

Tutorial of Software Applications through Macromedia Captivate

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Abstract

This paper explores the creation of interactive tutorials using Macromedia Captivate, an instructional design tool that allows educators to create tutorial items for teaching software applications. Using MS Excel as an example, the paper demonstrates how to record all on-screen actions and how to create professional quality Flash simulations in association with text captions, mouse movements, interactivity, audio, and video. In addition, the paper demonstrates to educators how to create assessment items at the end of each tutorial module. The assessment items will help students to build confidence in their skills and ability in using a software application. The developed tutorial items can be published into various formats such as the following: a tutorial CD-Rom, shared files on the university server, MS word compatible format hard copies, and online tutorials. Educators can use the tutorial items as in-class instructional materials or as course supplementary materials. Learners can follow the tutorial items as a step-by-step instruction during and after class period. The application discussed in this paper is advantageous due to its self-paced attributes.

Introduction

With the rapid change of technology, educators are constantly challenged to determine more efficient ways of presenting their course materials. One way is through the utilization of technological tools to aid them in their courses. Papers [1]-[7] reported that those who integrate technology in the learning process believe it will improve learning and better prepare students to effectively participate in the 21st century workplace.

Teaching software applications is a common task in the fields of engineering and engineering technology. Software applications such as MS Excel, Auto-CAD, ProE and many more are often introduced to students especially in a lab setting. One of the primary methods for teaching software applications is instructor-led instruction. Educators often spend an extensive amount of time learning a software application to become experienced with it and to try to stay up to date with the release of a new version. Constantly, as educators, we find that learners have similar questions and concerns on how to perform a certain task when dealing with a software application. Educators are strained to spend time and effort by demonstrating the same task repetitively during and after the class period.

Teaching with multimedia, which is defined by Bates, et al. [8] by Morrison et al. [9] as the integration of video, audio, graphics, text or data, is an alternative method to overcome

repetition. Folkestad and De Miranda [10] have used multimedia through screen-capture to teach students how to use CAD software. Jao and Al-Olimat [11] have reported the use of screen-capture techniques and published a tutorial online for learners. Learners have shown positive attitudes toward the use of such learning experience [11].

This paper explores the instructional design strategies integrated with technical skills used for creating interactive tutorials using Macromedia Captivate. The first section describes various types of tutorial development such as demonstration tutorial, training simulation, and assessment simulation. The second section demonstrates the technical elements for editing the created tutorial units including adding audio, editing slide caption, and creating assessment question. Finally, methods on how to publish the completed tutorials are introduced.

I. Development of Interactive Tutorial

Educators can create the tutorial units by selecting various modes: *demonstration*, *assessment simulation*, or *training simulation*.

Start a new tutorial unit:

Educators can record a new tutorial using several options such as “*Application*”, “*Custom Size*”, or “*Full Screen*” as shown in Figure 1. Selecting “*Application*” helps the educator to create a new movie using a variety of recording options. “*Custom Size*” is recommended if the educator likes to define a precise size and position for the recording window whereas “*Full Screen*” is selected if recording of the entire contents of the computer screen is desired. Microsoft Excel is used as an example in this paper to demonstrate the teaching of a software application, thus “*Application*” option is selected.

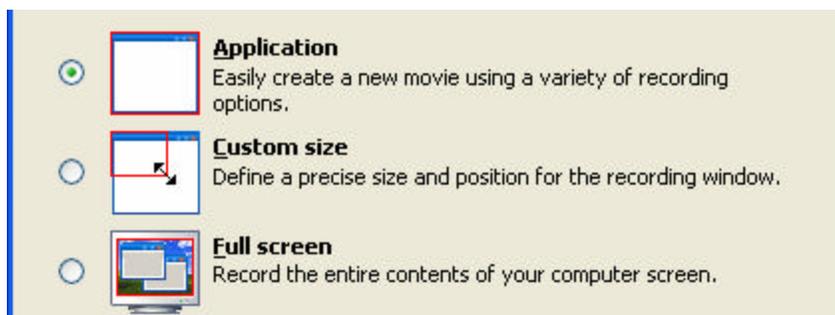


Figure 1 Selection of Recording Options

After selecting “*Application*” option, a new window will launch which contains a list of applications as shown in Figure 2.

