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The Call Triangle: student, teacher and institution

One Quiz File, Several Modes of Delivery

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Abstract

This report offers online course designers, particularly those keen on using Moodle CMSs, a means of diversifying accessibility to their educational materials via multiple modes of delivery that do not require the creation of numerous files and formats for just one activity. The author has made contributions to the development of an open source module for Moodle known as QuizPort and has collaborated with the creator of QuizPort to explore methods for using the module such that content added to it can be more smoothly delivered via smart phone, tablet, or handheld game console. Key points to consider when designing online content for a variety of devices are addressed.

Keywords: Hot Potatoes; QuizPort; Moodle; mobile devices

1. Introduction

One grumble often shared by some students of compulsory CALL classes is, "Why must we do on computer what we can do on paper?" Soon, either of the keywords in that question, "computer" or "paper," are likely to become exchangeable with "smart phone," "tablet," or even "handheld game console." This makes it all the more important for instructors of online content to provide their students with the freedom of choice by enabling various mediums of content retrieval for performing necessary activities on the type of web browser each student prefers while, at the same time, maintaining a paper-based option as well.

The QuizPort module allows Moodle course page creators to upload quizzes that have been created with Hot Potatoes freeware. One unique feature of QuizPort is that it includes a variety of modified output formats that are not accessible with Hot Potatoes freeware alone. Some of these output formats are more conducive to creating mobile-friendly quizzes than others. Furthermore, many of the mobile-friendly output formats work just as well on the web browser of a personal computer as they do on the browsers found on most smart phones, most tablets, and at least one handheld game console. As a result, only one Hot Potatoes quiz has to be uploaded onto the course page, and only one output format has to be selected in the module, in order to create one online quiz that is accessible by most devices that have web browsers. In turn, the user-friendly "Export for Printing" command in Hot Potatoes makes it very simple for the quiz creator to quickly print the same quiz for paper-oriented quiz takers.

This report outlines what to do and what not to do with respect to printing, embedding media, and selecting the appropriate output format for each Hot Potatoes quiz type.

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2. Preparing Materials for Multiple Modes of Delivery

In order to prepare an online quiz like those referred to above, a Hot Potatoes 6.0 quiz file should be created and then uploaded onto a Moodle course page through the QuizPort module. In order to create just one quiz file and to have that file filtered through only one mix of output settings that will result in the production of one quiz that is accessible on all of the aforementioned devices, one must first consider how to print the quiz, how to embed photos and audio appropriately for each device, and which QuizPort output formats to select.

2.1 Printed Text Preparation

Deciding how to print each quiz is relatively simple. In most cases, all that has to be done is to push (ctrl+P), the "Export for Printing" keys for Hot Potatoes 6.0 quiz files. However, it is often the case that a quiz writer has embedded coding for inserting media. In such cases, it is usually faster and more desirable to simply take a screenshot of the final product online and then print the screenshot.

2.2 Photograph Preparation

Formatting photographs such that they will fit neatly onto the screens of computers, iPads, iPod Touches, DSi-LLs and a number of other mobile devices all at once is a bit more tricky. It is possible to squeeze photos into the screen of a DSi-LL such that answer choices to a given question and the photograph related to the question will appear together in their entirety on the screen at one time. In order to make this happen, when embedding photographs the height and width of each photo has to be carefully considered. Put somewhat simply, the QuizPort media filter just needs two numbers that are preceded by the photograph's file location, file name, and the letters "img" for image and then followed by hspace=″10″, all in square brackets as seen in the example below.

[%coursefiles%/foldername/filename.jpg img 123 150 hspace=″10″]

In this example, "%coursefiles%/foldername/filename.jpg" tells QuizPort where to find a given JPEG file within the course files of a Moodle site. Then, the letters "img" tell QuizPort to display the file as an image. And, the numbers 123 and 150 represent the image's width and height respectively. Finally, hspace=″10″ creates a small amount of blank space between the photo and answer choices as seen below.

