

The following document simply critiques processes that are involved in the creation of a digital video project. Issues such as storyboarding and camera techniques will be raised and described.

The Storyboard

What is a storyboard?

A storyboard provides a visual means for organizing your ideas. A storyboard approach can be used for developing a pictorial and textual representation of the ideas the students have proposed for their video production project. The storyboard allows students to set out their ideas in a concrete manner.

Students are then able to review their ideas. They can consider such factors as sequence, characters, props, scripting, sound, lighting and video effects. The storyboard allows the students to collect all their ideas in one place.

For example, the students can consider topics, treatments and story lines. Who is the intended audience? Are there any constraints? Are there any freedoms? How can the video project be integrated with other projects and subject areas?



Traditionally film directors, documentary makers and cartoonists have created storyboards on paper or cardboard. This approach is still useful today. Paper allows the student to set out their sequences over a large area.

For example, a group of students could map out their storyboard on a large sheet of paper or on a series of cards or “sticky notes”. The students are the able to make notes, draw quick sketches and rearrange the contents of their storyboard.

Why storyboard?

Storyboarding allows students to carefully plan out their video production project in terms of preparation, resources, roles, techniques and concept development.

Preparation

Producing a video project requires preparation. Students need to plan ahead in order to ensure that their video production is a success. Preparation is essential as time plays an important role in the production. Access to both the video cameras and the classroom computers is limited by time. Consequently, the students have to ensure that they make efficient use of their time. What sort of preparation is involved?

Resources

Resources need to be gathered. The students may be required to gather props and costumes for their video production. This takes time and usually requires the assistance of relatives, teachers and friends. Arrangements may need to be made for the delivery of the props and costumes to the school. The props and costumes will also need to be stored.

Another type of resource that may be needed includes audio and music clips. Will the production require audio effects? Can the audio effects be obtained from a special sound effects compact disc? Can the sound effects be downloaded from the Internet? Will the production require the use of music? Can the music clips be easily obtained? Will permission be needed for the use of the music?

Roles

Producing a video requires the students to allocate roles or duties. A variety of activities are involved in the creation of a video project. It is an opportunity for collaboration as the students decide who will manage the camera, props, scripts, editing and audio for example. The students can rotate their roles during the life of the project. The video project may have five different scenes. Each scene will allow the students to rotate their roles. This gives the video production the opportunity to exhibit a variety of camera and shooting styles.

Technique

Capturing the scenes on camera requires a measure of creativity and forethought. Where will the scenes be captured? Will the shooting take place outdoors or indoors? Will the subjects be stationary or moving? Will the camera be stationary or moving? Will the subject be shot from a low angle or a high angle? Will the scene be captured with a narrow or wide focus? Will the scene be captured with a slow panning shot? Will the same subject be captured from a variety of different angles?

Storyboarding allows the students to plan for all of these contingencies. Students can sit down, organize themselves and adopt a considered approach to the video production process. It affords the students the chance to collaborate, share and be creative at both individual and collective levels.



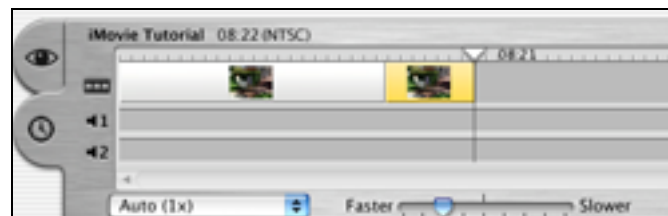
Software and Storyboarding

iMovie and Windows Movie Maker has their own “built-in storyboards”. Once the students have captured their video they can import the digital video content directly to the computer using the software. The captured video clips are stored on the “Shelf” (iMovie) or in the Collections folder (Windows Movie Maker). This in itself allows students to modify clips, shuffle the order of clips and arrange them according to their needs.

