

**Creating the Piece**

Hardware and Software:  
Getting Your Gear Together

Editing Video

Editing Audio

## Hardware and Software: Getting Your Gear Together

Besides exceptional stories, one outcome of students taking a KQED Digital Storytelling Workshop is the desire to create more digital stories on their own equipment! Some may already have a computer and need only to add functionality, whereas others may not have a computer and will need to start from scratch. And although computers continue to become more affordable and accessible, most people still consider them to be a major purchase. Therefore, it is important to know exactly which equipment is necessary for creating digital stories.

### HARDWARE

“Hardware” refers to the actual computer you will use to create the work. It also encompasses other important items, including scanners and printers. As mentioned in Chapter 2, it is essential to use a computer with enough processing power and hard-drive storage space so you do not become frustrated by slow processing time or run out of space to contain all your materials.

When it comes to computer hardware, “the bigger, the better” is generally true. The larger the processor, the faster the work can be done; the bigger the hard-drive storage space, the more data it can store for you to access. Luckily, many formats of digital storytelling, including short movies, do not require the fastest or most powerful machine. And although Mac and PC operating systems are becoming increasingly more similar, we recommend and use Apple products in our lab.

Apple released its first personal computer in 1984 with the expectation of its being a personal computer for all of us. Its operating system was intuitive, and emphasis was less on the computer as a business machine and more on its capabilities as a desktop publishing machine. Apple began to focus on its computers’ multimedia production capabilities shortly after they were introduced. Early pioneers and creators of digital stories preferred using Mac machines to Windows PCs for this reason. For the first time, nonprofessional producers had access to machines capable of multimedia and video production. Through the years, Apple has continued to place a priority on the multimedia and video production functionality of its machines. Today, the ease of use direct from the box allows even first-timers to achieve remarkable results right from the start.

### SOFTWARE

As interest in digital storytelling and consumer media expands, so do the software application options available to help you tell your story. We use—and

teach you how to use—a set of software tools that have become the standard for digital storytelling, but other applications exist that you may wish to consider, depending on your budget and your digital storytelling goals.

#### RECOMMENDATIONS FOR MACINTOSH AND WINDOWS – IMAGE EDITING

The image editing software of choice is the Adobe Photoshop series, created by Adobe Systems Inc. Adobe typically develops software that is identical for both PC and Mac users. We recommend Photoshop Elements for beginners and photography enthusiasts. Considered to be the “little brother” to the professional-level Photoshop, Elements provides a wide range of useful editing tools as well as automated **Quick Fix** options. The cost of Photoshop Elements for both Mac and Windows platforms is approximately \$80. The professional-level Photoshop moves up the scale in capability, power and price. Photoshop is the professional standard for graphic, Web and video designers as well as for professional photographers. Photoshop is available in several bundled professional Creative Suites, with prices beginning at about \$650.

#### RECOMMENDATIONS FOR MACINTOSH – VIDEO EDITING

For Mac computer users, the video editing software of choice for the KQED/DSI workshops is iMovie 06. As mentioned in Chapter 2, iMovie was developed by Apple as part of the iLife Suite, a set of integrated software tools for your multimedia lifestyle. iLife is included free with the purchase of any new Mac computer. The suite can also be purchased for about \$80 at Apple retail stores and online at [www.apple.com](http://www.apple.com).

In addition to iMovie, Apple has also created Final Cut Pro Express HD and Final Cut Pro 6 for digital video production. Final Cut Pro Express HD is designed for a wide range of users, from beginners to experienced video editors. Its price of approximately \$300 is obviously more than pocket change, but it’s a good investment for the user who is serious about learning to edit digital video. Professional digital video editors consider the more advanced Final Cut Pro 6 to be a standard in the industry. It is a powerful tool and comes bundled as part of the Apple Final Cut Studio 2, which sells for about \$1,300.



iMovie HD

We also extend a warm “welcome back” to Adobe Premiere Pro CS3 for the Mac. Absent from the Mac platform (and also from the PC platform) for several

years, Premiere Pro returns as a start-to-finish solution for efficient and professional video production as well as for seamlessly integrating media from the entire Adobe family of products. Adobe Premiere Pro prices begin at around \$800.



#### RECOMMENDATIONS FOR WINDOWS – VIDEO EDITING

The Windows XP operating system includes a free movie-editing application called Microsoft Movie Maker. It is intended for beginners and home video enthusiasts and is well suited to teaching those who are new to digital storytelling the basic concepts of editing and storyboarding.

Also, Adobe has created tiered-level video editing software for Windows computers similar to Photoshop Elements and Photoshop: Adobe Premier Elements is suitable for beginners and home video enthusiasts, and Adobe Premiere Pro is suitable for professionals.

Adobe Premiere Elements offers ease of use for home video editing projects, and at about \$100, it's priced for the beginner and enthusiast. As noted above in the Mac section, Adobe Premiere Pro is once again available as a cross-platform product for the professional video editor. Premiere Pro offers seamless integration of media among the entire family of Adobe products. Premiere Pro is available for Windows and Mac for about \$1300.

## Editing Video

By this point in the DSI workshop, you should have finished digitizing all of the still photographs, artwork and video you plan to use in your piece and all image editing and enhancements of your photographs and artwork. You should also have completed the final draft of your story and recorded your script in Sound Studio or Audacity.

We will now move to the creating the final story by editing the video and audio together using Microsoft Movie Maker on the PC or iMovie 06 on the Mac.

If you have never edited video before, the concept is relatively simple. Even if you have not consciously thought about it, you have been exposed to editing just by watching television and feature films. Editing video on a computer is the process of combining the materials, or assets, you have available as digital files into a cohesive piece that plays from beginning to end.

Using a digital (nonlinear) editing program allows you to access your material instantly and repeatedly. The video editing process calls for making a number of decisions around aesthetics, including clip length and timing, transitions between clips, special video effects, titles, and audio and voiceover balance. The next time you watch a movie, commercial or television program, pay attention to the length of a clip, or scene, before a change is made. Watch how the transition from one image to the next is made: Is it a straight “cut” or does it dissolve from one clip into the next? By observing how various transitions are utilized, you will become aware of how different aesthetics contribute to a particular mood or feel. Also pay attention to the effect music has on the piece and how a change of music can often elicit an emotion.

### EDITING IN iMOVIE HD 06

Tip: Working in iMovie will require as much available space on your computer screen as possible. Move the dock to the left side of your screen for maximum working space.

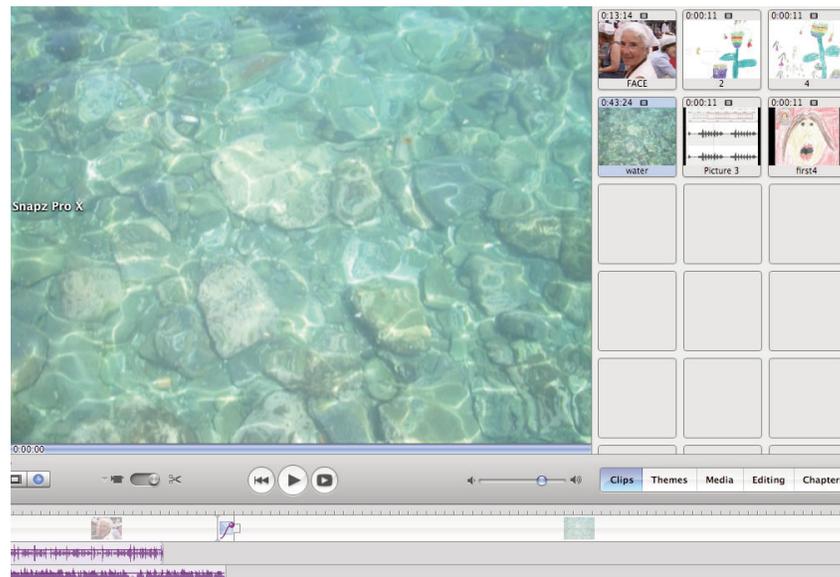
Whenever you begin to work with a new piece of software, it is good practice to review all of the pull-down menus to see what functions are available as well as review the interface. If you have used an earlier version of iMovie, you will see that many new features have been added in iMovie HD 06 and that accessing material may be from a different pane or location.

