Research Article

		Computer Science
E-Content Developing with Articulate Studio '13		
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Abstract

As the number of students deciding to benefit from e-learning courses grows every day, it is of vital importance to create e-learning courses that provide essential knowledge, anytime, anywhere in an interactive way. An interactive way of learning in the virtual student-teacher relationship means exploiting and efficient using of multimedia technologies in content developing of e-learning courses. Also the e-platforms for content developing, used in this process must offer new options on manipulating presentations, multimedia information and consistent updates on the working framework, so that content developers can develop high quality e-courses. In this paper we discuss the issues faced when using the Articulate Studio '13 Software as developing environment of e-learning courses. A very detailed panorama while working with the integration of text, voice over files, videos with the PowerPoint presentation of lectures is provided step by step. The pros and cons of using multimedia and animations options in content improvement of the course are in the focus of the evaluation of the Articulate Software. The development of the ESL (English as a Second Language) e-course will serve as a background for our analysis. Further suggestions regarding improvements of the framework environment are also discussed here.

1. Introduction

Students need an education that helps them to be successful in a changing technical world. Teachers can transform their lessons into a digital resource for the students. In this way the student will be more interested and more productive. The challenge for eLearning as in all the other learning programs is to give lessons compatible with the learning [4] process, in an interactive way for students anytime and anywhere. To achieve this e-content developers try to exploit e-learning platforms in their full features, new multimedia techniques and mobile options to create high quality e-content for different subjects. The new multimedia techniques include animation platforms that helps professors built real life examples into their presentations or lesson courses.

This could be a solution for a medical student. 3D Animations [16] are created for a careful explaining of a difficult medical concept, to help medical students learn the human anatomy. This technology can also be used in our smart phones such as Android or iPhone.

Lately, a lot has been done to improve e-learning platforms in order to provide a full option environment to support constantly changing demands from e-professors towards the new courses being created.

A very wide spread framework used to develop e-learning courses and trainings is Articulate Studio '13. It seems that this e-learning framework provides the right features in helping e-professors and content developers to achieve their goal of giving life to interactive courses for e-students in a virtual mobile classroom. One of the most [16] important features of Articulate is the use of multimedia techniques to create interactive courses, such as slide

transitions, Flash Files, web objects and a rich library of animated characters, among other features.

Based in the experience gathered when developing the e-course "ESL (English as a Second Language)" with Articulate, in this paper we are giving a detailed panorama of the whole process with the benefits and disadvantages. Also the analysis of using multimedia techniques in the course developing are discussed. In the end we give the reasons why e-learning platforms and Articulate as a framework are used to improve the student performance in gathering knowledge.

Suggestions in further enrichment of the framework features and options are given.

2. Related Work

There are several platforms that do compete with each other in offering services to as many companies, organisations and universities. Being open source or paying for the framework the approach is the same: Creating interactive and high quality e-learning content. Here we do present some:

Moodle [15]: Is an open source learning management system developed since 2001, who gives the ability to create online courses. It has a simple interface to improve the usability. Moodle is multilingual, that ensures that they are not limitation to learning online. Moodle is offering his service in more than 120 languages. Moodle is web-based and so can be accessed from anywhere in the world. For those who want to sell they courses online Moodle has paired with Pay Pal to offer a simple process.

Sakai [16]: Is another open source learning management system. It is built in Java, while it is open source and only certain key stakeholders are allowed to contribute to the source code. Sakai integrates with Google Docs, and includes tools like a wiki, online testing, presentation slides and the ability to use Dropbox as well.

Latitude Learning [18]: Is an open source learning management system with over three million users. It includes certification, integration with Webex and GoToMeeting. Latitude offers the support for nine different languages. However Latitude Learning does not have a mobile support, or a third part content library.

A Tutor [19]: Is an open source learning management system that offer accessibility and is user-friendly. This could be important to those who are new in the world of e-learning. It also offor eLearning assessment tools, file backups, analytics, and poll integration. Instructors and students can manage the ATutor courses they teach and/or are enrolled in. Learner can collaborate with each other by creating a group through forums, so they can discuss for solutions. Exercises or assignments can be submitted to a group leader, or course instructor.