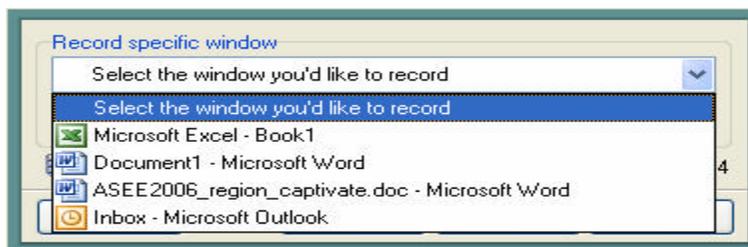


Figure 2 Recording A Specific Window

Creating a Demonstration Tutorial:

To start creating a *Demonstration Tutorial*, educators need to check the recording option, and make sure that *Demonstration* is selected in the *Recording Mode* as shown in Figure 3.

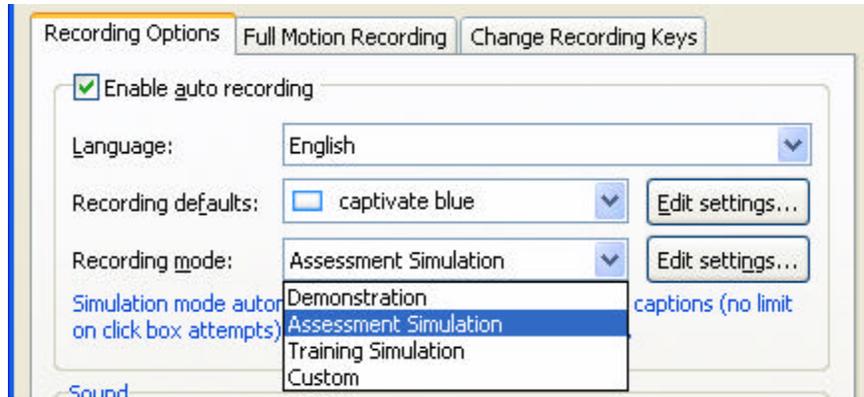


Figure 3 Selection of Recording Mode

When using *Demonstration Mode* for recording, the system will automatically add *Hint Captions*, *Highlight Boxes* and show mouse movement. The completed tutorial will appear to the learners as an auto run demonstration. What students need to do is just simply watch the tutorial to learn a certain task. This activity is shown in Figure 4.

