

U**ACCESS** LEARNING

Guidelines for eLearning Content Creators

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THE UNIVERSITY OF ARIZONA

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UAccess Community

The UAccess Community is an online networking resource available to everyone on campus who uses UAccess systems.

If you have an official UA email address, you can request membership in the UAccess Community. Just go to <http://community.uaccess.arizona.edu/>, hover over the **Members** link near the top, then click **My Page**.

Once membership is confirmed—usually within a few hours—you have access to valuable information about all of the UAccess systems. Be sure to join one or more of the groups within the Community, because that's where the value and greatest benefit is.

In each the group areas there are short videos showing you how to perform different tasks, discussion boards with questions from campus and answers from the experts, and information on upcoming workshops from the Workshops and Training Team.

Please take advantage of the opportunity and become a member of the UAccess Community.

Introduction

This document is intended to provide you with guidelines, best practices, and suggestions for creating online content to offer through the University of Arizona's Enterprise Learning Management system, UAccess Learning. This document is not designed to provide you with a how-to guide on course creation or your chosen authoring software. However, it does include links to resources you may find useful as you develop eLearning modules for UAccess Learning.

Definition of Terms

SCORM/AICC Compliant Content: Content designed to be accessed through the web via a learning management system like UAccess Learning. SCORM and AICC are sets of standards and specifications to which the content must adhere in order to communicate properly with UAccess Learning. This document pertains specifically to SCORM/AICC compliant content.

Development: Concerned with the process and function of content. It is more technical and requires knowledge of how things work on the “back-end.” A developer of online content can benefit from knowing languages like JavaScript, HTML, and CSS. Using development suites like Articulate Storyline mitigates the need to know how to code, but an understanding of basic coding logic is useful.

Design (in terms of eLearning): Plays two roles and sandwiches development.

- The first design stage has to do with how the content is directed and formed. It includes storyboarding, figuring out branching, scenarios, and other curricular aspects. Essentially, this aspect of design build the skeleton.
- The other half of the design coin is concerned with how the course looks and feels to the learner, what is often referred to as UX (the user experience). The designer benefits from creativity and an understanding of design principles like color palettes, universal design, and branding. Experience with software like Adobe Photoshop or Illustrator is beneficial (though with modern content development software, it is not strictly required. A feel for typography and appropriate use of space are also useful.

Information eLearning Content: Does not include an assessment that the learner must pass. Instead, completion is measured by the percentage of content viewed—or may be measured solely by the fact that the user launched the content

Evaluative eLearning Projects (Quizzes or Assessments): A learner needs to successfully answer a certain percentage of questions in order to pass the assessment and complete the course.

Development

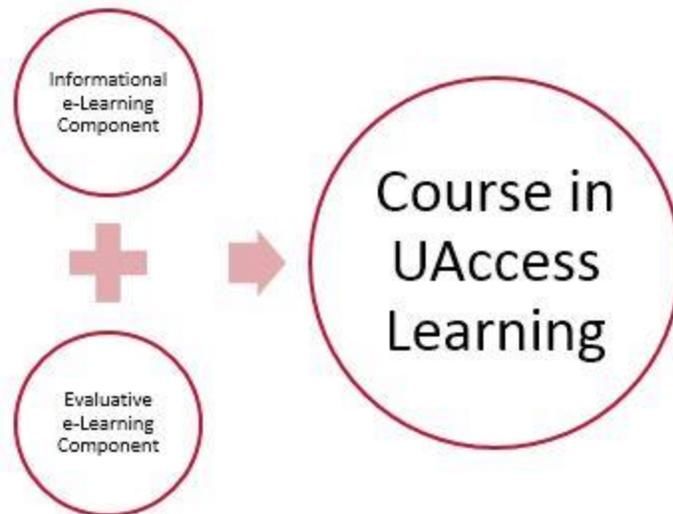
Supported Development Software

At this time, UAccess Learning officially supports SCORM/AICC-compliant content built in Articulate Storyline, Articulate Studio '09 and '13, and Captivate 7. Using one of the four software suites supported by UAccess Learning provides the most efficient experience for both developers and end-users. If you choose to build content using a different tool, our ability to support you and ensure that your content communicates correctly with UAccess Learning may be limited or non-existent.

On the UAccess Community there is also a UAccess Learning eLearning Software page (<http://community.uaccess.arizona.edu/uaccess-learning-elearning-software>) that lists the various considerations to take into account when using the officially supported software listed above.

