No one will listen to a bad recording, no matter how pretty the pictures.

A bad soundtrack is #1 reason most student films fail in festivals.
Sound Philosophy

- Sound affects everything, changes the viewing experience

- The other half (the better half?); Some say sound is 60% of the experience

- Another dimension and aspect of storytelling (The Wrestler)

- Sets emotional tone

- Sound designer or director of sound (DS) position
2 Philosophies

1.) Complimentary/Reinforces

- Aims for realism

- **Music** fits the mood--Star Wars, Gone With the Wind, Top Gun, Gladiator--Howard Shore, John Williams; Wagner’s “Flight of the Valkyries” in Apocalypse Now

- **Sound effects** reflect the ‘reality’ of the film

- We hear what we expect... more emotional, more comfortable?
2 Philosophies

2.) Impressionistic/Ironic/Contrasts

• More expressionistic

• **Music** works in counterpoint (contrapuntal) to the image, adding another dimension: Dr. Strangelove (opening and closing sequences), Beethoven’s funeral march rather than Brahms’ wedding to actual wedding scene

• **Sound effects** vary from perceived reality--exaggerate or replace the actual sound (Moulin Rouge, cartoons--Mickey Mousing)

• We are ‘unsettled’ by the conflict of sound and image... more intellectual, stimulating?

Wednesday, February 25, 2009
Diegetic vs. Non-Diegetic

- **Diegetic** is sound that is motivated by and exists within the scene; source is visible
  - Dialogue of characters; Sound of objects in scene; Music from band or radio
  - Ex.--Apocalypse Now: radio starts as diegetic source and gradually switches to non-diegetic
  - Broken Flowers

- **Non-Diegetic** does not exist within the scene and is not visible
  - Voice-Over/Narration
  - Sound effects added for dramatic effect
  - Music
  - Most music is non-diegetic

Wednesday, February 25, 2009
Elements of a Soundtrack

1.) Voice

- Dialog
- Interview
- Narration (voice-over)
Live Sound Only (recorded on set)
Elements of a Soundtrack

2.) Sound Effects (SFX)

- Live recording on set
- Foley in studio (also known as men in tights)
- Lots of free SFX/music online:
  - www.soundsnap.com
  - www.sonomic.com
Live Sound & Sound FX
Elements of a Soundtrack

3.) Music

• Music for movie vs. Movie for music (music video)

• Iconic music (well-known tunes hazardous and can take over your piece)

• Pre-Recorded: Classical, Jazz, Rock/Pop; Regional, etc...

• Composed (specifically for film)

• Lots of free SFX/music online:
  • www.jamendo.com
Complete Soundtrack with Music
CHARACTERISTICS

- Amplitude or loudness
- Wavelength--distance from one crest to another
- Frequency--rate at which the waves pass a given point
- Pitch--the higher the frequency becomes, the higher the pitch we hear
CHARACTERISTICS

- Human ear can normally hear sounds in the 20 Hz to 20,000 Hz (20 kHz) range
- 20 Hz--lowest hum or rumble our ears can detect
- 20 kHz--highest pitch perfectly good ears can hear
Sound Recording Equipment

- Most microphones you will encounter are omni-directional

- Omni-directional
  - pick up sound equally from all directions
  - designed to be used in close range
  - don’t pick up too much background noise
Sound Recording Equipment

- Other mic options

basic microphone pick-up patterns

- omnidirectional
  360° pick-up pattern
- bidirectional
  pick-up pattern

- CARDIOID
  “HEART” shaped pick-up pattern
- HYPER-CARDIOID
  extended pattern
- SUPER CARDIOID
  “line microphone” aka the “shotgun”
  highly directional pattern

Wednesday, February 25, 2009
Sound Recording Equipment

- From analog tape to digital recorders

- Tapes have an inherent ‘sound’ that came with the material

- Digital tends to be quieter and cleaner (though some prefer analog)
Recording Sound

- Signal to noise ratio

- Distant from mic vs. close to mic audio waveform patterns

- Ambient noise patterns

- 3 ways to get better sound
  - Move mic closer to source (45° angle to avoid pop)
  - Record in a quiet place, or a place appropriate for the sound
  - Record ambient Sound and lay it on a separate track
Recording Sound

- Stop and listen to your environment

- Every place has its own ambient sound, or background noise

- Try to eliminate ‘noise’ from things like heating/cooling systems, computers, refrigerators, the television in the next room, traffic, etc...

- Record all dialog in the same place so ambient is the same

- Record at least 30 sec. of ambient that can be looped

- Wear headphones to hear what’s recorded!!!
Live “Recording” – 30 secs. of room tone

Why they say “quiet on the set”
Recording Sound

- Watch your meters to be sure your level is not too high or too low
- Get a nice solid level so you don’t have to amplify in the software
- Good levels top around the -12 (green) to -6 (yellow) on a peak meter
- Peaking in the red should be avoided

Peak meter
(for digital)

VU Meter
(for analog)
Manipulation & Post

- Built-in effects
  - EQ
  - Reverb
- Speed changes
  - Chip and Dale
  - Slow mo
- Adjust levels for voice
- Mixing sound
  - Last thing you do for a film, is watch the meters

Peak meter (for digital)

Wednesday, February 25, 2009
# Organizing Tracks

<table>
<thead>
<tr>
<th>V1</th>
<th>Video</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Dialogue--1st character</td>
</tr>
<tr>
<td>A2</td>
<td>Dialogue--2nd character</td>
</tr>
<tr>
<td>A3</td>
<td>Sound FX</td>
</tr>
<tr>
<td>A4</td>
<td>Sound FX</td>
</tr>
<tr>
<td>A5</td>
<td>Ambient</td>
</tr>
<tr>
<td>A6</td>
<td>Music</td>
</tr>
</tbody>
</table>

Dip levels for music during dialog
• Microphones don’t have a brain; you have to do the thinking for them

• Sound is a completely different storytelling device; use it to tell your story

• Don’t just throw Top Gun music to every jet plane scene you have, or the latest pop ballad to every love scene; think about what the music does for the piece