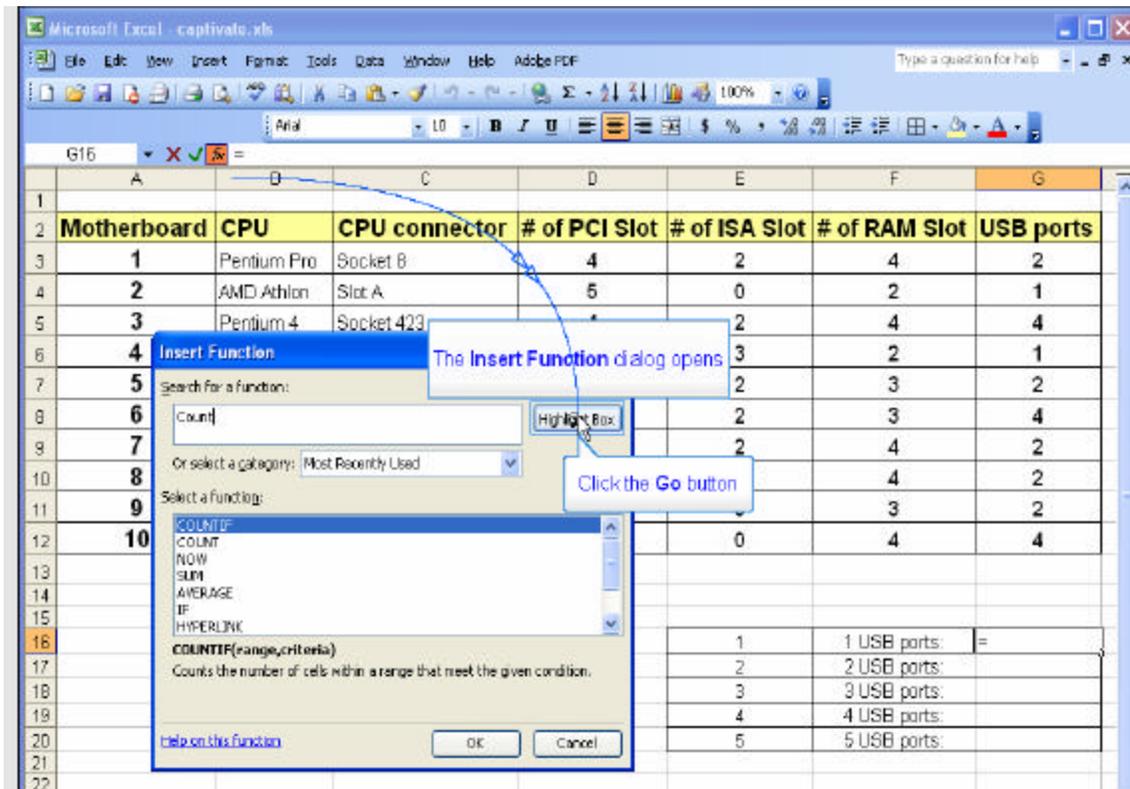


Figure 4 Demonstration Mode Example

Creating a Training Simulation tutorial:

To create a *Training Simulation* tutorial, educator needs to check the recording option, and select *Training Simulation* from the *Recording Mode* as shown in Figure 3. When learners move the mouse to the hotspot during the training simulation, Captivate provides the *Hint Caption* in color green. If the learner selects a wrong menu or option, then Captivate provides the *Failure Caption* in color red as shown in Figure 5. Using this type of tutorial, learners can have unlimited number of attempts.

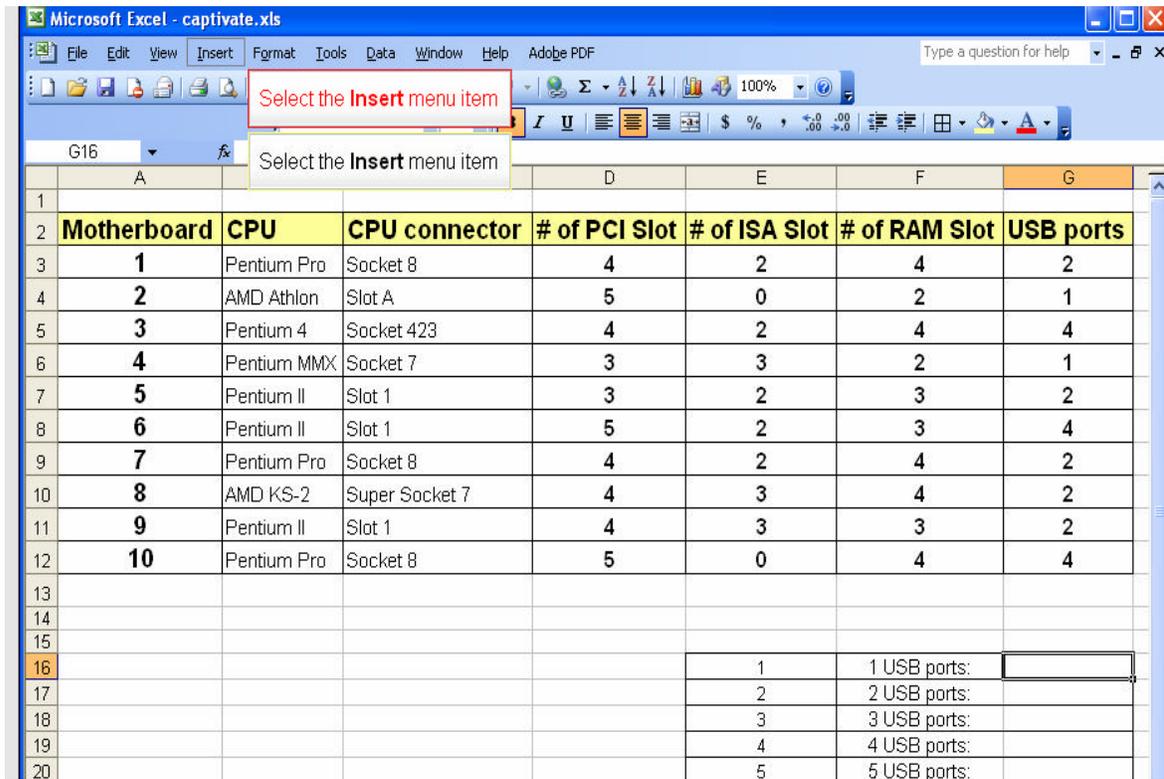


Figure 5 Hint and Failure Captions Example

Creating an Assessment Simulation Tutorial:

