OEM Graphics

Template Authoring Training Course Syllabus

Embedded .dll specific

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Overview

The purpose of this document is to define the OEM Graphics training course, syllabus and materials for those personnel tasked with authoring graphics templates for automation purposes, utilising OEM scheduling and automation solutions.

About the OEM Graphics Options

The OEM Graphics editor options available for automation graphics template creation are RT Software's Swift CG and Swift CG +.

About Swift CG

Swift CG is a GUI based graphics editor and assembly environment for RT Software's OEM render engine and provides an advanced toolset that enables the templatisation of branded graphical content for multiple use-case solutions and scenarios. Swift CG utilises a 2d workspace x and y axis paradigm that allows designers to create templates in *any* pixel resolution.

Who uses Swift CG

This template designer will need an apt range of skills and experience. Individuals that are tasked with and undergo training with this software option are generally those with the following skills and experience:

- Familiarity with or experience of Adobe Creative tools such as Photoshop, Premiere or similar

- Image file formats and graphical assets in general

- Typography and the importance of branding

- Video editing or animation in a post production environment

- Live operation of graphics systems

About Swift CG +

Swift CG + is deep-level GUI based 3d graphics editor and assembly environment. This tool is used for both virtual and augmented reality studios

as well as automated and operator-driven overlay graphics. Swift CG + provides a high-end, sophisticated toolset that enables the templatisation of branded graphical content for multiple use-case solutions and scenarios. Swift CG + utilises a lens-based, xyz workspace paradigm that allows designers to create templates using a real world coordinate system.

Who uses Swift CG +

This template designer will need an apt range of skills and experience. Individuals that are tasked with and undergo training with this software option are generally those with the following skills and experience:

- Familiarity with or experience of Autodesk, Newtek or Maxxon 3d products such as 3dsMax, Maya, Cinema4d or Lightwave

- Live operation of 3d render engines such as Viz, Chyron, Brainstorm

- Visual fx editing or animation in a post production environment

About Playout and Automation graphics branding

Swift CG & Swift CG + provide the interfaces that enable template designers to author graphical templates. Typically, networks provide a "kit of parts" and this imagery and graphics content define the on-air brand. The template authoring process begins by importing branded graphical assets for a given channel.

Dynamic, updatable content, such as text, bitmap, or video clips are assigned during the template creation process from within the editors.

In the playout environment, the templates are accessed, driven, updated and automated by control applications. The RT DLL render engine sits transparently on the playout solution delivering the graphic templates to air as they are scheduled.

What types of templates are used in automation?

The types of graphics that are authored for automation are typically channel bugs, lower thirds, snipes, tickers, squeezebacks, menus, ECE's and IPP items that form the bedrock of branded promotional content for channel networks.

About the course

This course is aimed at broadcast operational staff and oriented towards developing essential skills, knowledge and expertise for graphics template creation *specifically* for automation.

On-site course

The on-site, instructor-led, Swift CG for Live tx training course is provided in accordance with a specified duration, number of delegates, an agreed schedule start and end time, Swift CGether with supplied training aids, materials and completion certificate.

On-site course schedule

Day 1:

To begin formal training sessions with instructor-supplied assets with the Swift CG editor

Day 2:

To complete formal training sessions with instructor-supplied assets with the Swift CG editor

To acquire network assets; Collate, curate and discuss approach to graphics project in alignment with brand guidelines and workflow requirements

Day 3 - 5

Author project and templates under instructor supervision;

Testing with Playout or control application and handover; Certification

Option

Day 3   Exposure to 3d edit

Course primary objectives

At the end of the training period, delegates will:

- Have acquired the skills to use the Swift CG graphics editor to create graphic templates

- Have explored the wide potential of Swift CG editor features including:

    - Animation toolsets
    - External asset compatibility
    - Adding functionality
    - Applying user-code within templates
- Author, install and test a project with particular attention to critical:

    - Nomenclature
    - Files, paths and locations
    - Data sources
        - Develop an understanding of the functionality that scheduling and infrastructural automation tools require:
            - Advance the importance of gathering a functional and creative specification prior to template creation
            - Appreciate the importance of scheduling requirements as a basis for authoring templates

Itinerary (On-site course only)
Training room preparation
- 1 hour at the start of day of training commencement

    #### Provision
    - Laptops supplied if required (up to 4)
    - Install of latest exe on all machines (if laptops not provided)

