

Green Screen on a Shoestring: Green Screen Video Production for eLearning Applications

This is a four-part series featuring green screen or transparent-background video production for Adobe Captivate. We will focus on achieving high quality and instructionally sound results while keeping a small budget and a minimum time investment.

Part I: Process

First, we provide a general overview the process for producing green screen videos for eLearning.

Part II: Purchasing

Next, we provide a purchasing "checklist" and guidelines for obtaining required equipment.

Part III: Production

Then we will outline the production process for recording, editing, processing, and encoding green screen video.

Part IV: Captivate Integration

Finally, we explain the steps for using the produced green screen video in an Adobe Captivate lesson.



The Center for Professional Distance Education supports both faculty and staff in distance education design and development at the University of Central Oklahoma.

Part I – Process Overview

Green screen video production is a popular and seemingly complex trend in eLearning development. It is the process by which a solid-color background is removed from a video to allow a talent to be "placed" on other backgrounds or in this case, directly within a Captivate lesson. This is similar to the process used for weather reports where a weather person is superimposed over a graphic or map.



This technique allows e-Mentors or coaches to be placed in eLearning lessons and provides a method for online instructors to share their "personality" with students. This human element supports positive online learner retention rates and is often a key factor related to achieving desired instructional outcomes.

Demand a Script

A typical eLearning green screen production process begins with a detailed script that not only outlines what the talent should say, but also what they should do while on camera.

“A typical eLearning green screen production process begins with a detailed script”

Once a script is approved, the talent is recorded against an evenly lit green screen. The color green is used because it is the most dissimilar color from skin tones. This allows the green to be easily removed from the video, while leaving the foreground subject untouched.

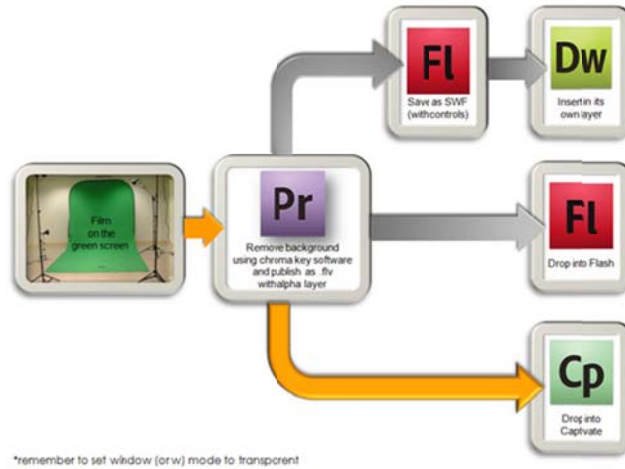


Chroma Key Processing

Once the video is recorded, it is imported into Adobe Premiere Pro for editing and chroma key processing. The chroma key software is the component that actually removes the background from the video, leaving the removed color transparent.

Export to FLV

Next, the video is exported from Premiere in the Flash Video (FLV) format with the alpha layer enabled to allow the background (removed color) to remain transparent. After this, the video can be imported directly into a Captivate lesson.



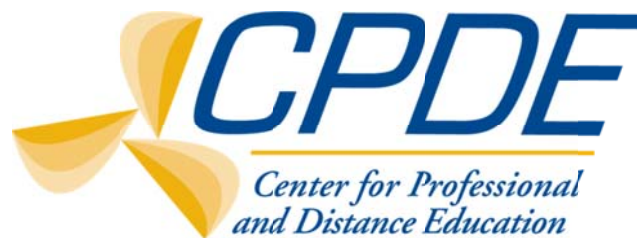
Next Installment: Purchasing

In next week’s section, we will discuss a purchasing checklist as well as some guidelines for obtaining equipment needed to produce green screen videos for eLearning lessons.

Part II – Purchasing

In the previous installment of this series, we discussed the general process for producing green screen videos for eLearning lessons. Part II discusses the equipment and software needed to produce green screen videos for eLearning lessons.