Content Types

Ideally, your courses will include both an informational component to educate the learners and an evaluative component to test their knowledge. To facilitate your content's communication with UAccess Learning, separate the informational and evaluative components into two separate eLearning modules, as illustrated below. Doing so will both a) simplify the kind of information that needs to be passed back to UAccess Learning and b) shorten the time that the learner spends in the content, thereby reducing the odds that their UAccess Learning session will time out while they are viewing your content.



Time Constraints

Take into consideration how long you expect your users to spend viewing the content in your eLearning module. If your learner spends too much time in the module, the UAccess Learning session may time out. If that happens, completion information will not be able to pass back to UAccess Learning. Even if the learner completes the module—either by viewing all the slides or by passing an assessment—UAccess Learning may not be able to record completion if the session times out.

Best practice is to keep your project to 30 minutes of expected user time or less. If you believe your content will take learners more than 30 minutes, consider breaking it into two shorter lessons.

All eLearning intended to be delivered through UAccess Learning must include the following:

- A message on the first slide of the content that remind the learner of the time constraints, AND
- A timer on each slide that lets them know how long the module has been open.

Sample text for time constraint message:

- Remember that your UAccess Learning session will time out after 120 minutes. If you have neither closed this module nor completed it in that time, your score/completion information may not be recorded in UAccess Learning.

Compatible browsers

Please note that not all browsers are well suited to correctly pass learners' scores back to UAccess Learning. Therefore, all evaluations need to include a statement about browser compatibility on the first slide or screen presented to users.

Remember, compatibility has nothing to do with the content itself or what software was used to create it. This concern is simply related to the interaction between the content and UAccess Learning.

Sample text for time constraint message:

- (TBD)

Note: *UAccess Learning will be modified to include a way for users to check browser compatibility. Until that modification is complete we cannot provide accurate sample text. However, we will distribute additional information when we have it.*

Accessibility

Developing for accessibility is essential in today's eLearning world. While most modern eLearning development software suites do a great deal of the work for you, there is always more you can do. Take the following into consideration:

- Confirm the software you are using is actually producing compliant material.
- Include Alt Text tags on all images.
- Make sure all text on the screen is accessible by screen readers like JAWS (<http://www.freedomscientific.com/jaws-hq.asp>).
- Use high-contrast color schemes that are not typical color-blind palettes. Refer to the Color Choice section within this document for more information.
 - One good resource for understanding color-blind palettes is <http://paletton.com>. On that home page, under the square color box, click the eye icon for Visual Simulation. Then select Color Blind Simulation. This allows to see what the color palette looks like to a person with the type of color blindness you select.
- For any audible dialog, ensure corresponding text is available.
- When using hyperlinks, maintain a clear differentiation between links and regular text.
- For embedded multimedia, controls should be visible and easily accessible.

The W3's Web Accessibility Initiative (WAI) suggests a myriad of Accessibility Principles (<http://www.w3.org/WAI/intro/people-use-web/principles>) that should be taken into consideration when developing content for use on the web.

The University of Arizona's Disability Resource Center (<http://drc.arizona.edu>) is an excellent resource for ways to ensure that your content is accessible. We strongly suggest asking them to review your content and provide guidance and feedback.

File Size

Be mindful of file sizes and types when injecting multimedia into your content. Some brief suggestions are below.

- Images
 - JPEGs are standard for images without transparent areas.
 - For images with transparency (areas of the image that are essentially clear and show what is behind it), check to see whether a GIF or PNG would provide the best quality with the smallest file size for your image.

Note: *If you're adventurous, take a look at Google's WebP format (<https://developers.google.com/speed/webp>) designed explicitly for the web.*
 - Remember that your images only have to be 72 PPI (pixels-per-inch) to display well in an eLearning module. Using higher resolution images unnecessarily inflates your file size and your content may load more slowly.
- Video
 - To keep your content compressed and thereby quickly transferred to the user, it is best to host embedded video elsewhere. Uploading to a YouTube account and embedding from there is a great solution and provides you with a lot of options.
 - The open-source WebM format (<http://www.webmproject.org/about/faq/>) is gathering a following for compressed video and audio built specifically for the web.

Note: *If your content contains sensitive material, do not use this method. Ensure that your content is completely self-contained or located on another secure server.*
- Audio
 - Embedding narration into your content is great and a simple MP3 should work just fine or use small WAV files for sound effects.