A series of **Pane buttons**, located on the **Option bar**, change the pane to various tools that allow you to access elements you can add to your project. The Pane buttons include: **Clips**; **Themes**; **Media**, which contains the **Audio** and **Photo** panes, as did previous iMovie versions; and **Editing**, which contains **Titles**, **Transitions**, **Video FX** and **Audio FX**, and **Chapters**. We will discuss the functionality of these Pane buttons later in this chapter.



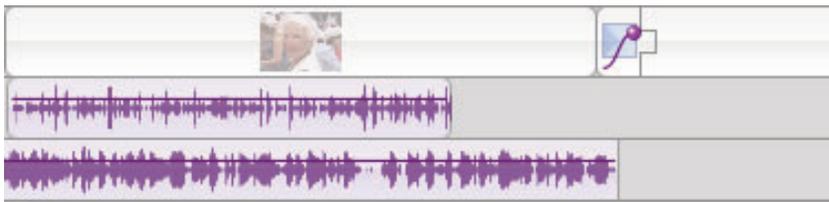
Similar to iMovie's previous versions, iMovie 06 has an interface structure that comprises the **Timeline**, the **Monitor** and a series of Panes that provide contextual tools when selected. Let's take a look at the functionality of each interface component.

The **Clips pane** is the default pane when iMovie is launched. It is where all of your images that are imported using the import function under the File menu (photos, artwork and video clips) are stored for use in your movie. (Note that we recommend iPhoto to import photos.) Each image you import into iMovie from the Import tab drops into a square in the Clips pane, and you can scroll up and down through the clips to locate a desired image. Think of this area as a shelf in a kitchen cabinet—each time you need an ingredient (an image), you return to the shelf to get it.



The **Monitor** is the area in which all clips can be viewed and played back. Click the Play button (forward arrow) to view the material assembled in the Timeline. Click the double-left arrow to return to the beginning of the Timeline. Click the arrow within a box to view your movie full-screen on your desktop. Notice that as your movie plays, a vertical line, called a **Playhead**, progresses from left to right through the Timeline. The position of the Playhead correlates with the video and audio located in the Timeline. Use the downward-facing arrow button at the lower-left corner of the Monitor to scrub, or move through, your movie by controlling the Playhead along the Timeline.

The **Timeline** is where you arrange your material in the desired order and where you add the music, narration, transitions and special effects to your movie. The Timeline has three tracks available in which to work. The top track is where the visual clips are assembled; the lower two are for audio. For our needs, we will use one audio track for the voiceover and the other for sound track and special effects. The Timeline also has two “views” available in which to work. The **Clip view** (represented by a film clip icon in the Options bar) allows you to see your movie as it is arranged clip by clip, and it allows you to change the order of the clips very easily. The **Timeline view** (represented by a clock icon in the Option bar) allows you to see the duration time of each of your placed media and transitions. You can adjust the Zoom setting in the Timeline view to see your work in greater or less detail. Both the Clip and the Timeline views are useful; once you begin working in iMovie, you will find it is necessary to toggle back and forth between the two modes to build your piece.



Timeline Tracks

Let's take a closer look at the functions available through the Clips pane buttons.

### Clips Pane

The Clips pane is where all of your images (video clips, photos, artwork) are imported into iMovie. Preview the materials located in the Clips pane on the Monitor by clicking the clip. If the clip is a video clip, press the Monitor's Play

button to preview the video. Arrange your clips into any desired order in the Clips pane by dragging and dropping them. You can rename the clip by double-clicking it and changing the information in the Clip Info dialog box. Identifying your images with descriptive names can be very helpful when it comes time to arrange them in the Timeline. Begin building your story by selecting desired images (clips) from the Clips pane and dragging them into the Timeline, either in the Timeline or the Clip view mode. Repeat the process to place still photograph clips and video clips. Once placed in the Timeline, still photographs are considered video, and you are able to adjust the duration (length of time) each clip will play. To adjust the duration of a clip, double-click the image in the Timeline and change the Duration setting. Remember that video editing operates using the measurement of 30 frames per second. Therefore, a duration of 3 seconds will read 03:00.

### **Understanding How Time Is Measured in Digital Video**

When you begin editing with images and video clips, it is necessary to understand how video is measured in terms of time. Video is measured in a unit of time called a frame. There are 30 frames of video processed for each second of video; conversely, each frame is 1/30 of a second. Video time is written with the following structure: hours:minutes:seconds:frames. A timecode written as 01:30:12:10 is read as: one hour, 30 minutes, 12 seconds and 10 frames. Familiarize yourself with this format because all indicators of time in video editing, including in iMovie, are given in this format.

### **Themes Pane**

Themes are predesigned animations that are a unique and fun addition to iMovie 06. You access Themes via the Themes pane. Themes allow you to add images, text and video to customize a theme-related, stand-alone movie that serves to introduce your movie, to segue to your movie and to provide credits for your movie. When completed, these animations can be added to a Timeline and will play and behave in the same manner as any other clip. The Themes available in iMovie 06 include Travel, Road-Trip, Pass Through, Reflection – White, and Reflection – Black.



When you have selected a Theme, you are presented with a variety of Theme Elements. Use the scroll bar on the right side of the Theme Elements window to see the available options. The Theme Elements include Open, Chapter, Lower

Third, Bumper 1, Bumper 2 and two versions of Credits. Choose a Theme Element by clicking it, and it will load in the preview monitor.

As the Theme animates, gray areas appear in the animated sequence. These gray spaces are referred to as Drop Zones, and you can drag and drop images and video clips from the Clips pane, the Photos area of the Media pane and the Timeline into the spaces provided in the Drop Zone window. You can change the areas labeled Titles by typing a new title in the Themes pane. Render your customized theme by clicking the Apply button in the Themes pane. The stand-alone Theme animated movie will now be placed, as its own clip, in your Timeline.

#### Media Pane (Audio and Photos Combined)

Accessing Audio and Photo assets is now available in iMovie 06 from one location, the Media pane. The Audio portion of the pane contains sound effects available from three licensed libraries: Standard Sound Effects, Skywalker Sound Effects and iLife Sound Effects. You can also access songs created in GarageBand (Note: Be sure to select Save an iLife Preview when saving your song in GarageBand in order to be able to access it in iMovie). The Audio tab also provides access to your iTunes library, including podcasts and playlists.

