ITE 327 Final Report

FINAL DATABASE

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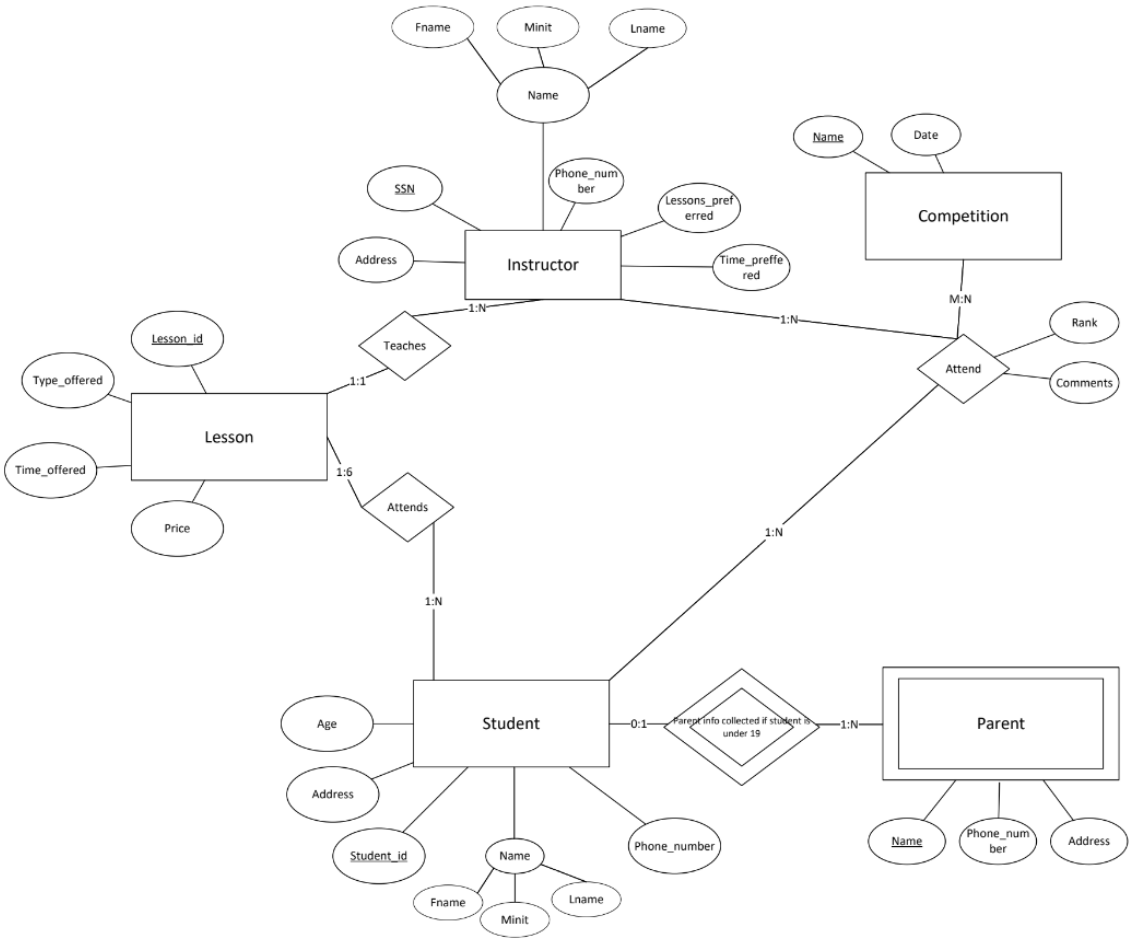
Introduction

Students taking ITE 327 were tasked with creating a database for the Huntsville Music School. Entities that needed to be included in this database consisted of lessons, students, instructors, competitions, and parents. In order to create the database, students underwent three phases to accomplish this task. To achieve this, an ED diagram required to be created, the diagram mapped, and finally, a database would be created from the mapping. Software that was used included Microsoft Visio, Word, and XAMMP.

