A Step-by-Step Guide to

Final Cut Pro X

v2.0
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An Introduction to Video Editing:

The process of editing raw footage into a finished program can be a highly creative and rewarding process. To become a truly effective editor, you must develop not only a working knowledge of the video technology, but also an understanding of the art of editing.

At its most basic level, video editing is simply combining portions of pictures and sound from a collection of clips into a single finished clip. During this process, the editor may change the length and order of shots, remove extraneous material, add graphics, visual effects, music, narration, and sound effects. The creative possibilities are endless.

The raw footage you recorded in the field or in the studio will not be altered during the editing process; instead, you'll be creating an entirely new video which contains shots copied from the raw footage. Because of this, you can also use the footage you’ve recorded in other projects if you wish.

What is Non-Linear Editing?

Each time a recording is made on a video camera, it is stored as a unique clip on that camera’s memory card. There might be a single hour-long clip, or several dozen shorter clips on a card. Non-Linear editing is a computer-based process in which that unedited “raw footage” is copied onto “hard drive” storage in the computer.

On a computer, you can quickly access any point of your footage nearly instantaneously. No longer do you have to “fast-forward” or “rewind”; video on a hard drive is completely “non-linear”. This flexibility is highly advantageous for editing, and it makes the process quicker.

Video Editing in 5 Easy Steps:

1) **Copy the raw footage.** Whether you want to use media from a camera, the studio, or even from the Internet--copy it all to your storage device for editing.

2) **Manage your media.** Import clips you want to use. Rename clips to help you identify them later. Use Keyword Tags to mark groups of clips that share similar characteristics. Favorite highlights and Reject useless filler. Create Smart Collections to quickly sort by media types.

3) **Arrange clips into the desired order.** Mark the In/Out Points of each shot you’ll want to use in the finished video. Append them end-to-end on the Magnetic Timeline.

4) **Fine-tune and polish the program.** Add transitions, video effects, titles, graphics, music, narration and more. Customize settings using the Inspector to get results that are both technically and artistically pleasing.

5) **Export the completed program.** Copy a master file over the network to the Playback department for cablecast. Take home a DVD, Blu-Ray, or digital file on an external drive, or even upload your video to YouTube.

The following chapters in this booklet will provide a detailed, visual guide to basic editing skills, and will allow beginners in Final Cut Pro X to start off on the right track! You may also set up an appointment with a MetroEast trainer to get personalized help.
Basic Editing: Hours and Policy

To begin an editing project, you should first contact MetroEast to reserve editing time:

4 MetroEast edit stations are available for your use:

- Monday, Thursday, and Friday  9:00 am - 10:00 pm
- Saturday and Sunday   11:00 am - 9:00 pm

To Reserve editing time, call the Equipment Room at 503-667-8848 ext. 307

- You can reserve up to 5 hours per day and up to 10 hours per week
- You can use additional hours not reserved by someone else, over the 10 hour limit
- Complete the “Producer Activity Form” and pay the annual activity fee before editing.
- MetroEast Staff are always on duty to provide technical and creative assistance.
- MetroEast equipment may only be used for non-commercial programs that will be cablecast on MetroEast channels. Please do not use equipment for personal projects.
- Never plug external drives or other powered sources into the black “UPS” located beneath the editing carts. There is a power strip on the top specifically for that purpose.

Internet Policy:

Each workstation will have access to the Internet. You may use it as part of the editing process only. This may include but is not limited to:

- Spellchecking titles or graphics
- Finding Creative Commons media
- Uploading finished shows to YouTube

If you want to check your email or visit social media sites, you may do so on the public computer in the lobby. MetroEast reserves the right to ask you to leave the edit suite if you are not accomplishing any work, or if there is a queue to use the equipment.

Time Management:

Some actions in Final Cut Pro X may take a substantial amount of time for the computer to perform, such as exporting a finished show, or burning a Blu-ray disc. Many of these actions cannot be cancelled. It is your responsibility to be aware of how much time is left in your editing shift, and when the building closes.

Please use the “Common Tasks” chart on the wall as a guide to deduce how early you will need to start these actions so that you don’t run out of time. The durations listed are estimates and may vary depending on the complexity of your editing project.

NOTE: You no longer have to worry about saving your work in Final Cut Pro X! Each action you make is saved automatically, and FCPX creates regular backups in your SAN directory. Accidental or disliked changes can still be reverted with the “Undo” command. (CMD-Z)
The Hardware

The editing station is easier to use than ever before, including just a few pieces of equipment:

(a) **Computer:** Apple iMac computer. Mounted on a swiveling tray for easy port access.
(b) **Keyboard:** Includes numpad and optional Final Cut Pro X “hotkey” overlay.
(c) **Mouse:** Contains built-in multi-touch surface for scrolling.
(d) **Blu-Ray Burner:** Make archive copies of your shows on optical media.

(Note: You may choose to purchase an external drive to back up your project files, or to make edits at home. We recommend that the drive you buy uses either an E-SATA or a “Thunderbolt” connection; a USB 3.0 connection is satisfactory but not ideal for editing. Back up your data regularly to a physical drive or DVD.)

Headphones are provided upon request; for example, they might be needed if you’re using a shared edit suite and need to make substantial audio edits. Microphones can be checked out from the Equipment Room in order to create high-quality “voice over” narrations (pg. 33).

If you want to work with legacy media, such as DV tapes, MetroEast provides a dubbing station outside of the edit suites that can convert to and from a variety of aging formats. The best way to get older footage into FCPX is to first dub it to DVD, and then read that disc with the iMac’s optical drive. A MetroEast staff member can help you digitize more obscure formats.

Additionally, each edit station benefits from a wall-mounted secondary monitor. This can be used to enlarge particular windows within Final Cut Pro X, such as the Viewer.
Storage Area Network

The Storage Area Network, or SAN, is a new storage solution for your project assets at MetroEast. All of your media will now be stored safely and securely on a server that is connected to the building’s fiber optic network. In a nutshell, this means that MetroEast can now provide remote access to your project files from any editing computer!

The high-speed SAN connection allows you to edit multiple streams of HD video remotely, in real-time. Your media is completely safe stored on the SAN, because it’s built redundantly to store important data in multiple locations. While many of the details will be invisible to you as an editor, you may occasionally need to perform basic media management on your files. Keep in mind that the SAN is not intended as a long-term storage solution, so you will need to regularly back up shows to DVD, Blu-ray, or to a personal external drive.