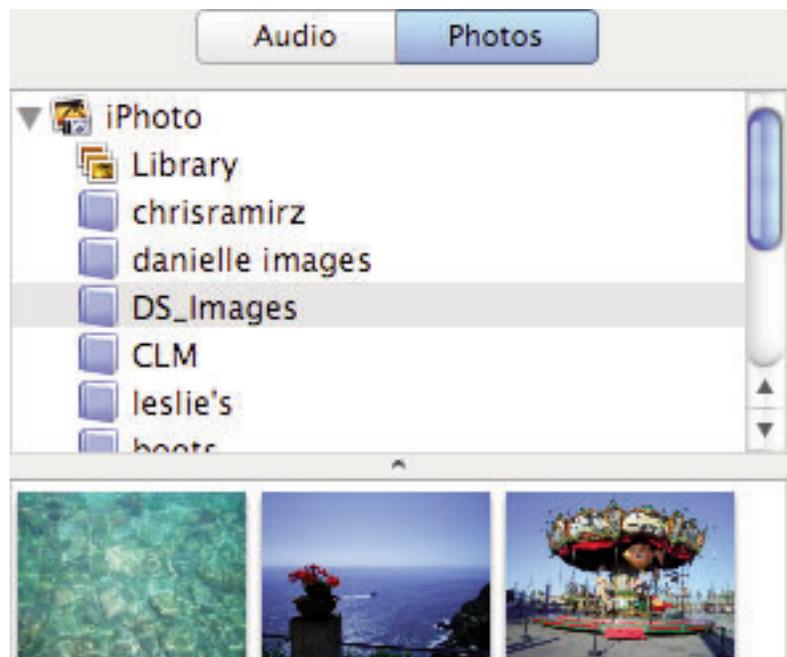


Preview an audio selection by clicking it in the Media pane. When you are ready to use an audio asset, click and drag the selection from the Media pane to the Timeline. iMovie will import the music track and place it where the Playhead is located. When the track has been successfully imported, a purple audio track (visualized in waveform format) will be visible directly beneath the video track. You can now select and move the audio track forward or backward in the Timeline to align it with your movie. As you will likely experience, having a sound track in place may require adjusting the duration of transitions and titles in order to synchronize them to the music.

We recommend that in building your digital story you use the top-level audio track for your voiceover narration and the lower-level audio track for combined sound track and sound effects.

There are other ways to import a sound track into iMovie if you do not have an iTunes library. We'll cover these as well as other sound-related issues—including how to record a narration in iMovie using the built-in microphone in the Audio pane—later in this chapter.

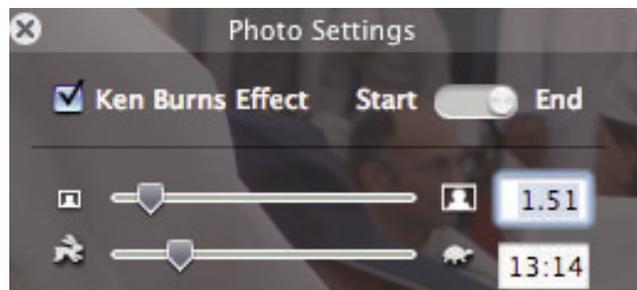
The **Photos** tab of the Media pane allows you to seamlessly access all of the images stored in your iPhotos library. Select images from the library, last roll or



any of the albums that have been created in iPhoto. As images from collections appear in the Media pane, simply click to select and preview them in the Monitor.

You'll notice that the images you are previewing in the Monitor are moving. In iMovie, this motion of a still image (whether zooming in or out or panning across) is called the **Ken Burns Effect**. This is named for Ken Burns, the man who popularized this treatment in his inspired documentary film projects in order to add a sense of motion to still photographs. Applying motion to still images is also at the heart of digital storytelling, as it is often these older, pre-digital era photos that give so much meaning and authenticity to the stories we tell of our past. We put motion on these images not only to keep the feeling of movement and flow consistent throughout the piece, but also to draw attention to a specific item or person within the image—such as zooming in on the face of a person who has been referenced in the narrative.

To use the Ken Burns effect, you need to access the **Photo Settings window** that appeared when the image was being previewed. If the window does not appear automatically, click the **Show Photo Settings** button. First set the amount of time you want the image to appear in the story by dragging the Duration slider from rabbit to turtle (fast to slow). The maximum amount of time available for a still image is 60 seconds.



Next, set the desired motion, first by clicking the box marked Ken Burns Effect to activate the Effect's controls, then by moving the **Start/End toggle** into the Start position. Next move the **Zoom slider** to where you want the zoom to begin. For example, you may want to start with the camera pulled all the way out, allowing you to view the entire image. Now move the Start/End toggle button to the Stop position and use the **Hand tool** to place the image at its final destination point for the zoom.

Check the results of your setting by clicking the Monitor's **Preview** button. If you'd like to see how the motion looks in reverse, click the **Reverse** button at the bottom of the Photos Settings window. When you are satisfied with the movement settings, drag the image from the Photos pane into the Timeline; alternatively, you can click Apply from the Ken Burns window to add the image to the Timeline.

The Ken Burns Effect is a great tool for digital storytelling. And although understanding how the tool works may take some practice and experimentation, we encourage you to do this both to learn how to use the tool and to become familiar with what is possible using zooming and panning techniques.

If you prefer to have a nonmoving version of your image, simply uncheck the Ken Burns Effect box. You can still change the duration of the image using the Duration slider, and when you are happy with your settings, add the image to the Timeline by clicking Apply or by dragging it into the Timeline from the Photo pane.

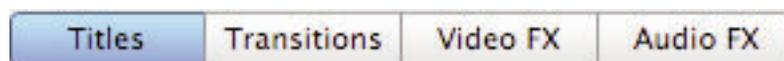
### **Editing Pane**

New in iMovie 06, the **Editing pane** provides easy, all-in-one-location access to **Titles, Transitions, Video Effects** and **Audio Effects**. Each tab of the Editing pane is reviewed in further detail in the paragraphs that follow.

#### *Titles*

Using text in your story, in the form of titles and/or credits, is an ideal way to add information and dimension. Text can punctuate your script, and in the absence of a spoken reference, it can serve as supplemental information. The use of credits, particularly crediting yourself as creator of this production, is also very important. You worked hard on this story—be sure to give yourself credit! Also be sure to credit any materials you used in your story that you did not create, such as photographs, video and music.

To add a title to your digital story, click the **Titles** tab in the Editing pane. The **Titles pane** will appear, offering a variety of title styles. Some title styles are grouped with related options, which are available by clicking the downward arrow located to the left of the title style. When you select a title style, a full-



screen preview will appear in the Monitor. When you have found a style you like, edit the title text, including selecting the font and its color and size as well as adding or subtracting lines for credits and changing the speed and pause timing of the title.

Titles tend to look best when they are added over a solid background such as white or black or over a still photograph. Check the **Over Black** box to add your title over black. To add a title over a still image, select the desired image in the Timeline; the selected image will appear in the Monitor, allowing you to visualize how the title style and settings will look.

Adjust the speed at which the title moves into place by using the **Speed slider**. Adjust the duration of time the title remains in place by using the **Pause slider**. Keep in mind that the amount of time the title will play is the sum total of the Speed plus the Pause settings, and the maximum amount of time is based upon the duration of the clip as set in the Timeline.

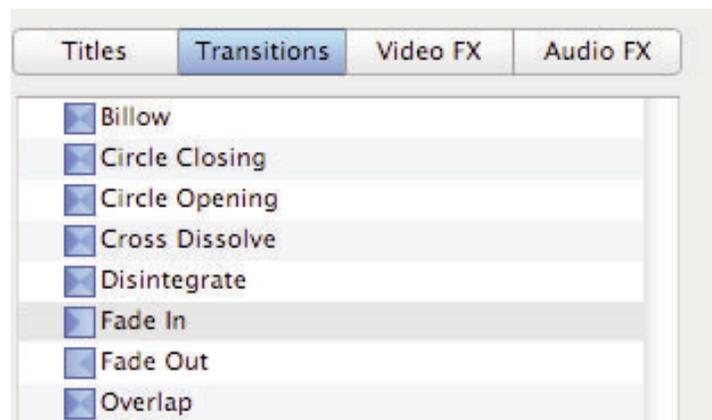


When you have completed making your edits and timing adjustments, add your title to the Timeline by clicking the **Add** button in the lower right corner of the Titles pane. Once the title has been added to the Timeline, you can make changes from the Titles pane and add them to the existing title by selecting the target clip in the Timeline and then clicking the Update button in the Titles pane. There are many fun and professional-looking styles, so be sure to examine each to find one that suits your style and story. Choose title styles that will contribute to the feel of your story, rather than distract from it.