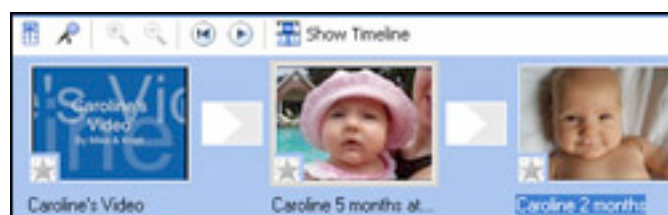


Shelf in iMovie

The clip viewer also acts as a linear storyboard. The student can quickly see their ideas take shape as they edit clips, add effects and compose credits and annotations.



Timeline viewer in iMovie



Storyboard in Windows Movie Maker

Advantages

Storyboarding provides students with an opportunity to write and draw. They can apply the skills they have acquired in writing and art in a completely new area. They can transfer the skills and knowledge acquired in writing and art to the storyboarding process. This allows the students to enhance the skills they have acquired in the past.

Storyboarding and digital video production can assist in the cognitive development of the child. Employing digital video in the classroom can furnish the following advantages for the students:

- The process encourages motivation and engagement
- The process empowers the students
- The students have the chance to exercise responsibility can be empowered
- The students can actively interact with one another
- They need to exercise decision making skills in the capturing of scenes and later editing of the video
- Complex tasks become manageable for the students
- Complex processes or concepts can be illustrated by the students

Storyboarding and employing digital video in the classroom as a teaching and learning tool:

- Recognizes the diversity within student groups
- Creates supporting learning environments
- Creates authentic learning environments
- Establishes challenging learning situations
- Teaches students to select and apply appropriate software
- Provides a wide range of experiences in the use of computer software
- Provides meaningful activities and learning contexts
- Values prior knowledge and experience

What are the basics of capturing a moment on video?

Do you have the following items?

- One or more blank video tapes
- A fully charged battery
- Additional accessories such as a microphone and lights

Check the lighting, the angle of the shoot, the microphone and the camera settings.

When you are ready you need to switch the camera to record (or camera) mode.



The Power Switch

Remove the lens cap.

Aim the camera and frame the scene you wish to shoot.

Press the record button. Make sure you are actually recording and not in Standby mode. You may have accidentally pressed the record button when setting up the camera.

Record the action and the scenes you have set out in your storyboard.

It is also wise to keep in mind the following questions in the initial planning stages of your movie project.

- What is the subject of my movie?
- How do I want my movie to look and feel?
- Who is the audience?
- How much time do I have?

The Process

Define the task with your students

- The activity is shared with the students.
- Specific limits are set in terms of time and content.
- The equipment required to make a video is explained to the students:
- Video camera, tapes, power leads, tripods, batteries, lights, camera bags and note pads.
- The techniques involved are explained to the students:
 1. Storyboard
 2. Script
 3. Roles
- The Why, Where and How of video is brainstormed with the students:
 1. Why do we use video? ... document, re-live, learn, teach, capture, preserve.
 2. Where do we use video? ... settings, people, places, events.
 3. How do we use video? ... input > process > output and timing.

Locate the material or raw content

- Operating the video camera (camera strap, exercising care)
- Shooting style: close up, medium shot, wide shot.
- Lighting: spot, fill, sharp.
- Camera angle: low, high, front, back, combinations.
- Camera movement: panning and tilting
- Location
- Sound

Selecting from the video content: reviewing and editing the video tape

- Connecting the camera to the computer
- Using the software iMovie
- Capturing video & audio to the computer
- Editing the video clips

Organizing the captured video

- Adding titles, credits, introduction
- Adding transitions and special effects
- Adding audio – music, voice-overs and narration
- Adding stills
- Rendering the video
- Saving as a Quicktime™ movie
- Exporting to video tape

Presentation

- Presentation of the video to your peers
- Supporting notes
- Brief talk

Evaluation of the video

- Review and evaluate the video

Camera techniques

You can use different camera techniques to capture the scenes for your movie project. A few techniques are critiqued below.

Simple shots

These shots involve little or no camera movement or zooming. These shots can form the basis of your best clips. You can capture a scene from various angles without resorting to techniques such as zooming and panning. You can also shoot the same scene at varying ranges. You can edit these captured clips in iMovie at a later time.