As an active producer at MetroEast, you will be allocated enough storage space on the SAN to store several shows in HD. You will need to log into your personal account each time you come in to edit. Please see Getting Started (pg. 5) for step-by-step instructions.

Below are your login credentials. A MetroEast staff member will assist you in setting up your account for the first time. You will be able to pick your own password.

   Username: FirstnameLastname  
   Password: UniquePhraseHere

The Finder is the primary file management system on the Mac, and you can open a Finder window by clicking on the “smiling” blue face on the bottom-left corner of the screen.

The SAN itself is listed as a device called “Island” in the Finder. The Island contains a folder called “Clients”, and within that will be a folder with your name on it. All of your projects will be stored within this folder, and only your personal account will have access to it. If your name is literally Bob Test, then the above picture is even more applicable!

NOTE: If you want to hook up an external hard drive to back up your work, you may do so at any time. Adapters can be checked out from the Equipment Room as needed. When an external drive is powered on, an orange icon will appear on the desktop. Double click this to view and organize your files.

From here, you may drag-and-drop folders from the SAN directory to your external drive. For more details, see the chapter on Archiving.
Step-By-Step: Getting Started

After you’ve checked in with the Equipment Room, you will need to do some initial setup:

1) **POWER ON COMPUTER:**
   Swivel the computer counter-clockwise to view the back panel. Push the dime-sized power button as shown to the right. You should hear the iMac “chime” as the computer starts up. It will take a minute to get up and running.

2) **POWER ON OTHER EQUIPMENT:**
   If not already powered-up, turn on the power to the wall-mounted video monitor. The power button is located on the lower right corner of the screen.

3) **LOG INTO USER ACCOUNT:**
   Click the “Other” icon, which will reveal user name and password fields. If you don’t see the “Other” icon, look for a small white arrow and click it. Fill in your info and press return.

   Your user name will typically be formatted as follows: **FirstnameLastname**

4) **LAUNCH FINAL CUT PRO X:**
   To begin editing, simply click the FCPX “clapboard” icon, shown to the right, from the dock at the bottom of the screen.

   You should now see Event Browser, Viewer, and Magnetic Timeline windows (pg. 6) on the computer screen. If you have projects in progress, they may automatically load for your convenience!
Final Cut Pro X Map:

FCPX includes 3 main areas: The **Event Browser**, **Viewer**, and **Magnetic Timeline** windows.
The Interface

Below is a brief description of the function of each of the parts shown on (pg. 6).

a) **EVENT BROWSER:** This window is used access all of the source media you import, such as videos, photos, and music, which will eventually make-up the edited program.

An event is like a folder that contains clips. Reveal the event library to view all of the events that are stored on your drive. You can use the Event Browser and library to sort, rate, add keywords, and otherwise manage your media.

![Event Library Diagram]

b) **VIEWER:** Used for viewing and adjusting elements from either the Event Browser or the Magnetic Timeline. The same picture is shown on the external monitor next to your iMac.

![Viewer Diagram]

**NOTE:** In FCPX, the Viewer is now context-sensitive, based on whether media from an Event or a Project is selected. The position of the Skimmer determines what is shown. Your Viewer may also be displayed on the secondary monitor in your suite.
The Interface

Below is a brief description of the function of each of the parts shown on (pg. 6).

c) MAGNETIC TIMELINE: This window is where you create your program by adding and arranging clips and making all your edits. The Timeline is designed to “magnetically” rearrange itself as clips are added or adjusted, which helps everything fit into place.

The *primary storyline* is the main sequence of clips that you build to create your program. *Connected clips*, such as cutaways, titles, and music, are attached to the primary storyline and will “follow” it if any rearrangements are required by incoming clips.

**NOTE:** Working in the Magnetic Timeline is a huge departure from the method of editing in older versions of Final Cut Pro. The concept of video “tracks” has been scrapped, and in its place is a clip-based system.

Think of the change like driving on a highway. Before, you had 4+ lanes of traffic that constantly merged and caused accidents. Now, you’re in a single lane that flows smoothly, and all of the cars speed up and slow down together.

You can easily customize your workspace in FCPX. Simply hover your mouse cursor over the edge of a window, then click and drag to resize it.

Your cursor will change to look like this (pictured left).

The second monitor in your editing suite can be set up to display the Viewer on its entire screen. To do this, select the Window menu, then choose “Show Viewers on Second Display”.

This is a fantastic way to work on high-definition projects because you will have more screen real estate to work with and videos can be scrutinized in a much larger area. As a result, you will become a more efficient, and more effective editor.
Step-By-Step: Events and Projects

When you first start editing, you’ll need to create an Event and a Project.

An EVENT is a place for you to collect and sort your media. Events display the media that has been added to them in the Event Browser.

A PROJECT is where you will edit your media to construct videos. The Timeline window shows editing decisions made for each project.

1) CREATE AN EVENT
Right-click the “globe” SAN icon in the event library, and choose ‘New Event’. A purple box with a star will appear: that icon represents a single event.

2) NAME YOUR EVENT
New events by default are assigned the day’s date as their name, but their text is automatically highlighted. Type in a name that corresponds to the video you’re working on. It’s a good idea to be specific with this so that you will instantly recognize it. You may still include a date.

3) CREATE A PROJECT
Click on the project library icon in the bottom-left corner of the Timeline, to open it up. Right-click the “globe” SAN icon and select ‘New Project’.

4) SET UP YOUR PROJECT
A large box will appear in the center of the screen. You can click the ‘Use Custom Settings’ button to see more options. Recommended settings are as follows:

- **Event Icon**
- **Project Library**
- **Make sure the project matches the event!**
- **Click OK**
Step-By-Step: Archiving

NOTE: If this is your first project in Final Cut Pro X, you may skip this chapter. If you are archiving for the first time, please ask a MetroEast staff member for assistance.

Each time FCPX is opened, it will attempt to load all of your events and projects into memory so that you can quickly access them. This isn’t always necessary, as you will usually only work with a single event and project at a time. Additionally, having them all open together will slow the computer down, especially as you build up a collection of shows.

When you create an event and/or a project, FCPX automatically generates folders in which to store all of the media you’ll be using. Each event and project will have its own folder within this structure, and imported media will be copied to those folders. These are stored on the SAN.

Archiving is the process of relocating your media outside of the expected file structure on a temporary basis, so that FCPX will not automatically load old shows.

