COMP2350/6350 Database Systems

Practical - Week 3

Database Model to DDL Script

Problem Domain

A local business, Notown Records, has decided to store data about musicians who perform on its albums (as well as other company data) in a database. The company has wisely chosen to hire you as a database designer. The specification is in the next page.

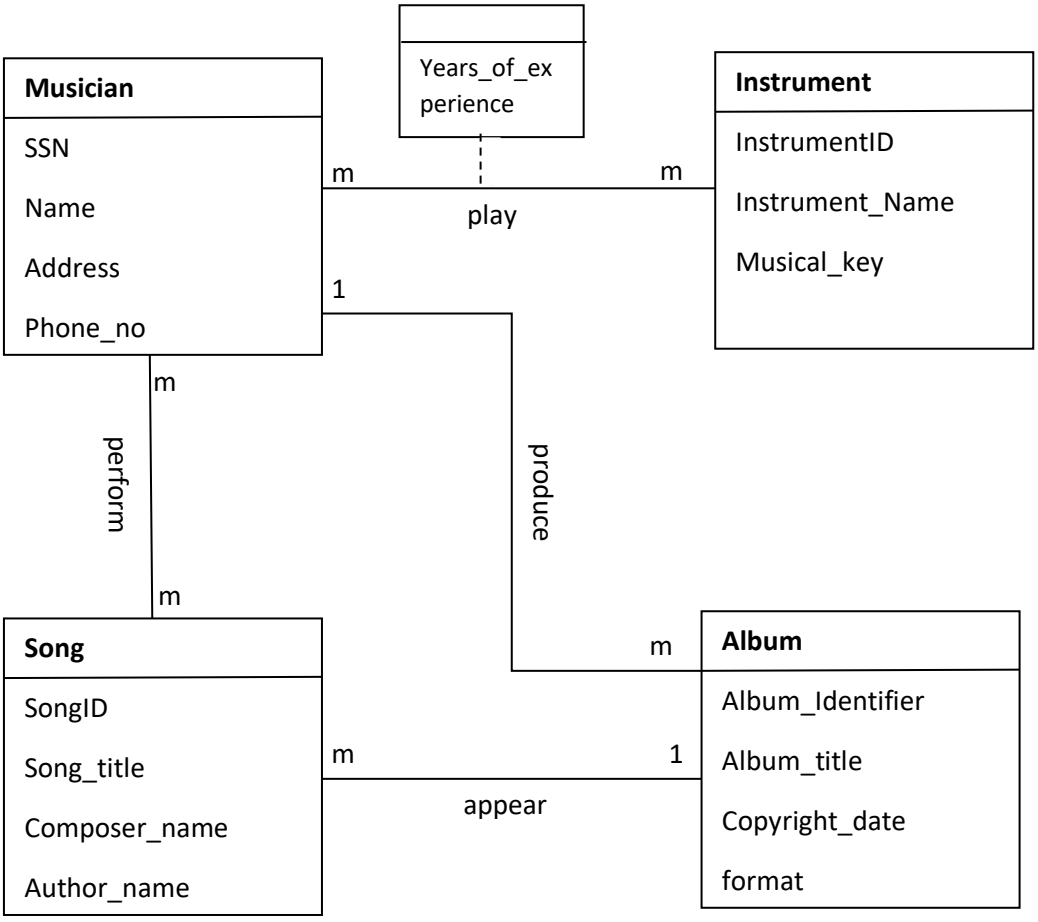

Figure 1: Conceptual model for Notown Database showing entities, attributes and relationships

The specification of the user requirements is as follows:

- Each musician that records at Notown has an SSN, a name, an address, and a phone number.
- Each instrument used in songs recorded at Notown has a unique identification number, a name (e.g., guitar, synthesizer, flute) and a musical key (e.g., C, B-flat, E-flat).
- Each album recorded on the Notown label has a unique identification number, a title, a copyright date, a format (e.g., CD or MC), and an album identifier.
- Each song recorded at Notown has a title, a composer and an author.
- Each musician may play several instruments, and a given instrument may be played by several musicians. Notown also keeps record of the number of years that a musician is playing a particular Instrument.
- Each album has a number of songs on it, but no song may appear on more than one album.
- Each song is performed by one or more musicians, and a musician may perform a number of songs.
- Each album has exactly one musician who acts as its producer. A musician may produce several albums, of course.

Task Specification

Task1: One form of ER model for the above scenario is given in Figure 1. Draw the corresponding diagram using Workbench and set the data types of the attributes thoughtfully. (You might find it instructive to draw the many-many relationship between the *musician* entity and the *song* entity before drawing the other such relationship.) Indicate all `primary` keys and cardinality constraints in the diagram. **Ensure that you have changed the name of your schema to your database name (i.e., your user name). If you are not sure how to do this, please refer to Figure 4 of Workbench Basics document.**

Task2: Convince yourself that you adequately understand how the entities and the relationships in the diagram accord with the problem description. Seek help from your lab demonstrator if something is unclear to you.

Task3: Forward-Engineer this Diagram to DDL Script and save it in your H drive. This step is a bit convoluted. Follow the following sub-steps to successfully save the script:

1. Click **File > Export > Forward Engineer SQL Create Script,** or simply press **CTRL + SHIFT + G**
2. A new window will appear with a field for the "Output SQL Script File". You will like to save it in the desired folder in the H drive. Provide the path name together with the file name `week3.sql`. Then Click **Next**.
3. A new window appears with option of what DB objects are desired to be exported. Make sure the box for **Export MySQL Table Objects** is selected. Then Click **Next**.
4. A new window appears with the script to review. Click **Finish**.
5. Now locate the script you saved in the H Drive. Review and make sense of it. Seek help from your supervisor if something does not make sense.