

Behind the Music Video
The Making of Domingo
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Warning – Spoiler Alert:
Make sure you watch the video before you read the commentary.

Introit

The end of the Music Technology course MUSI 2163 X0 called for a final project. The project didn't have to be a video necessarily; it could have simply been a song (or 'track', as they're called in the business). So, where did *Domingo* come from? Read on, dear reader, for this commentary will dig deep, peel back the layers, and reveal the real *Domingo* nobody knows... er... well, not the "real" Domingo (Placido), but stuff about the music video.

The Inspiration

The idea for a music video came about when Eugene Cormier (professor for MUSI 2163) said we could do video for our final projects, possibly turning the class cd into a class dvd, while covering video editing a few weeks before end of classes. This of course infinitely expanded the potential scope of the project, with the possibility of blowing one's mind! Luckily, I'm made of sterner stuff and the gears of thought, conscious and subconscious, started whirring.

I knew that over the next couple of days I was in the position to get video of myself singing Domingo, as I had been working on it and was about to perform it at a Coffee Haus (an Open Mic type deal run by the Acadia Students' Union) and a performance class (vocal prof Stacie Dunlop graciously allows me the chance to perform once in awhile, as I accompany most of her students). Naturally, I pretty nigh always tape my performances. Some might call that narcissistic. I chalk it up to my desire to archive things. Particularly things involving me.

From knowledge of this video taping, it only required a short bout of not being able to sleep due to an overactive mind (in addition to natural nighthawk tendencies) in order to come up with the basic intro/outro to surround the music video proper (MVP), that of talking about the project within the project.

I wouldn't have thought of doing this project without the video concept, as normally *Domingo* is sung a capella (a single audio track wouldn't make such a good project). However, I had gotten a copy of the music for *Maria* after Stacie suggested trying it with accompaniment, and I figured for the video I could add some accompaniment in to get multi-tracking going. (Not to be confused with 'track' in the 'song' sense, in this case a 'track' is effectively recording from one microphone, or one midi thing, etc, which you combine together to get your final product.)

The Film Shoots

Now, in retrospect, I understand why it's better to start with audio and then do the video for a music video production. It's a lot easier to sync yourself to pre-recorded voice than to sync your voice to pre-recorded self, particularly when you're shooting in multiple places. Having a single recorded version would allow you to keep the same timing wherever you are. Allowing yourself to just sing in multiple places causes, shall we say, issues. That said, the concept of the video conveniently lends itself to sync issues (as mentioned in the video intro).

In this case it was necessary to get the video first. Opportunity struck, and it was necessary to *carpe the diem*. I got an anonymous friend to record my set at Coffee Haus, and Rebecca Parent videoed at Stacie's perf class. (Both used the analog video camcorder I borrow from Dr. Robertson of the Physics Department).

Once this video was taken, I needed to get a script written up to do the intro and outro (which I figured should also come before sound, as I would be singing at the end of the intro and the start of the outro). For the actual acting I thought it would be best to borrow a digital video camcorder from User Support. This way it would transfer into the computer in high quality and split up into clips, which would theoretically be easier to edit. Shooting had to be done efficiently, as you can only get the camcorder for about a day.

Katie Ross was the perfect casting choice, as the role called for plenty of indignance. 'Nuff said. And so, we ended up at our film shoot in Rojo.

The Beginning

A residence lounge seemed a convenient place to work. It would allow for the 'kicking out' part of the script. This was in part because at one point we might have tried to end up in front of the lounge with rowdy college types watching football inside, but plans change during the shoot (they usually do). We went to a downstairs common area that Katie suggested, it was out of the way of interruptions (you don't *actually* want to get interrupted during a shoot), and the kitchen area had good lighting (hence dragging a table to the kitchen – if there's one thing I've learned from my friend Dave Turcotte, it's that you need good lighting for photos and film).

We start with shooting the whole scene right through a couple times. I had figured out where in *Maria* I needed the DVD to play, and just went back to that point each time we shot. Then we shot the scene through on close-ups. Finally we did the necessarily little bit with my costume change, and then did the whole scene through again.

