

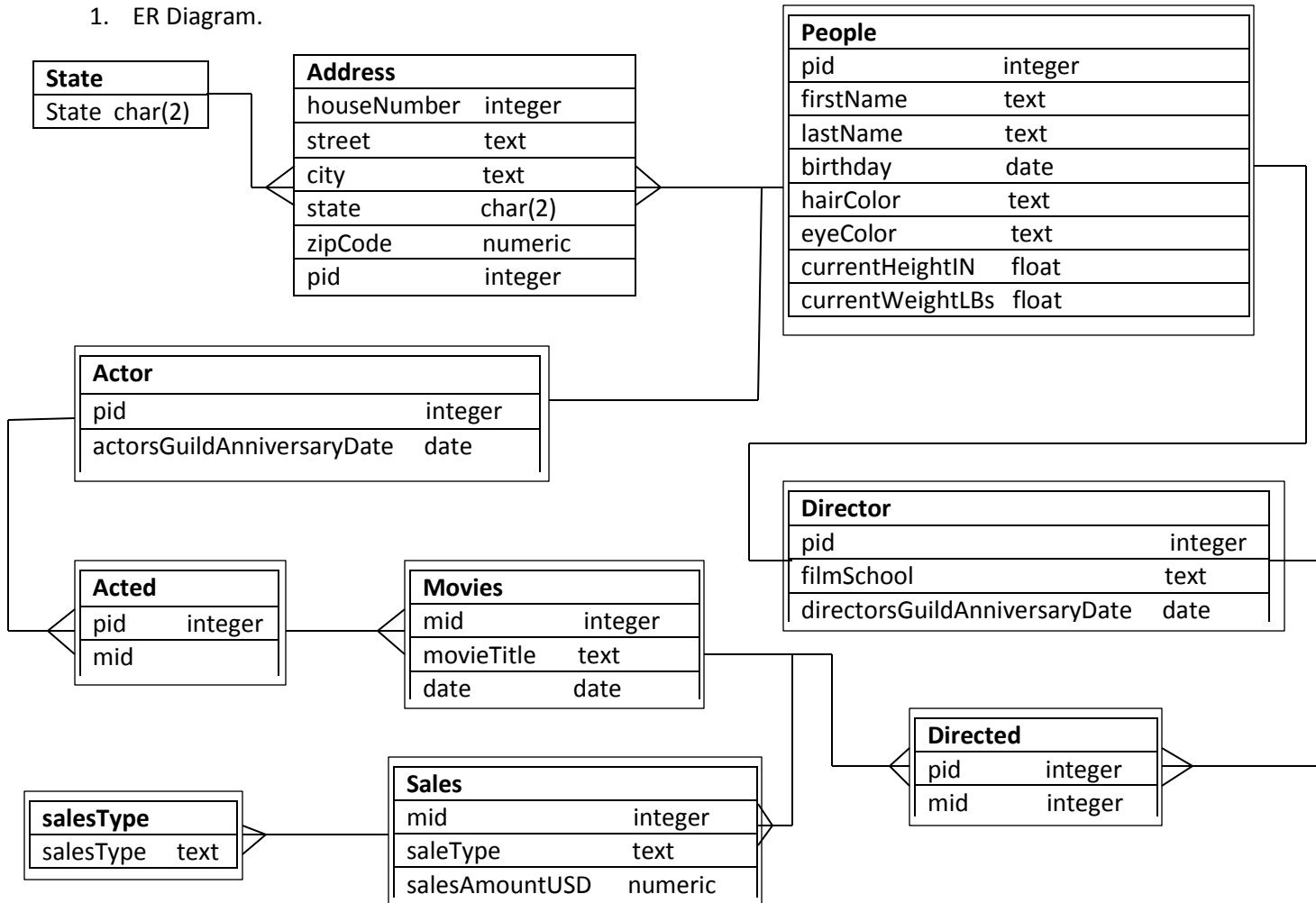
Jon Higgins

Professor Labouseur

November 4, 2013

## Normalization Homework #2

### 1. ER Diagram.



## 2. Create Statements

--State

```
drop table if exists states
create table states(
    state char(2) not null,
    primary key(state)
);
```

--Address

```
drop table if exists addresses
create table addresses(
    houseNumber integer not null,
    street text not null,
    city text not null,
    state char(2) not null references states(state),
    zipcode numeric not null,
    pid integer not null references people(pid),
    primary key(streetNumber, street, city, state, zipcode)
);
```