There are many equipment and software options for producing green screen video. The recommendations outlined in this article are based on the equipment used by CPDE Labs at the University of Central Oklahoma.



The table below outlines the required software or equipment with the product’s cost and how each piece of software or equipment is used to produce green screen video content for eLearning lessons.

Software/	Source	Cost	Use
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Equipment			
Sanyo HD Camcorder	bhphotovideo.com	\$299.99	Camera for recording video content
Botero Chroma Key Green Background	bhphotovideo.com	\$129.95	Background for recording video recordings
Smith-Victor: 4 Photo Flood Lighting Kit	bhphotovideo.com	\$459.00	Lighting kit to illuminate talent and background
Shure Lavalier Microphone System	bhphotovideo.com	\$299.00	Wireless microphone system for recording audio
Adobe Premiere Pro CS4	adobe.com	\$190.00 (educational price)	Software used for editing and processing video footage
Adobe Captivate CS4	adobe.com	\$98.38 (educational price)	Authoring tool for importing video into eLearning lessons
Boris FX Chroma Key Software	borisfx.com	\$299.00	Software Plug-in for Adobe Premiere Pro used to remove the chroma key background from the video content
SanDisk 16GB Video HD SDHC Memory Card	bhphotovideo.com	\$67.50	Memory card for recording and storing video content
Slik 700DX Pro Tripod Legs	bhphotovideo.com	\$99.95	Tripod for holding video camcorder during recording
Room Rental	NA	\$70.00	Physical location to record video
Cables	NA	\$50.00 - \$80.00	Used to connect all video and audio recording equipment
Laptop Computer	NA	\$800.00	Used to edit and process video
Total		TOTAL \$2,892.77	

With a total of \$2,892.77 for an entire green screen production studio (less if you discount equipment many eLearning developers may already own such as a computer, cables, or software), high quality green screen video production can be well within reach.

“...high quality green screen video production can be well within reach”

While this equipment and software provides the tools for creating green screen video content, they are only useful if best practices are followed throughout the production process.

Next Installment: Production

The next installment of this series will explain the production steps and best practices for recording, editing, processing, and encoding green screen video content for use in Adobe Captivate eLearning lessons.

Part III – Production

In the previous installment of this series, we provided a purchasing "checklist" for setting up a green screen video production studio. Part III of this tutorial series explains the production steps for recording, editing, processing, and encoding video for use in Adobe Captivate CS4 lessons.

STEP 1: Develop a detailed script that not only describes what the talent will say, but also what they will do while on screen. Be sure to include how the talent will enter and exit the screen and what non-verbal gestures should be performed.

STEP 2: Set up the studio in a room that allows all equipment to be operated properly and still allows production staff to be comfortable. In this step, the critical production factor is the lighting. The lights should be positioned so the talent is evenly lit and the solid green background is free from any shadows and also lit evenly.

“The talent should be positioned as far away from the background as possible...”

The talent should be positioned as far away from the background as possible, while still providing the desired frame for the video. This reduces shadows and greatly improves the quality of the end product.



STEP 3: Establish and test the camcorder's settings for optimal performance. For audio, make the appropriate connections with the wireless microphone system and ensure the audio levels are

with an acceptable range. Next, set the camcorder's recording sessions to record the video at 720p at 60fps (frames per second). Record the talent performing the script several times.

STEP 4: Import the video into Adobe Premiere CS4 for editing and processing. To begin, trim the video so it starts and stops at the desired locations. Apply the Boris FX chroma key filter to the video by activating the plug-in and choosing the background color you would like to remove with the plug-in's color picker. Adjust the chroma key filter so all the background color is removed and the transparent background is free of any processing artifacts. You may find that having a still image of the Captivate lesson's interface placed behind the video will help with adjusting the video's settings and placement.

“...having a still image of the Captivate lesson's interface placed behind the video will help...”

