00:00

Hi. Welcome to Authoring tools for eLearning. My name is Christopher Karachristos, and I am an instructional designer for Hellenic Open University. In this video we will discuss everything you need to know about authoring tools. By the end of this video, you will be able to determine the basics for choosing the appropriate authoring tools for your needs, in order to create stunning content.

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What is "Rapid Development" and how is it achieved? The advent of digital authoring tools has promoted rapid development from people without specialized experience in the use of complex development tools for eLearning content. This rapid development is achieved through, utilizing ready-made templates, fast integration of multimedia material and the fastest creation of prototypes. Content Authoring tools are software applications used to develop digital learning content, courses, and lessons for eLearning with the use of media, text, graphics, assessment tools and interactions. These development environments are available to end users like you, locally installed on your computer or via the internet. Among many features, they provide basic editing capabilities such as, create, edit, review, test and configure content. This produced material can be delivered through Learning Management Systems or autonomously via the internet. In this category of tools may be included slide-creation and presentation Tools such as Microsoft PowerPoint, although these tools lack elements and features such as interaction, scoring, etc. Khademi, *et alia* in 2011 formulated a definition for these tools, according to which, “An authoring tool is a program that helps the author to write using hyperlinks or multimedia applications and enables him to create a final application merely by linking together objects, such as a paragraph of text, an illustration, or a song. By defining the objects' relationships to each other, and by sequencing them in an appropriate order, authors can produce attractive and useful graphics applications.” Choosing the right eLearning authoring tools is one of the most crucial decisions any developer can make. Different authoring tools are designed for styles of learning, learning management systems and eLearning standards.

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Content Authoring Tools are aimed at various user groups such as professional content developers and end users who want to develop educational content for their own use. A user does not actually need any technical programming expertise to utilize such software. Instead, eLearning authoring tools are generally pre-programmed and offer a ready-to-use interface complete with templates, media, tools, interactions, and tests that the user can easily arrange and manipulate. Many of these tools offer a set of pre-built templates for the developer to click on to get started.

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Authoring Tools Classification. Authoring tools can be categorized under the following main categories according to the architecture they use for authoring. Object-based authoring Tools, Template-based authoring Tools and Timeline-based authoring Tools. Many recent authoring tools combine features from more than one category .

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Card or Page based authoring tools. In these categories of tools, elements are organized as pages of a book or cards. In the book there are several pages available. Each page is presented as a different screen in the application that contains different media objects, like text fields, keys, images, videos and data entry fields, which allow the system to interact with the user. These tools are best used when the bulk of your content consists of elements that can be viewed individually. Such an example the pages of a book or file cards in card file that needs to be converted in eLearning content. You can jump from page to page because all pages can be interrelated.

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Typical examples of this category are software, such as Lectora, but also general web editing software, where the concept of "screen" is translated as a web page (HTML) and support the export of content to standards such as SCORM, xAPi and AICC. As you can see, the material is organized into chapters which consist of sections containing pages with multimedia elements.

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Object-based Authoring Tools. Different names for this category of tools are Icon based or Event driven authoring tools. These tools are based on the logic of symbols that contain different types of media elements and their placement in a predefined and specific execution flow reflects the logical operation of the application and the presentation of the content. First you build a structure or flowchart of events, tasks and decisions by dragging appropriate icons from a library. Each icon does a specific task, for example plays a sound, open an image etc. The flowchart graphically displays the project's logic. When the structure is built you can add your content text, graphics, animation, video movies and sounds. A nontechnical multimedia author can also build sophisticated applications without scripting using icon-based authoring tools. After all, this is exactly what the term authoring means: the assembly of different media elements into a single functional educational entity.

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Timeline-based Authoring Tools. Timeline-based Authoring Tools allow the creator to arrange the various elements of the content along a timeline. Some of the advantages of these tools are that they are ideal for creating animation or for creating scripts with branched, user controlled and interactive features. As the time advances from the starting point of the project, the events begin to occur, one after another. The events may include media files playback as well as transition from one portion of the project to another, according to the interactions of the user based on which the workflow of the application and the content can change. Such tools are offered to create complex and attractive environments, which can be integrated into web applications or standalone multimedia applications.

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Typical example of this category is the Articulate storyline software which includes a timeline editor but also capabilities to determine the flow of actions, and of course capabilities to add and manage multimedia.