Zooming

Zooming is a technique that can be used to emphasize an important moment of dialogue. Generally speaking it is wiser to avoid the use of zoom. It can be a challenge to edit a clip that includes scenes with zooming. Such shots may be blurred or distorted. Movies with excessive zooming can also be distracting for the viewer.

If you need to zoom simply plan your shot, slowly zoom in on the subject and then hold the shot for several seconds. Keep in mind that it is easier to edit a still scene in comparison to a scene that has a lot of movement.



Zoom switch

Zooming is appropriate, for example, if you intend to emphasize an important piece of dialogue. You may also use zooming to establish a scene.

Avoid using the camera's digital zoom feature. If you apply too much zoom using the camera's digital zoom feature the picture will pixellate and 'break up'. It is wise to confine any shots that employ zooming within the camera's optical zoom range.

Panning and Tilting

What is panning and tilting? Panning is rotating the camera through a horizontal plane. Tilting is rotating the camera through a vertical plane.

You can use these techniques, for example, to capture the movement of a plane or a moving vehicle. You may wish to capture a landscape or a tall building.

It is best practice to pan from left to right. Pan slowly and carefully. It is wise to test the panning shot a few times before you actually take the final shot. You can afford to shoot the scene several times. You can then select the best clip when you are editing the clips in iMovie.

Panning and tilting is best achieved with the use of a camera tripod. If you do not have a tripod then ensure your footing is steady and hold the camera close to your body. Twist your body and maintain your firm footing as you capture the scene. If the camera has a flip-out viewfinder use it as an aid to plan and frame your scene



Flip-out viewfinder

Lighting

The type of lighting that dominates the scene you are shooting can have an effect on the colour of your movie. Daylight has a blue hue, household light bulbs have a yellow hue and fluorescent lights have a green hue.

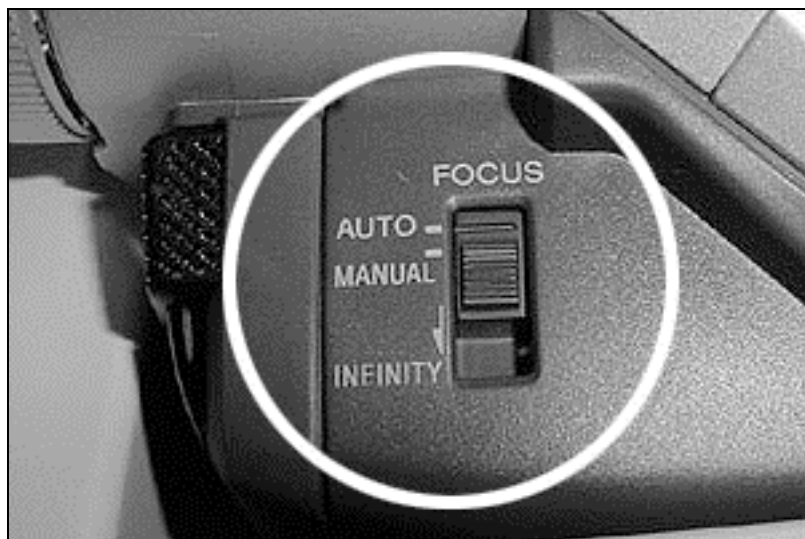
Your digital video camera will usually do a good job compensating for these differing light and colour hues. You can use the camera's lighting presets to manually adjust for a particular lighting environment. If you are shooting indoors, for example, then select the camera's preset for indoor light.

You should remember to make sure that the subject of your scene is brighter than the background. Check that the brightest source of light is behind you. Take care not to shoot reflective surfaces that may direct light into the camera lens. Never point the camera in the direction of the sun.

Focus

The auto focus feature of your digital video camera usually does a good job of keeping your subject in focus. There will be times when the camera's auto focus feature will let you down. You may be shooting through a window or there may be a fence or some other sort of obstruction in the foreground that interferes with the camera's ability to focus on your desired subject.

Switch to the camera's manual focus feature in those situations. Simply select manual focus. Zoom in on the subject and then manually adjust the focus by gradually rotating the focus ring that surrounds the camera lens. Once the subject is clearly in focus you can then shoot the scene. Even if you shoot a close up or a distant shot the subject will remain in focus.