To archive your media, follow these steps:

1) **CLOSE FCPX**
   Click on the bold Final Cut Pro menu in the top-left corner of the screen and choose ‘Quit Final Cut Pro’.

2) **OPEN THE FINDER**
   Click on the “smiling” Finder located in the dock on the bottom-left corner of your screen.

3) **SELECT YOUR MEDIA FOLDER**
   Click on the “globe” SAN icon located on the left-hand column of the Finder under ‘Devices’. Double-click the folder named “Clients”, and you should see a list of names. Find your name and double-click that folder.

4) **CREATE NEW FOLDERS**
   Enable column view. Then click on the gear icon from the toolbar at the top of the finder window. Select ‘New Folder’. Name it *Final Cut Events Archive*. Create a second folder named *Final Cut Projects Archive*.

5) **COPY YOUR FOLDERS**
   Select your *Final Cut Events* folder. From there, drag-and-drop any old, finished shows into the *Final Cut Events Archive* folder. Similarly, drag-and-drop old shows from the *Final Cut Projects* folder into the *Final Cut Projects Archive* folder.

Check out metroteast.org for video tutorials!
Step-By-Step: Importing

In order to review footage that you will begin editing, you must first import it into FCPX.

1) OPEN THE MEDIA IMPORT WINDOW
   Before you add media to the Event Browser, it will simply show an ‘Import Media’ icon. Click this to enter the media import window. Make sure the correct event is selected!

2) SELECT YOUR DEVICE
   Most of the time, you will be importing videos that were previously stored in your SAN directory. Simply click on the “globe” SAN icon from the area labeled ‘Devices’ on the left-hand column.

3) PREVIEW AND SELECT MEDIA
   The bottom portion of the screen will now display a list of files and folders. Navigate to where your new incoming media is stored. To pick and choose which clips you intend to import, hold the command key (⌘) and click each one. To select all of the clips within the folder, click one, then type command-A.
Step-By-Step: Importing

4) **CLICK ‘IMPORT SELECTED’**
   Click the blue button in the bottom-right corner to import.

5) **CHOOSE SETTINGS**
   A new window will open that displays various import settings and checkboxes. Depending on the format, duration, or complexity of your media, some of these settings may need to be changed to enhance your editing experience. You don’t have to worry about everything now, because you will always have the opportunity to make changes later.

   The most common settings that you can use for your imported footage are shown below:

   ![Import Settings Window]

   - **Add to existing event:** Alpine Slide
   - **Organizing:**
     - Copy files to Final Cut Events folder
     - Import folders as Keyword Collections
   - **Transcoding:**
     - Create optimized media
     - Create proxy media
   - **Video:**
     - Remove pulldown
     - Analyze for balance color
     - Find people
     - Consolidate find people results
     - Create Smart Collections after analysis
   - **Audio:**
     - Analyze and fix audio problems
     - Separate mono and group stereo audio
     - Remove silent channels
   - **Save to:** Macintosh HD (152.6 GB free)

   - **Consolidate media in a single folder on the SAN**
   - **OPTIONAL:** Create low-quality media for better performance (particularly in larger, complex projects)
   - **Automatic fixes:** typically better if done manually
   - **Click when finished**

   ![Background Tasks Window]

   **NOTE:** Any time that you choose to import, transcode and/or analyze footage, Final Cut Pro X will complete those tasks in the background. The computer will be working hard and overall performance may temporarily slow down until the task finishes, as you’re editing.

   You can check the status of each process by opening the Background Tasks window. Click on the Background Tasks button in the toolbar to open it and manage your tasks.
Step-By-Step: Identifying Media

With all of your footage now imported and sorted into smart collections, the next step is to identify everything. Raw media from a camera is typically assigned a name automatically, using a series of letters and numbers. Assigning recognizable names to clips helps you keep order in your project and lets you know what you’re working with.

From there, you will break your media into smaller segments to use in the finished program. The idea here is to find the best, most interesting nuggets of the footage you’ve shot and to highlight them in your show. You can Favorite or Reject clips (or portions of clips) to tell FCPX how important that media is for your project. These ratings inform what is displayed in the Event Browser, even within smart collections (pg. 16)!

The following steps demonstrate how to identify your media:

1) **NAME YOUR FOOTAGE**
   In the Event Browser, click on the name below each clip to highlight it in blue. You may now type a name.

2) **SKIM FILMSTRIP**
   Move your mouse left or right over a clip to “skim” it; the pink vertical line shown is called the skimmer. A video preview is shown in the large Viewer window to the right. If you are working with a longer video clip, you may drag the duration slider to the left, in order to magnify the “filmstrip” you are currently skimming.

3) **HIGHLIGHT A RANGE**
   When you have found an appropriate clip to use, you can set a range one of two ways:
   
   a) Click it to highlight the entire clip.  **-OR-**  
   b) Click and drag the mouse to select just a portion of the clip, using the skimmer to help!
Step-By-Step: Identifying Media

4) RATE SELECTIONS
With a range highlighted in yellow, choose the appropriate option:

a) FAVORITE
Click on the green star in the toolbar, or press the letter F.

Favorited clips display a green bar at the top of the selected range. A single clip can be favorited in multiple areas at once.

If the range is deselected, simply click on the green favorite bar to select it again.

b) REJECT
Click on the red “X” in the toolbar, or press the delete key.

Rejected clips display a red bar at the top of the selected range.

c) REMOVE RATING
If you want to remove ratings from a selection, click on the hollow white star in the toolbar or press the letter U.

5) ENABLE FILTERS
Once you’ve rated clips as favorites or rejects, you can filter them within the Event Browser. This will narrow down what an event or smart collection displays, and can be changed at will to suit your needs. Click on “All Clips” in the top-left corner to reveal options:

Choose a filter. “All Clips” shows everything in the event or smart collection regardless of ratings.

NOTE: Using keywords (pg. 15) is an additional way to organize your media in FCPX. Keywords can sort media based on things the computer can’t recognize on its own, such as the who, what, or where of a recording.
Step-By-Step: Keyword Collections

Final Cut Pro X has made leaps and bounds in the way it sorts and manages media. This organization is vital, as it allows you to find what you’re looking for quickly and easily. During the process of identifying and rating your media, you may wish to use an additional sorting method to “clean up” your Browser window and make the process of editing much more manageable—especially once you’re working with a large quantity of clips.