--people

```
drop table if exists people
create table people(
    pid integer not null,
    firstName text,
    lastName text,
    birthday date,
    hairColor text,
    eyeColor text,
    currentHeightIN float,
    currentweightLBs float,
    primary key(pid)
);
```

--actor

```
drop table if exists actors
create table actors(
    pid integer not null references people(pid),
    actorsGuildAnniversaryDate date,
    primary key(pid)
);
```

--director

```
drop table if exists directors
create table directors(
    pid integer not null references people(pid),
    directorsGuildAnniversaryDate date,
primary key(pid)
);
```

--movies

```
drop table if exists movies
create table movies(
    mid integer not null,
    movieTitle text not null,
    dateReleased date not null,
primary key(mid)
);
```

--acted

```
drop table if exists acted
create table acted(
    pid integer not null references actors(pid),
    mid integer not null references movies(mid),
primary key(pid, mid)
);
```

--directed

```
drop table if exists directed
create table directed(
    pid integer not null references directors(pid),
    mid integer not null references movies(mid),
primary key(pid, mid)
);
```

--sales type

```
drop table if exists sales_types
create table sales_types(
    salesType text not null,
primary key(salesType)
);
```

--sales

```
drop table if exists sales
create table sales(
    mid integer not null references movies(mid),
```

```
        salesType          text not null references sales_types(salesType),
        salesAmountUSD     numeric,
primary key(mid,salesType)
);
```

### 3. Insert Statements

```
--Insert states
insert into states(state)
values('ME');
insert into states(state)
values('NY');
insert into states(state)
values('CA');
insert into states(state)
values('NJ');
insert into states(state)
values('PA');
insert into states(state)
values('FL');
insert into states(state)
values('TX');
insert into states(state)
values('RI');
insert into states(state)
values('MA');

--insert address
insert into addresses(houseNumber, street, city, state, zipcode, pid)
values(107, 'bruce hill road', 'cumberland','ME',04021, 1);
insert into addresses(houseNumber, street, city, state, zipcode, pid)
values(37, 'oak', 'new york','NY',13579, 2);
insert into addresses(houseNumber, street, city, state, zipcode, pid)
values(56, 'elm', 'San Juan','CA',09054, 3);
insert into addresses(houseNumber, street, city, state, zipcode, pid)
values(95, 'maple', 'wall','NJ',24689, 4);
insert into addresses(houseNumber, street, city, state, zipcode, pid)
values(28, 'marshal', 'pittsburg','PA',04056, 5);

--insert people table
```

```
insert into people(pid, firstName, lastName, birthday, hairColor, eyeColor, currentHeightIN,
CurrentWeightLBs)
```

```
    values(1, 'jason', 'statham', '06-25-1975', 'brown', 'hazel', 72, 185);
```

```
insert into people(pid, firstName, lastName, birthday, hairColor, eyeColor, currentHeightIN,
currentWeightLBs)
```

```
    values(2, 'al', 'pacino', '10-11-1945', 'black', 'brown', 67, 170);
```

```
insert into people(pid, firstName, lastName, birthday, hairColor, eyeColor, currentHeightIN,
currentWeightLBs)
```

```
    values(3, 'mark', 'wahlberg', '06-09-1982', 'brown', 'brown', 66, 190);
```

```
insert into people(pid, firstName, lastName, birthday, hairColor, eyeColor, currentHeightIN,
currentWeightLBs)
```

```
    values(4, 'bruce', 'lee', '02-24-1959', 'brown', 'brown', 70, 155);
```

```
insert into people(pid, firstName, lastName, birthday, hairColor, eyeColor, currentHeightIN,
currentWeightLBs)
```

```
    values(5, 'dwayne', 'johnson', '6-25-1977', 'brown', 'brown', 74, 275);
```

```
insert into people(pid, firstName, lastName, birthday, hairColor, eyeColor, currentHeightIN,
currentWeightLBs)
```

```
    values(6, 'sean', 'connery', '05-14-1931', 'grey', 'brown', 68, 1650);
```

```
insert into people(pid, firstName, lastName, birthday, hairColor, eyeColor, currentHeightIN,
currentWeightLBs)
```

```
    values(7, 'rick', 'moranis', '06-20-1960', 'brown', 'blue', 65, 150);
```

```
--insert actor
```

```
insert into actors(pid, actorsGuildAnniversaryDate)
```

```
    values(4, '12-23-1992');
```

```
insert into actors(pid, actorsGuildAnniversaryDate)
```

```
    values(5, '01-16-2007');
```

```
insert into actors(pid, actorsGuildAnniversaryDate)
```

```
    values(1, '10-31-1998');
```

```
insert into actors(pid, actorsGuildAnniversaryDate)
```

```
    values(3, '7-5-1984');
```

```
--insert director
```

```
insert into directors(pid, directorsGuildAnniversaryDate)
```

```
    values(5, 'LSU', '01-21-2005');
```

```
insert into directors(pid, directorsGuildAnniversaryDate)
```

```
    values(4, 'UCLA', '6-2-1998');
```

```
insert into directors(pid, filmSchool, directorsGuildAnniversaryDate)
```

```
    values(3, 'UMaine', '10-29-2003');
```

```
insert into directors(pid, filmSchool, directorsGuildAnniversaryDate)
```

```
        values(2, 'Marist', '13-21-2005');
insert into directors(pid, filmSchool, directorsGuildAnniversaryDate)
        values(1, 'UCONN', '9-13-1976');
```