Watching the video off the actual camera it seemed to turn out well. Oddly enough, though, the tape was running out, but we had gotten all the footage we needed...

The Ending

It was not till I got back to my apartment and was on the phone to my parents, however, that I realized, “Damn it! I forgot to shoot the end sequence!” In all my focusing on the opening, with it’s angles, costume and location changes, I forgot to look past the music video part of the script to see the ending. This is why you need producers to keep track of things for you.

Side-note – the tape that was running out I also discovered was not the loaner tape from the USC as I had thought, but a tape I had been using in Dr. Robertson’s camera. I had copied stuff off that tape, and actually ended up taping over some footage (that I had luckily already copied off). Yet another reason for having producers.

In any event, a short sequence that would have been easy to shoot while on the spot now presented problems.

First, the end sequence actually called for Katie and I to turn back to each other, after I had finished the last few notes of the song, mirroring the way the music video proper had started. After moving out of place, let alone striking the set, though, it would be hard to set up again and preserve perfect symmetry. Thus I decided that it was best to turn this ‘crisis’ into an ‘opportunity.’

I realized that we could just end the shoot outside. It would destroy the *symmetry*, but add some *scenery*, so at least there would be a conservation of *s* words. I also realized that by not borrowing the USC camera again (which is kind of a hassle) I would be getting different (probably lower) quality picture for the outside stuff, giving it what I like to think of as a Monty Python-esque effect. Thus I used my digital camera. (Its primary function is photos, but it also does a decent video.)

At first I was thinking a good location would be the U-Hall steps, but when we were headed to shoot it seemed that would be too shaded by the building, and too windy for good sound. This led to our shoot on Huggins roof. My plans all along had called for a couple brief bits on Huggins roof (the location change line in the script, and a tiny bit during the MVP) but with me up on the roof and the camera at ground level. I realized during an observation session, however, that wasn’t a practical plan. You see, normally observing happens on the roof, but the recently added radar was spinning, and the sign on the door is very explicit about not going near it or even *looking at it* while it’s spinning. Thus I tracked someone down by cell phone to turn it off, and meanwhile took the students out on the lawn to look at stars. It was while looking up at the roof to see if the radar had stopped spinning (I know, I know, risky) I realized that there was no way the camera was going to see me up there.

Thus, we ended up doing the ending on the observation platform on top of the roof. The camera wasn’t too far away, and the wind wasn’t too bad where the camera was, thus allowing the shoot to work out pretty well.

Take no Prisoners... But Capture the Video Clips

Digitizing the video happened in several ways. The easiest was my digital video camera, as it stores the video in mpeg files on memory card and hooks up to the computer with a simple USB cable.

The USC camera hooks up via a firewire PCIMIA card and requires you to use capturing software. Windows has it built into Windows Movie Maker, and I captured it as one file, which Movie Maker then split internally into clips (based on when the camera was stopped and started). The trick was to leave the camera on its side; else the connection would be unstable (some might call that a hardware glitch, others might call it a security feature).

Actually, I had tried importing in Vegas first, but that was just slow and problematic. Part of the problem might have been I didn't discover the 'side glitch' till later. Slow reactions are bad when you need to return the camera the next day, though.

I had considered Kino, but I figured this project would be complicated enough staying in one operating system. Plus, Kino isn't so happy with tapes that you mix analog and digital on (going from one form into the other it'll lose audio for a bit if you're not careful). The default format Kino saves clips in also isn't widely portable. (.dv, which will open in QuickTime ok for watching, but isn't great for use in Windows).

I also used the USC camera to capture some of the footage from Dr. Robertson's camera (which uses Hi-8 tapes as well, albeit recording on them in analog format). To get the rest of the footage off Dr. Robertson's camera I used a tv tuner card in Rivendell (one of my desktops).

The bit of *Maria* I grabbed with IMToo DVD Ripper. (They also make an audio ripper which is useful if you have musicals or concerts on DVD and want to listen to the audio in your car or something).

Look at All My *Trials* and Tribulations

Or

How I Learned to Stop Worrying and Love Windows Movie Maker

Once the footage was in the computer (in various ways and formats), I had to choose what software to do splicing with. I tested out a number of programs briefly trying to find something both robust and usable. How did I end up with Windows Movie Maker, you ask?