Entity-Relationship Diagram

In the first phase, students created an Entity-Relationship (ED) diagram using Visio. They went about this by first separating the necessary entities and associating attributes to them. Lessons, students, instructors, competitions, and parents were entities that needed to be included in the ED diagram along with their attributes. Afterwards, entities were linked together by mapping their relationship. When doing this, relationships could have a 1:1, 1:N, or M:N relationship. In addition, more than two entities could be involved in a relationship concurrently. With the information given, students had to decipher how many entities were involved in a given relationship.

Figure One. ED Diagram



Mapping

In the second phase, students were provided feedback for their ED diagram and based on this feedback, their diagrams would have to undergo several revisions before they were able to map the diagram. When mapping, students were instructed to first map entities and their primary keys and foreign keys. Following this, relationships that were 1:1 and 1:N were to be mapped next. The final part to map would be any relationships that were M:N since these relationships would require to be mapped separate from the entities they were associated with.

Figure Two. Mapping Diagram

Project Phase 2

- Instructor(SSN[pk], Address, Name, Phone_number, Lessons_preferred, Time_preferred)
- Teaches(Lesson_id[pk,fk], SSN[pk,fk])
- Competition(Name[pk], Date)
- Attend(Name[pk,fk], SSN[pk,fk], Student_id[fk], Rank, Comments)
- Attends(Lesson_id[pk,fk], Student_id[pk,fk])
- Lesson(Lesson_id[pk], Type_offered, Time_offered, Price)
- Student(Student_id[pk], Age, Address, Name, Phone_number)
- Parent(Name[pk], Phone_number, Address, Student_id[pk, fk])

SQL Database

In the final phase, students were tasked with creating a database from the mapping using SQL. XAMPP was used to create the database. After naming the database, the entities mapped were converted into tables. The tables would be named, and a number of columns could be created. From here, the primary key could be assigned and afterwards, any foreign keys could be added after the attribute was indexed. Subsequently, sample data was uploaded to each table in the database to test it. After a few attribute data type changes, sample data was successfully uploaded to each table. In the following pages, a few screenshots of the database can be seen.