Focus Switch

What types of shots can you capture with your camera?

Wide shots. A wide-angle shot can capture the entire scene. You can use these wide shots to establish the scene and to begin your story.



Medium shots: These shots allow you to pay closer attention to the subject of your story. The subject is in closer view and other non-essential objects in the scenery are out of view.



Close-up shots. When you shoot a scene in which the subject takes up the entire viewing area this is known as a close shot or a tight shot. Close-ups can reveal details.

These shots are useful if you wish to save your project as a Quicktime™ movie.



When you compose your storyboard make a note of the shots you wish to employ.

Multiple angles

You do not always have to point your camera directly at the subject in a horizontal plane. You may like to consider vertical angles taken from above or below the subject.

You may wish to capture a conversation between two people from above and behind in addition to your normal shot. The alternative angles may simply be dummy shots that involve no dialogue at all. When you edit the movie you can then creatively insert the various additional angles yet maintain the same piece of dialogue. “How-to” movies also benefit from the use of a wide variety of angles.

Framing your shot

You can make your movie interesting if you take care to frame significant shots. How can you frame your shot? You may use a doorway, hallway, trees or even the lines of a garden.

The frame directs the viewer to the subject of your scene. You may make creative use of shadows and light to frame your subject.

In the image below the pedestrian mall and the shops on either side serve to provide a stage and a frame for the shopping crowds.



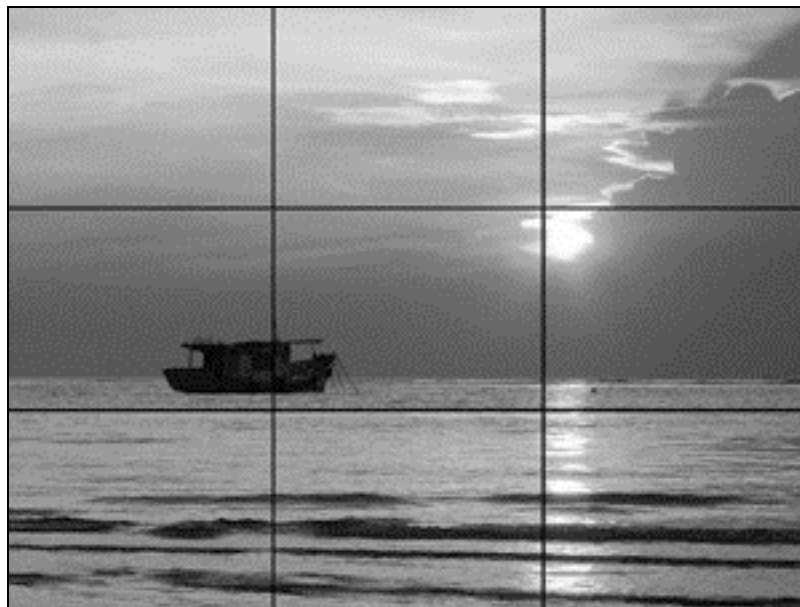
Framing the scene.

The Rule of Thirds

What is the 'Rule of Thirds'? Imagine your scene evenly subdivided by two horizontal and two vertical lines. A grid with nine rectangles is superimposed upon your scene.

How can this grid help with your movie making techniques? The grid allows you ensure that not every scene in your movie has an emphasis upon the centre of the frame. You can frame actors or subjects so that they are aligned with the vertical grid lines. Horizons, for example, can be aligned with the either of the horizontal grid lines. You can creatively direct attention to the subject by using this technique.

Look carefully at the image below. Notice that the boat and the sunset are aligned with the vertical lines. The horizon is aligned with the lower horizontal line. The rule of thirds has allowed the cameraperson to compose a scene that directs the viewer's attention to the important elements within the scene.



The Rule of Thirds

Dolly shots

What is a dolly shot? A dolly or tracking shot is one in which the camera is moving whilst you shoot the scene. You may wish to employ a trolley, tricycle or even a wheelchair to capture this type of scene.