To create an *Assessment Simulation* tutorial, One needs to check the recording option, and select *Assessment Simulation* from the *Recording Mode* as previously shown in Figure 3. After completing the tutorial using *Assessment Simulation Mode*, Captivate will automatically add a *Failure Caption* in color red to provide learners feedback when learners select a wrong menu or option.

As an example, Figure 6 Clue for Learners provides a “clue” to learners to select *Insert Menu* so that they can advance to the next step. During the assessment simulation process, the recorded mouse movement will not appear to learners as a guide; in addition, learners can have unlimited number of attempts to practice the tutorial.

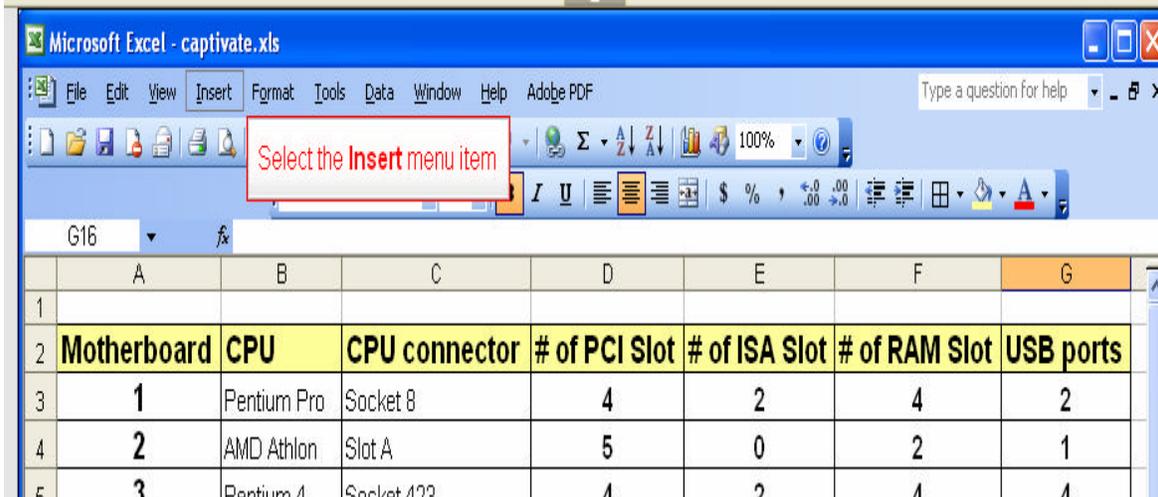


Figure 6 Assistance Capabilities - Clue for Learners

II. Editing Tutorial Units

Recording with Audio:

Regardless the tutorial mode selected, educators can record the tutorial units with audio to assist learners. Before starting recording the tutorial, options are available for teachers to include audio, key strokes and others as shown in Figure 7. Recorded narrations can be edited later after completing the recording process. If a tutorial was created without audio, narration can be added later in the design process.



Figure 7 Audio Recording Options

For Audio Options, Figure 8 shows the dialogue window which allows teachers to add and edit audios for a particular slide.