*Keyword Collections* allow you to create a custom word or phrase and “tag” it to any clips that you choose in the Browser. Although there are ways for the computer to automatically try to sort your media for you, there are some things that it just can’t determine on its own, such as who is in a video, or the location where something was recorded.

Here’s how to manage keywords:

1) **CREATE A COLLECTION**
   Right-click on the event icon, and choose ‘New Keyword Collection’ from the popup box.

2) **GIVE IT A NAME**
   The collection will appear with a default name of ‘Untitled’. Type a name over the blue text and press return.

3) **ADD CLIPS**
   Select a clip in your Browser that you’d like to add to the new keyword collection, or highlight a range of a clip. To add multiple clips at once, hold the command key and left-click each one to select them all.

   Now, drag-and-drop the selections to the keyword in the Event Library.

   Notice that there is now a blue line at the top of the clips that you’ve tagged. If you can’t find “un-tagged” clips, simply select the event again to see everything.

   You can tag a clip with as many keywords as you want! To identify which keywords are already applied to a clip, select it and click on the “key” icon in the toolbar to open the Keyword Editor window.

   At the top are keywords listed in blue. You can type new keywords here to easily create and tag new collections instantly! If you wish to use hotkeys to tag clips later, drag-and-drop a keyword to a shortcut slot below. The (^) symbol indicates to hold the control key. So for example, to apply “Lobby”, use control+6.
Step-By-Step: Smart Collections

While keyword collections will give you a huge amount of control over your media, they have a disadvantage in that you constantly need to apply keywords to newly imported clips.

*Smart Collections* will automatically sort your media within the Event Browser based on customizable filters. With a smart collection selected, the Event Browser will only show its filtered media, and everything else will be hidden from view. This translates into a much cleaner workspace, and makes projects easier to manage over time. Additionally, smart collections can be created *before or after* media is imported into an event; the filters are dynamic, and media will be sorted in either scenario.

Follow these steps to customize a new smart collection:

1) **CREATE A COLLECTION**
   Right-click on the event icon, and choose ‘New Smart Collection’ from the popup box.

2) **GIVE IT A NAME**
   The collection will appear with a default name of ‘Untitled’. Type a name over the blue text and press return.

3) **SELECT FILTERS**
   Double-click your new smart collection to open the Filter window. Click on the plus icon in the top-right corner. Here you can choose the filters that will determine what your smart collections display. In the example below, Media has been selected, and customizable rules have been set so that it will only display stills in the Event Browser. Multiple criteria may be added to a smart collection if required, and will consequentially narrow results even further.
Congratulations, you’re ready to edit! All of the media that you’ve compiled can now be arranged on the Magnetic Timeline to make up your finished program. This is a highly subjective art, and brings out the creativity in editors! Two editors using the same media will create two unique and personalized shows.

The best way to approach editing is to start with basic techniques, so that you will have a solid foundation of understanding. Final Cut Pro X has a plethora of bells and whistles that can enhance the look and feel of a show, but little of that matters if the content isn’t assembled in a way that makes sense and that keeps the attention of your viewing audience.

The first step in nearly every project is to determine the order in which your clips need to appear on the Timeline. This may be chronologically, or in any order of your choosing. As they’re added to the project, clips will be stitched together, end-to-end, so that they play sequentially in the final program. Consider this arrangement like a rough draft; you will always have the opportunity to reorder the clips if necessary.

The following steps show you how to add clips to the Timeline:

1) SELECT A CLIP
   In the Event Browser, click once to highlight a clip, or click and drag to highlight a portion of a clip.

2) CHOOSE ATTACHMENT METHOD
   a) APPEND — Click on the append icon shown to the right, which is found in the toolbar. This will simply attach a selected clip to the end of the primary storyline. HOTKEY: “E”.

   ![Before and After Screenshot of Append Attachment Method]
Step-By-Step: Assembling Clips

b) INSERT — Click on the insert icon shown to the right, which is found in the toolbar. This will split and move forward any clips in the way of the incoming clip, at the position of the playhead. HOTKEY: “W”

![Before](image1.png)  ![After](image2.png)

“Split” Point  Inserted Clip

Original Clip Fragments

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c) CONNECT — Click on the connect icon. This will attach incoming clips to the media on the primary storyline, at the position of the playhead. Connected clips will remain attached with a “tail” until specifically removed. HOTKEY: “Q”

![Before](image3.png)  ![After](image4.png)

Connection “Tail”  Inserted Clip
Simple Edits

You may rearrange clips on your Timeline even after they’ve been added from the Event Browser. The easiest way to do this is by using the “drag-and-drop” method.

MOVING CLIPS
Click and drag the clip left or right:

Notice that connected clips follow the clip they’re attached to, as it’s moved around the Timeline. This ensures that your edits don’t become desynchronized as you reorder clips!

Sometimes a clip you’ve added to your Timeline has extraneous footage on the front or back that needs to be trimmed. While this can be done beforehand in the Event Browser (pg. 13), it may be easier to make editing decisions within the context of what’s already on the Timeline. The choice is up to you!

TRIMMING CLIPS
Hover over the edge of a clip, and your “arrow” cursor will morph into the trim icon.

Click and drag left or right to shorten or extend a clip on the Timeline. The numbers shown represent the total duration and change in duration (+/-) for the clip that’s currently being trimmed.

Typically, it’s easier to shorten a clip, because you can always “take away” media that’s there. You won’t always be able to extend clips, simply because you may reach the end of what was actually recorded! Title templates (pg. 23) can also be shortened or extended just like a video, but they have no “maximum” length. Additionally, their animations will automatically scale to fit.

DELETING CLIPS
Select a clip on the Timeline with the mouse, and hit the “big” delete key on the keyboard to remove it and close the “gap”. Or, you may leave a gap behind with the “little” delete key.

NOTE: One of the most difficult skills to learn as an editor is how to know when to cut content. Long, extended shots tend to leave the television viewer wanting more variety; sometimes a tighter edit can make all the difference in the world. You’re in good shape if you have more footage to choose from than you actually need for your project.
Watching Your Work

It’s a good idea to “play” your Timeline now and again as you add clips to it, to get a sense of the pacing of the program, and whether you’ve placed clips in the best order.

The position of the “playhead”, a white vertical line on the Timeline, determines where the video will begin to play. You can reposition the playhead by moving the pink “skimmer” line to a new area and left-clicking in the dark gray area above a clip. The skimmer follows the mouse.