We got the Sony Vegas trial in class, so I was fiddling with that at first. I quickly rejected it as the trial won't let you import MPEG. Which just isn't cool. Also, you can't make subclips in the trial, which would make fiddling with the video more difficult. Not that Vegas even seemed able to see the clips that already existed in my 3 gig avi from the USC cam. (Which brings up another side note – when importing I may have missed an option to have Windows split the clips into different files, as I think I selected 'split clips at end'. I'd have to experiment another time to see, though.)

I had a chance to try the older Vegas Movie Studio 4 as well. It was actually pretty quick at doing things and seemed half decent, but it couldn't select subclips, and trying to get little bits of video into my movie seemed like it was going to be a chore.

Adobe-wise, I downloaded both the Premiere Pro and the Premiere Elements trials. Oddly enough, Pro didn't seem that good. Premiere Elements seemed quite decent, though. Could relatively easily select video to throw in. But I didn't end up using it due to it leaving a big Adobe watermark in the video. You know, what with it being a trial.

Now, Cubase video would seem like it would be ideal. I mean, I'd be doing the sound in Cubase, if it could handle video too that'd be even better. Unfortunately, Cubase only imports the video stream from a video, not the audio to go with it, which would make dealing with the acting parts difficult. Then, I later discovered it doesn't export video out again. So basically it's just so you can watch video while listening to music. Thus, you would need to have the video done already. And the video viewing capabilities aren't the greatest anyway. I planned to sync the video with the vocal track anyway, and then do proper sound mixing, so I didn't end up using Cubase's video capabilities.

Windows Movie Maker... I Choose You!

And so we come back to Windows Movie Maker. It already had the main acting part split up into some clips, which was a big plus. (Sadly, it doesn't seem able to export the clips as a collective.) Organizing all the video into collections worked out fairly decently, organization-wise. Movie Maker wasn't perfect, of course. It would be nice to actually control the zoom on the timeline, for example. You also can't drag clips to anywhere in a timeline, they're going to go in order and not leave empty space. And dragging a clip to be longer doesn't always work, depending what's around it. The opening of the video, with the switch from DVD video to camera video, seemed very lucky to be so accurate, given Movie Maker's lack of fine control. But it is very quick and simple in some ways.

For example, I was getting annoyed at the way I was trying to cut up video in it (can't even remember how I was doing it now) until I found the very convenient 'split' button. The split button splits a clip, either in the collections pane (your view of the clips) or in the timeline (your view of the movie). So, just split clips up to either side of what you want and throw the stuff in. Do a little more fine-tuned splitting/deleting in the timeline if needed. A little roundabout in a way, but it works. Just keep splitting the clips up like crazy. Granted, then you might have to go back a few clips because you used the wrong clip. (I wanted a specific 'ending' of the first acting section, and had to go back and redo some clipping done to mute the audio track during the 'sync' lines so that the video would stay lined up. Again, need to get a producer.)

However, once I got the opening done, I realized Movie Maker wouldn't quite cut it for the MVP. I knew I would need to move things around a lot, and leave temporary empty space in the video track, in order to work with the video the way I wanted (piecemeal – assembling it together here and there like a puzzle). These concepts were outside of Movie Maker's knowledge. Enter Multiquence.

Multiquence to Save the Day!

Multiquence is an awesome program by the same people who make Goldwave. It's interface isn't perfect (no click and drag extending of clip selections, for example), but it can easily deal with multiple video and audio tracks, and leave lots of empty space in things, exactly what's needed for a music video.

Multiquence also has the key features of being able to make video out of a still picture, crucial to parts of my video, and could also deal with the audio and video streams separately (not that I was using much actual audio for the MVP, but it's still a plus).

The first thing to add in to Multiquence was the vocal track. I had originally planned to do the vocal on another computer using Audacity (as the Dell tends to generate some hiss, and Audacity because I didn't have the Cubase serial on me, despite having the dongle) but I found my other computer generated even worse noise artifacts, so I stuck with the Dell and Cubase.