### *Transitions*

The next tab of the Editing pane gives you access to the **Transitions pane**. Transitions are the visual effects that occur as one clip or image ends and another begins. In television programming, transitions go mostly unnoticed, with a straight “cut” being the standard method of moving from one image to the next. Feature and documentary films use transitions more creatively, often with fade-ins (transitioning from black to image or video) and fade-outs (moving from image or video to black). Transitions can establish feel and emotion and can

also indicate a passage of time. For example, some action films use a radial or clock wipe to indicate action, taking place in another location or time. We lightheartedly refer to this as the “meanwhile, back at the ranch” transition. A cross-dissolve is a transition in which one image slowly fades out as the next image fades in over a set duration of time. The cross-dissolve is a visually elegant transition, particularly when dissolving between still photographs, and it is a very popular and appropriate transition for digital storytelling.



The process of adding transitions to your digital story is a satisfying and enjoyable part of the production process. Finally, the emotional attitude of your story begins to reveal itself, and you can see how

the arrangement of music, narration, images and transitions all work together to create a powerful result. Be sure to examine all of the transitions for style and effect; we suggest using **Fade In**, **Fade Out**, **Cross-Dissolve**, **Overlap**, **Wash In** and **Wash Out**.

Working in the Clips view is the most efficient way of working with Transitions. To add a transition, click the Transitions tab at the top of the Editing pane. Before selecting a transition from the pane, select a location (two clips located next to each other) in the Timeline where you would like to place the transition. Select a transition from the Transitions pane, and a preview of what the transition looks like—using the chosen clips—will play in the Monitor. One of the Transitions options available in iMovie 06 is **Directional**, which enables you to adjust the direction in which the transition moves. A directional transition will have a four-arrow button to allow you to control the direction.

You may also adjust the speed, or how long the transition will take, by adjusting the **Speed slider**; be aware that this is also the amount of time the total duration of your movie will be cut. A slightly frustrating aspect to adding transitions

to your story in iMovie is that a transition actually “steals” time from your story. This is because a transition acquires its time duration by playing two clips at once, depending on the speed of the transition. Keep this in mind when adding transitions and be aware that a reworking of clip duration times may be necessary. (Reset the duration of a clip by double-clicking the clip and adjusting the time duration field.)

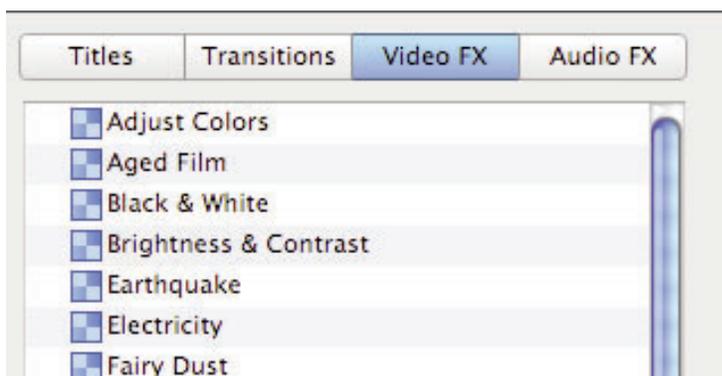
When you are satisfied with the look and speed of the transition, press **Add** in the Transitions pane to add the transition to your Timeline. A red bar will appear briefly under the Transitions icon in the Timeline, indicating the effect is being rendered.

A second method of adding a transition to your story is to click and drag a transition from the Transitions pane and place it between two clips. The transition will render immediately; however, a preview will not be displayed.

Delete a transition from your project by clicking the transition in the Timeline and pressing the **Delete** key; notice that after deleting a transition, time taken away from the clip duration is regained. Change the type of transition in place by selecting the clip in the Timeline and choosing an alternative transition; click **Update** in the Transitions pane to make the change.

#### *Video Effects*

**Video FX**, which brings up various options for video effects, is the next tab available in the Editing pane. Video FX allows you to add even more visual interest to your story beyond the titles and transitions you may have already built in. iMovie 06 provides some very interesting and useful special effects that can add texture and ambience to your story.



To access the Video FX pane, click the Editing pane button and then the Video FX tab located at the top. Similar in appearance to the previous tabs we have

reviewed, an assortment of available video effects appear in the pane. Working from the Clips view in the Timeline, select a target clip to test the effect. When you click an effect, a preview of that effect will play automatically in the Monitor. Note that each effect may have additional controls and settings available; these will be visible in the Video FX pane. Make any desired changes to the appearance of the effect and then set the duration for **Effect In** and **Effect Out**. When you have completed all of the settings, click the **Apply** button in the lower-right corner of the pane to apply the effect to the selected clip in your Timeline. As in the case of adding a transition, a red bar will appear in the lower portion of the clip to indicate the effect is being rendered.

You can add more than one effect to a clip to layer effects. For example, first apply an effect to turn the clip into black and white, then add a second effect, such as Fog. In the case of multiple effects, you may wish to maintain the same Effect In and Effect Out settings to make the effects play in unison on the clip.

When a clip has had a video effect added to it, an icon in the shape of a square box appears on the top border of the clip to the right of the duration time. In the case of multiple effects, a number will appear next to the box to indicate the number of effects that have been applied. To delete an effect, select the box icon and press Delete. The most recently added effect will be the effect deleted.

Video FX does not have an update function, so if you want to change an effect, you must redo it. To make changes to an effect that has been rendered to a clip, delete the effect, reselect the effect, make any desired adjustments and click Apply. You may also apply a single effect to multiple clips by selecting the desired clips in the Timeline. When the effect is applied, it will be applied to all clips that have been selected.

Spend some time reviewing the video effects available to you in iMovie 06. You might be surprised at how effective some of them may be and how they may provide a special visual impact that makes your story come to life.

#### *Audio Effects*

New to iMovie 06 is the addition of **Audio FX**, which brings up various options for audio effects. Use audio effects to alter, enhance or improve the sound of your audio. To access the Audio FX pane, click the Editing pane and then the Audio FX tab. Options for audio effects include: **Graphic EQ, Reverb, Delay, Pitch Changer, Highpass, Lowpass, Bandpass** and **Noise Reducer**. Select an audio track in the Timeline and then select a desired audio effect. Use the controls available for each effect to hear the change it makes to your audio file.

As is true with the other Editing operations, when you have found the audio effect and setting you are happy with, click the Apply button in the Audio FX pane to apply to the selected clip.

### Chapters Pane

The Chapters pane is also new in iMovie 06. This pane allows you to insert the chapter markers for iDVD. When chapter markers are added, iDVD will build a scene selection menu based on where the chapters are placed.

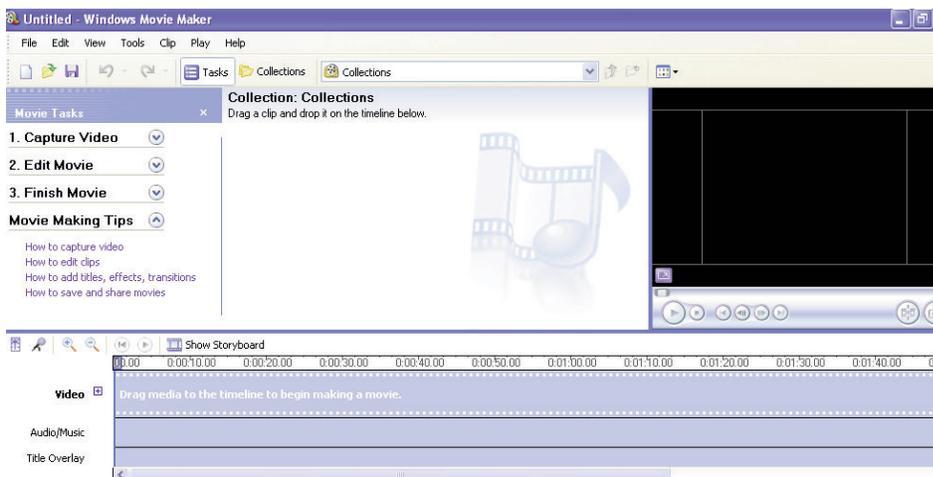
## EDITING IN MICROSOFT MOVIE MAKER

Microsoft Movie Maker 2 is a video editing application that is included in the Windows XP operating system. Movie Maker can import media and capture video as well as arrange images, video and audio on a timeline. It can also add visual interest and depth to your digital storytelling project with the addition of video transitions and effects and title and credit slides.