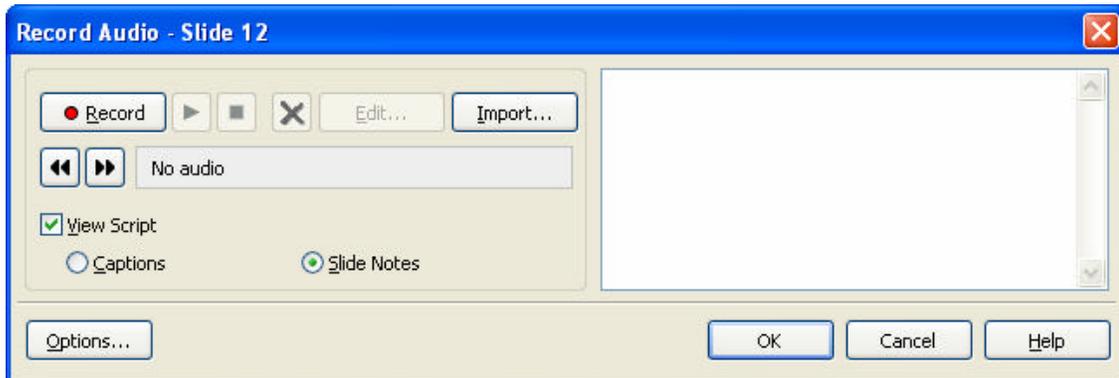


Figure 8 Particular Slide Audio Options

Changing Tutorial Steps Sequence:

After recording the tutorial unit, Captivate generates the steps into several slides as shown in Figure 9. Teachers can select the Storyboard Tab to change the sequence of the tutorial steps by drag and drop or double click on the slide for editing.

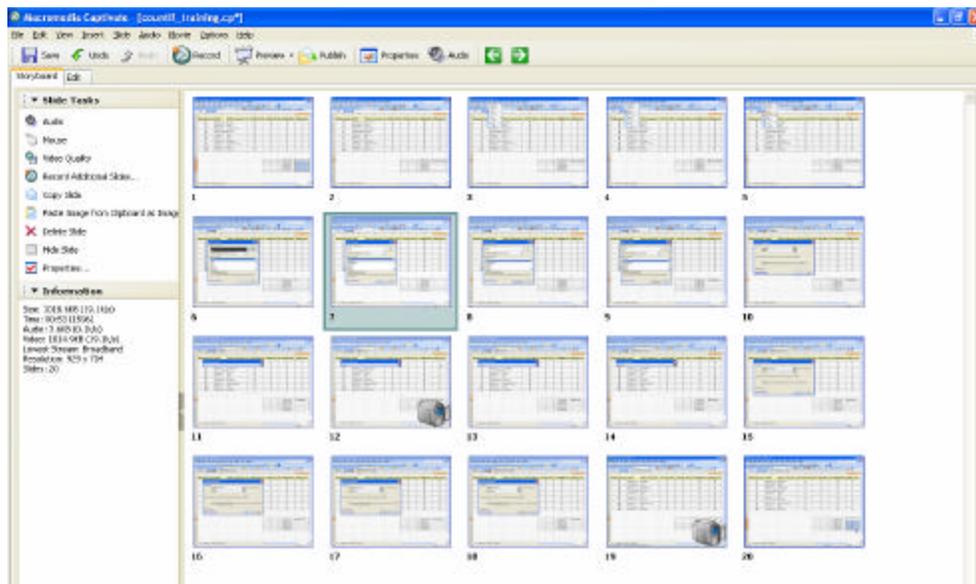


Figure 9 Changing Tutorial Sequence through Storyboard

Editing Caption Box:

Teachers can change the view to see each individual slides and edit text in caption boxes. As shown in Figure 10, teachers can use the left panel to select the desired slide which will become available in the right panel of the window. Several editing options are

available at this point. For instance, Figure 10 shows two caption boxes, Hint Caption in green and Failure Caption in red. Both caption boxes showed “Click here!” Using “Click here” can be too vague for learners to know exactly what to do. Thus, as a tutorial designers, we can change the text to more specific information such as “Click Cell G16” as illustrated in Figure 11.