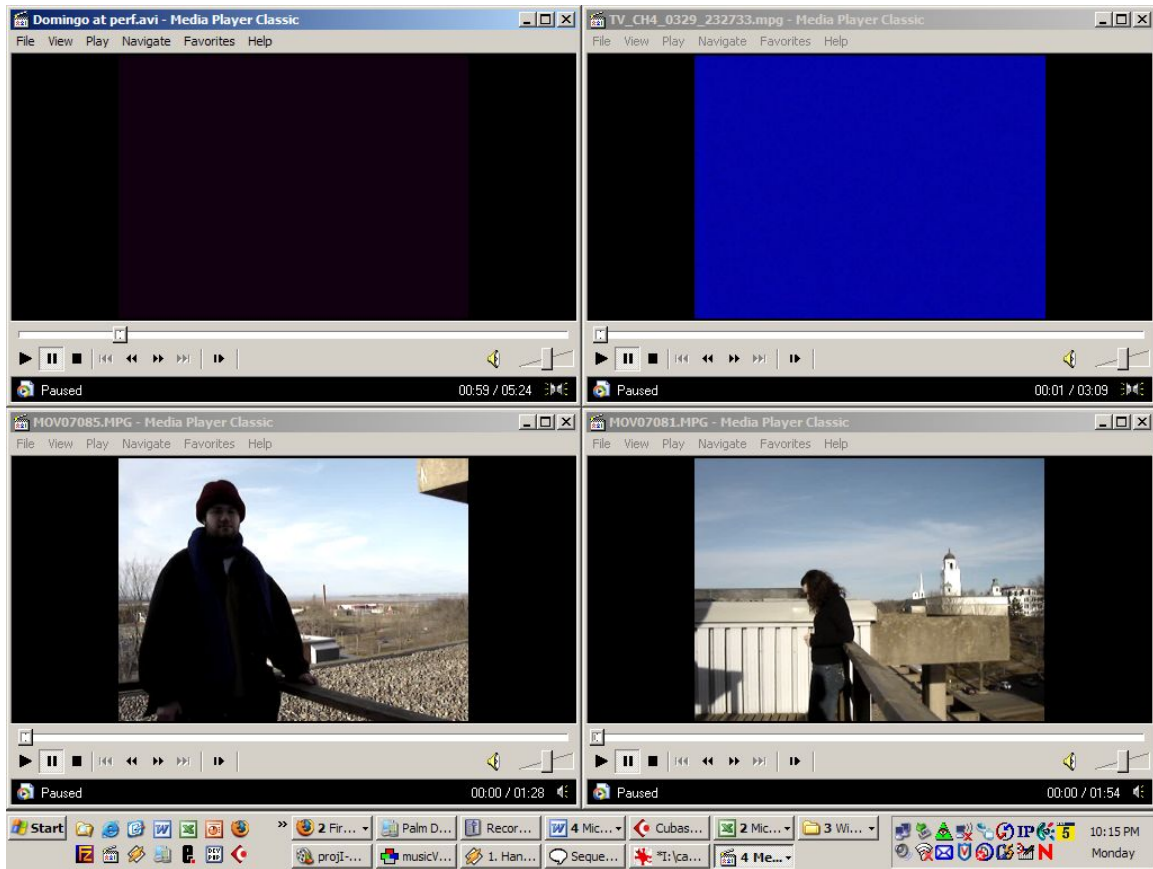
I had also originally considered doing the video first and then sing along, but I realized that would fail horribly with all the pictures to insert. Thus, I figured, sing first and then make the video around, altering the sound here and there later if need be. All backwards and upside-down compared to reality, naturally. Doing video, then sound, then video really makes you see why the pros start with the sound. But c'est la vie. I was lucky that the microphone port still worked, I thought. A cheapo mic hadn't worked in it earlier, and my built-in microphone seemed to be dead, but the borrowed, higher quality mic still worked in the mic in port. Somehow it also seemed less static-y then before.