-- insert movies

```
insert into movies(mid, movieTitle, dateReleased)
        values(1,'Crank', '06-08-2007');
insert into movies(mid, movieTitle, dateReleased)
        values(2,'scarface', '03-20-1985');
insert into movies(mid, movieTitle, dateReleased)
        values(3,'sniper', '9-19-2005');
insert into movies(mid, movieTitle, dateReleased)
        values(4,'Man with the iron fists', '07-13-1975');
```

--insert acted table

```
insert into acted(pid, mid)
        values(3, 3);
insert into acted(pid, mid)
        values(1, 1);
insert into acted(pid, mid)
        values(2, 2);
insert into acted(pid, mid)
        values(4, 4);
```

--directed table

```
insert into directed(pid, mid)
        values(3, 1);
insert into directed(pid, mid)
        values(2, 4);
insert into directed(pid, mid)
        values(1, 3);
insert into directed(pid, mid)
        values(4, 2);
```

--insert sales type table

```
insert into sales_types(salesType)
        values('domestic box office sales');
insert into sales_types(salesType)
        values('foreign box office sales');
insert into sales_types(salesType)
        values('dvd sales');
insert into sales_types(salesType)
```

```
values('blu-ray sales');
```

```
--insert sales table
```

```
insert into sales(mid, salesType, salesAmountUSD)
    values(1, 'domestic box office sales', 500000000);
insert into sales(mid, salesType, salesAmountUSD)
    values(1, 'foreign box office sales', 90000000);
insert into sales(mid, salesType, salesAmountUSD)
    values(1, 'dvd sales', 1250000);
insert into sales(mid, salesType, salesAmountUSD)
    values(1, 'blu-ray sales', 955000);
insert into sales(mid, salesType, salesAmountUSD)
    values(2, 'domestic box office sales', 700000000);
insert into sales(mid, salesType, salesAmountUSD)
    values(3, 'foreign box office sales', 600000000);
insert into sales(mid, salesType, salesAmountUSD)
    values(2, 'dvd sales', 780000);
insert into sales(mid, salesType, salesAmountUSD)
    values(3, 'blu-ray sales', 5650000);
insert into sales(mid, salesType, salesAmountUSD)
    values(4, 'domestic box office sales', 30050000);
```

#### 4. Functional dependencies for each table

State: state →

Address: (streetNumber, street, city, state, zipcode) → pid

People: pid → firstName, lastName, birthday, hairColor, eyeColor, currentHeight, currentWeight

Actor: pid → actorsGuildAnniversaryDate

Director: pid → filmSchool, directorsGuildAnniversaryDate

Movies: mid → movieTitle, dateReleased

Acted: (pid, mid) →

Directed: (pid, mid) →

SalesType: salesType →

Sales: (mid, salesType) → salesAmountUSD

#### 5. Return the directors who 'Sean Connery' has acted for

```
SELECT p_directed.lastName, p_directed.firstName
FROM movies m,
directed d,
people p_acted,
```

```
people p_directed,  
acted a  
WHERE m.mid = d.mid  
AND d.pid = p_directed.pid  
AND a.pid = p_acted.pid  
AND a.mid = m.mid  
AND (p_acted.lastName = 'connery'  
  
AND p_acted.firstName = 'sean');
```