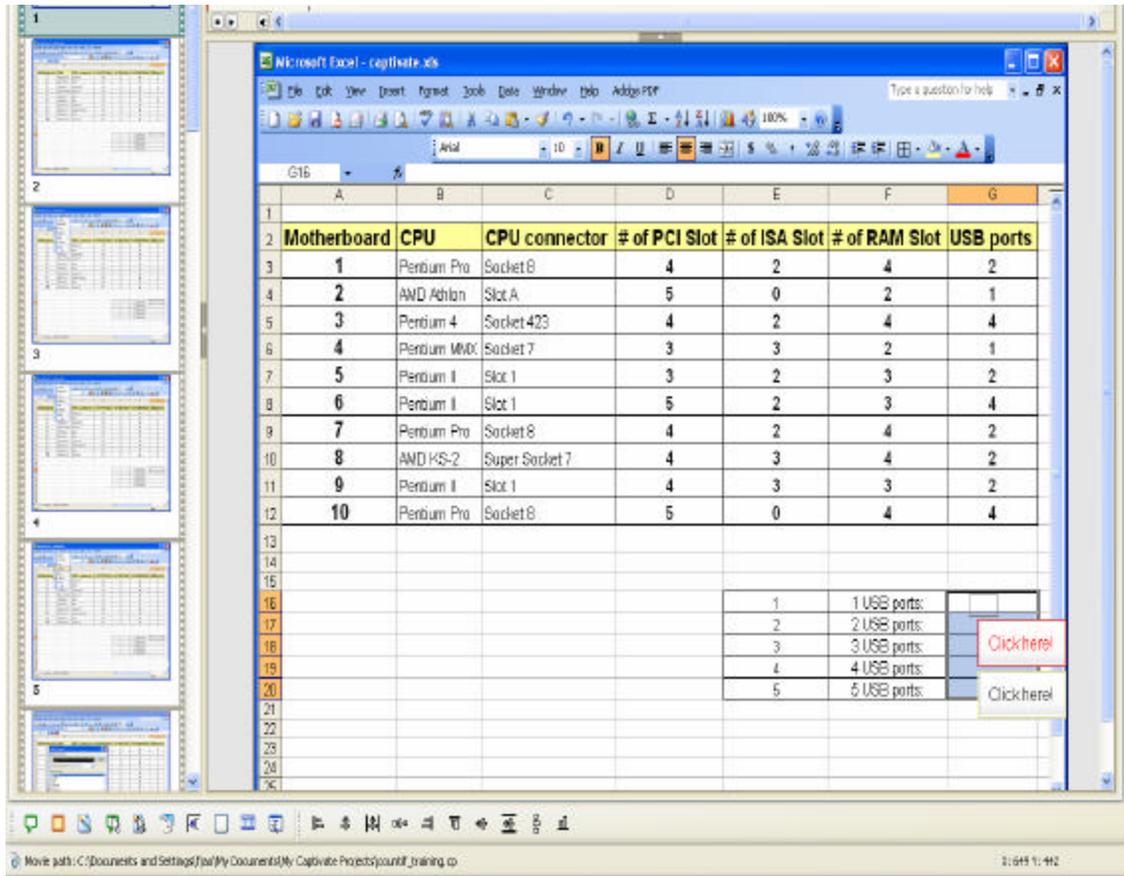


Figure 10 Specifications of Edit Caption

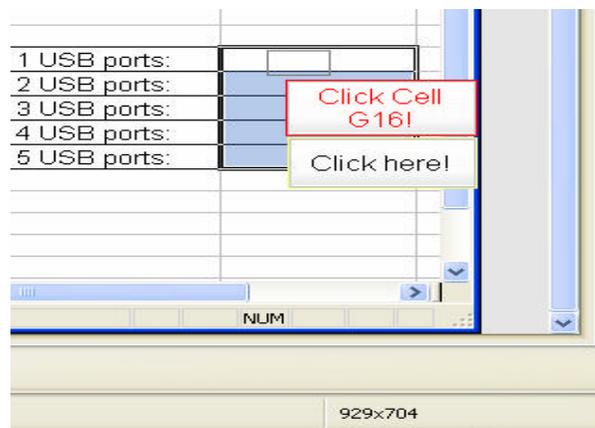


Figure 11 Edit Failure Caption Box

Create Assessment Questions:

Teachers can insert an assessment slide at any part of the tutorial. Various types of questions including multiple choices, true or false, fill in the blank, short answer, matching and likert scales can be created to assess learners' comprehension. Using multiple choices as an example, teachers basically type the question and answers, and define the correction answer as shown in Figure 12. Options are available for teachers to decide on the number of attempts, show error messages, grade the answer, slides to navigate to after completing the assessment, etc. After completing "Designing the Assessment", the completed tutorial appears as an interactive slide as shown in Figure 13.

Multiple Choice Question

Multiple Choice Question
Set multiple choice question properties.

Question Options Reporting

Question

Title: Multiple choice

Question: What is the cell range you need to select?

Answers

Select correct answers here

A) R2:R13

B) G2:G10

type the answer here

Add

Delete

Move Up

Move Down

Style: Single answer

Numbering: A, B, C...

