

Design and Create Schema

Group 18: Chengzhen Wu, Huiqi Mao, Ruofan Zhou

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1 The ER model

We draw our ER model as below:

2 SQL commands

```
—ENTITY area
CREATE TABLE area (
  AID INTEGER,
  Aname CHAR(45),
  Atype CHAR(45),
  PRIMARY KEY (AID));

—ENTITY genre
—we don't need gcount in genre
CREATE TABLE genre (
  GID INTEGER,
  Gname CHAR(45),
  PRIMARY KEY (GID));

—ENTITY artist
CREATE TABLE artist (
  arID INTEGER,
  name CHAR(45) NULL,
  type CHAR(45) NULL,
  gender CHAR(45) NULL,
  PRIMARY KEY (arID));

—ENTITY track
CREATE TABLE track (
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TID INTEGER,
position INTEGER,
recording_RID INT NOT NULL,
artist_ID INT NOT NULL,
artist_area_AID INT NOT NULL,
artist_genre_GID INT NOT NULL,
media_MID INT NOT NULL,
media_release_REID INT NOT NULL,
PRIMARY KEY (TID));

—ENTITY recording
CREATE TABLE recording (
    RID INTEGER,
    Rname CHAR(45),
    Rlength CHAR(45),
    PRIMARY KEY (RID));

—ENTITY release
CREATE TABLE release (
    REID INTEGER,
    Relname CHAR(45),
    PRIMARY KEY (REID));

—ENTITY media
CREATE TABLE media (
    MID INTEGER,
    Mformat CHAR(45),
    release_REID INTEGER,
    PRIMARY KEY (MID));

—RELATIONSHIP artist_area
CREATE TABLE artist_area (
    arID INTEGER NOT NULL,
    AID INTEGER,
    PRIMARY KEY (arID, AID),
    FOREIGN KEY (arID) REFERENCES artist,
    FOREIGN KEY (AID) REFERENCES area);

—RELATIONSHIP artist_genre
CREATE TABLE artist_genre (
    arID INTEGER NOT NULL,
    GID INTEGER NOT NULL,
    PRIMARY KEY (arID, GID),

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FOREIGN KEY (arID) REFERENCES artist ,
FOREIGN KEY (GID) REFERENCES genre );

—RELATIONSHIP media_recording
CREATE TABLE media_recording(
  MID INTEGER,
  REID INTEGER,
  PRIMARY KEY (MID, REID),
  FOREIGN KEY (MID) REFERENCES media ,
  FOREIGN KEY (REID) REFERENCES recording );

—RELATIONSHIP artist_track
CREATE TABLE artist_track(
  arID INTEGER NOT NULL,
  TID INTEGER NOT NULL,
  PRIMARY KEY (arID , TID),
  FOREIGN KEY (arID) REFERENCES artist ,
  FOREIGN KEY (TID) REFERENCES track );

—RELATIONSHIP trackR
CREATE TABLE trackR(
  TID INTEGER, RID INTEGER, MID INTEGER,
  PRIMARY KEY (TID, RID, MID),
  FOREIGN KEY (RID) REFERENCES recording ,
  FOREIGN KEY (TID) REFERENCES track ,
  FOREIGN KEY (MID) REFERENCES media );

```