Now that this project is reaching some sort of closure, I’m going to talk about what I feel went well, what went poorly, and all the in-betweens. Before I get into the finer points, I want to say I’ve had a fantastic time working on this project in my final semester. We hit our stride, quickly overcame problems, and built a more-or-less fully functioning program by the end. Our first semester was very difficult – we were swimming in unfamiliar waters. No audio experience, and minimal experience with thinking outside of a set of the code guidelines provided by assignments. I found this semester to be a very rewarding problem-solving experience, and I’m surprisingly proud of the end result.

First up, what I feel went well. We came into the second semester after taking a short break from actively working on the project, and we were aware of our now limited time to produce something for a user. We decided to begin actively fleshing out the user-facing GUI for our final application, as well as the code on the back end that would facilitate the reading and matching of audio. Both Leonard and I put in a great deal of work to get this initial prototype going, and it did – sort of. Through some long days and a huge amount of google & teamwork, Leonard and I managed to get a real working prototype. I feel our teamwork really shone this semester, we communicated constantly and actually began really enjoying the time we were investing into our project. Both of us were involving in every major decision step of our project, and the result came out great.

The poorer parts of my project experience are more entrenched in the first semester of project. I found it very difficult to understand all of the moving pieces that would be required to make our project plan a reality. And as I mentioned earlier, neither me nor Leonard had any experience with audio files and we lacked confidence with languages other than C# / Web. We had one particular time where neither of us wanted to work, and we felt stuck in a rut for about 2 weeks wherein nothing was achieved. I still feel bad about this, but as soon as the second semester started we made a great comeback. My biggest problem was finding a direction to run in for this project, as well as overcoming the initial burnout while we were still planning our project and trying to find libraries or tools to offload the overly complex parts of our assignment, such as actually developing a tool to compare the similarity of two sound files.

In conclusion, our project had a very rocky start, due to my lack of direction and much uncertainty of how viable the end result would actually be. However, as soon as I had even a semblance of a direction and a plan, work speed and progress increased rapidly. I loved being able to solve the interesting problems this project provided, from things like culling ambient noise, to storing bindings between runs, and to fine-tuning the optimisation of those bindings to increase their execution speed. Leonard and I worked extremely well together, and that teamwork and pacing between the two of us made this project very fun to develop.

We realised a big fault in our design, our front end and all code for managing what the user does is written in C#/.NET, our audio matching library was in C++, and our audio recording library was in Python. The C# and C++ interplay quite well, the oddball here was Python. After much debate and a week of trying to find a path of least resistance, we settled on an idea. We had to rewrite the python recorder to C#. And using a library called NAudio, Leonard began working on porting this code. While he did that, I worked on the GUI, and code to control the way we’d handle all the user-created bindings. Soon, we’d both finished our tasks