Figure Three. Database Mapped

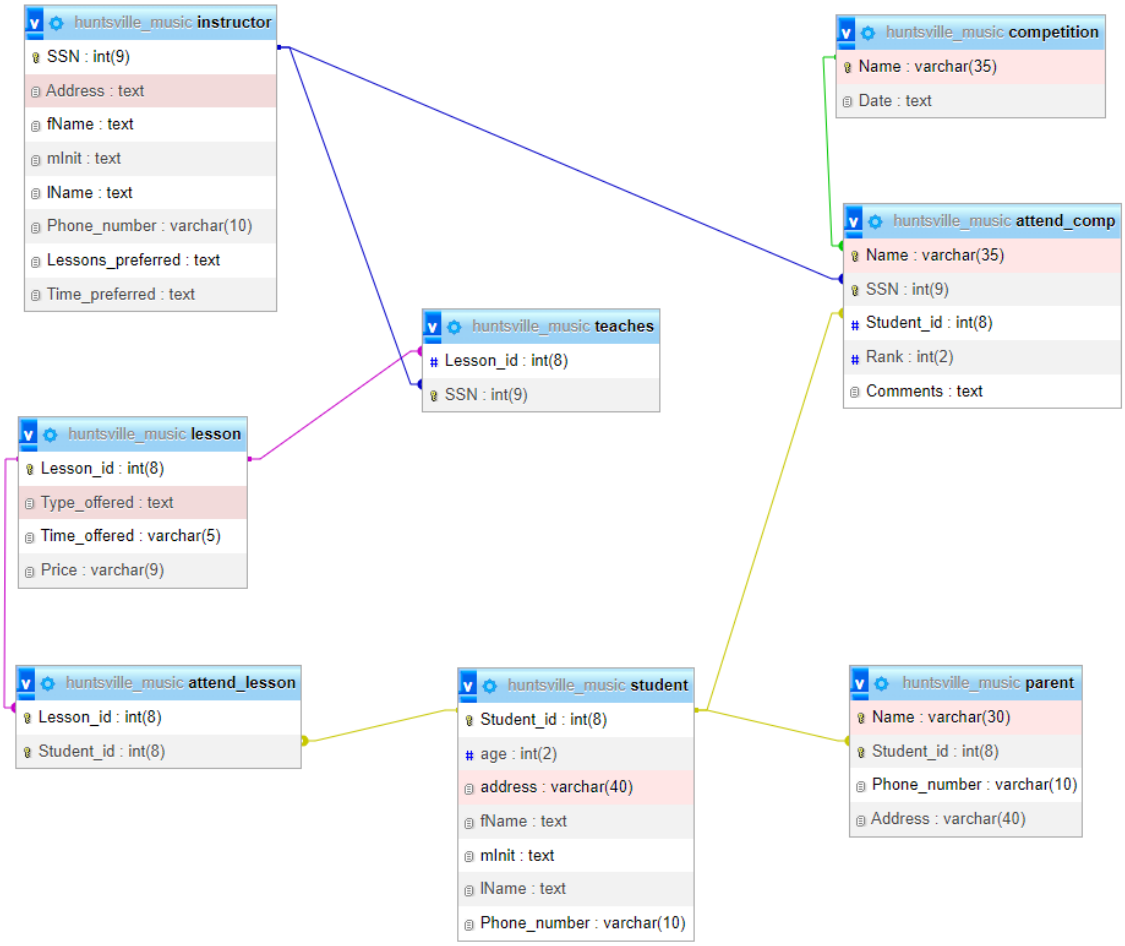


Figure Four. Instructor Table

Showing rows 0 - 3 (4 total, Query took 0.0002 seconds.)

```
SELECT * FROM `instructor`
```

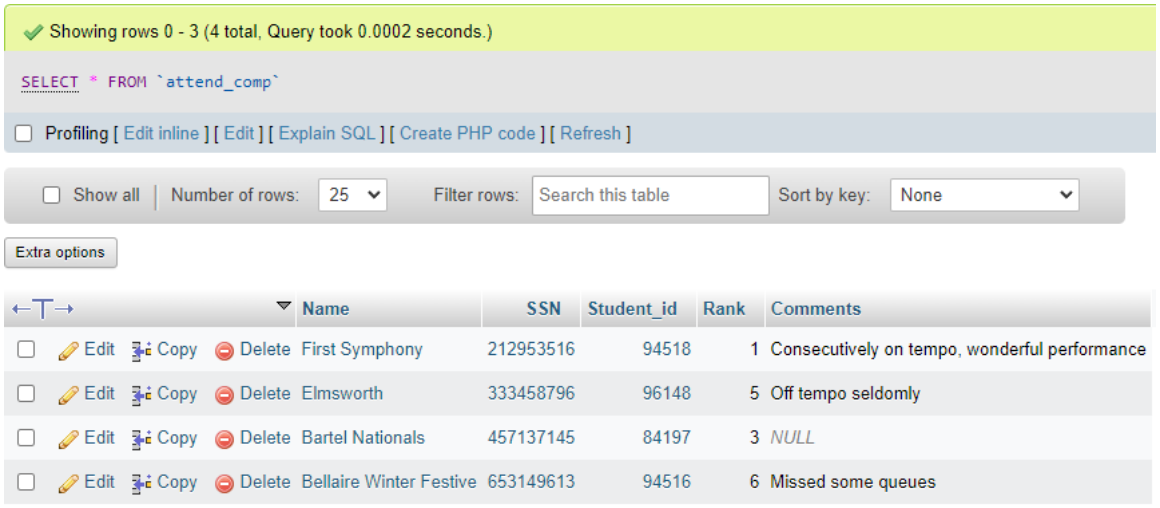
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

