

Module 6: Publishing Media Content

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Module Overview

Overview

- **Introducing Expression Encoder**
- **Customizing the Media Player**
- **Lab A:** Customizing a Video Skin
- **Adding Markers to Video**
- **Lab B:** Publishing with Video Markers



Microsoft® Expression® Encoder is an audio and video preparation tool that offers encoding, video enhancement, and batch publishing of media content for use on the Web, on portable devices such as mobile phones, and in applications on the Windows® operating system. By using Expression Encoder, you can generate rich media content for Microsoft Silverlight™ browser plugin applications that can reach an audience on various platforms.

This module introduces you to the fundamentals of Expression Encoder and demonstrates how you can create your own personalized media player for deployment on the Web.

Objectives

After completing this module, you will be able to:

- Explain the main features and functionality of Expression Encoder.
- Customize a media player.
- Add markers to a video to trigger simple events.

Lesson 1: Introducing Expression Encoder



Expression Encoder is a template-based media publishing tool for encoding rich media content. You can also use Expression Encoder for live and on-demand publishing of media experiences, such as webcam footage.

This lesson gives you an overview of Expression Encoder and explains the capabilities of the application so that you can create Silverlight media content. The lesson describes the functionality of the user interface (UI) and demonstrates the key features of Expression Encoder.

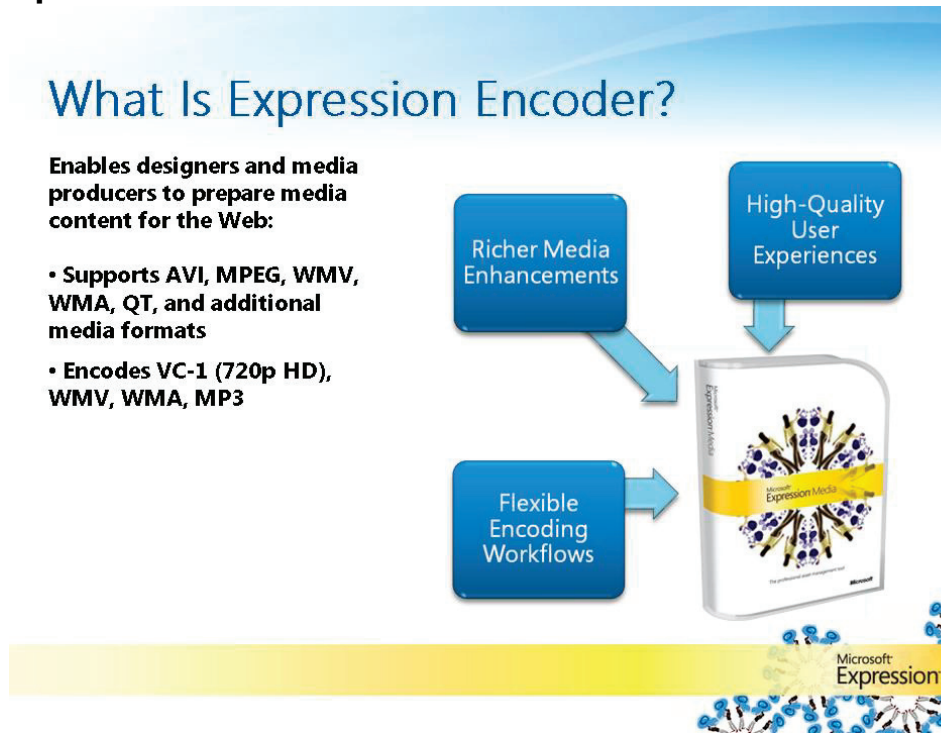
Objectives

After completing this lesson, you will be able to:

- Explain the purpose of Expression Encoder.
- Describe the main features of Expression Encoder.
- Use Expression Encoder to produce video for Silverlight.



What Is Expression Encoder?