STEP 5: Encode the processed video by selecting **File=>Export=>Media**. This will launch a dialog box for setting the encoding parameters. Encode the video content as Flash Video (.FLV) and select the option to encode the alpha layer. This allows the background color that is removed by the chroma key plug-in to remain transparent. After choosing the encoding settings and selecting the "OK" button the Adobe Media Encoder (packaged with Adobe Premiere CS4) will launch automatically. Select the "Start Que" button to begin the encoding process.



Once this process is complete, you have a video in .FLV format where the background has been removed, leaving just the talent. This video can be used in a variety of ways to support and enhance the instructional value of eLearning lessons.

Next Installment: Implementation

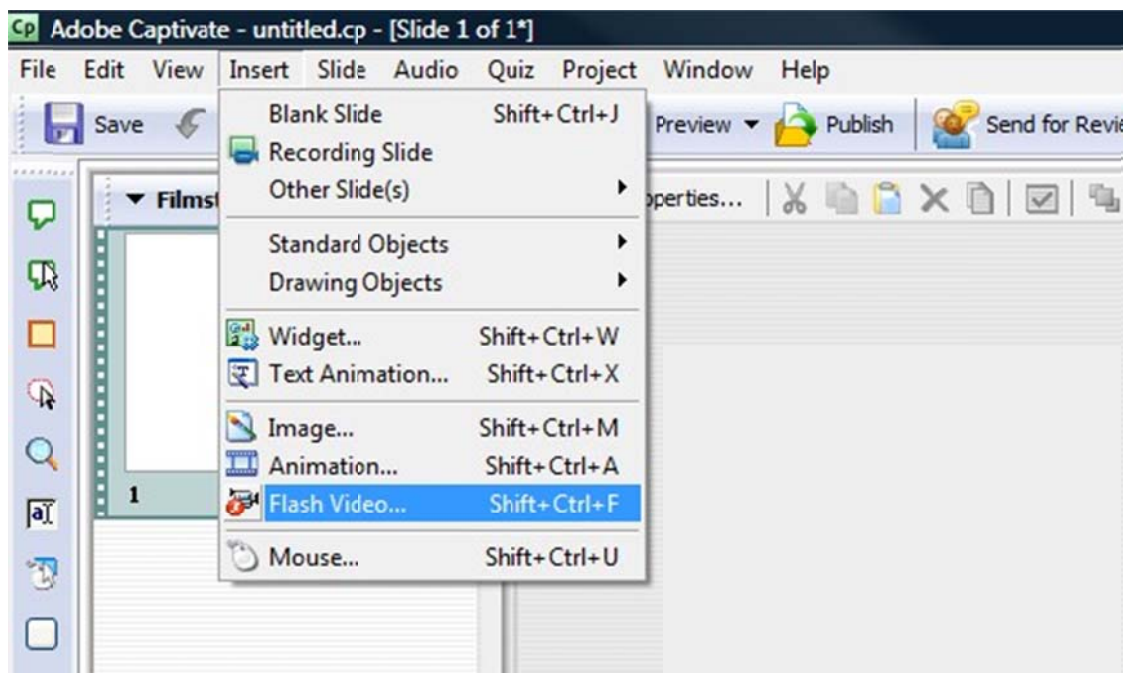
The next installment of this tutorial will explain the process for using the produced green screen video in an Adobe Captivate CS4 lesson.

