Mixing Challenge #6

Recording, Engineering, and Mixing

For Challenge #6, you can choose to mix any song you'd like. I've posted a new song on the student file server – one that I wrote and recorded called "Captain Captain". You may or may not like it! And there certainly are a lot of mistakes and quirks … but this will add to the challenge of mixing it in a way that sounds good.

This challenge will not involve any new effects or techniques. Instead, your goal is to apply the techniques you've already used in a way that SOUNDS good. In other words, this challenge is about developing your ears and your creative skills as a mixing engineer. Your goal will be to use the tools you've already learned to us in a way that improves the sonic character of each track and the song in general. We will work add a new piece every day or so and gradually build up a completed mix.

Day 1 (4/1/09): Folder tracks and compression

1. Add folder tracks to the song. You should at the very least have folder tracks for the drums; you might also consider having folder tracks for the background vocals, the hand claps, the rhythm and lead piano parts, and the rhythm guitar parts.
2. Add compression – to EVERY TRACK. Make sure that the compression is tasteful, subtle, and sounds good. Your goal should be to have about 3-5 db of compression at the most. If you're using ReaComp, adjust the threshold and ratio so that just the loudest parts of the track are being compressed; adjust the attack so that enough of the initial transient comes through to retain the character of the sound. If you choose to use Blockfish, make sure that you're not applying too much compression – and adjust the speed dial so that the tracks sound natural and open.

Day 2 (4/3/09): Noise gates

Add noise gates to the drum tracks and the lead vocal. Solo each of the tracks so that you can clearly hear the effect that the gate is having on the sound. Rearrange the effects in REAPER so that the noise gates are coming BEFORE the compressor. The noise gate should be adjusted so that you hear all of the sounds you want to hear – for example, every snare drum hit should be audible – but as little of the other sounds as possible – so in between snare drum hits, the rest of the drum kit should be difficult to hear. Make sure that you adjust the release of the noise gates so that you can hear the entire sound – the drums and singing should not be cut off too soon.

Day 3 (4/6/09): Volume, Pan, and EQ (part I)

Adjust the volume and pan of each track. These are rough adjustments – you can always make changes later! Add a high-pass EQ (at around 75 – 200 hz) to every track (except the kick drum and bass guitar). This will reduce the low-end muddiness that can occur when all these tracks are mixed together. Each individual track might sound a little thin when solo'ed – this is OK as long as the missing frequencies are covered by other instruments (like the bass guitar). Use subtractive EQ (subtly!) to pull out "annoying" frequencies (between 200 – 500) on instrumental and vocal tracks. Vary this frequency among instruments so that each instrument has a little sonic room to inhabit. Most importantly – LISTEN to the effect of EQ changes on different tracks. Before you make a subtractive cut, boost that frequency so that you know what tones are being diminished. Use the ReaFIR plug in to visually gauge the effect of different EQ changes you're making.

Day 4 (4/13/09): EQ (part II)
Refer to the notes in the document "Adjusting EQ for Instruments" on my web page. Add EQ to all the instrument tracks according to the instructions in that document.

Day 5 (4/15/09): Vocal and instrument effects
Refer to the notes in the document "Vocal and Instrument effects" on my web page.

Day 6 (4/17/09): Master channel effects and mixdown (rendering)
Refer to the notes in the document "Master Effects and Rendering Songs" on my web page. Create a mixdown of Captain Captain that you can play on a CD player or an mp3 player.