### Microsoft Movie Maker Interface

As is true with any new software, it is good practice to first familiarize yourself with the interface you will be working with. Movie Maker has an easy-to-understand interface that comprises four main areas: the **Task pane**, the **Collection pane**, the **Timeline/Storyboard** work area and the **Preview Monitor**.

To review the interface, notice the title bar at the topmost edge of the application. Until you have a named project, the title bar will say “Windows Movie Maker.” Once you have a named project in the works, the title bar will show the name of whichever project you are working on. On the right-hand side of the



title bar are the standard Windows buttons for **Minimize**, **Maximize** and **Close**. Below the title bar is the menu bar, which contains pull-down menus for **File**, **Edit**, **Tools**, **Clip**, **Play** and **Help**. Take a moment to look at each pull-down menu and see which functions each offers. Below the menu bar is the toolbar, where icons provide shortcuts for many of the functions found in the pull-down menus. Roll your cursor over each icon and pause (without clicking). You will see what the button is used for. The toolbar also contains buttons for viewing the tasks and collections as well as a drop-down navigation for selecting a collection.



As is true with many software applications, in Movie Maker there are a number of ways to accomplish a given task, and you should use whichever method you are most comfortable with.

On the left side of the application, you will find the **Task pane**, which is where you can access many of the common tasks for creating your story. If the Task pane is not visible, click the **Task** button from the toolbar to activate it. There is



a logical progression to the options available in the Task pane that will assist you in making your movie: **1. Capture Video**, **2. Edit Movie**, and **3. Finish Movie and Movie Making Tips**.

The **Collections pane** is located in the center of the application and is where the contents of collections can be viewed. Click the **Collections** button to view which collections are available. This is also where the **Video Effects** and **Video Transition** collections can

be accessed. When you click the **Video Effects** button or the **Video Transition** button, the contents of the corresponding collection will appear in the Collection pane.

### Collection: New Collection

Drag a clip and drop it on the timeline below.



The **Preview Monitor** is located on the right side of the application and is used to preview the images, video clips, video effects, transitions and timeline of the story you are creating. Adjust the size of the Monitor by hovering your cursor over its left edge until it turns into a two-sided arrow. Then click, hold and drag the edge to increase or decrease the size of the Monitor. Select any piece of media you wish to preview in the Monitor, either the Collection pane or from the Timeline, by clicking it once. Use either the control buttons at the bottom of the monitor or the **Play** pull-down menu to start playing your selection, to stop it or to move it forward or backward. Clicking a selection in the Timeline will play the timeline from the selected point forward. To view a selection in full-screen mode, click the Play button, then click the small blue button with a pointed arrow just above the Play button. Return to the normal view by clicking the Escape key.

The **Timeline/Storyboard** work area is located at the bottom of the application. This is where all of the various media elements will be arranged and edited together. Depending on which view you want to work in, you can click the appropriate button to toggle between **Show Storyboard** and **Show Timeline**.

Working in the **Storyboard** mode allows you to see the order of images as well as the transitions and special effects that have been added.

Work in the **Timeline** view when you wish to work on the timing of the images in your project. Expand the **Video track** by clicking the + sign to the right of the word “Video.” This will allow the **Transition track** and the **Audio track** associated with the **Video track** to be visible. Use your cursor to manually move the Play indicator from left to right or press the space bar to begin playing. Click the **Rewind Timeline** button to return the Play indicator to the beginning. Use the **Zoom In** or **Zoom Out** tools to view the timeline in larger or smaller time views.

The **Timeline** view has additional tracks where **Audio/Music** can be added. This is the track we will use to add voiceover narration to your story and, eventually, to add a mixed track of your combined voiceover and sound track.

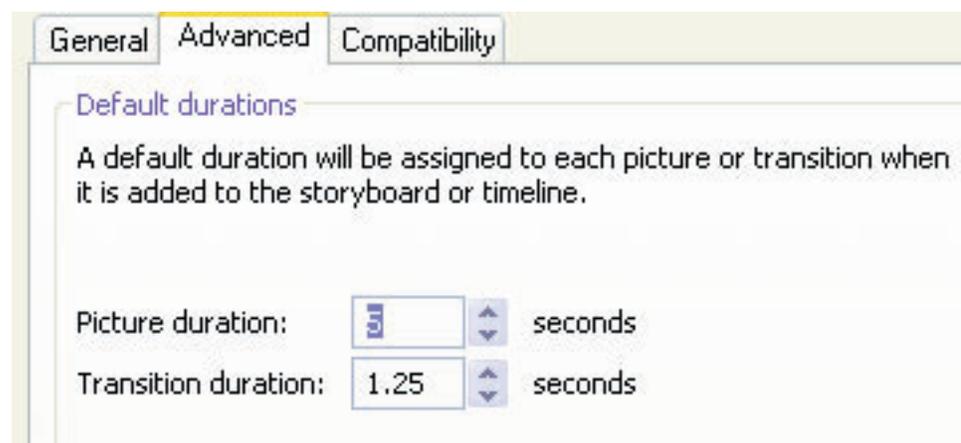
The **Title-overlay track** can be used to superimpose titles directly over clips.

### Understanding How Time Is Measured in Digital Video

When you begin editing with images and video clips, it is necessary to understand how video is measured in terms of time. Video is measured in a unit of time called a frame. There are 30 frames of video processed for each second of video; conversely, each frame of is 1/30 of a second. Video time is read with the following structure: hours:minutes:seconds:frames. A timecode written as 01:30:12:10 is read as: one hour, 30 minutes, 12 seconds and 10 frames. Familiarize yourself with this format because it is how all indicators of time are described in video editing.

### Default Settings

Before beginning a new project, it is a good idea to examine the default settings that are in place for your movie. To check the settings, open **Tools>Options**.



Under the **General** tab you may wish to enter your name as the project default author. This tab also has a button to **Reset All Defaults**, near the bottom of the page. Under the **Advanced** tab you will see values for **Picture Duration** and **Transition Duration**. Set the Picture Duration to 5 seconds and the Transition Duration to 2 seconds; they can be adjusted during the editing process if desired. Next, select the correct **Video Format** for your country, either NTSC (for North America) or PAL (for Europe and Asia). Finally select the **Aspect Ratio** you desire; for this workshop, we will select a 4:3 ratio. When you have completed making your default settings, click OK.

### **Begin a Project**

We refer to the product we will create in Movie Maker as a project. A project contains all of the arranged elements that we have prepared and will import into Movie Maker for use within the movie. This includes video clips, photos and images, voiceover, and a sound track. Every edit you make to your project, whether deletion, addition or change, should be saved, and when the project file reaches its final form, you will save it as a self-playing movie.

When you begin a project in Movie Maker, it is important for you understand that Movie Maker, as a nonlinear editing program, accesses media from a location in its directory. Therefore, it is critical to keep your media in the same directory location throughout the project so Movie Maker can access and display the media correctly.

Begin a new project by selecting **File>New Project**. Name your project, then choose **File>Save Project As** and save it within your digital storytelling materials folder (see “Preparing Visuals” in Chapter 2). Notice that Movie Maker assigns the extension .mswmm to the project file.