	SSN	Address	fName	mInit	lName	Phone_number	Lessons_preferred	Time_preferred
Edit Copy Delete	212953516	3321 Castle, Madison, AL	Alicia	*NULL*	Zelaya	2567275491	Violin	13:00
Edit Copy Delete	333458796	638 Voss, Athens, AL	Franklin	L	Wong	2569846485	Guitar	12:00
Edit Copy Delete	457137145	291 Berry, Huntsville, AL	Jennifer	*NULL*	Wallace	2560709162	Drums	14:00
Edit Copy Delete	653149613	731 Fondren, Athens, AL	John	B	Smith	2568491212	Piano	11:00

Figure Five. Attend Competition Table



Showing rows 0 - 3 (4 total, Query took 0.0002 seconds.)

```
SELECT * FROM `attend_comp`
```

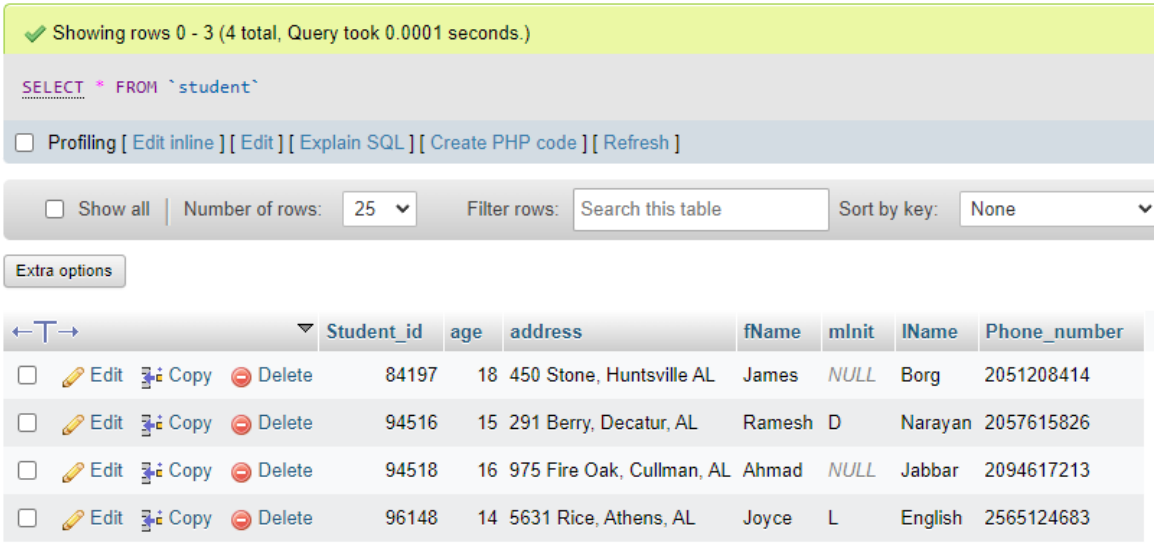
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

	Name	SSN	Student_id	Rank	Comments
Edit Copy Delete	First Symphony	212953516	94518	1	Consecutively on tempo, wonderful performance
Edit Copy Delete	Elmsworth	333458796	96148	5	Off tempo seldomly
Edit Copy Delete	Bartel Nationals	457137145	84197	3	*NULL*
Edit Copy Delete	Bellaire Winter Festive	653149613	94516	6	Missed some queues

Figure Six. Student Table



Showing rows 0 - 3 (4 total, Query took 0.0001 seconds.)

```
SELECT * FROM `student`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

	Student_id	age	address	fName	mInit	lName	Phone_number
Edit Copy Delete	84197	18	450 Stone, Huntsville AL	James	*NULL*	Borg	2051208414
Edit Copy Delete	94516	15	291 Berry, Decatur, AL	Ramesh	D	Narayan	2057615826
Edit Copy Delete	94518	16	975 Fire Oak, Cullman, AL	Ahmad	*NULL*	Jabbar	2094617213
Edit Copy Delete	96148	14	5631 Rice, Athens, AL	Joyce	L	English	2565124683