Part IV – Implementation

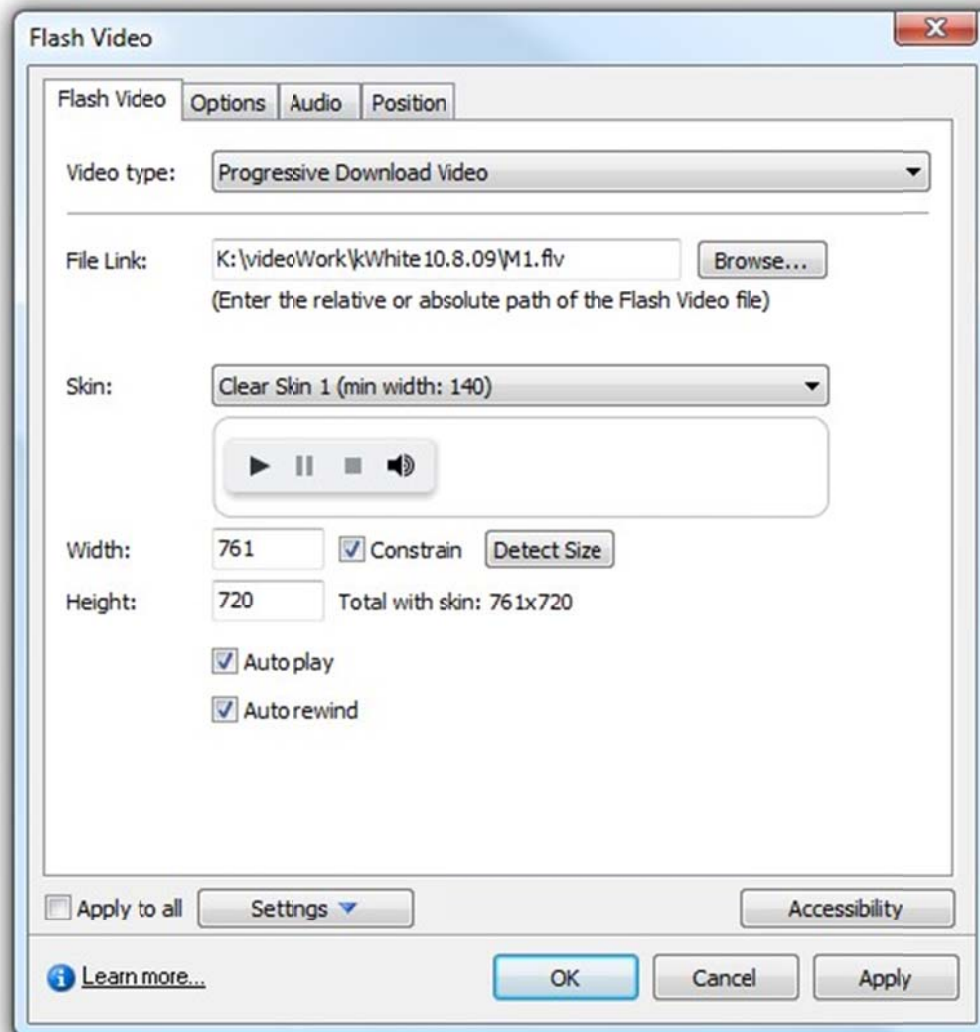
In the previous three parts of this series, we explained the general green screen production process, provided a purchasing checklist for obtaining the equipment and software needed to produce green screen videos, and discussed the process for recording, editing, processing, and encoding videos with a transparent background.

In this fourth and final part of "Producing Green Screen Videos for Captivate Lessons", we outline the process and best practices for using a produced green screen video in an Adobe Captivate CS4 lesson.

STEP 1: Open your Captivate CS4 lesson and navigate to the page where you would like to insert the green screen video. Next, select **Insert=>Flash Video**.



STEP 2: Under the **Flash Video** tab, choose the type of video you would like to add. In this case, we use the **Progressive Download Video** option since we are not using a streaming server.