### **Create a Collection**

Now we will create a **Collection** in which all of our digital storytelling materials will be organized together into one group for easy access in Movie Maker. To create a new collection, activate the **Collection pane**. Click the **Collection** button in the toolbar to do this. Next, select **New Collections** from the **Tools** pull-down menu; you will see a new collection appear on the left side of the pane. Name the new collection with a name that will reflect your project and press **Enter**. Now we will import the digital storytelling materials into this new collection.

From the **Movie Tasks** pane on the left-hand side, select **Import Pictures** from the **1. Capture Video** section. Navigate to the appropriate folder that contains photos for use in your digital story. Select all of the images inside the directory by clicking the image at the top, holding down the shift key and then clicking the last image. Click the **Import** button on the right side of the box. Your final images will now appear in the Collections area, and you can scroll through them by using the scroll bar on the right side of the Collection pane.

Repeat the import process for audio files: Use **Import Audio File** and navigate to the appropriate directory, then select your voice-over and click **Import**. Your voiceover file will now appear in your collection along with the previously imported photos.



If you have previously digitized a video clip, select **Import Video** from the Task pane and navigate to the directory that contains the file named **Video Clips**. *Note: Before selecting your clip and choosing Import, be sure to uncheck the box labeled **Create clips for video files**. By unchecking this option, we are turning off the automatic clip generator. The video clip will now be imported into a new collection and not into the same collection with the photos and voiceover files. Follow the directions for moving a clip from a new collection into your main media collection in the next section.*

#### *Capture Video From Digital Video Camera Using Movie Maker*

The first step in having Movie Maker capture video from your digital video camera is to connect your camera to your computer using the correct cable, usually a Firewire or USB cable. Next, set your camera on **Play** mode. Then select the Capture from video device option from the **Movie Tasks** pane. The **Video Capture Wizard** should now appear, with your camera recognized as an available device.

Select the correct **Audio device** to transfer the audio along with the video—most likely the correct option will be **Capture audio**—using the same USB cable as the video. You may wish to review the video configuration settings before proceeding to the next step. To do this, click the **Configure...** button on the right side of the box. Click the **Video Settings** button and review the options to change **Frame rate**, **Color space** and **Output size**. We recommend the default output size of 320 x 240, as it is the most efficient resolution size for digital storytelling projects. Click OK to accept the options. Click **Next** on the Video Capture Wizard box to continue.

Enter a file name for your captured video. All video captured during this session will receive this name followed by a number. Choose a place to save your captured video—we recommend saving to the folder previously created on C:Drive, entitled **Video Clips**. The next dialog box will display the setting details you have chosen for capturing video; click to move to the next step when you are happy with the settings.

With your camera in the Play mode, begin capturing video by clicking the **Start Capture** button. Stop the capture when you reach the end of what you wish to capture (remember to also stop your camera from playing). Click the **Finish** button; Movie Maker will generate multiple clips based on scene changes, and the clips will be added to a new collection.

For easier editing, we will move these video clips into our main collection with our other assets, including voiceover and photos. To move the video clips, first select all of the clips in the newly created video clips collection. Next choose **Cut** from the **Edit** menu. Navigate to and open your main media collection from the Collection pull-down menu and choose **Paste** from the **Edit** menu. The video clips should now be included in your main media collection. You can rename these generically numbered video clips now located in your main media collection with more descriptive titles by right-clicking a clip and choosing **Properties**. Rename the clip in the **General** area of the Properties box. Delete the now-empty collection by selecting it and pressing delete.

#### *Create a Rough Edit: Adding Voiceover Narration and Images*

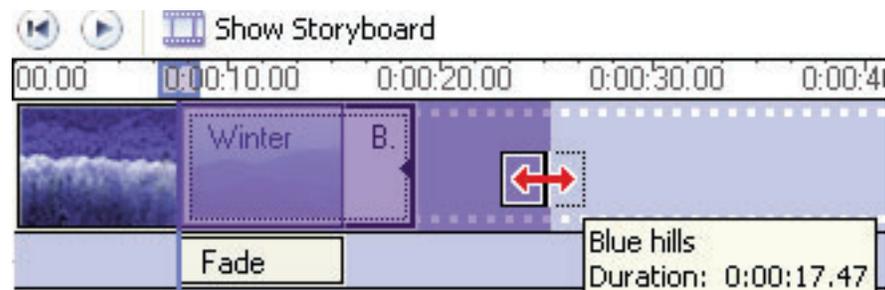
Using your main media collection, you can now begin arranging the photos and video to help visually illustrate your digital story. Since your voiceover narration is the primary focus for the story, we will first place this and build the images around it. With the work area in the Timeline mode, click the voice-over file,

located in the main collection, and drag and drop it into the Audio/Music track; the file should drop easily into place. Click to select the voiceover clip and drag it to the far left, so it is placed at the beginning of the timeline. Be sure to expand the clip to its full length in the track. Rewind the Timeline to the beginning and press Play; listen to your voiceover from beginning to end to ensure the entire clip has been expanded.

Because Movie Maker provides only one track for Audio/Music, we will eventually need to remix your voiceover file with your sound track file and reimport into the Timeline. But for now, let's work to arrange your visuals to your story.

Select a photo and drag it into the Video track of the Timeline. You will see that the duration of the photo on the Timeline is 5 seconds, as we have previously set this as the default duration for photos. Because Movie Maker references—that is, uses instances of your media files—your images and videos, you can make changes to them within the timeline and not affect the original. To change the length of time the photo appears on screen, click the photo within the Timeline and drag the edge of the clip to make it shorter or longer, depending on your preference. As you increase or decrease the duration of the clip, Movie Maker will indicate the new duration length.

Add a video clip to the Timeline using the same drag and drop process. You will see the video clip appear in the Video track and the associated audio will appear in the Audio track when the Video track is expanded. Since a video clip is a finite piece of footage, you cannot increase the duration of the clip as in the



case of a still photo, but you can decrease the duration of the clip by clicking it in the Timeline and dragging either end in; watch the clip in the Preview Monitor to visualize the exact location of where you want the clip to be trimmed. And again, because Movie Maker is referencing the video, trimming a clip does not

change the original clip. Keep in mind that the audio associated with the video will also be trimmed. If you wish to hear the associated audio in your story, leave the audio as it is. If you do not wish to hear the audio associated with the video, click the audio portion of the clip in the Audio track and mute the clip by choosing **Mute** from the right-click menu.

Remove an unwanted clip from the Timeline by selecting it and pressing Delete or by right-clicking it and choosing Delete from the right-click menu. Deleting a clip or photo from the Timeline does not delete it from a collection. Move a clip from one location on the Timeline to another by clicking it and dragging it to its new location; a blue vertical bar will appear where your image is relocated.

Create a rough cut of your story by placing all of the desired images and video into their correct location on the timeline. Preview your work as you progress to get a feel for the flow of the story. Remember that because Movie Maker uses references, you are able to use an image or clip multiple times in your Timeline if you wish. Remember to save your project frequently!

#### *Adding Video Transitions*

Once you have placed your images in the desired order on the Timeline, you can finesse the flow of the story by adding video transitions. A video transition

### **Video Transitions**

Drag a video transition and drop it between two video clips on the timeline below.

is an effect that is used to move from one clip to the next. Digital storytelling often uses very simple transitions, such as Fade or Dissolve or even a straight cut to move from one scene to the next; but video transitions can add visual interest to a story, such as using a heart transition in a romance story or a page turn to indicate written correspondence or passage of time. But be careful: Don't overuse novelty transitions that can distract from your story.

Up to now, you have been working in the Collection mode, adding and arranging your media elements in the Timeline. Let's switch now to the **Task** view by clicking the Task button in the toolbar. In the **Edit Movie** section, click **View video transitions** to view a collection of transitions available.