Once I got the audio in, I started adding video throughout. The first to be thrown in was the end of the acting, as I needed to start the singing on top of that. To do that little maneuver between programs, I used a split in the timeline in Movie Maker, wiped out the rest of the stuff in my current project (which had been saved under another name first, of course), then exported that one bit of video for use in Multiquence. This allowed me to later just delete that bit of video in Movie Maker, throw on the finished MVP, and have everything line up as nice as you could want.

Pictures were the next easiest thing to go with. I dug up some Domingo pics, and some flamingo pics (the ones I found at first were ugly, hence *Fantasia 2000*), as well as some Ringo and dingo pics. Normally I use Irfanview to combine pics for cases such as flamingo/Domingo, but the pictures were of different sizes so I ended up using Paint (in retrospect, I suppose I could have just resized one first.) For the rest of my image editing (resizing, adding borders to make correct aspect ratios) I mainly used Irfanview.

I took the bingo and Spanish video shots in my apartment, propping the camera on various objects (I couldn't find the piece of my own tripod that connects the camera to the tripod – oddly enough, though, I just found it sitting in plain sight under a table today.) In an ideal world, though, I would have just used a camera person. Having a camera person lets you have more control over angles and conserve footage (though you'd lose potential bloopers, as when Katie and I were filming we got some great bloopers out of the footage we didn't actually need).

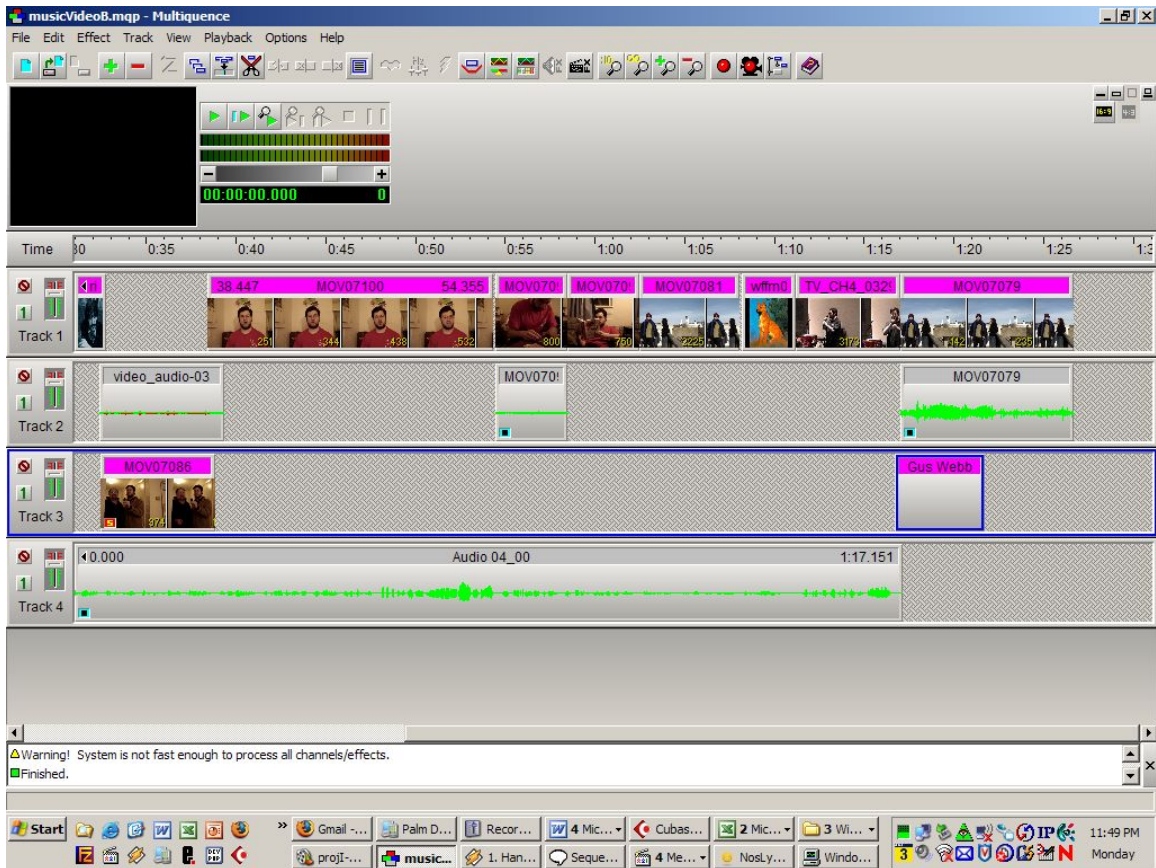
The trickiest part was choosing which bits of footage to use for the singing on film. For this, I loaded up the four shots of the song I had at the same time in four different instances of Media Player Classic (perf class, which actually had two takes in it, Coffee Haus, solo shot on roof, Katie and I on roof).