What is in the background?

As you compose the scene and plan your shot make a note of the background. What can you see? What will the viewer see? Is there anything in the background that may distract the viewer? Distractions include:

- Billboards
- People
- Animals
- Litter
- Obtrusive shadows
- Glass
- Mirrors
- Doors
- Signs

You do not wish to shoot a scene that reveals yourself in a mirror. Imagine the reaction of your audience if you unwittingly capture an unfortunate juxtaposition involving an advertising slogan that conveys a message that contradicts the subject line of your own movie.

Noise

It is wise to listen closely to the noise that pervades the environment in which you wish to capture your shots. You may not be aware of the multitude of noises that can impact upon the soundtrack of your movie. Even though the noises may be distant they can be a source of distraction for the audience. You may need to use a lapel microphone or a shotgun microphone to ensure that unwanted ambient noises do not interfere with the creation of your movie.

References

Miser, B. 2001. *The Complete Idiot's Guide To iMovie 2*. QUE Corporation, Indianapolis, IN., USA.

Pogue, D. 2001. *iMovie 2 The Missing Manual*. Pogue Press/O'Reilly and Associates, Inc., Sebastopol, CA., USA.

Reveaux, T, and Steinberg, G. 2002. *How To Do Everything With iMovie 2*. McGraw Hill/Osborne, Berkeley, CA., USA.

Smith, S. 2000. *Making iMovies*. Peachpit Press, Berkeley, CA., USA.

Working with iMovie

There are useful tips that you can keep in mind when you edit in iMovie. This section will deal with techniques that you can apply in order to derive the greatest benefit from iMovie. Basic iMovie functionality will not be reviewed in this section.

Dragging Clips

It is possible to drag multiple clips by selecting more than one clip with a drag selection or by pressing the Shift key as you select each clip.

If you drag a clip to the right within the timeline viewer you create a black blank space to the left. This is actually a black clip which you can use as you wish.

It is wise to edit a *copy* of the clip

If you hold down the option key when you drag a clip from the Shelf to the Clip Viewer you will actually create a copy of the clip on the clip viewer. The original clip remains on the shelf in the event you wish to work on that clip at a later time.

It is possible to restore a clip to its original condition by highlighting a clip and selecting 'Restore Clip Media' from the 'Advanced' menu. This action assumes that you have not emptied iMovie's trash can.

It is wise to duplicate your clips, especially if you plan to apply a number of edits, effects and transitions to the clip.

Remember to always name your individual clips. This will assist you in your management of the editing process.

Performing edits in iMovie

There are a number of different ways to edit clips in iMovie.

You may crop a clip that preserves the selected portion of the clip. The keyboard shortcut for this action is Cmd+K. Simply remember that you are "keeping" the portion of the clip that is selected when you type **Cmd+K**.

You can also delete or clear portions of a clip by typing the delete key that removes the selected portions of the clip.

You are able to split a clip into two separate clips by selecting "Split Clip At Playhead" from the Edit menu. This provides you with two separate clips that you can edit and transform as you wish.

You can delete the central portion of a clip. The selected portion of the clip is removed and you retain the beginning and ending of the original clip.

Reversing Clips

As you may be aware you can reverse clips. This effect comes in handy if you wish to create a zoom out from a zoom in. This technique also allows you to create a pan in the opposite direction of an original panning shot.

The reverse effect also allows you to focus on a specific action. You may be recording a scientific experiment, a sporting action or a natural phenomenon.

Slow motion and fast motion effects

You are able to adjust the speed of clips in iMovie. This effect can be very useful in a number of situations.

Slowing down a clip can allow the viewer to closely examine the following actions:

- Animal movement
- Physics experiments involving motion
- A droplet of milk cascading in a saucer
- Raindrops on a puddle
- The actions of a sportsperson

Speeding up a clip can allow the view the following scenes from a different perspective:

- The passing of a day
- The movement of shadows
- Rush hour
- The opening of a flower
- The movement of snails

Special effects

A number of special effects are available for use in iMovie. These special effects can add a special touch to your project.