Quiz... OK Cancel Help

Figure 12 Creation of Assessment Questions

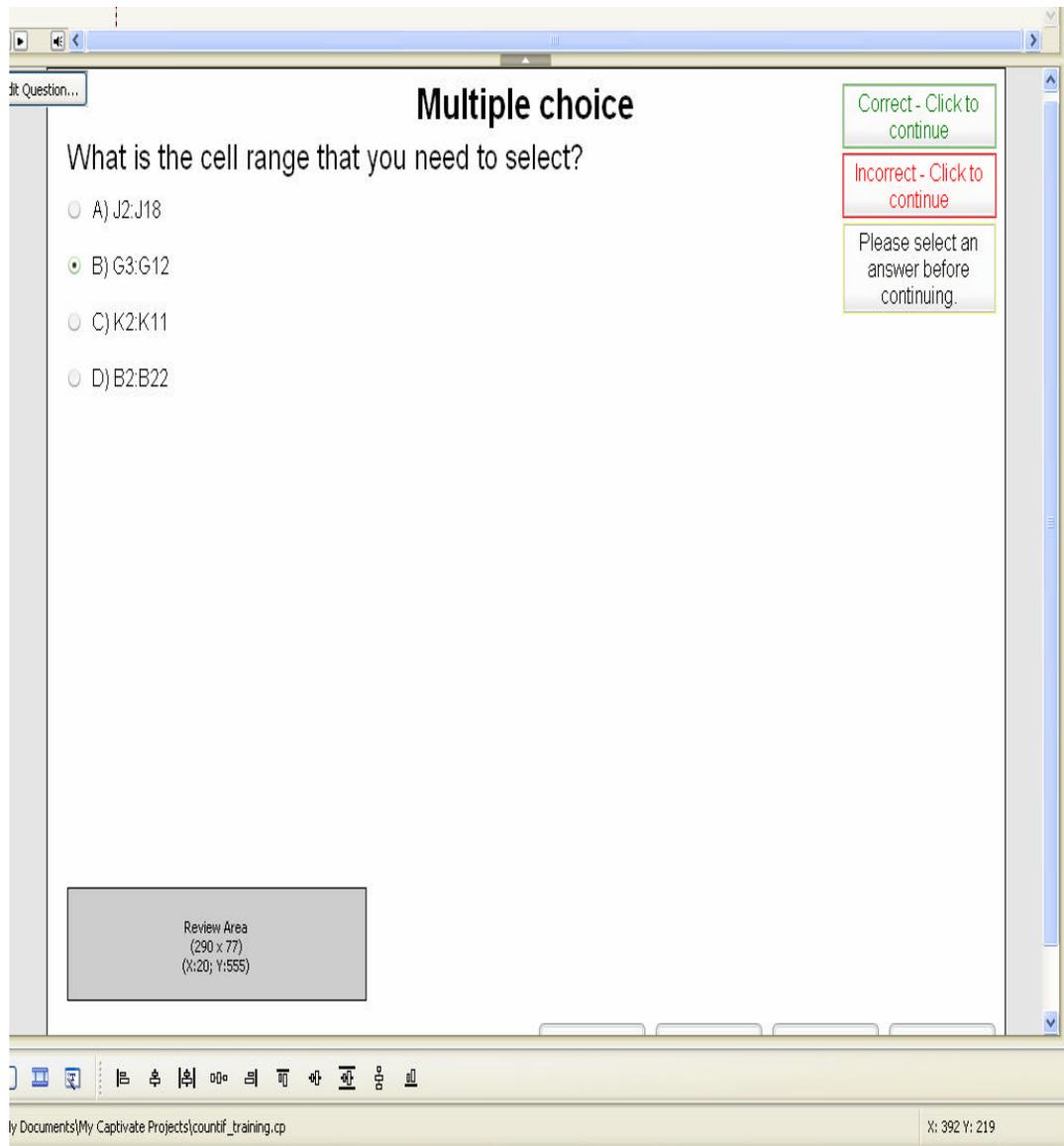


Figure 13 Interactive Assessment Item

III. Publishing Completed Tutorial

When the tutorial design and editing are completed, teachers can publish the file through various formats as shown in Figure 14. To customize the need for instruction, teachers can upload the published flash files and HTML to the World Wide Web. These methods may help teachers create tutorial modules for online (distance learning) classes. CD-ROM can also serve as a teaching aid for either traditional classes or distance learning setting. In addition, instructors can simply email students the tutorial units for skill reinforcement. This method can be done for few students who need extra help or for remedial learning purposes. Finally, teachers can also FTP the completed tutorial to a LAN server where learners have an access to the files either from a local or wide area network.