You can add transitions to your story in either the **Timeline view** or the **Storyboard view** of the work area. Let's first look at this process in the Storyboard view. To add a transition between clips, select a transition from the Collection pane and drag to place it in between two images. Press the Play button in the Monitor to preview what the transition looks like. To place a transition in the Timeline view, click and drag a Transition from the Collection area to the Transition track; a blue vertical line will appear in the area where a transition can be placed.

Remember the default duration for a transition has been set to 2 seconds, so if you like the transition but want to adjust the time duration, you can do this by selecting the clip in the Transition track and increase or decrease it by adjusting the duration of the clip.

*Tip: To trim a transition in the Transition track, drag from the side of the leading image. To delete a transition, select the transition in the Timeline view and press delete.*

#### *Adding Video Effects*

By this point in your production, you should have all your images and video placed and into position to support your narration. You should also have video transitions in place. We will now supplement the edit by adding video effects and title graphics.

Movie Maker provides a collection of video effects that can add visual interest and enhance your story. From the Task pane, click **View video effects** to display the Video **Effects Collection**. Scroll through the collection to see which effects are present and which ones might enhance your story. Add video effects to your project by using either the Timeline view or the Storyboard view.

When using the Storyboard view, drag an effect directly onto a clip; you will see a star icon appear in the lower-left corner of the clip. Adding a second effect to the clip will add a second star. Preview how the video effect(s) look in the Monitor. To remove a video from a clip in the Storyboard view, right-click the image to which the effect was added or right-click the effect star. Select **Video Effects** from the contextual menu; the **Add or Remove Video Effects** dialog box will appear. Select an effect to add or remove and click OK.

To add a video effect using the Timeline view, drag a selected effect directly onto a clip in the Video track. Again, a star will appear to indicate an effect is

present. Remove a video effect in the Timeline view in the same manner as in the Storyboard view.

### *Adding Titles and Credits*

Movie Maker provides several useful options for adding titles and credits to your digital story. To access these options, click **Make titles or credits** from the **Edit Movie** section of the Task pane. Here you will find options to:

- Add a title to the beginning of the movie
- Add a title before the selected clip in the timeline
- Add a title on the selected clip in the timeline
- Add a title after the selected clip in the timeline
- Add credits at the end of the movie

## Where do you want to add a title?

Add title at the beginning of the movie.

Click the type of title you would like to add; an **Editing** box opens. If you have selected the option for a title to be added before or after a selected clip, you can now select that desired clip in the Timeline.

Next, enter the title information in the text edit box, then add movement to the title by clicking Change the Title Animation. Choose an animation you like—**Titles with one line** or **Titles with two lines**. Preview your choice in the Monitor. An elegant choice for digital storytelling titles is **Fade In and Out**.

Next click **Change the text font and color** to make any desired changes to text font and background colors. When you are happy with the way your title appears in the Preview Monitor, click **Done, add title to movie**.

Notice that the title you have just created now appears in the position you originally selected, either at the beginning of the movie or before or after a clip selected in the Timeline. If you chose the option to add a title on the selected clip, the title will appear in the **Title Overlay** track of the Timeline in the location

you have selected. Title clips work like other clips, and their duration can be increased or decreased by selecting and trimming the clip. To make changes to a title that has been added to your project, double-click the title in the Timeline, and the **Title Editor** box will appear. To delete a title, select the clip and press the Delete key.

Add final credits at the end of your digital story to acknowledge the people who have helped or contributed to your project. Create a credit the same way you created a title—select **Make title or credits** from the Edit Movie section of the Task pane and select the option to **Add credits at the end of the movie**. The Editing box appears and is configured in cells to help you add credits. Use the top cell to enter the name of your digital story. Tab to the next cell and enter any credit information you wish, such as “Written by:”; tab to the next cell to enter the name of the writer. Continue adding credits as needed by tabbing from cell to cell. To change the manner in which the credits will animate on the screen, select **Change the title animation**. Scroll through the options available under Credits and sample any that appeal to you. Next click the **Change the text font and color** option to change these items. When you have made the changes you want, click **Done, add title to movie**. The credits will now be added to the Timeline as a clip at the end of your project.

#### *Adding a Sound Track*

As we have previously discussed in this chapter, Movie Maker is limited to one Audio/Music track. Although a voiceover may be placed into the track and music added at any vacant spot on the Audio/Music track, it is not possible to have both the voiceover and sound track play together simultaneously.

If you wish to add a sound track to your digital story, it will be necessary to mix your voiceover narration and sound track together into one audio file using Audacity. When this is complete, replace the now married voiceover and sound track into the Audio/Music track.

#### *Adjust All Elements for Timing*

By now, you should have all media elements added into the Timeline, including a combination voiceover and sound track clip. The next step is to review your story in the Timeline view from beginning to end, checking that all the individual elements of media are aligned and timed correctly to your voiceover. Preview

the entire project, making any necessary adjustments, being certain to save changes as you work.

### *Publish Your Story*

You should now be finished with your digital story, including the editing. It is time to save it to a movie format

Movie Maker provides options to save your digital storytelling project in several formats. These options are listed in the **3. Finish Movie and Movie Making Tips** section of the Task pane. For the purposes of this workshop, we will review the steps to **Save a movie to my computer**.

In **3. Finish Movie and Movie Making Tips**, click **Save to my computer**. The **Save Movie Wizard** dialog box appears, and you will enter a file name for your saved movie. The name of your project will already appear in the file name area, but you can change this if you like. The next option is to choose a location to which you will save your movie; the default location is the **My Videos** folder in the **My Documents** location. Click Next to continue.

In the next page of the Save Movie Wizard, you will see options for the Movie settings. Because we have previously selected **Save to my computer**, the wizard has preselected the **Best quality for playback on my computer** radio button. The settings details and file size of your movie are also indicated at the bottom of the box. Continue by clicking Next; the movie is now being saved, and the wizard will indicate the progress. The Save Movie Wizard will display a new screen indicating the movie has been successfully saved. There is an option here to **Play Movie when I click Finish**. Click Finish to view your movie.

If you like, review the other options for saving your project as a movie. Movie Maker can **Save to CD**, **Send in e-mail**, **Send to the Web** and **Send to DV camera**.

## Editing Audio

Now that you've learned the concept and the tools of editing video using iMovie or Movie Maker, let's consider the role audio plays in your digital story.

Audio is a primary component of any digital story. Being able to hear the words clearly, without static, distortion or interference, is key to engaging your viewers. Adding a sound track to a digital story is one of the really fun and easy parts of creating your piece. Thoughtfully chosen music can add so much texture and emotion. Knowing how to adjust the volume for best levels is also essential. If your sound track is too loud, the narration will be drowned out; if it is too low, it is frustrating and becomes a distraction.

Now we'll talk about the various software programs available for recording audio and provide information on how to add a sound track to your piece. We'll also offer direction on how to adjust the sound levels, effects and narration.

### AUDIO EDITING SOFTWARE OPTIONS AND RECOMMENDATIONS

Whether you want to add audio or create audio for your digital story—or both—may influence your choice of software.

#### **GarageBand**

GarageBand is part of the iLife Suite of tools and has particular appeal for people with an interest in creating their own compositions. Using an original piece of music is desirable because it adds even more of your creativity and personality to the story and avoids any possible copyright issues. We generally do not recommend using GarageBand during the DSI workshop unless you have previous experience generating original music. Teaching the mechanics of GarageBand as part of the digital storytelling process is outside the scope of the class, therefore we recommend working with GarageBand outside class and bringing your completed music piece.