Click the triangular button on the bottom of the Viewer to play the video forward from the playhead’s position. The surrounding buttons will move the playhead back or forward on the Timeline by a single “edit point”: an area where a clip ends or two clips touch.

HANDY KEYBOARD SHORTCUTS

Play/Pause  
Next Frame  
Jump to Start

Spacebar  
Play in Reverse

Next Edit Point  
Previous Edit Point

Previous Frame  
Jump to End
Step-By-Step: Applying Transitions

A transition is a point where one clip ends, and the next begins. The vast majority of transitions in television and films are cuts—instantly switching from one clip to another in a single frame. Cuts happen on the Timeline automatically when clips are end-to-end, but they aren’t appropriate for every situation. Other transitions can smooth rough edges out, such as the cross dissolve—fading one clip out while the other fades in. Cross dissolves and other fancier transitions can be used to set the pacing, mood, or theme of the video.

Applying transitions in Final Cut Pro X is easier than ever before:

1) SELECT AN EDIT POINT
An edit point is where one clip ends, or two clips meet on the Timeline. Left-click an edit point and a yellow or red bracket will appear.

2) OPEN THE TRANSITIONS BROWSER
Click on the “bow tie” icon in the toolbar to open the browser. Other effects browsers will close to make room for it.

3) PICK A CATEGORY
The left side of the browser lists categories of transitions to make it easier to find what you want quickly. You can also use the search bar at the bottom to find a specific transition, but don’t forget to clear it when done or your options will remain limited to the search query.

4) CHOOSE A TRANSITION
“Skim” over the transitions with your mouse to preview them until you find one that you like. Then, double-click that one!

NOTE: If you get a warning like the one to the right (VERY common), don’t worry!

Click “Create Transition” to automatically adjust the clips to transition properly.

To the right is the transition applied to an edit point between two clips. You may alter the duration of the transition by hovering over the left or right lower edge until the cursor changes to the icon shown, then drag left or right.

Also: because video enters the Timeline with audio embedded within it, this means that audio caught in a video transition will smoothly “cross fade” along with the video. How convenient!
Creating Graphics for Your Video:

The quality of graphics in your program can be the difference between a program which is “Ho-hum” and one that grabs the viewer. Graphics can fill-in important details for the viewer that don’t appear in scenes recorded with the camera, can help the viewer identify persons or objects, and clarify information. They can also add greatly to the visual style of the program.

Final Cut Pro X comes stocked with dozens of premade templates for creating titles. They allow you to quickly create graphic elements with a variety of customizable options. The templates range from simple “Lower-third” graphics (often used to place a name and title across the bottom of the screen) to more elaborate animated themes, such as the “Far Far Away” stylized credit roll (shown right).

Each template allows you to modify basic attributes such as fonts, sizes, and colors, as well as offering special options specific to the template. Additional options add to the sophistication of the graphics, including the use of “Gradient” blends of color, “Outlines”, “Glows”, and “Drop Shadows”. These tools can create titles which can be superimposed over video clips, or displayed over still images or solid color backgrounds.

Final Cut Pro X also makes it very easy to incorporate other graphic elements into your program. For example, the software will recognize the most popular image formats that you throw at it, such as pictures that you’ve taken with a smartphone. This makes it simple to add photos, clip art, maps, and charts to your video. If you use another program for creating graphics -- Photoshop, Power Point, Illustrator, etc. -- Final Cut Pro X will work with them, not against them.

Creating Graphics in 5 Easy Steps:

1) **Select the “Titles Browser”**. You will find the Titles Browser icon in the toolbar on the right-hand side. Decide which of the categories fits the kind of graphic you wish to make and choose a template to use.

2) **Drag the Graphic to the Timeline**. Grab the thumbnail for the template you chose in step 1 above and drag it onto the Timeline. If you wish to superimpose it over a video clip, drag it ABOVE the desired clip.

3) **Load Into the “Viewer”**. Left-click just above the graphic clip that you’ve placed on the Timeline -- this will set the playhead (white vertical line) directly over it. Next, click on the graphic itself to highlighted it in yellow.

4) **Enter the Text**. In the Viewer, Double-click on the text you wish to modify. The text will become highlighted in purple, and you can immediately type something new.

5) **Modify Properties in the “Inspector”**. The Inspector icon is near the Titles Browser icon in the toolbar. Once opened, in the “Text” tab at the top, you may modify options such as font, size, and color. Because you set the playhead over the graphic in step 3 above, you will be able to immediately see changes as you make them!
Step-By-Step: Creating a Simple Title

To create a quick, but not very elaborate graphic:

1) **OPEN TITLES BROWSER**
   Click on the “T” icon located near the right side of the toolbar. Other effects browsers, if open, will hide in order to conserve room on the Timeline.

2) **PICK A CATEGORY**
   On the left side of the Titles Browser, select the category that best fits what you’re trying to accomplish. Alternatively, if you know exactly what you want, use the search bar at the bottom of the Titles Browser. Be sure to clear the search bar with the icon when done!

3) **CHOOSE A TEMPLATE**
   Move your mouse over a template that looks appealing. A pink vertical bar called the skimmer will appear on it. As the skimmer moves left or right, a preview of the title template will be shown on the thumbnail itself and in the Viewer window. Click to select and highlight the template.

**NOTE:** The backgrounds of many templates will appear black in the titles browser, but that will disappear once the title is added to the Timeline. These “Alpha Channels” are fully transparent, and allow the titles to be composites with media below them on the Timeline.
Step-By-Step: Creating a Simple Title

4) ADD TO TIMELINE
Drag-and-drop your highlighted title onto the Timeline. If you plan to layer the text over video, you’ll need to add it ABOVE the primary storyline as a connected clip (pg. 18). Otherwise, if added directly to the primary storyline, the background of the title will remain black. This is sometimes desired for “movie-style” credit rolls.

![Image of Timeline with title and primary storyline]

A yellow vertical line indicates that two “edit points” (clip edges) are flush.

NOTE: Snapping is a feature in FCPX that “magnetizes” edit points, markers, keyframes, and more on the Timeline. What this means is that when you add, move, or resize a clip, it will automatically try to “line up” with nearby objects!

While normally left on, this can be toggled on or off for frame-accurate movements using the icon in the top-right corner of the Timeline (shown at right).