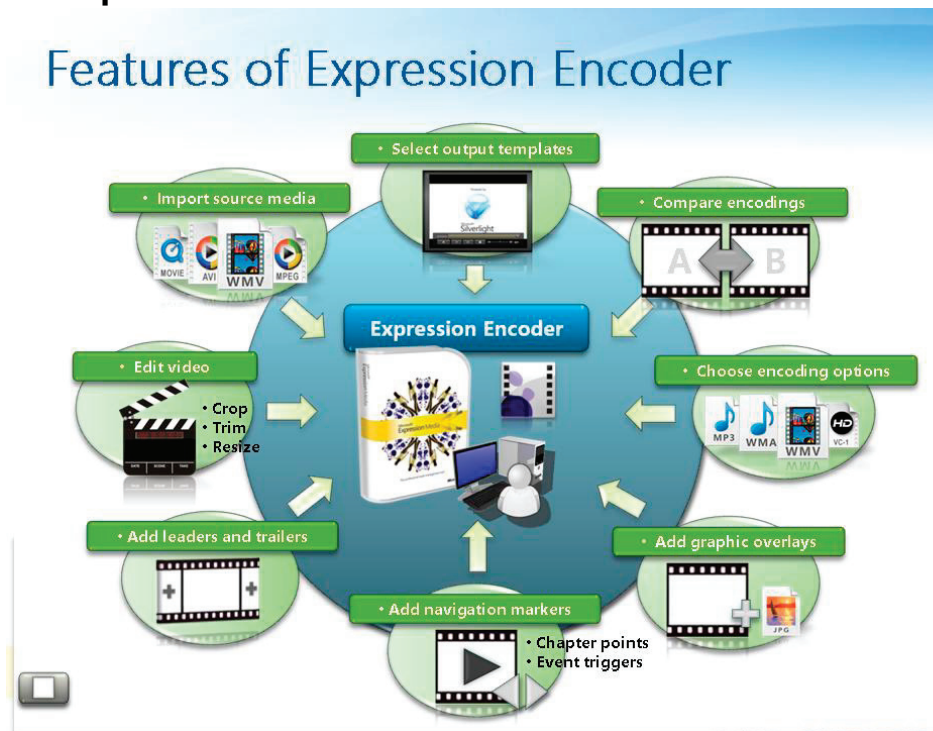
Expression Encoder is an advanced video-encoding tool that supports high-definition (HD) VC-1 (a video codec standard that is powering the HD revolution) in addition to many other formats. Expression Encoder is also especially suited for generating content that uses the rich interactive capability of Silverlight playback scenarios.

By using Expression Encoder, you can:

- Manage flexible encoding workflows:
 - Encode an extensive assortment of file-based media such as Audio Video Interleaved (AVI), MPEG, Windows Media Video (WMV), Windows Media Audio (WMA), QuickTime (QT), and additional media formats with suitable DirectShow decompressors installed.
 - Produce live webcasts by using media from digital video (DV) camcorders or webcams that you can mix with file-based content such as images in real time and published to streaming servers.
 - Manipulate the command-line control options to enable you to run profile support for batch jobs so that you can encode vast amounts of media content as a batch process.
- Create richer media enhancements:
 - Apply auto-stitching to enable you to attach two videos as pre-roll advertising trailers and post-roll credits to the beginning and end of your video content.

- Create static overlay images that display on top of your video as watermarks for corporate identity. You can adjust the opacity for semi-transparent overlays.
- Apply descriptive metadata tags to your media so that you can search and categorize your Web content.
- Apply markers to your media as chapters or bookmarks so that users can navigate content.
- Create captions that synchronize text with media for subtitles.
- Create high-quality user experiences:
 - Encode as HD, VC-1, WMV, WMA, and MP3 codecs that are optimized for Silverlight.
 - Create a visually appealing, interactive video and audio package that takes full advantage of Silverlight technology by using the default templates for incorporation into your Web site or company style. You can also create your own templates.
 - Compare the impact of encoding profiles by using the A/B compare feature, in either split-screen option or side-by-side option, so that you can preview various encoded options against the original in real time.

Features of Expression Encoder



You can use Expression Encoder to encode videos and audio files in preset template skins for deployment of media content. You can then integrate these encoded files into Web pages that combine Silverlight media and other content.