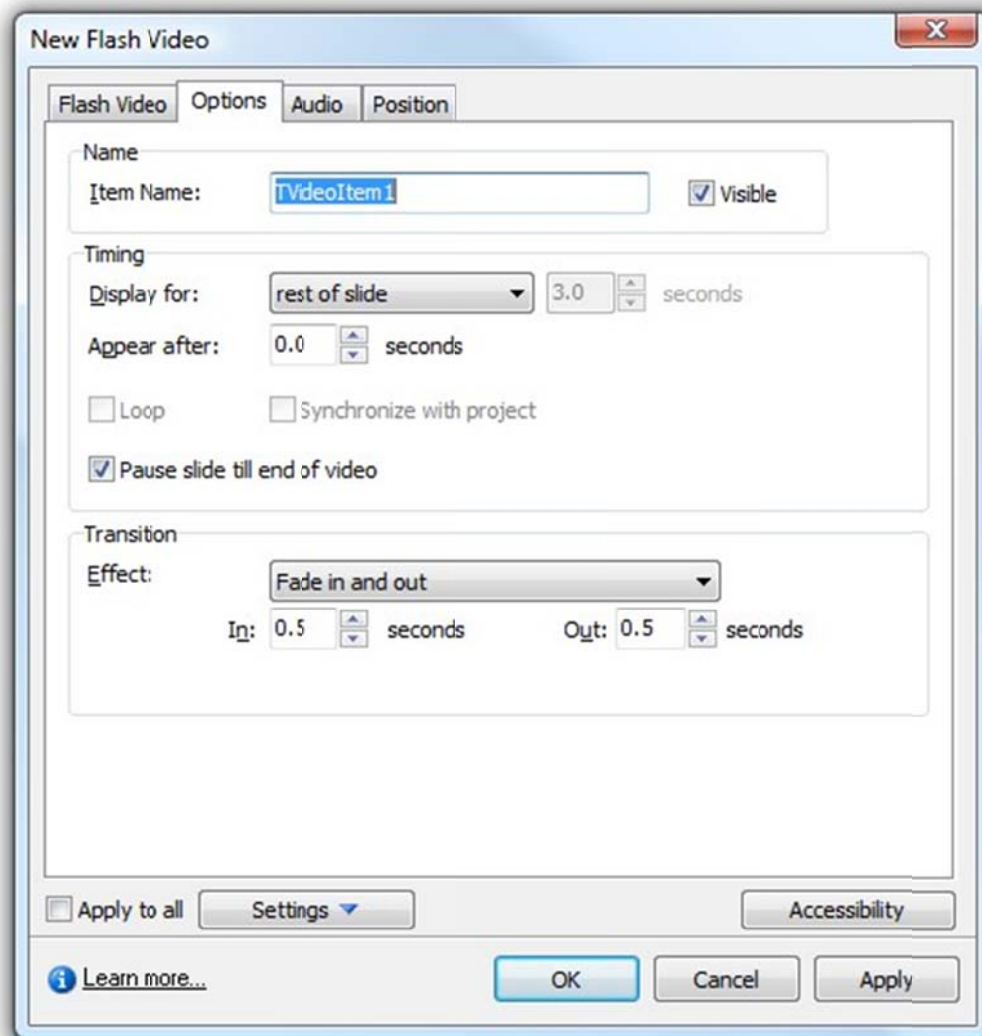
STEP 3: Choose the location of the video file.

STEP 4: Select the type of play bar skin you would like to place over the video. You can also choose the "None" option to remove the play bar features.

STEP 5: Select the size of the video for use in the Captivate lesson. Be sure the "Constrain" option is checked. This allows the video to be re-sized while keeping the correct aspect ratio.

STEP 6: Select the **Auto Play** and/or **Auto Rewind** options by select the checkbox for the options you would like to enable.

STEP 7: Select the **Options** tab and give the item name a meaningful and unique title. Be sure the **Visible** checkbox is selected.



STEP 8: Modify the **Timing** options for your lesson. Be sure the "**Pause slide until end of video**" checkbox is selected.

STEP 9: Change the **Transition** effect option to "**No transition**".

STEP 10: Finally, select the "OK" button to insert the video into the Captivate Lesson.

This tutorial series has discussed the process and best practices associated with producing and using green screen video content in Adobe Captivate lessons. While the production process for green screen video can be detailed, the instructional rewards are significant.

For additional information and examples of green screen videos used for eLearning applications, visit:

<http://www.uco.edu/cpde/presentations/greenscreen/UCOGreenScreen.pdf> Green Screen
Production information sheet

http://www.uco.edu/cpde/presentations/videoCaptiveExample_V1/videoCaptiveExample_V1.htm (sample green screen video placed in Adobe Captivate)

www.uco.edu/cpde/ready (authored using Flash CS4)