5) MOVE THE PLAYHEAD
Left-click the mouse in the gray area to intersect the playhead with your title. Click on the title to highlight it in yellow.

![Image of playhead intersecting with title]

6) SELECT TEXT IN VIEWER
You should now see the default text from your title in the Viewer window. Each template differs, but you will typically see the words “title”, “subtitle”, and others that correspond to areas that are editable. Double-click on an area to highlight it in purple.

7) FILL IN YOUR WORDS
Type directly into the Viewer! Depending on whether or not the transition is animated, you may have to reposition the playhead on the Timeline in order to display all of the editable areas of the template.

Double-click the other areas of default text to change them, or you can simply delete the text instead.
Customizing Titles

It’s easy to modify templates to make your video stand out from others! Final Cut Pro X provides a large amount of control over what can be done to the text itself.

With your title highlighted in yellow, open the inspector on the right side of the toolbar to make modifications:

One of the secrets to creating effective titles is to use contrast to your advantage. The following title template categories will help your text stand out more:

a) FACE — Change your font color here so that it doesn’t vanish into the background.

Color, in television terms, has 3 properties: Hue (the color), Saturation (whether the color is vivid or pastel) and Brightness (how light or dark). When selecting a color, you may wish to favor hues which are “cool” (blue or green) over “warm” tones (red, magenta).

Regarding saturation, it’s usually a good idea to keep the saturation turned down below maximum, especially if you’ve selected a warm color. When using white letters, keep brightness values less than 90% of maximum.
Customizing Titles

b) OUTLINE/GLOW — Add a border to the font to protect it from changing backgrounds.

Try to pick an outline color that contrasts in brightness from the font color. This will ensure that in light or dark scenes, your titles will still be visible. The width slider determines the thickness of the outline. Glow works similarly and can add another soft border to the text.

In the extreme example to the right, the text reads well in both the dark and light areas—all in one shot!

c) DROP SHADOW — Use a 3-dimensional shadow effect to make the text really pop!

A drop shadow will further set the text apart from its background by creating the illusion of a 3-D title on the video. We can once again adjust color, opacity, blur, and more. Keep in mind that each of these categories that we’ve been working with have been incrementally adding depth and texture to the original template.

Compare the two titles below:

How To “Remember” Template Settings

If you’ve found the perfect combination of colors, fonts, etc. but you DON’T want to have to recreate it every time, do this! Click on “Normal” at the top of the title options in the Inspector to open up the list of preset styles. Select “Save All Basic+Style Attributes”, then type a name for the new preset. Your custom style can now be used on any title template you wish!

If you want to quickly reuse a custom title in your Timeline, it’s easy. Hold down the Option key and move a title to clone it! Now all you have to do is change the text. Hey... you know how to do that!
A Few Words on Style:

No matter the sophistication of Final Cut Pro X, it’s still possible to produce hideously ugly graphics. Here are a few rules of thumb to keep in mind:

Keep it Simple:
Pick one or two (maybe three) fonts and colors and stick with them throughout the production. Too simple may be just as bad; page after page of one color, one size, and one font becomes visually monotonous.

When choosing fonts, pick one which is a little more fancy for titles and guest names, and another that is more plain for body text, guest titles, etc.

Don’t try to pack too much information on the screen at one time. Better to make 2 or 3 separate pages than to squeeze the entire encyclopedia on screen.

Check the Spelling:
Nothing will undermine the credibility of your show faster that poor spelling in the credits. Also, nothing will tick off a guest more than seeing that you didn’t spell her name correctly.

Don’t Crowd the Edges:
Allow at least a 10% border around the edges of the picture where you don’t place any text. Some TVs will chop off the edges of text that is too near the edges.

You can turn on some overlays to help you with this by clicking on the light switch in the upper-right hand corner of the Viewer window, and selecting “Show Title/Action Safe Zones”.

This will display two yellow boxes superimposed on videos playing in the Viewer. When adjusting titles, keep all text inside of the inner box. The boxes won’t be visible when the program is exported.

Mix It Up:
Your graphics will look more balanced if you mix different sizes, colors, and styles of text on a page. Compare the titles below:

MetroEast Presents The Basic Editing Workshop 9/26/18

MetroEast Presents The Basic Editing Workshop 9/26/18

A little effort can go a long way to give a project personality and to develop your editing style.
Step-By-Step: Adding Effects

Adding visual and audio effects to your program is an excellent way to grab the attention of the viewer. If used with some restraint and an understanding of when they are appropriate and when they might be merely distracting, effects can be a powerful tool.

To apply a filter to media on the Timeline, follow these steps:

1) SELECT THE CLIP
   Left-click on the clip on your Timeline to highlight it in yellow.

2) OPEN THE EFFECTS BROWSER
   Select the icon in the toolbar.

3) PICK A CATEGORY
   Decide which category best fits what you’re trying to accomplish. If you already know what you want, but don’t know where to find it, use the search box at the bottom. Remember to clear the search when you’re done, otherwise your results will stay limited to the query.

Notice that there are two main categories: Video and Audio. Sub-categories will display a list of effects to the right. You can scroll down the list by rolling your mouse wheel while hovering over it.

4) CHOOSE A FILTER
   Hover your mouse over filters to “skim” and preview them in both the thumbnail and Viewer window. When you’re satisfied with your choice, double-click the filter!

5) MOVE THE PLAYHEAD
   Left-click the mouse in the dark gray area above your clip on the Timeline. This will place the playhead over it and allow you to see the result of the effect in the Viewer.
Modifying Effects

Effects will often need to be adjusted before they will match your video perfectly. Although each effect has unique settings, if you learn the basics you’ll be able to work with any of them.

Select the clip and move the playhead over it. Now you’ll be able to see changes in real-time. Open the inspector to the right of the toolbar to make modifications. The best advice is to experiment until you get the look that you imagine!

Audio Filters
There are many fun audio filters that are meant to stylize clips, such as the “Alien” voice, but audio filters are often used to correct bad audio. While flawless audio will only be recorded with a careful approach to setup and production, there are many tricks to fixing hums, buzzes, or even inconsistent dynamics. Try applying the “Compressor” audio filter to a vocal track to see how it affects them! As always, play around with settings until it just “feels” right.

NOTE: Some effects are too complex for the computer to play in real-time at full quality. If you see an orange line above a clip on the Timeline, that section will play at a reduced resolution until it can be “Rendered”.