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The following points are intended to give you a basic understanding of authoring tools helping you to identify the main features and options when searching the appropriate authoring tool. Common features of Authoring Tools are:

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Editing Features. Most authoring environments exhibit capabilities to create, edit and transform different kinds of media elements such as animation, text and video.

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Organizing Features. These tools support navigation diagrams or storyboarding and flowcharting which are technics helping to organize a project.

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Interactivity Features that empower the end users to control the content and flow of information of the project. Authoring tools may provide one or more levels of interactivity.

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Interoperability & Standards support. Some authoring tools are available on several platforms and provide tools for transforming and converting files and programs from one to the other. Most of the tools support the most common technical standards for eLearning software products, like SCORM etc.

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Branching Features like navigating according to IF-THEN decisions or event driven navigation to achieve multiple learning paths. To accommodate differences among learners, some authoring tools have the capability to create variables, which is an important feature for adaptive learning.

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These tools support Performance Tuning & Playback Features which means that you can assemble and test products throughout the development phase, safely, inside the authoring environment, before the final release.

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Programming Features. Most authoring tools support visual programming with icons or objects, which is the simplest and easiest authoring process. These tools also support programming with a scripting language which means that you can write scripts for the software to build features that are not supported by the software itself.

08:10

Document Development tools. Most of the authoring tools offers direct importing of pre-formatted text, index facilities, use of complex text search mechanisms and use of hypertext linking tools.

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Assessment & Quiz Support. Course developers are always interested in the different types of assessment questions that they can create with an authoring tool. Fill-in-the-blank, matching questions, true or false questions, or short or long essay answers, are some question types that authoring tools support nowadays.

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Extensibility Feature. Some developers need to customize the software for specific purposes. Although, this is a feature that most of the authoring tools don't support.

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Media & File Support. Modern authoring tools support a variety of multimedia elements such as video, text, audio, animations etc. You should pay attention to media and file support of the authoring tool you choose. Most authoring tools support such common file types as JPGs, PNGs, MP4s, MP3s, WAVs, GIFs etc.

09:17

Availability through Internet. Authoring systems typically provide a means to convert their output so that it can be delivered through Internet with the use of browsers.

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Templates. These are ready-made educational objects that the creator can choose according to the needs of the content he wants to develop. There are various ready-made templates offered by authoring tools such as procedure templates, timeline templates, etc.

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Libraries of Objects & Characters. Lots of authoring tools provide customizable, animated characters with expression and movement capabilities.

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Libraries of Actions & Interactions. Modern tools provide ready-made groups of commands as well as the ability to use variables, allowing creators to add interactivity between objects.

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Project Organization features to follow your project's timeline and operate the system to maintain your workflow.

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Publishing Capabilities to allow creators to publish their content in different formats.

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Community Support. Creating a global user community is an important factor in choosing a tool. Such communities share experiences, solutions to problems etc. An example of such a community is “The Elearning Heroes” in which people from all over the world exchange views, experiences and material on the most famous authoring tools.

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In this part of the video, we will discuss about the process you need to follow in order to choose the proper tool for your needs. Advanced Distributed Learning (ADL) Co-Lab recommends the following high-level process for choosing authoring tools. This process should be first applied to the primary tool you will use for authoring, then separately for each secondary or auxiliary tool.

11:04

It is important to stick to only the critical, high-level, and highly differentiating requirements at this point. That will serve to quickly filter many unsuitable tools in a next step. Some of those requirements are: The target platform of the content, the type ore types of training to be supported, thirdly, the available media and the needs for media to be developed. Other

aspects are, the skills of the authors, the level of interactivity to achieve, the compliance with the eLearning standards and finally, the bandwidth and other IT constraints.

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The next step is to determine your budget for purchasing the tool.

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Next, determine the categories of tools you will need. This step needs a lot of searching, because of the plethora of available tools. So, you need to identify specific tools for the key categories identified in the previous step.

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Select the tools identified in Step 3 against your requirements developed in Step 1. Filter the list of potential candidate tools, eliminating those that do not meet your minimum requirements and/or are over your budget.

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Compile a detailed and complete features list for all the remaining candidate tools.

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Compare the tools identified in Step 4 using the features list developed in Step 5.

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Ask for demo-presentation of the tools in order to understand if they fit your needs.

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Make your decision based on the results of the previous step, considering the total cost of ownership (TCO), including the application, training, upgrades, maintenance, and any intangible items.

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At this point, we will take a look at five eLearning authoring tools and see how they compare.