    - Training assets and materials copied to all boxes (if laptops not provided)

    #### Required equipment
    - 1 machine per delegate (max 4 delegates)
    - Internet access (supplied by client)
    - 1 large LCD monitor (supplied by client) 37"+ with either:
        - HDMI, DVI or Display Port capability

Session 1:

Swift CG Introduction

Recommended duration:

Up to 2 hours

Preparation:

N/A

Target level :

All delegates required

Session specific objectives

- Creating a lower third template in order to:

    - Gain familiarity with Swift CG interface

    - Define and create projects and scripts

    - Save projects and scripts

    - Exemplify project directory and folder structures

    - Familiarise with the Preferences

    - Become conversant with internal features and tools

- Develop experience with the parent child hierarchy

Session 2:

Creating bug templates

Recommended duration:
Up to 0.5 hours

Preparation:
Supplied assets

Target level :
All delegates required

Session specific objectives

- Importing movie files

- Adding a cueGraphic method

- Defining and creating inputs

- Testing in playout

Session 3:

Creating a squeezeback template

Recommended duration:

Up to 1.5 hours

Preparation:

Supplied assets

Target level :

All delegates required

Session specific objectives

- Using client supplied assets
- Importing still images, movie files and fonts
- Controlling movie files

- Methods and animations

- Using the Video Screen Nodes

- Using Object layers

- Inputs

- Testing in playout

Session 4:

Creating a snipe template

Recommended duration:

Up to 0.5 hours

Preparation:

Supplied assets

Target level :

All delegates required

Session specific objectives

- Importing assets
- Testing in playout

Session 5:

Using audio

Recommended duration:
Up to 0.5 hours

Preparation:
Supplied assets

Target level :
All delegates required

Session specific objectives

- Consolidating squeezeback template creation techniques
- Introducing and understanding audio in Swift CG
- Using and animating audio parameters
- Importing assets
- Methods and animations
- Using the Video Screen Nodes
- Testing in playout

Session 6:

Project preparation, best practice, archive and save

Recommended duration:

Up to 0.5 hours

Preparation:

N/A

Target level :

All delegates required

Session specific objectives

- Creating project manifest files
  - Establishing the importance of manifest files - both project and script
- Checking and editing object layer order
- Blocking and non-blocking templates
- Testing in the RT Playout Editor
  - Script to script
  - Dynamic text
  - Dynamic images
  - Persistence
- Zipping projects for archive
- cueGraphic Methods

Session 7: (optional)

Using duplicate nodes

Recommended duration:

Up to 2 hours

Preparation:

Supplied assets

Target level :

All delegates required

Session specific objectives

- Creating a 10 team table
    - Adding duplicate nodes
    - Setting the numbers of duplicates
    - Arranging duplicates in x or y
    - Using offsets

Session 8:

Exporting a graphic

Recommended duration:
Up to 15 min

Preparation:
Supplied assets

Target level :
All delegates required

Session specific objectives
- Export a graphic
- Create a new project
- Import the graphic

Session 9:

Templates with tickers

Recommended duration:

Up to 1 hour

Preparation:

Supplied assets

Target level :

All delegates required

Session specific objectives

- Adding tickers
- Updating ticker contents
- Changing ticker parameters such as speed and limits
- Using clip planes
- Adding multiple tickers

Session 10:

Templates with simple clocks

Recommended duration:

Up to 15 minutes

Preparation:

Supplied assets

Target level :

All delegates required

Session specific objectives

- Adding clocks
- Updating clocks
- Changing clock parameters such as font, count-up and countdown
- Combining clocks and tickers

Session 11:

Using TMV files

Recommended duration:

Up to 30 minutes

Preparation:

Supplied assets

Target level :

All delegates required

Session specific objectives

- Creating Swift CG movie files from image sequences
- Evaluating when to use tmv files instead of movie files
- Using Swift CG movie files

Session 12:

Using Links in Swift CG templates

Recommended duration:

Up to 1.5 hours

Preparation:

Supplied assets

Target level :