Eliademy [20]: Is an open source learning management system that offer a free service for educators and e-learning facilitators, but a small fee is defined for users who want to have the Premium Version. It features eLearning courses for educators even in Android application. Users

can share documents or courses with their audience, as long as they have shared their email addresses.

3. Why Articulate?

Articulate Studio '13 is a licensed software used to create and design interactive e-learning courses and trainings. Everything started in 2002 by Adam Smith [1] and thanks to the passionate work and commitment of this growing and promising company, the Articulate software products are used today by 60000 companies spread in 151 countriesto develop trainings and informative materials. 19 of the top U.S. Universities have chosen Articulate in their academic approach to build better programs and e-learning courses for their students [2]. The first big product of the company was Articulate studio '09, released in September 2008. Since then 9 updates have followed to catch the final one; Articulate Studio '13

It is made of four products: Presenter, Quizmaker, Engage and Replay. You can buy each of them separately, or the Articulate Studio Pro '13 which contains Articulate Presenter, Quizmaker, and Engage.

Based on the ratings made by the mynewworld.com [3], Articulate has gradually grown through the years to be rated as the first most popular e-learning platform used in the U.S for the price it sells.

Some of the most valued and important features that give Articulate the pole position are [4]: having one integrated player for all products, Slide Properties support nonlinear navigation, greater control over the player, the presence characters, you can display an Exit tab, publishing into multiple formats, interacting options and editing colors in Engage, supporting free-forms in Quizmaker and being Scorm Conformant [5]. No matter all the benefits, a very important pending issue with Articulate development remains the fact that it only works in Windows.

4. How it works with Articulate?

Regarding the hardware requirements Articulate Studio '13 [6] is a lightweight software that can be easily installed in very machine selling nowadays in the market. It is also compatible with a variety of operating systems and software for authoring contents. In our analysis Articulate is installed in a 32 bit Windows 7 Ultimate SP1 operating system.

The setup of installation of the product is user friendly (as it always is with licensed softwares). Despite this problems do arise with the software updates; where you have to uninstall and then reinstall the new version in order to receive updates as there is no option to receive them by just clicking any option.

The core of the Articulate Studio Pro '13 which is Articulate presenter works as a plug-in with PowerPoint as can be seen in Figure 1. This makes it easy to transform a simple slide presentation into an interactive virtual course. Here we are using PowerPoint 2010 software version.

Figure. 1. Articulate Integration with PowerPoint

Sometimes it can happen that when you start Power Point or click button on the Articulate Tab you do get the message "Articulate presenter IPC handler could not be loaded". No matter the support gives explanations and options on how to solve it [7], this is an unsolved issue with the integration in PowerPoint.

The interface is divided into four sections, the Narration Section that focuses on working with sound, the Insert Section where you do insert already existing content from Quizmaker or Engage. You can insert a character, a video, a flash from any file or a web object. The third section Tools offers the options of giving different properties to the slides of your presentation, translate characters', and access the Help and Support. The last section includes the publishing options in different formats, play your on going e-learning course and preview what you already have prepared.

It is really easy to start working with Articulate. You just open a PowerPoint presentation (in our case we are working with ESL: English as a second language), go to Articulate section and begin give life to your e-content.

5. Voice Integration into the e-Content

There are two ways to incorporate voice into the PowerPoint presentation [8], one through the instant narration and the second one to import files that were first prepared and saved in a different folder. You can choose one or the other way based on your personal choice, but generally developers prefer to integrate files in the .wma or .mp3 format that are enclosed in a folder located at the same place with the presentation. This helps because you can edit audio of a specific file and not the whole audio of the course. Although editing the audio of the files in one is possible by the options provided in the editing audio section [8]. The problem with the voice over files in Articulate is that they are embedded into the presentation in the .ppta file that is created when you start working with the presentation. That is the reason why the .ppt file, .ppta file and the folder with the voice over files must be located in the same place. The problem arising here is that the software is not able to save the edits that you do to specific modules of the voice over after publishing a version of the course into the LMS. Besides sometimes when working with a specific voice over file and trying to amply the voice, it can be scrambled. All you can do is reimporting and restart working over it. When working with ESL, the embed of the voice over filed has complicated many times working with several versions of the course.