With the four videos opened, I went piece by piece through them to choose which video to use as the source for which section, the sections having been determined from the script that I was annotating with video info. In the end I didn't even use any of the solo take on the roof.

For what I consider the vocal climax of the song ('...camera trick you see – Domingo...), I decided to shoot some new video in my apartment, lip syncing to the vocal track. For this particular section I thought the syncing was particularly important (though it may have slightly desynced again later when I was working on the audio... more on that later).

I had also taken a bit of video of me and Dad. It was slower than my vocal take, though, so I sped up the sound in Cubase and the video in Multiquence, using fades to get rid of the a capella audio for the bit with me and Dad singing.



(In this picture - Track 1 is the main video track, Track 2 I have auxiliary audio, Track 3 I have auxiliary video and captions, Track 4 is primary audio)

For the end of the MVP, I took the opening section of the end video from the roof (up to where I was going to angle change), kept the audio with it, and then kept the start of the video faded out so I could have singing over it.

Multiquence also can do captions and credits. I used its caption capability for the music video captions, getting some advice from my friend Dave Turcotte in order to get the caption formatting relatively accurate.

Once all the video syncing was done, I did an export of the audio/video, as well as the audio alone for work in Cubase.

All Your Cubase Are Belong to Us

Once back into Cubase with the main vocal track (which now contained the little bit of me and Dad as well as a bit of the end dialogue), I could get to work at accompanying.

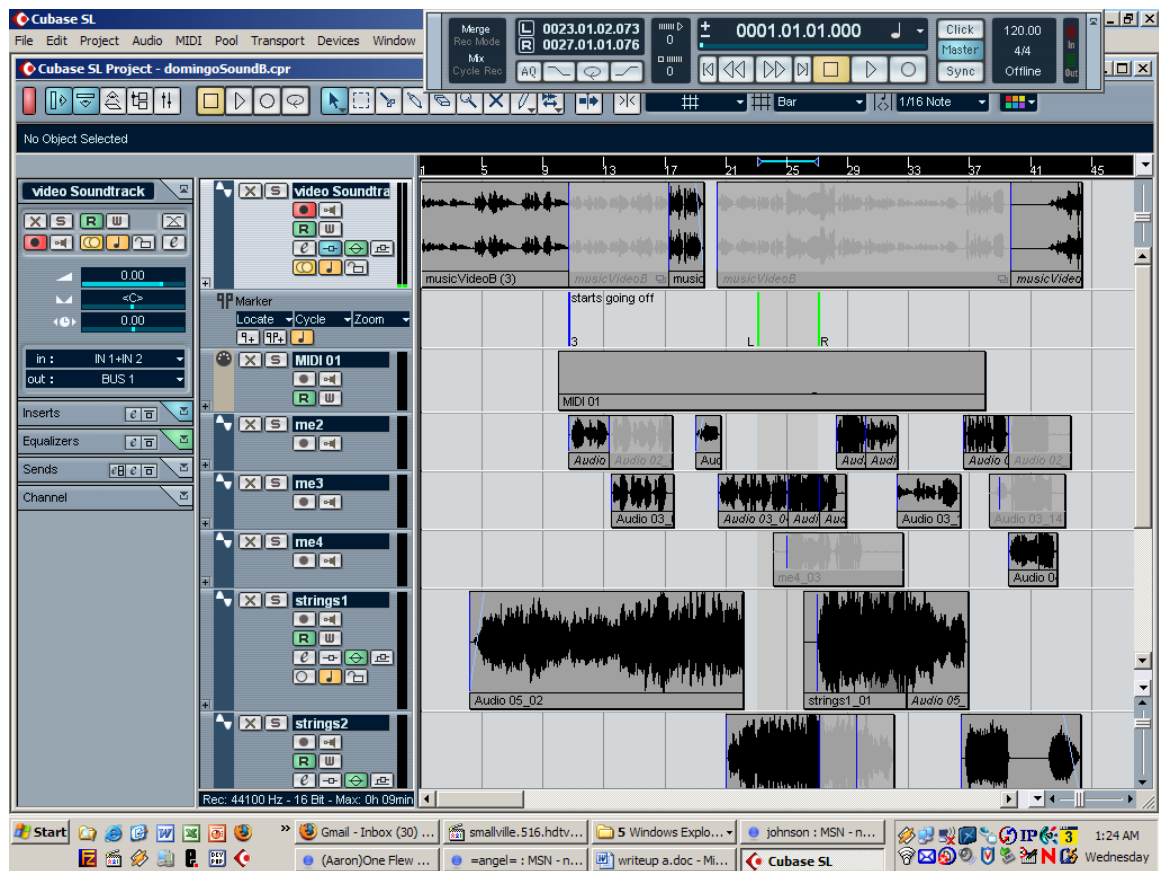
Or so I thought!