SCORM/AICC Compliance

Currently, UAccess Learning allows for two types of progress tracking and/or grading integrations: SCORM 1.2 or AICC. This also requires that the content be hosted on the UAccess Learning servers.

Depending on your authoring tool, your options may be limited by either publication options in the tool or by UAccess itself. Information on the individual development tools is available on the UAccess Learning eLearning Software page (<http://community.uaccess.arizona.edu/uaccess-learning-elearning-software>) in the UAccess Community.

Scoring/Tracking

Passed/Incomplete is likely to give you the best results for tracking evaluative content completion in UAccess Learning. If you have the opportunity to set this in your content development software, it's a good idea to do so.

UAccess Learning allows for a variety of different passing situations, from a certain percentage of questions answered correctly, to simply launching the content. Keep in mind that UAccess Learning will convert the raw score passed from the content to a percentage or score out of 100.

For example: *If you only have 7 questions in your quiz and 80% is passing, users would need to get 6 out of 7 correct. If you then decide passing is 75%, users still need to get 6 out of 7 correct, as 5 of 7 is returned to UAccess Learning as a score of 71. Choosing the number of questions in your content is important!*

Another consideration is tracking completion of projects that auto-advance. For example, if your content is set to progress without user intervention, having completion/passing set to a number of slides seen could be problematic, as learners could simply hit play and walk away. Including occasional manually-advancing content can help mitigate this.

Updates

Inevitably, content needs updated at some point. While your update process does not directly affect integration with UAccess Learning, there are some considerations that will make your life easier. Essentially, the goal is to make updates as simple as possible.

- Use built-in methods to accomplish what is within the constraints of the authoring tool rather than manually editing (applying a workaround to) the source files. Doing so improves the sustainability of your content. Manually edited files need to be repeated at every update and can, in rare cases, make it difficult or impossible to connect to UAccess Learning.
- Document the development process so that someone else could manage the updates without your assistance. For example, in a Word file keep track of what you did while designing and developing your content.
- Use styles and templates that make global modifications to the content simpler (such as Articulate Storyline's master slides).

Interactivity & Organization

The addition of an enterprise-level learning management system opens many possibilities for how we construct employee training modules. While you do not need to follow specific guidelines for interactivity and organization to ensure that your content interacts well with UAccess Learning, it is definitely worth considering the additional options that are available to you.

The main reason behind adding interactivity to your eLearning content is to maintain the learner's interest and attention. Interactivity also promotes learning and knowledge transfer. As interactivity increases, the content goes from static, linear, and passive to dynamic and active, improving retention along the way. Interactivity can run the gamut from a simple PowerPoint type collection of textual information to a fully designed simulation or game. It's the designer's responsibility to decide how best to present the content. While interactivity should be promoted, it (like everything else in eLearning development) should not be forced for its own sake.

The Center for Disease Control and Prevention's document, E-learning Essentials (<http://cdc.gov/learning/local/pdf/elrngesstls.pdf>), provides a thorough look at interactivity in eLearning.

As you organize your content, remember that it does not have to follow a strictly linear format. It might make sense for your content to be in a chronological step-by-step order, or it might make more sense to structure it in a wagon wheel, exploratory format with a central starting point and the ability to go anywhere.

You can also include feedback for the learner during the module. An informational module could, for example, contain an unscored quiz to help the learner confirm that they understand the content. However, an evaluative module with a scored quiz might hold the feedback until the end as a review.

Publishing

Especially when using software suites like Articulate Storyline, you are given myriad options with for publishing your material. Best practices suggest that you publish in such a way that, to the user, it just works. Publishing a mobile version and to both HTML5 and Flash ensures your material will work on PCs, Macs, Android, iPhone, iPad, and other devices.

Remember, if you are publishing evaluative content, your concern should be that learners' responses are accurately collected. If passing your evaluation has a serious ramification on your learners (such as failing precludes access provisioning), we suggest that you keep your evaluations simple, clear, and concise.

Design

Again, design considerations have less of an impact on how your content interacts with UAccess Learning. However, they do have a substantial impact on how learners interact with your content. To that end, here are a few design-related considerations and resources.

Consistency

Variety may be the spice of life, but not when it comes to the look and feel of eLearning within a single project. You want the learner to become familiar with the lay of the land on the first few slides or pages of content and not have to re-develop literacy after five minutes. Even if your content is designed to examine the learner's previous knowledge, they are still learning as they navigate your project. If you design one element to be located in a particular place, it should probably stay there throughout.