Rendering pre-processes and “flattens” the effect on the clip so that the computer will no longer hiccup when the video is played. FCPX will attempt to render things in the background if the iMac is left inactive. You can manually start a render too! (HOTKEY: ^R)
The Importance of Audio:

Although we tend to think of television as a visual medium, it’s difficult to overstate the importance of sound in impact of the program; if the audio is difficult to hear or unintelligible, most viewers won’t stay tuned, no matter how great the pictures.

Similarly, if you really think about the way you “watch” television, you may conclude that most of the information you take away from the shows comes from what you hear, and not what you see. Still, most video producers don’t pay as much attention to the sound in their programs as they do to the visual elements.

The Goals of Audio Production:

When editing your programs, you should keep in mind two related objectives for your sound:

1) **The Artistic.** This is the more obvious goal of “making your program sound good.” That is, using your ears to balance the various sound elements. For example, if you are mixing together a clip of someone speaking with a music track, you must be careful to adjust the volume of the music so that it doesn’t drown-out the talking.

2) **The Technical.** This goal aims to keep volume levels within a certain loudness range. If you let your sound levels fall too low (quiet), the viewer will have to turn up their TV to hear the program, and when they do they will hear extra electronic “noise” like buzz, hiss, and hum. If your volume is too high (loud), the sound will become distorted and difficult to understand.

   To help with these adjustments, Final Cut Pro X is equipped with a “VU Meter” (volume units) that provides a visual display of the volume, and a set of controls to increase or decrease the volume of the sound compared to the level at which it was originally recorded.

The Elements:

1) **Audio Tracks.** When one audio “clip” is connected directly below another, you’ll hear both at the same time, unlike the video tracks in which the clip on the highest track becomes “dominant” and covers video clips on lower tracks.

2) **Clips from a Camcorder.** Most video cameras have the capability of recording two separate audio “channels” simultaneously. That is, you can plug 2 microphones into the camera, and the sound from each is recorded to separate areas of the card. This lets you change the volume of one channel without affecting the other.

3) **Music, Narration, and Sound Effects.** FCPX can incorporate sound you didn’t record with the camcorder from the Internet, Audio CDs, or a Microphone. MetroEast has a comprehensive library of background music and sound effects available for your use.

**NOTE:** If you are going to use video, music, sound effects, writing, or any other form of media from the Internet, please make sure that you have written permission from the author or license to do so.

Creative Commons is a great resource for free online media: [http://creativecommons.org](http://creativecommons.org)
Basic Audio Controls

Most of the adjustment of audio levels takes place on the Timeline. Each clip, and each “channel” of a clip can be controlled independently of the others.

a) Audio Meter. Just to the right of the Timeline, the Audio “VU” (Volume Units) Meter provides a visual read-out of the volume of the clips as they play on the Timeline. The louder the sound, the higher-up the number scale the display bounces.

The ideal volume (least noise or distortion) is at about -20dB on the scale, about half-way up. Since the volume of most clips varies -- some parts a little louder and some parts less loud -- your goal should be to adjust the clips so that the average “peak” doesn’t stray too far from about -20dB.

The VU meter shows the combined volume of ALL of the Timeline audio clips. So, if you set a level for one clip, and then connect another just below, the combined level will likely be too loud on the meter.

b) Audio Faders. In many cases, you may find that you want one clip to be louder, or another to be quieter. “Audio Faders”, also known as “Audio Rubber Bands”, let you easily adjust the volume of a clip. You can drag the fader bar up or down to uniformly raise or lower the volume level. While your cursor hovers over the fader bar, a black pop-up box will be displayed that shows you the current dB level.

An audio waveform is a “squiggly” visual representation of volume levels (vertically) over time (horizontally). In FCPX, waveforms are shown on every clip that contains audio data!

Blue peaks indicate an ideal volume level. If you see any yellow or red peaks in your waveform, this means that the sound is too loud, and will sound “crunchy” and distorted!

c) Fade Handles. To easily create audio fade-ins and fade-outs, hover your mouse over the top-left or top-right hand corner of the audio waveform, and your cursor will change into a double triangle icon shown at right.

Click and drag inward in to create a curved fade. You can decide how long the fade will take; the longer you stretch the fade handle, the slower the volume will fade in or out!
Using Music

Music is a basic element of most video productions. It can help to establish a mood for the program, and provide background for titles or video clips that don’t include much sound.

MetroEast has a library of music on the SAN available for your use in productions, including thousands of songs of virtually every style. MetroEast pays an annual fee for the license to cablecast these songs. Copyright law prohibits you from using music from your own private collection unless you secure permission from the copyright owner.

Music, sound effects, voice overs (pg. 33) and other clips without video will appear on the Timeline as green bars.

The audio waveform will still show up as a “squiggly” green line throughout the clip.

When music is added as a connected clip, you may find that it drowns out other more important audio on the Timeline. To remedy this, a good starting point for most music that will be layered with other elements is -20dB.

But what if you want to change the volume on just a portion of the song? By using the Range Selection tool, found by clicking the blue arrow in the toolbar, you can highlight a particular area to work on. Consider the example below.

This project contains a short introduction followed by an interview; we need to make the music quieter when the interview clip starts.

When the rubber band is lowered only in the selected range, the music fades to a quieter level.
Voice Over Setup

Sometimes it’s necessary to add a recording of your voice to the Timeline, in case additional information needs to be conveyed to the audience. For example, this can be done when creating a promo for your show, to allow you to speak directly to viewers and grab their attention. Voice overs, or V/Os, can also be used for narrative purposes, such as if a character’s thoughts play an important role in a story.

To record a V/O in an editing suite, you must first check out and setup some additional equipment from the Equipment Room:

- **HEADPHONES**
  To ensure that your recording is “artistically” sound, a pair of headphones will allow you to monitor the quality of your recording, and also to follow sound cues!

- **EXTERNAL MIC**
  The equipment room contains many different types of microphones, but one that excels at recording the human voice is the Shure SM58.

- **USB CONVERTER**
  Shure also makes a nifty XLR-to-USB signal adapter called the X2u that records clean, digital sound.

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**Step-by-step Setup**

1. **Plug the microphone into this end.**
2. **Plug the USB Type B connector into this end.**
3. **Headphones Port**
4. **USB ports**
5. **Mic Gain**
6. **Completed Setup**
Before you record a voice over, it often helps to know what you want to say before you start. Write a script and practice it in advance of recording, so that you know approximately how long it will take to speak it. Keep your script flat on the edit cart if possible to avoid rustling paper being picked up by the microphone. You could also pull the script up on the secondary monitor located in each room, or even on your smartphone!

