Music School Database Project Report

For my project I started off by choosing a music school database. The database was built and designed to have efficient storage and management of the students,teachers,courses, and enrollment data.The system can help find a student by name, filter by what instrument the teacher teaches, student plays, or that the course focuses on. I began designing this by thinking about what elements a music school consists of. For example students taking courses, teachers teaching the courses, and courses focusing on specific instruments. When adding these I kept in mind how they interact with each other to choose my entities. Each entity has its own unique key attribute to help differentiate from others and I created relationships between entities like how students enroll in courses and teachers teach them. For this project I used multiple tools to represent it such as ER Diagrams which one I drew by hand and one I got through Microsoft Access. I also used Microsoft Access and MySQL Workbench to create the tables I designed and also add sample data to display how it would look if the database was used. A challenge that I had was determining what information should and shouldn't be included. When I first started to decide what I was going to include I started to think about how the school can consist of different buildings for each different instrument and to include staff not just teachers. Also I was thinking about what if a student wanted to play multiple instruments like how in college you can have a major and a minor. Another thing was if I should include things like recitals, or competitions but I decided on not going into debt with it. A different challenge I was having was if courses needed to be its own entity or if it should be a foreign key between students and teachers but I ended up making it its own to make it more organized and to help reduce redundancy. I also was contemplating when drawing my ER Diagram if I should include attributes or to just leave it to the entities and relationships since it was listed but I felt like there was no harm in doing it and it would help display the foreign keys which shows more in detail how some entities interact with each other. This project helped me get a better understanding

for database design, ER Diagrams, and SQL scripting since I had to start from just a topic and build from there. It also learned how I can translate real world information into a database system.