By using Expression Encoder to create a rich Silverlight media experience, you can use the following features:

- Edit imported video by using the tools to crop, trim, and resize video.
- Create leaders and trailers on your media files for advertising or displaying ending credits.
- Create chapter-point markers with thumbnails for navigating your media content, or for some action to occur at certain points in the video, such as showing Web sites.
- Create a media player from one of the default templates that enable your encoded videos to use the interactive richness of Silverlight technology.
- Create media formats that scale from HD to mobile devices.
- Create preset profiles that specify the parameters used to encode your video. This enables you to quickly apply your settings to any video that you import, which saves you time.

Demonstration: Producing Video by Using Expression Encoder

Demonstration

Producing Video by Using Expression Encoder

- **Learning the UI interface for Expression Encoder**
- **Producing video for Silverlight delivery**



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Expression Encoder uses a similar UI style to the other products in Microsoft Expression® Studio. By using Expression Encoder, you begin your work by importing one or more video or audio files in any file format that is readable by the DirectShow codecs that you have installed on your computer. Once you have imported the media, you can then add markers, trim the video, add overlays, and stitch a leader video and/or a trailer video to the original. You can then encode the video and generate a Silverlight experience that is ready for the Web by using one of the default template media players.

In this demonstration, you will see how to:

- Import a media clip into Expression Encoder.
- Navigate the three main tool panels:
 - **Media Player** panel
 - **Media Content** panel
 - **Settings** panel
- Use the **Profile** category to apply profile settings to your video.
- Navigate the A/B compare mode.
- Navigate the **Auto Stitch** category.
- Use the **Overlay** category to apply overlays to your video.
- Export your video with a default media template player.

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Key Points

The key points of this demonstration are:

- Import your media content either by selecting **Import** from the **File** menu, or by clicking the **Import** button on the **Media Content** panel at the bottom of the application.
- Navigate the categories and tools on the three tool panels in the UI of Expression Encoder.
- Manipulate the encoding settings of your video by selecting one of the encoding parameters in the **Profile** category, which is located on the **Settings** panel.
- Contrast the properties of the encoding media to the original by using the A/B compare mode on the **Media Content** panel.
- Apply a pre-roll video for an introduction to your video by using the **+Leader** button on the **Media Player** panel.
- Apply watermark images to your video and adjust the opacity by using the **Overlay** category on the **Settings** panel.
- Export your video by using one of the default media player templates that is included with Expression Encoder on the **Output** panel.

Lesson 2: Customizing the Media Player



The template skins provided by Expression Encoder enable you to use visually compelling playback elements, which you can personalize to merge with your design compared to using the standard interface of Windows Media® Player 9 Series controls.

This lesson gives you an overview of the media template skins and describes how to create Silverlight media content by customizing a media player template skin.

Objectives

After completing this lesson, you will be able to:

- Describe the standard media player templates.
- Customize the skin of a media player by using the Microsoft Expression Blend™ v2 design software.



Introducing the Media Player Templates

Introducing the Media Player Templates

- **Have specially designed and visually compelling playback controls**
- **Provide dynamic resizing of video as the browser window is resized**
- **Play multiple videos individually or simultaneously**



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After you have edited your video, you can encode it by using one of two output methods: using a Silverlight template media player or exporting just the video file. The templates provided by Expression Encoder include graphically refined skins with attractively designed player controls, in addition to components that integrate with the Silverlight client. This enables you to support graphical thumbnail features for rapid-seek navigation.

By using Expression Encoder media player templates, you can:

- Use specially designed and visually compelling playback elements that you can personalize to fit your designs.
- Support high-quality dynamic resizing of your media because the templates use vector-based graphics. If you resize your browser window, the media player skin and content dynamically resizes without a loss in resolution.
- Play multiple videos. If your job contains more than one video when you encode by using a template, all videos render to the same page. You can then play the videos individually or simultaneously.

When you use Expression Encoder to encode video by using a template, Expression Encoder creates the following files:

- An HTML index file.
- An Extensible Application Markup Language (XAML) file containing code that describes the template design.
- JavaScript files for each of the template elements.