**GarageBand 3**

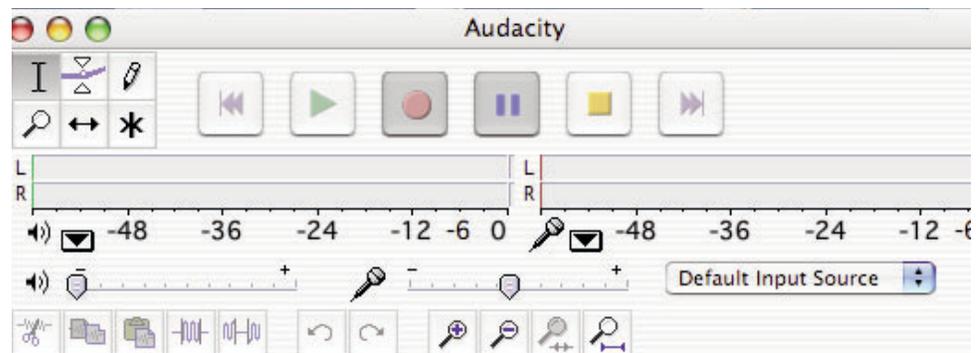
### Sound Studio

If you are working on a Mac to create a digital story, you may choose to use Sound Studio to record and edit your voiceover narration. Sound Studio is a shareware application that interfaces well with iMovie. The controls are easy to use and the software offers a viable waveform graphic that enables you to visualize the volume of your narration. While allowing for volume variations that are inherent to the story—for example, the voices of others—we recommend keeping the waveform of your narration relatively consistent throughout the piece.

Sound Studio allows you to create a new file and record all of your narration in consecutive segments. It lets you build your entire narration in one file, which can then be easily imported by iMovie. We recommend using Sound Studio for its ability to easily edit your audio narration, its waveform feature and its seamless integration with iMovie.

### Audacity

Audacity is another free, easy-to-use cross-platform sound editor that allows you to record, edit and export your voice-over narration. Although Audacity works with both Mac and PC, we especially recommend this software if you are creating your piece using Microsoft Movie Maker on a PC. Audacity can work with imported .wav and MP3 files, but it cannot work with .wma files, so plan your media accordingly. If you are working with Movie Maker, you may quickly realize the limitations of not having a dedicated audio track for the voiceover narration and a separate dedicated audio track for the sound track; use Audacity to mix these two separate tracks together into one file for use in Movie Maker.

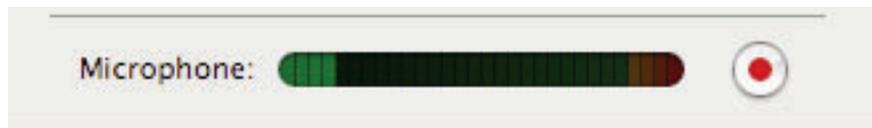


## iMovie

Yet another option for recording an audio narration when working on the Mac is to record directly into iMovie, which has a simple interface for this task.

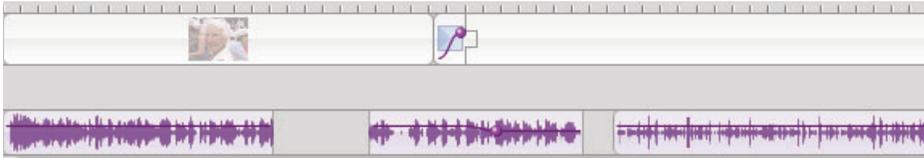
Click the Media pane button to activate the **Audio/Photos** tab options. Click the **Audio** tab to activate the **Audio** pane. Notice the area at the bottom of the pane is labeled **Microphone**. Fortunately, most late-model Mac computers have a built-in microphone so you can speak directly into the computer to record. If you wish to use a different microphone, simply plug it into the standard microphone jack. If you're using an external USB microphone, plug it into a USB port.

Confirm that the microphone is working by speaking a few words and watching the green meter levels rise and fall with the sound of your voice. If you have chosen to use an external microphone device, you may need to select a different sound input source from the **System Preference>Sound>Input** options in order for the microphone to input the sound into the program.



To begin recording, press the red radio button on the right side of the Microphone levels bar. If desired, you can move an image or video clip into the Timeline to give you visual cues for your narration. (If you use a video clip, be sure to mute any audio on the track.) The audio recording will begin in the audio track where the Playhead is parked. To stop recording, press the red record button again. Notice that iMovie will drop the recorded track into available space on one of the two audio tracks. To hear the clip, move the Playhead at the beginning of the clip and press the Play button. To move the clip from one track to another, simply select and drag. If you are not happy with the narration you recorded, simply select it and delete the track from the Timeline.

Keep in mind you can record small sections of a narration at a time, then arrange them in the proper order in the Audio track of the Timeline. iMovie will number the audio clips in order as they are recorded; however, to keep your audio recordings organized, you may wish to double-click the recorded piece and rename the clip in the dialog box.



Although the ability to record narration in iMovie may be adequate for some purposes, it may not provide the control necessary for consistent recording results. iMovie allows you to view the audio waveform (a graphical representation of sound) by checking this option under the View pull-down menu. iMovie will not allow you to view both the waveform and the name/number of the clip at the same time, but hovering your cursor over the track without clicking will provide the identity of the clip. We stress the importance of having a consistent-looking waveform through the duration of the narration; for this reason, we recommend using one of the previously discussed audio editors (Sound Studio or Audacity) for finer control.

#### *Adding a (Non-iTunes) Sound Track to iMovie*

Earlier in this chapter we discussed how to add a music track to your movie using the Audio pane and selecting a track from your iTunes library. That is one way to add a music track, but what if you don't have an iTunes library? Like many applications, iMovie offers multiple ways to achieve the same result. In this case, we'll talk about how to add a music track to your story from a CD.

First insert the CD into the CD drive of the Mac. The CD appears on your desktop and iTunes launches automatically. If you don't know which track you want to select, use iTunes to listen to the tracks and make your decision. When you have determined which cut to use in your story, import it into iMovie.

To import a track into iMovie, first activate iMovie and choose **File>Import**. Navigate to the CD located on the desktop. Choose the desired track by double-clicking its name. iMovie will import the track. (Follow the progress by watching the progress bar.) By default, iMovie will place the beginning of the music track where the Playhead is positioned. Once the track has been imported, you can easily move it forward or backward to align with the beginning of your movie.

#### *Mixing and Adjusting Levels*

iMovie works with two audio tracks; however, iMovie is capable of layering up to 99 effects of music per track. The challenge is to adjust the volume levels of each effect, the music and the narration so that all of the elements can be heard in correct balance.

To adjust the volume levels, check the **Show Clip Volume Levels** option under the View pull-down menu. You will then see a purple rubber-band style volume control in each audio track that is present, including sound effects. Click any point of the purple control line to create an adjustment point. The point will turn yellow and permit you to raise it (increase volume) or lower it (lower volume) within the track, so just continue to raise and lower the point until you are satisfied with the volume settings.

On the right side of the Timeline are three **Audio shy-track** check boxes. When you check a box, the corresponding audio track is muted and you don't hear it. This feature can be very useful if you would like to work on the volume settings of the sound track and the sound effects without hearing the narration, and vice-versa.

Adjust the levels so that when all sound is played together, the volume is correctly balanced among the narration, sound track and sound effects. Voice narration should have priority; the sound track should be set lower, with sound effects balanced according to the time and duration of the intended impact.

Editing audio is really fun and you can spend a lot of time adjusting many nuances. Learn to hear what is playing and don't be afraid to experiment with different volume settings in order to detect the differences they can make in the way the story is heard.

#### THE DSI-RECOMMENDED WORKFLOW

1. Place voiceover narration in an audio track.
2. Begin ordering images into Timeline.
3. Create titles and place into correct position on Timeline.
4. Add Transitions between clips, titles and credits.
5. Add Ken Burns Effect on still photographs.
6. Add a sound track.
7. Add Video FX.
8. Add sound effects.
9. Adjust volume levels of narration, sound track and sound effects.