All delegates required

Session specific objectives

- Setting a plinth for text
    - Editing the pivot point
    - Changing the plinth colour and opacity
- Formatting the text
    - Editing Vertical Alignments
    - Editing Max-X sizes
- Linking the plinth to text width
    - Source and Destination Fields and Source Nodes
    - Using Scale with text size
    - Using Bias
    - Adding a right-hand margin
    - Adding Max-X size to Xsize with Min function
    - Maintaining the biases correctly
- Linking the plinth to horizontal and vertical text positions
    - Using Bias to add a left-hand margin
    - Using Bias to allow for upper and lower case
- Completing the template
    - Adding animation
    - Adding inputs
    - Generating manifests

- Testing in Playout

Session 13 (optional):

Templates with complex clocks

Recommended duration:

Up to 2 hours

Preparation:

Supplied assets

Target level :

Experienced users required

This is a complex tutorial

Session specific objectives
- To create a specific clock type, with specific functionality and operational usage options.
- Understand the sequential, procedural operations for template authors for the following clock types:
  - Standard football (soccer) league clocks

Session 14 (optional):

Presets for Swift Live

Recommended duration:

Up to 0.5 hours

Preparation:

RT supplied assets

This morning is given to the 3d editor exclusively.

Target level :

2d training and Swift Live trained users only

Objectives

- Develop understanding and overview of base control project
- Develop knowledge of *preset* methods and uses for presets
- Deploy test graphics to Swift Live application and test

Session 15 (optional):

Swift CG +: Exposure to the 3rd dimension

Recommended duration:

2 - 3 hours

Preparation:

RT supplied assets

This morning is given to the 3d editor exclusively.

Target level :

2d training completed users

Objectives
- Gain familiarity with the 3d interface
- Develop an understanding of:
  - Navigating in 3d space
  - Using a lighting model
  - Importing 3d objects

Session 16 (optional):

Swift CG + for branding

Recommended duration:

4 - 6 hours

Preparation:

RT supplied assets

An intermediate level, hands on exploration and 3d template building utilising 3d assets from external.

Target level :

3d competent users. Session 11 completed users.

Objectives

- Foster realtime 3d skills

- Develop an understanding of:

    - Using lighting with shaders
    - Reflection maps and normal maps

- Importing and modifying 3d objects
- Authoring complex 3d templates
- Adding inputs to 3d templates
- Animating with Swift CG +
- User code with Swift CG +
- Using Swift CG graphics and per pixel cameras in 3d templates

Session 17: (optional)

Building histos and bar charts

Recommended duration:

Up to 2 hours

Preparation:

An intermediate level, hands on exploration and 3d template building utilising 3d assets from external.

Target level :

2d competent users. All 2d Sessions completed users.

Objectives
- Use of the duplicate node
- Offsets
  - Translate and frame
- Linking parameters
- Inputs

Session 18: (optional)

Side-loaded data functionality

Recommended duration:

In conjunction with Ticker Session

Preparation:

Teamviewer and Skype connections
This training session may be required to be delivered with Teamviewer and or Skype remote connections and another instructor will provide deep-detail external data implementation prerequisites for the OEM Graphics option.

Target level :

Advanced users only. Delegates with experience in xml, rss and external data is recommended.

Objectives
- Populating templates with realtime data
- Using inputs to point to
    - Url's
    - Xml files
    - Databases
        - Using queries and statements to extract data
- Adding user code to extend template functionality
- Paths and locations, subfolders and directory structures
- Dataflow concepts

Session 19:

Creating mattes and masters

Recommended duration:

Up to 1 hour

Preparation:

Example movie clips
Session Advanced mattes/Good, bad and ugly/pleca_depelicula_animado.mov

Session Advanced mattes/Good, bad and ugly/MatteGood/Comp4_xxx.png

Discussion
Reasons for evaluation of movie clips

Target level :

Advanced users only

Objectives

- Creating a matte using ffmpeg (gray 256 col)

- Creating a master using Adobe or ffmpeg

- Generating the pleca_depelicula_animado.mxf with mxf op1a (XDCAM 50 pl25)

Session 20:

Applying mattes and masters in Swift CG

Recommended duration:

15 minutes

Preparation:

The resulting files prepared in session 18

Target level :

Advanced users only

Objectives

- Reduce performance bottlenecks

- Reduce data rates

- Optimise graphical performance

Project facilitation:

Asset acquisition and network project build

Recommended duration:

1 - 2 days

Preparation:

This phase of the training is centered around facilitating the creation of network project

This project will go on to be tested for tx in the playout solution

Network supplied assets

Target level :

All delegates required

Objectives
- Use network supplied assets to create tx project
- Test project in playout solution