To ensure visual and constructed consistency across the project, it is highly recommended that you use project templates and master slides or pages whenever possible.

Using clear and defined file-naming conventions is a good practice too.

Style & Quality

Check to see if there is a specific style guide to which you should be adhering. For example, do you say university-wide or university wide? Do you use serial commas or not? This should be applied across your entire project.

When in doubt, utilize the information provided on the University of Arizona's brand page (<http://brand.arizona.edu>).

For multimedia, quality assurance is important. Ensure your images present correctly and are not so highly compressed that they appear fuzzy or blocky. Level the volume of your videos. Check that all videos are the same resolution.

Presentation of content

It's a good idea to consider your content first and then determine how best to present it on the screen. Often times, people make the mistake of deciding on a presentation format first and then shoehorning the content into it. This frequently results in very poor design.

Things to consider:

- You are not limited by the number of pages or slides in your content, so don't try to limit the number by crushing them full of content. A wall of text acts just like a real wall: the user has a hard time getting through it.
- Are you including a table of contents or menu with your project? If so, remember that this will typically extend the size of your player to be wider than you had originally planned.
- Show and tell if you can do both. For example: instead of Here are instructions, you could say, Here are instructions and a diagram.
- Use your alignment tools in your authoring software to ensure everything lines up properly. Unintentional misalignment is not only sloppy but very distracting to users. Intentional misalignment, if done properly, can be not only visually interesting but also draw the user's gaze from one element to another.

Note: *A brief but good guide, that is well worth reading, is SHIFT's eLearning Blog entry [Guide the Learner's Eye: Quick Tips \(and Examples\) for Effective eLearning](http://info.shiftelearning.com/blog/bid/328208/Guide-the-Learner-s-Eye-Quick-Tips-and-Examples-for-Effective-eLearning) (<http://info.shiftelearning.com/blog/bid/328208/Guide-the-Learner-s-Eye-Quick-Tips-and-Examples-for-Effective-eLearning>).*

Color Choice

When choosing a color scheme for your content, it's important to either choose University of Arizona approved color palettes (<http://brand.arizona.edu/guide/color>) or palettes that are complementary to both the content and the other design choices made in the project.

For more advanced users, there is no shortage of web applications or sites that are designed to help you in this regard. One example is Colour Lovers collection of Most Loved palettes (<http://www.colourlovers.com/palettes/most-loved/all-time/meta>). Just don't forget to take into consideration color accessibility (as mentioned in the Accessibility section above).

In addition, if you're creating content in software like Adobe Captivate, you even have the ability to import your color profiles directly from Adobe Kuler (<https://kuler.adobe.com/create/color-wheel/>).

Fonts

The University of Arizona's brand website has a page devoted specifically to typography (<http://brand.arizona.edu/guide/typograpghy>), which includes information on the officially recognized fonts on campus. Also approved for use (and freely available) are Times New Roman and Verdana.

Blank space

The big rule about blank space is: blank space is not necessarily wasted space! Borders, margins, bleeds, and negative space all have their uses, and some are downright necessary. However, filling only $\frac{1}{4}$ of the space available to you should probably be avoided.

As mentioned above, there is no limit to how many slides or layers you can use, so don't feel that you need to crowd all your content into a limited number of slides.

Multimedia

Multimedia is a very effective method of getting your content across to the learner, though possibly not the most effective, depending on the content. A video with narration and text, for example, appeals to nearly all kinds of learners. Images enliven an otherwise text-based tutorial.

Outside Content

While it may be tempting to link to outside content as a supplemental reference, keep in mind that your learner has a limited amount of time to complete your content before the UAccess Learning connection times out. Separating out Informational Content from Evaluative Projects can alleviate this and give you more freedom to design however you like.

In short, if the informational content portion of your course has a minimum number of slides/pages seen in order to be marked complete, refrain from linking to outside content. As a rule, do not link to outside content in an Evaluative Project.

Conclusion

As you begin to create eLearning content for use with UAccess Learning, keep in mind the development practices that will give your content the best chances of effectively communicating with UAccess Learning—and the design principles that will give your learners the best experience.

Once you complete content, you need to provide the files to UAccess Learning's administrators so that they can upload it to the content server. At that point, it will need to be tested to confirm that it communicates appropriately with UAccess Learning and that it launches correctly once linked to from UAccess Learning. For guidance on the testing process, please contact uaccesslearningcentraladmin@list.arizona.edu.