For example, if you wish your final movie to look dated you may wish to apply either the sepia tone or black and white effects. You may be creating a historical documentary or melodrama for example. Flashbacks may be displayed using these particular effects. Effects can be edited after they have been rendered.

Employing transitions creatively and sensibly

It is wise not to employ too many different transitions in your movie project. The audience will be distracted and even annoyed by a plethora of transition styles. Choose one or two transition styles to apply to the scene changes within your project.

More often than not it is wiser not to employ transitions at all. A simple cut from one scene to the next may be all that is needed.

Transitions usually indicate that time has passed. Is this in keeping with the subject line of your movie? Choose your transitions wisely.

Did you know that you might implement a transition by dragging the preview screen to the appropriate point on the Movie Track.

Transitions will shorten the length of your movie. A transition becomes a new clip. You can edit transitions after they have finished rendering.

Titles

There are a number of rules and hints that you should keep in mind when creating titles for your movies. These are listed below.

- Use serif fonts such as Arial Black, Charcoal, Helvetica and Impact.
- Use TrueType or PostScript fonts
- Make good use of the 'Over Black' option, as the text will be more legible.
- Choose title colours wisely so that all can easily read the title. Ensure that there is sufficient contrast between the title and its background.
- Choose a suitable font size for the title. If you export your project as a Quicktime™ movie you may find that the title becomes illegible.
- If the title duration is longer than the destination clip then the title will also superimpose itself on the following clip(s).

Did you know that you might implement a transition by dragging the preview screen to the appropriate point on the Movie Track.

Do not forget that you can create a background for your title by importing a still clip. You can then superimpose your clip upon the imported background.

You can edit titles after they have been rendered.

Audio

There are a number of hints that are useful in recording and editing audio within your project. These are listed below.

- Name each audio clip.
- You can extract and even delete the audio from the video clip. If the audio embedded in your video clip is not needed then extract the audio track and delete it.
- The embedded audio track can be retained to act as the audio track for a different video clip. For example, you can paste video over an existing video track and still retain the original audio track. This is useful if you have captured an entire scene from multiple angles and you wish to incorporate the multiple angles within a particular scene of piece of dialogue. Check the 'Extract Audio in Paste Over' checkbox within the Preferences window.
- The volume of audio tracks and audio effects can be adjusted individually or collectively.
- In order to synchronise an audio clip or an audio effect to a particular video clip then remember to employ the 'Lock Audio' command.
- You can superimpose audio clips one upon the other.
- Copy, superimpose and offset audio clips in order to create echo or stuttering effects.
- Reuse audio clips in flashbacks.
- Delete unwanted sounds such as car horns and school bells.
- You can split audio clips.
- You can store spare audio clips on the right hand side of the timeline viewer if you wish. Once you have completed the project you may decide to delete the superfluous audio clips.
- Check out Apple's iMovie web site for royalty free music clips and audio effects.

Still images

You can create entire iMovie projects without a digital video camera. You can simply use still images to create and build your project.

The still images can come from a number of sources:

- Digital still camera images
- Scans of photographs
- Clip art
- Stock photography
- Original artwork created in a painting or drawing software package
- Frames extracted from an iMovie video clip

Simply save your still images within your iMovie project folder for safekeeping. Give each image an appropriate name.

Keep in mind the following rules of thumb when creating or preparing the image for iMovie:

- The resolution of the image should be 72dpi.
- The dimensions of the image should be 768 x 576 pixels for PAL video system projects and 640 x 480 pixels for NTSC video system projects.

You can adjust the timing of the still image once you have imported the image into your project.

You can create still images from the video clips within your project. Simply export a frame from a video clip onto to the Shelf and then drag that still to the appropriate point in the clip viewer. This technique can be used to create a 'freeze frame' effect. Select 'Save Frame As' from the File menu in order to export a frame from a video clip.

References

Miser, B. 2001. *The Complete Idiot's Guide To iMovie 2*. QUE Corporation, Indianapolis, IN., USA.

Pogue, D. 2001. *iMovie 2 The Missing Manual*. Pogue Press/O'Reilly and Associates, Inc., Sebastopol, CA., USA.

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