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This screenshot shows an example of the file structure created in a folder after encoding video content by using a media player template from Expression Encoder.

Lesson 3: Adding Markers to Video



Expression Encoder enables you to enhance the user experience by adding markers, captions, and event markers to media content. You can use markers as chapter markers or bookmarks in your video to help your users navigate lengthy media. The chapter markers provide DVD-style navigation.

This lesson introduces and explains markers, and then shows you how to add markers to your media content by using Expression Encoder.

Objectives

After completing this lesson, you will be able to:

- Explain the purpose of using markers in your video.
- Describe how to apply markers and captions to video by using Expression Encoder.



Introducing Markers

Introducing Markers

- **Create keyframe markers for navigation**
- **Apply thumbnails to represent chapters**
- **Display text for chapter titles or subtitles**
- **Apply markers for simple events such as displaying advertisements**
- **Export markers as XML files for reuse**



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Expression Encoder has two processes for adding markers to your media content: the markers for navigation, and the script commands for captions or event actions. You can synchronize markers with the media content, enabling text subtitles, captions or text feeds, and even advertisement images to display at keyframes in a Silverlight rich media application.

You can also use markers to identify a reference point or a location in your video stream where some action must occur. For example, when the marker is reached, an event is triggered. By hooking these events, you can display captions, subtitles, or other Web content alongside the video. Markers can also be exported or imported as XML files, enabling you to reuse the markers on a number of videos.

By using markers in Expression Encoder, you can:

- Create keyframe markers to enable users to click to key points in the video.
- Apply thumbnails that represent chapters in the video by using markers at specific times. On playback, the thumbnails are visible and aligned within the video viewing area to enable users to navigate your video.
- Display text that is specified by scripting commands for chapter titles or subtitles.
- Apply markers for trigger points of simple events such as displaying advertisements.

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Demonstration: Adding Markers to Video

Demonstration

Adding Markers to Video

- Create key frames for chapter navigation
- Import an XML file for chapter point navigation
- Create subtitle captions for media content



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To create videos that include markers, you need to encode your video by using the two options on the **Metadata** panel for adding markers and script commands. The **Markers** category enables you to add keyframe navigation for rapid seek navigation. The thumbnails property enables the user to view and click keyframe images for the navigation markers.

The **Script Commands** category enables you to add subtitles and trigger events at keyframes in the media content. In Expression Encoder you use the value box to set a variable name such as *Caption* or *Advert*. In the command box, you type the properties of the variable, such as the text to display for the subtitles, or the name and file type of the advertisement image. To complete an event action, you must add a JavaScript function to the `player.js` file in the folder exported from Expression Encoder.

In this demonstration, you will see how to:

- Create keyframes for chapter navigation.
- Import an XML file for chapter point navigation.
- Create subtitle captions for media content.

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Key Points

The key points of this demonstration are:

- Apply chapter navigation to media content by using the **Markers** category on the **Metadata** panel, and view the media content in a browser window by using the **Expression** template in the **Job Output** category.
- Import an external XML file to add keyframe navigation points to the media content by clicking the **Import** button in the **Markers** category.
- Create subtitle captions to the media content by using the **Script Commands** category on the **Metadata** panel. View the resulting media content in a browser window by using chapter thumbnail navigation and a subtitle caption that displays for six seconds.

Lab B: Publishing with Video Markers

Lab B

Publishing with Video Markers

- Apply a customized template file to Expression Encoder
- Import a video clip into Expression Encoder
- Apply markers for chapter navigation
- Apply script command markers for a trigger action
- Add the banner for the script commands marker
- Add XAML code to trigger the action
- Add JavaScript code to trigger the action



After completing this lab, you will be able to:

- Add a customized template to Expression Encoder.
- Import media content into Expression Encoder.
- Apply markers for chapter navigation.
- Apply script command markers to trigger events.

Estimated time to complete this lab: 30 minutes

Lab Setup

For this lab, you will use the starter code provided on your computer. The lab answer key document uses *<Install Path>* to refer to the installation path for the lab files. If you are not sure where this location is, check with your instructor.