A nagging feeling had started to grip me during the final stages of video editing. It occurred to me – what if I hadn't stayed fully on key while singing the song a capella? That could be awkward.

And sure enough, I was way off within the first couple phrases. Sigh. I had actually tried to sing along to the keyboard with headphones attached, but that hadn't worked out so I just thought I could do it. But I need to work on my tuning it seems.

This is where a lot of manual punching in/punching out happened. For whatever reason I prefer to just start early on a track and record along, just splitting and muting where I need to, as opposed to setting up the punch in/punch out automations. I guess I just feel it gives me a bit better control over where I'm going to jump the tracks, as it were.

In some cases, I actually tried to sync the audio a bit more with the video since I was re-recording anyway. I tried to fit audio to video without giving up the feel that the audio required. It was dicey in places, but it ended up pulling together.



Accompaniment

Three new tracks later, the main vocal was done. Next I started to add accompaniment. This was also fraught with peril, largely because it turned out I hadn't really sung the piece in 'time' per se. I am used to *Domingo* being a capella and having the ability to be fairly liberal with the use of time, particularly since the words don't match the original music anyway. Then of course, there was the fitting of audio to video that had occurred during some of the re-recording of the vocal track. So, accompanying this was a particular challenge but it seemed to turn out alright in the end.

I started with the Virtual Bass (VST). I thought some bass to follow the bass line would be good. To begin, it was necessary to fight with the computer in order to get it to accept MIDI input from my keyboard. The computer was a tough opponent, but I sacrificed my optical mouse and plugged in both the blasted Cubase dongle and the MIDI connector at the same time, then started Cubase so that Cubase would actually detect the MIDI. Then came the bass. What can I say? It was bassy. Somewhere along the line I realized I actually needed to plug in headphones to hear what's going on properly, though. I'm used to listening to the laptop speakers a fair bit, so sometimes I tend to forget you need higher quality equipment to really hear what you're doing.

Once the bass was in, I put in some strings. This I did as analog sound, with a splitter so that I could hear the sound on my headphones at the same time I was recording (what with Cubase's latency issues).

Mixing came next. I only did the eq process (scroll along focusing on a narrow frequency range at high gain, listen for weird sounds at certain frequencies, drop those a bit below the rest) for one track of voice and one track of strings copying the eq to the other tracks of voice and strings respectively. Once eq'ing was done, I used automation on the volume controls. I also eq'd some of the opening dialogue on it's own, trying to knock some of the weird sounds out of it.

Once the mix was sounding good, I exported the sound. I added the video and the audio back into Movie Maker on the end of the opening acting sequence.