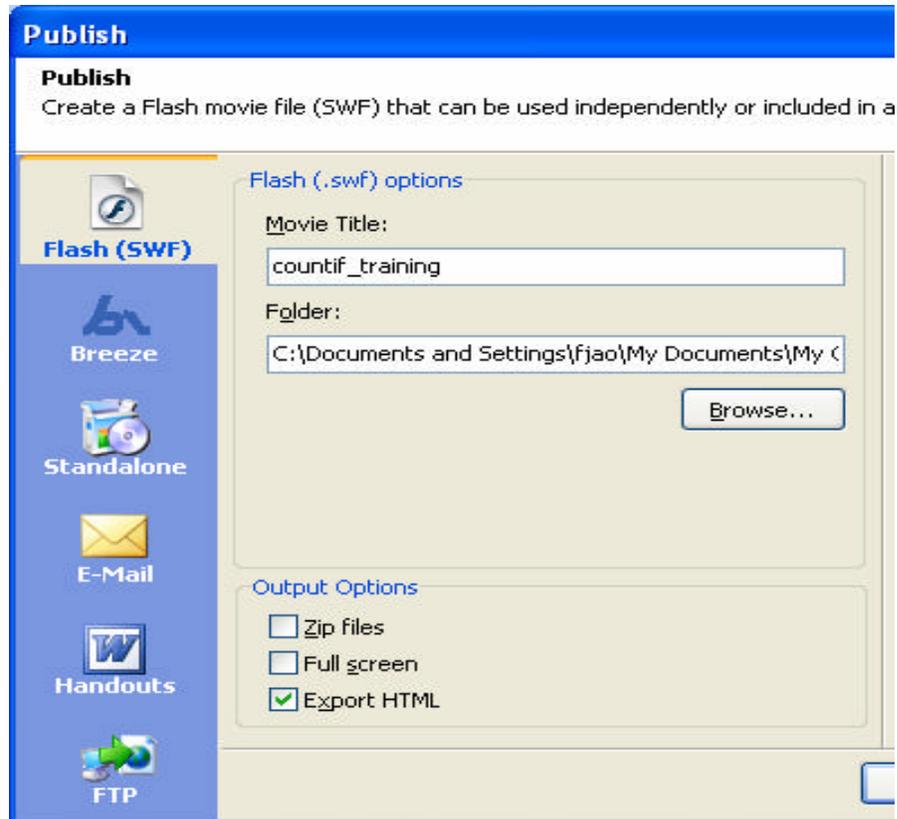


Figure 14 Publish Tutorial Illustration

Conclusion

Using traditional instruction to teach software applications provides learners an excellent opportunity of interaction with teachers; however, additional assistance is often requested by learners either during or outside of class period. Teaching with technology, interactive multimedia in particular, provides a powerful tool for both teachers and students [12]. Teaching with technology through the creation of tutorials offers some advantages such as the following: it is a completely learner-paced, it can be followed easily, it does not require a great deal of time or effort, and the learner does not have to be at a specific time and place to use it. Since the role of instruction is to provide students with ways to assemble knowledge, educators must find favored strategies that build students' confidence and enhance course relevance. Since this tutorial is an interactive tutorial, the author will demonstrate it during the presentation in the conference.

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Author Biography

Dr. Feng Jao obtained her PhD from the University of Toledo in the field of Educational Technology in 2001. Currently she is an assistant professor in the Department of Technological Studies at Ohio Northern University. Her professional interests include integration of instructional technology across curriculum, software training, digital media, and web-based instructional material design and development. Dr. Jao holds several certifications including Microsoft Office XP Word 2002 Expert, Office XP Excel 2002 Expert, Office XP PowerPoint 2002 Comprehensive, Office XP Access 2002 Core, Office XP Outlook 2002 Core, and WebCT. She is an active member in AECT and ITEA professional organizations. Dr. Jao is listed in the International Who's Who in Professional Management.