Exercise 1

Applying Markers to Trigger Events

In this exercise, you will apply the two options of adding markers to media content. You will use the **Markers** option to add key-frame navigation and the **Script Commands** option to add markers at keyframes for events. You will then see the resulting marker functionality in a browser window by using the media player template.

The principal tasks for this exercise are as follows:

- Apply a customized template file to Expression Encoder.
- Import a video clip into Expression Encoder.
- Apply markers for chapter navigation.
- Apply a script command marker for a trigger action.
- Add the banner for the script commands marker.
- Add XAML code to trigger the action.
- Add JavaScript code to trigger the action.

Tasks	Supporting information
1. Apply a customized template file to Expression Encoder.	<ul style="list-style-type: none"> • Go to the Program Files\Microsoft Expression\Encoder 1.0\Templates\en folder. • Copy and paste the Expression folder. • Rename the folder Fabrikam. • Go to the <Install Path>\LabFiles\Module 06\Labs\Lab 6B – Publishing with Video Markers\Starter\Fabrikam folder. • Copy the preview.jpg and player.xaml files into the Program Files\Microsoft Expression\Encoder 1.0\Templates\en\ folder. • Open the Default.html file, and then change Expression to Fabrikam in the second line of code. • Close both of the folders.
2. Import a video clip into Expression Encoder.	<ul style="list-style-type: none"> • Open Expression Encoder. • Import Fabrikam_FINAL.wmv from the <Install Path>\LabFiles\Module 06\Labs\Lab 6B – Publishing with Video Markers\Starter folder. • Encode the video by using the Streaming High Speed Broadband (AP) profile, and then select the Two Pass Encoding check box.
3. Apply markers for chapter navigation.	<ul style="list-style-type: none"> • Add a marker at 1.5 seconds, and then select the Thumbnail check box. • Click Edit, and then type Chapter1 for the marker. • Click Import, go to the <Install Path>\LabFiles\Module 06\Labs\Lab 6B – Publishing with Video Markers\Starter folder, and open the Chapters_Lab2.xml file. • Set the width of the thumbnails to 155 in the expanded Markers category in the Width box.
4. Apply a script command	<ul style="list-style-type: none"> • In the Script Commands category, click Edit, and then type Advert

Tasks	Supporting information
marker for a trigger action.	<ul style="list-style-type: none"> In the Command box, type fabrikam_banner.png Add a script command marker at 31 seconds. Click Edit, and then click Advert. In the Save script commands in list, click Stream. In the Job Output category, click the Fabrikam template. Select the Preview in browser check box. Set the directory to the <i><Install Path>\LabFiles\Module 06\Labs\Lab 6B – Publishing with Video Markers\Starter</i> folder, and then click Encode. Close the browser window. Close Expression Encoder.
5. Add the banner for the script commands marker.	<ul style="list-style-type: none"> Go to the <i><Install Path>\LabFiles\Module 06\Labs\Lab 6B – Publishing with Video Markers\Starter</i> folder. Open the <i>[Computer name, date stamp, time stamp]</i> folder. Copy the fabrikam_banner.png file into the <i>[Computer name, date stamp, time stamp]</i> folder.
6. Add XAML code to trigger the action.	<ul style="list-style-type: none"> Open the player.xaml file by using Notepad. Click Find, and then type MediaElement On the MediaElement code line, click after “VideoWindow”, press SPACEBAR, and then type MarkerReached=“onMarkerReached” Click Save. Close Notepad.
7. Add JavaScript code to trigger the action.	<ul style="list-style-type: none"> Open the player.js file by using Notepad. Click after the last line of text. Type the code shown in the following example. <pre>function onMarkerReached(sender, args) { if (args.Marker.Type === "Advert") { var image = sender.findName("PlaceholderImage"); image.Source = args.Marker.Text; image.Opacity = 1; } }</pre> Click Save. Close Notepad. Double-click the Default.html file to open it in a browser window; after 28 seconds, an image appears. Close the browser window.

Note: The answers to the practices and labs are on the Student Materials CD.