Photo 1: One Quiz on Four Devices.

The quiz in Photo 1 is a Hot Potatoes JCloze quiz that has been filtered through QuizPort's ANCT-Scan output format. The answer choices to the left of the photo were embedded using an html table that was encoded as seen below with the inclusion of the bridge photograph at the bottom.

<table align="left" style="line-height:1.4;"><tbody><tr><td>

suspension
cantilever
load
golden gate
modification
tension
register
</td></tr></tbody></table>
[%coursefiles%/photos/bridge.jpg img 123 150 hspace="10"]

By setting the line-height at 1.4, it is possible to make a list of eight phrases to choose from all on the same DSi-LL screen with the photo. In turn, this fits very nicely onto computer, smart phone, and tablet screens as well.

Another important factor is choosing the right photograph format. TIFF photos consume too much memory for DSi-LLs to download quickly, if at all. And, GIF photos, though rather light, are not compatible with iPad, iPhone, or iPod Touch. Therefore, the JPEG format is most recommendable for embedding photographs.

2.3 Audio Preparation

With respect to audio, for DSi-LL users and printed text users, their best choice is to use CD or mp3 players to complete the required listening activities. However, on computers and on every Flash-friendly mobile device, listening to the embedded audio files is not a problem. On the other hand, Flash is not compatible with iPad, iPhone, or iPod Touch. Therefore, as Moodle's default audio player is in Flash, a link to an offsite audio player must be embedded in a quiz for the necessary audio to be played on the aforementioned Apple products.

The author is aware that, perhaps by the time this report is published, many of the readers will have found html5 solutions to embedding audio into QuizPort quizzes. However, for the time being, QuizPort's square brackets with "link text" commands seem to suffice. An example of such a link would look like this:

[%coursefiles%/audio/ques1.mp3 link text="Audio for iPod Touch"]

In this example, [%coursefiles%/audio/ques1.mp3] is all one needs to embed Flash audio into a QuizPort activity. However, for iPod Touch, as one example, a second square bracket command with [link text="Audio for iPod Touch"] added to it is preferred. Then, all the iPod Touch user has to do is touch the words "Audio for iPod Touch," and an audio player will open the file in a different window and play it.

2.4 Output Format Preparation

Most importantly, when uploading the quiz files to QuizPort, the appropriate output formats must be selected. Otherwise, the quiz might have worked well on one device but not on another. For example, the "JMix (v6+) from xml" and "JMatch (v6+) from xml" output formats enable the dragging and dropping of answer choices, and the "JMix (v6+ with key press) from xml" output format allows the keying in of answers. Although these output formats look great on computers, they usually do not work on most mobile devices. Therefore, the standard "JMix (v6) from xml" and "JMatch (v6) from xml" output formats with dropdown windows for answer selection prove to be the best fit for a single quiz to work on all the desired devices at once. The default output format settings for Hot Potatoes' JQuiz, JCross, and JCloze files are also manageable on all of the desired devices. However, the most recommendable for the aforementioned purposes are "JQuiz (v6) from xml (Auto-Advance)" and the forthcoming "ANCT-Scan from JCloze xml (Auto-Advance)" output formats which enable the quiz taker to frame the content of a question on any computer or mobile screen and then see the content change automatically within the same frame with the touch or click of an answer, without having to wait for a file to reload and without having to re-center the frame for each question. This consideration is important for the DSi-LL because otherwise each new quiz file that loads to the DSi-LL will slow the Internet access of the device.

3. Conclusion

As html5 and CMSs like Moodle continue to evolve, it will become increasingly easier to make educational materials available via multiple modes of delivery. The point is not so much to encourage the creation of mobile learning classrooms nor to stimulate the use of CALL facilities. Instead, what is most important is that the students will have the freedom to choose their own mediums of content retrieval. If the steps listed herein are followed, online course creators can start providing that freedom to their students today.

4. Acknowledgements