Alpha to Omega

Back in Movie Maker, I finished editing up the end sequence, much as I had done the opening sequence, except this was simpler, though there were a few extra bits to do. I added a sepia effect into the middle of the music video. I also used Multiquence for one standalone bit with Domingo (audio from a Cubase recording of Dad, who improvised what was probably my favourite line in the film), adding that into Movie Maker, too. However, I realized the credits wouldn't work out in Movie Maker, as MM attaches the credits to a specific clip or throws them on the end, whereas I needed a blooper reel. I also needed a bit of blank space just before the credits for the 'DUN DUN DUN' chords (hadn't held quite long enough for them when shooting).

Thus, I exported everything from Movie Maker at this point, sound and audio, then did another video of just the blooper clips and exported it, then headed back into Multiquence for the end credits.

I used Cubase to record ending audio music (more analog keyboard) to go under the credits, starting with the DUN DUN DUN chords (which I figured out were a certain series of diminished 7th inversions). Bouncing around between Multiquence and Cubase I got all the video and sound done together (I'm not even sure exactly how I bounced around anymore, the process got really confusing), got the credits written up, and exported the whole shebang.

And thus I finished my music video.

OR DID I? DUN DUN DUN!!!

Eleventh Hour Disaster – Will Our Hero Survive?

The sound got metallic! Metallic! In the final mix, things just sounded weird, for no apparent reason. Well, logically it must have been due to bouncing around through different programs so much. Something made the sound go wonky.

I darted around programs and files trying to figure out where it all went wrong, and I soon jumped back into Cubase and listened to the final audio mix on its own. Thankfully, it was ok.

Thus I realized that if I could just get VirtualDub to combine the video and audio tracks separately (exporting a separate video track from Multiquence for the matter), without Vdub adding its own desynchronizations like it usually does to me, then everything would turn out ok. VirtualDub doesn't always inspire confidence in me, especially when it couldn't throw two avi's together in an earlier test during this project because they were .000003 or something fps off each other.

So I stuck Vdub on direct stream copies, added the sound from the wave, saved and hoped, oh how I hoped...

And it worked.

And thus, I finally actually did finish the music video.

My Odyssey was complete.

Final Words

In the end, the project came out very well in my opinion. The acting, the music, the gags all came together to form something that has since caused people to get me to play it twice in a row. (Well, Katie the actress and my parents, so far, so there might be some bias, but that's still pretty good!)

The concept I scripted actually worked as I had roughly envisioned it (with slight tweaks along the way, as one would expect), and it was great to get Dad's work done up in a whole new way. The video is also a good sum of the year. It encompasses MusicTech, my time with Stacie's Studio, Coffee Houses, musicianship and theory skills (dun dun dun), and friends and family.

The audio quality came out better than I expected, particular in terms of signal to noise ratio. There was less hiss than I expected, and I discovered that the School of Music mics record a lot more signal if you get your face right up to them. In fact, during the rerecords I was just playing notes audibly on my keyboard to help my pitch, and the recording still went fine.

I learned a lot about video and audio. For one thing, I did the process in a crazy mixed up way and it worked ok for me, but really you want to do audio first, then video! At least for a music video. This was proven by the fact that even though I did video first, I still did sound before editing. But then I did things the way I did due to inspiration, whose whims I was at the mercy of.

I think for tv and film they record both at the same time, then record sound over to get better sound quality, but keeping the syncing intact. There is, too, an interplay between sound and video, a little give and take, from what I've read of film music. Film music is largely stuck to what the video and in-scene audio desires, though.

Backing up is always important! I didn't suffer any disasters this time, but I was backing up to multiple partitions. Should have also backed up to DVDs as I went too, but it's hard to keep up with backup. Oh, how hard it is to keep up with backup. As I write, I discover I just lost some data from my Palm Desktop software during my last computer crash. Sigh.

Professional singing isn't super-necessary for comedy. Though it would be cool to get Domingo to sing this song. That would be freakin' awesome.

I suppose the biggest lesson, which you may realize but not as fully until you've immersed yourself in it, is that sound and film really are a lot harder than they look. Like most things, it seems easy if it's done right, unless you really think about all those camera changes and angles they have to get, and so on...

And my final note – the Bingo tickets used as props in the film netted me \$14 bucks. Sweet deal!