6. **Working with video in Articulate Presenter**

Adding videos into an online e-learning course is one of the most used solutions in order to demonstrate and show examples or courses that cannot be explained in another way. In Articulate you can instantly record a video with Articulate Replay [13] or import it from a file, a web site, or Presenter Video and then can be edited as shown in the Figure below [12]. When developing the ESL Course we did import videos that were in the .mp4 format, did add button controls that work correctly. The Slide Properties where the videos are located are to be chosen to advance by the user, so that the flow of the presentation goes on normally. In our case working with videos hasn't shown any issue so far.

Figure. 2. Editing Video properties in Articulate Presenter

7. **Multimedia in Articulate**

Articulate supports many multimedia technologies. One of this technologies are Power Point's animations and slide transitions. Used strategically, they make content easier to understand. We can also put a timing for our animation.

Some of the advantages in working with Articulate are the use of many illustrated and photographic characters for adding life to your courses. Additional characters can be purchased in the Articulate Store. Afters inserting a character, in articulate is possible to modify and to and animate it as we want. It is possible to edit expression, pose, perspective, or crop of a character after inserting it.
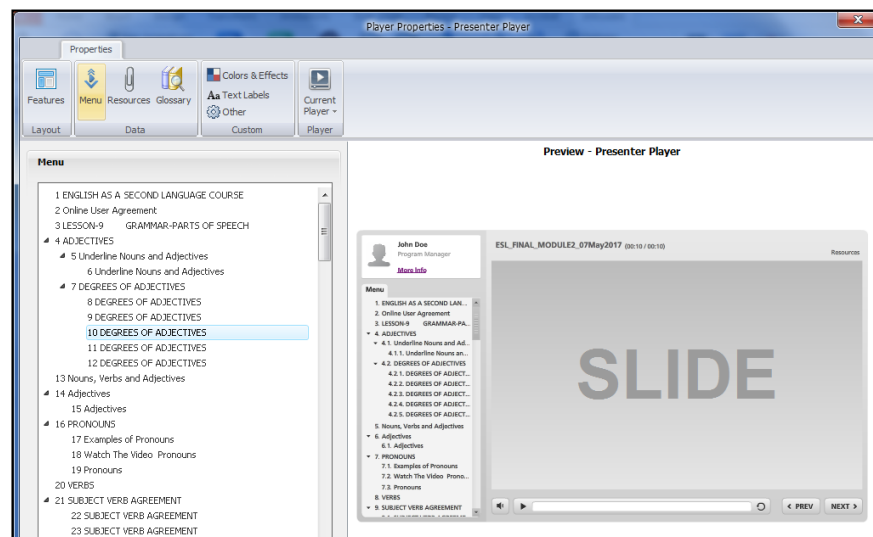
Articulate Presenter Courses can also be improved using Flash Files. There are two ways to insert a Flash File.

1. If the SWF file is a movie that doesn't requires learner interaction, it can be inserted as a video and synchronised in the timeline presentation.

2. If the SWF file contains interactive elements, it can be inserted as a Flash File. After inserting the Flash File we can also edit it, using the editing properties.

Sometimes we faced problems in syncing animation characters with the voice over while creating our course. Also we had difficulties when trying to insert a Flash File into the presentation. If we do not assign the right parameters of the area where we want the animated character to appear, when trying the preview, the character inserted would not be visible. To fix this problem we have to decide the area and the right parameters.

8. Adding Properties to the Slides

In Articulate Presenter '13 adding properties to the slides is possible through the Slide Properties located in the Tools section [9]. It is a well-constructed interface that lets you organize the slides of the e-learning course in the same of a virtual cycle of lections divides into chapters, subchapters etc. You can add button controls, slide thumbnail view, Navigation Title, Change View, Branching, Lock, Presenter, Audio Playlist, and Advance so that the virtual student can control on his won the lecture he is following in the virtual classroom.