The following steps demonstrate how to record a voice over:

1) **OPEN RECORDER**
   In the Window menu at the top of the screen, select *Record Audio* to open up the voice over utility.

2) **SELECT INPUT**
   Click on the field labeled *Input Device* and choose *Shure Digital*. Then, select *Stereo* from the submenu.

3) **SILENCE AUDIO**
   You may either wear headphones or press the mute button on your keyboard. This will prevent echoes.

4) **TEST MICROPHONE**
   Read through the first few sentences of your script while simultaneously adjusting the Gain dial on the X2u (pg. 33). Try to target the average VU meter “peaks” around -20dB.

5) **RECORD**
   Press the red record button to begin. Take a moment to compose yourself, and speak slowly and clearly into the microphone. Pause when you need to; say a line a second or third time. You can always trim a clip (pg. 19) and remove unwanted sections later. The red button will also stop the recording.

Your completed voice over will appear on the Timeline as a green connected clip, at the position of the playhead. It will also be added to your browser.
Once you’ve finished the program—arranged and trimmed all the clips, adjusted audio levels, added music and narration, and added graphics—you’re ready to get your video “out of the computer”. Watch it through one last time to catch any major mistakes, or have a friend help if you need a fresh set of eyes.

To export your project for playback:

1) **CHOOSE A SHARE DESTINATION**
   On the far right of the toolbar, click the “Share Project” button, then select “Master File”. This will export a very high-quality video suitable for the playback department.

   Other destinations on the list may be used for creating archives of your show, or for sharing it with friends and family—but submitting a program to be cablecast is your first goal.

2) **VERIFY THE INFO**
   A screen will pop up that contains detailed information, or metadata, about the program. The “Settings” tab at the top allows you to change advanced options such as the video codec, but it’s typically unnecessary to visit that window.

3) **SAVE IT**
   Click “Next” to open a window that will prompt you for a save destination. You may want to create a folder on your device specifically for exports. Make sure that you have more than enough space on your drive before starting the export, because HD files can be quite large! Also, please start exports with enough time left on your edit reservation to complete them.

4) **TRANSFER TO THE SAN**
   On your desktop is a shortcut to a networked folder called “Client Delivery”. Drag-and-drop your completed file to that location. Please see a staff member before you do this.
The Art of Editing:

While this workshop focuses a great deal on the technology of editing, the most important skill an Editor must acquire is an understanding of the “language” of television. This includes subjects such as continuity, pacing, and the use of music and graphics.

Much of your success in editing will depend on the quality of your footage. That is, many of your “editing” decisions are made with a camera, not in the edit room. When shooting, try to remember 2 important points:

1) Develop a rough plan as you shoot for how each shot will fit with another.
2) Give yourself plenty of options. Try to shoot each subject from several angles: Wide, medium, and tight. If you’re shooting someone performing an action, ask them to repeat it several times while you shoot from various distances.

Continuity:
One of the most basic tenets of editing is avoiding cuts which unintentionally confuse or startle the audience. A good edit is one which moves the story (or interview or music video) along without drawing attention to itself; that is, the best edit may be one which isn’t noticed by the viewer.

One important principle of achieving this goal is called continuity. Continuity simply means that action or dialogue continues seamlessly from one shot to the next. Continuity can be divided into at least 3 separate categories:

1) ACTION: Activity occurring before the cut should continue at the same point after the cut. For example, when cutting from a wide shot to a tight shot of a man reaching for a doorknob, his hand should be the same distance from the knob, moving toward it at the same speed at the transition point.

Also, any ideas being expressed in one shot should be continued in the next. Jumping from subject to subject will confound the audience.

2) DIRECTION: Persons or objects moving across the screen should continue in the same direction after the edit.

3) PACING: The length of each shot should remain roughly consistent during a scene. Don’t cut together long, slowly paced material with quick cutaways. However, the editor may intentionally speed-up or slow down the pace during a scene for dramatic effect.

Layering:
As you improve as an editor, you will gradually make a habit of including elements that improve the look and feel of your videos. These will include:

1) MUSIC / SOUNDS: A simple music track or well-placed sound effects can do wonders to immerse your audience and keep them watching.

2) GRAPHICS: From show logos to lower 3rds, graphics supplement what the camera itself can show the viewer, and add an extra layer of polish to your videos.

3) NARRATION: Fill in useful information that may not be gleaned from the footage itself.
**Rules of Thumb:**

**Avoid Jump Cuts:**
A jump cut is defined as a transition from one shot to the next which is so similar that the viewer sees not an intentional change in perspective so much as an accidental omission in the program. For example, when editing an interview, you may choose to use only selected pieces of the entire recording. If you piece together the first and last minutes of the recording and remove the middle, the sound edit may sound natural, but the visual edit will be obvious.

Jump cuts can sometimes be “covered” with a neutral “cutaway” shot of a different subject:

![Image of a cutaway clip](image.png)

To avoid a jump cut while shooting, move your camera at least 30 degrees between shots of the same subject occurring in succession. This is, appropriately, called the “30-Degree Rule”!

**Avoid Cutting on Action:**
Edits which take place during any significant movement tend to be jarring to the viewer, especially when the edit goes from movement to a static, non-moving shot.

“Movement” includes camera movement (sometimes called secondary movement) in which the camera is tilting, panning, or zooming, or Subject Movement (often called primary movement), in which the subject is walking, driving, swinging a bat, etc.

**The “180-Degree Rule”:**
This rule of thumb is designed to avoid reversing the direction of on-screen movement, which would have the effect of disorienting the audience. The rule imagines an invisible line called the axis connecting two things, such as people speaking. To retain the on-screen spacial relationship of the characters, the camera should always remain on the same side of this line.

**Work from Wide to Tight:**
When introducing a new scene or subject matter, start on a wide shot which permits the viewer to orient themselves to the overall layout of objects and people in the scene.

After introducing the scene, cut or dissolve to a closer shot which draws the viewers eye to that part of the scene you want them to watch. Then, transition to an even closer shot which reveals details of the action.

Also, try to remove zooms from wide-to-tight (or tight-to-wide) shots, and show only the non-moving, non-zooming parts of the action.