enables Authorware developers to use existing ActiveX controls, or to create their own custom controls. Learning standards supported by Authorware include AICC, Advanced Distributed Learning (ADL), and the IMS Global Consortium ([Macromedia, 2001](#)).

Usability features include drag and drop, knowledge objects, flowline editor, “one-button” publishing, custom buttons, and window controls. The use of drag and drop is pervasive. Authorware provides icons for each of the structural elements of an Authorware course, and developers may drag and drop these to create course outlines, and then fill in the content using the menu-driven interface. Knowledge objects are predefined templates that may be used to accelerate the authoring process. Users drag and drop knowledge objects from the knowledge object gallery and then supply the content. Knowledge objects can be used to encapsulate content and tasks, such as particular forms of questions (e.g., multiple choice or true–false) or button types (e.g., radio buttons, checkboxes, and sliders). With “one-button publishing,” the user defines publishing options in a simple dialog box and selects the desired modes of delivery (Web, Intranet, or CD-ROM).

The Authorware user interface consists of two main windows, the design window and the presentation window. The design window contains the “flowline” which describes the logic and interaction to be used in the learning program. A flowline is similar to a flowchart, except the icons are specific to creating Authorware applications, e.g., interaction, display, video,

and sound. The presentation window displays the program content as it will appear to the user. This allows the developer to preview the product while creating and editing the flowline. The flowline is constructed from drag-and-drop icons and knowledge objects, which provide the functions, interactions, and navigational structures. Authorware provides a wizard for each object type, so constructing a new object is simple. For example, to create a movie controller knowledge object, the wizard includes steps for selecting the digital movie file (which may be AVI, DIR, MOV, or MPEG format), selecting interface options, setting the size, and selecting the position.

### 3. Conclusion

Authorware is a powerful feature-rich tool for courseware development. Despite its emphasis on usability, first-time users should beware that they face a significant learning curve. There are new concepts to assimilate (e.g., knowledge objects and flowlines), new skills to acquire (such as scripting), and many useful features to learn to navigate. More importantly, developers need to realize that much content development takes place *outside* of Authorware. Production of videos, audios, graphics, and XML documents occurs using specialized tools for these media. As such, prospective developers need to be aware that Authorware is but one among several tools they must master in order to make effective use of the product. Authorware then enables the developer to pull these elements together into structured, interactive courses.

Macromedia believes that by replacing traditional learning environments with Authorware e-learning applications, educational costs can be reduced (Macromedia, 2002). Whether this goal can be achieved or not remains to be seen. What is clear is that Macromedia Authorware is an effective tool for creating and maintaining engaging multimedia courseware and it deserves the attention of educators who seek to provide a high-end e-learning experience.

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