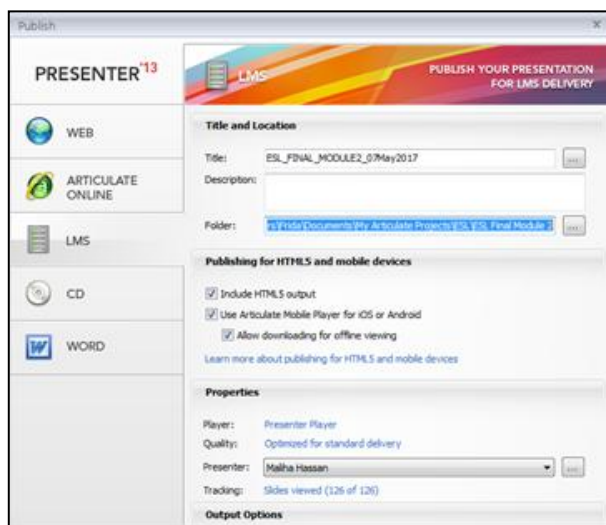**Figure. 3**. View of the Menu in Slide Properties

While working with the navigation title, the slides must be previewed when you click on a certain item to name it. In this way confusion is avoided when not being sure how to title a slide. Another problem with the Slide Properties it is that sometimes it does crash, you have to open Task Manager to end the process, so that everything becomes normal again. You have to disable all the add-ins of Power Point except that of Articulate, so to restart working. It is obvious that there is a lack of software compatibility here.

9. **Using Articulate Quizmaker '13**

Nearly in all of the e-learning courses designed quizzes are incorporated to test the students' abilities and performance in the process of e-learning. The Quizmaker can be accessed directly from the presenter or the content developer can create the quiz from Articulate Quizmaker and embed it then to the presentation into the PowerPoint [10]. In the ESL (English as a Second Language) we have used graded questions, and it did happen what has happened to various content developers all over the world that do benefit from Articulate Services; when testing the quizzes the quiz does not respond correctly when correct answers to the questions are given. This means that the feedback process crashes, more frequently when using MAC and Safari browser. Even in the last update of the software this is an unresolved issue. We believe that the source of the Articulate bug happens because of the lack flash player and multimedia non supported browser platforms.

10. **Publishing content into the LMS**

Articulate offers the option to publish your project for different purposes. Among others there is the option of publishing the content into the LMS that we have used in our project, as you can see in the picture below [10].

Figure. 4. Content publishing in Articulate Presenter '13

The most common problem encountered here is that while publishing the process stops and Articulate stops working and the message "Articulate needs to close" does appear. This is something that happens even when there no technical problem with the slides and multimedia objects. A possible way out of this is trying to uninstall and reinstall Articulate or even reboot the version of the Microsoft operating system that you have. Not a very common solution for a software costing 900 and some dollars. This is a clear testimony that the software crashes and the company itself admits it.

11. Conclusions

The e-learning platforms will give a great contribution in the learning process for future students generations. Using new methods and new multimedia techniques the virtual learning will be more interactive and helpful. The development of the e-learning platform technologies will give learners the opportunity to earn knowledge even if they are not in the classroom in front of the professor. Regarding Articulate Studio'13 we can conclude that it is one of the most well-constructed platforms with the right features to create the kind of e-learning courses that we did mention in this paper. Articulate Studio'13 offer the options of text editing, adding audio and video to the presentation, integrating animated characters, the various publishing for different environments like web, LMS, CD etc. Although a lot needs to be done towards the compatibility of this platform with the hardware devices where it runs on. New updates must be realised to solve the issues of Articulate integration with the different versions of Power Point and Microsoft Operating Systems. It is also important to solve the syncing problems of Flash Player running in an Articulate presentation when played in Safari and Mac systems.

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