GG-p1-project

December 6, 2024

1 GG P1 Project

- istXXXXXXX1 FirstName1 LastName1 (33%)
- istXXXXXXX2 FirstName2 LastName2 (33%)
- istXXXXXXX3 FirstName3 LastName3 (33%)

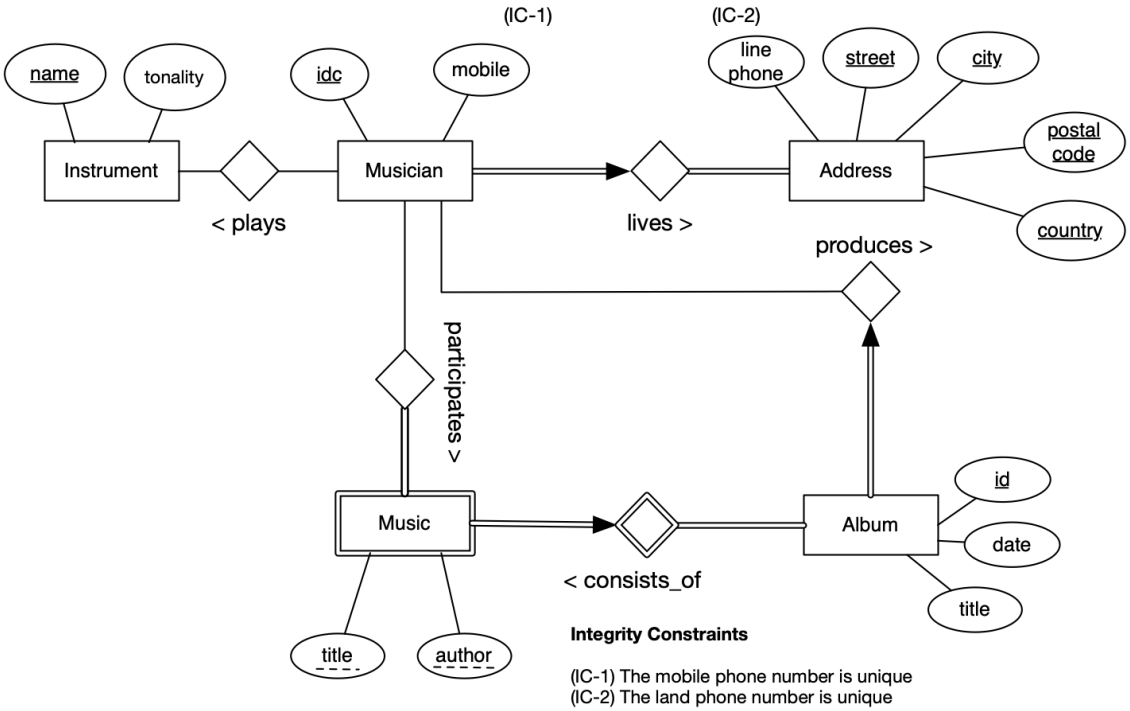
Prof. FirstName LastName (and Prof. FirstName LastName)

Lab Shift number: PBXX

1.1 PART I – E-R Model

1. Proposed database design An E-R model describing your proposed database design. Every design decision that can be captured in the E-R model should be represented in the diagram. Do not forget to include additional integrity constraints not captured in the E-R model. You may provide notes explaining the rationale behind non-trivial design decisions.

1.1.1 E-R Model



1.2 PART II – Relational Model

1.2.1 Database Schema

1. Create the tables and integrity constraints corresponding to the relational database schema obtained. Do not forget to include additional integrity constraints not captured in the relational model.

Please use database `db`, which should already have been created. If not, follow the instructions in Lab01 to create it.

[ ]:
```
%load_ext sql
%sql postgresql+psycopg://db:db@postgres/db
```

[ ]:
```
%%sql

DROP TABLE IF EXISTS participates;
DROP TABLE IF EXISTS Music;
DROP TABLE IF EXISTS Album;
DROP TABLE IF EXISTS plays;
DROP TABLE IF EXISTS Instrument;
DROP TABLE IF EXISTS Musician;
DROP TABLE IF EXISTS Address;

CREATE TABLE Musician (
    idc INTEGER,
```

```
    mobile VARCHAR(15),
    street VARCHAR(255),
    postal_code VARCHAR(12),
    city VARCHAR(30),
    country VARCHAR(70),
    line_phone VARCHAR(15),
    PRIMARY KEY (idc),
    UNIQUE (mobile),
    UNIQUE (street, postal_code, city, country),
    UNIQUE (line_phone)
);

CREATE TABLE Instrument (
    name VARCHAR(80),
    tonality VARCHAR(30),
    PRIMARY KEY (name)
);

CREATE TABLE plays (
    idc INTEGER,
    name VARCHAR(80),
    PRIMARY KEY (idc, name),
    FOREIGN KEY (idc) REFERENCES Musician(idc),
    FOREIGN KEY (name) REFERENCES Instrument(name)
);

CREATE TABLE Album (
    id VARCHAR(255),
    title VARCHAR(255),
    date DATE,
    producer INTEGER,
    PRIMARY KEY (id),
    FOREIGN KEY (producer) REFERENCES Musician(idc)
);

CREATE TABLE Music (
    id VARCHAR(255),
    title VARCHAR(255),
    author VARCHAR(80),
    PRIMARY KEY (id, title, author),
    FOREIGN KEY (id) REFERENCES Album(id)
    -- Every music must appear in the table 'participates'
);

CREATE TABLE participates (
    idc INTEGER,
    id VARCHAR(255),
```

```
    title VARCHAR(255),
    author VARCHAR(80),
    PRIMARY KEY (idc, id, title, author),
    FOREIGN KEY (idc) REFERENCES Musician(idc),
    FOREIGN KEY (id, title, author) REFERENCES Music(id, title, author)
);
```