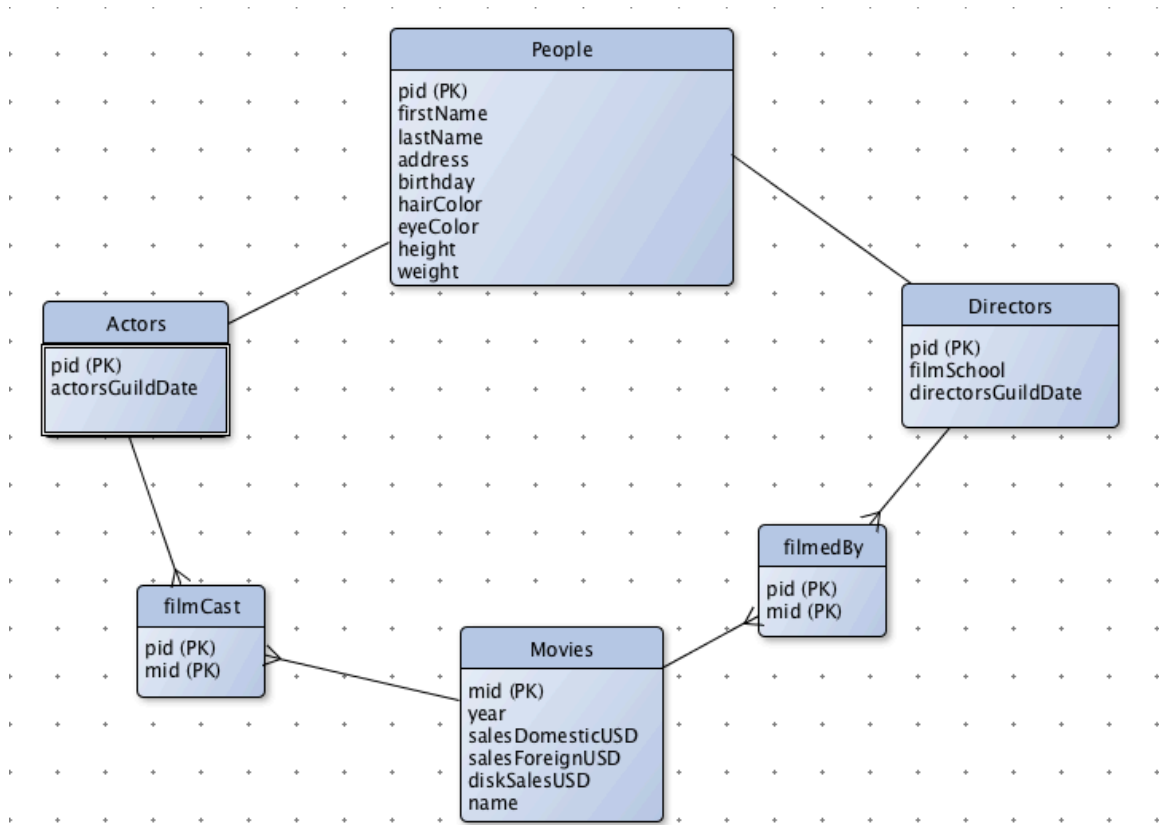Nick DiCamillo
11/3/13
Database Management
Normalization 2

ER Diagram:

SQL Create Statements:

-- People Table --
CREATE TABLE people(
        pid   char(4),
        firstName   text,
        lastName   text,
        address   text,
        birthday   date,
        hairColor   text,
        eyeColor   text,
        heightIN   int,
        weightLBS   int,
primary key(pid)
);

```sql
-- Actors Table --
CREATE TABLE actors(
        pid                     char(4) not null references people(pid),
        actorsGuildDate         date,
primary key(pid)
);

-- Directors Table --
CREATE TABLE directors(
        pid                     char(4) not null references people(pid),
        filmSchool              text,
        directorsGuildDate      date,
primary key(pid)
);

-- Movies Table --
CREATE TABLE movies(
        mid                     char(4) not null,
        release                 char(4),
        salesDomesticUSD        numeric(12,2),
        salesForeignUSD         numeric(12,2),
        diskSalesUSD            numeric(12,2),
        name            text,
primary key(mid)
);

-- FilmedBy Table --
CREATE TABLE filmedBy(
        pid             char(4) not null references people(pid),
        mid             char(4) not null references movies(mid),
primary key(pid, mid)
);

-- FilmCast Table --
CREATE TABLE filmCast(
        pid             char(4) not null references people(pid),
        mid             char(4) not null references movies(mid),
primary key(pid, mid)
);
```

SQL Insert Statements:

-- People Values --
INSERT INTO people(pid, firstName, lastName, address, birthday, hairColor, eyeColor, height, weight)
        VALUES('p001', 'Alan', 'Labouseur', '3399 North Road', '1980-01-01', 'brown', 'brown', 70, 200);

INSERT INTO people(pid, firstName, lastName, address, birthday, hairColor, eyeColor, height, weight)
        VALUES('p002', 'Chris', 'Miller', '39 West Road', '1967-05-18', 'blonde', 'green', 65, 180);

INSERT INTO people(pid, firstName, lastName, address, birthday, hairColor, eyeColor, height, weight)
        VALUES('p003', 'Mike', 'Smith', '123 Main Street', '1985-04-03', 'black', 'brown', 75, 225);

INSERT INTO people(pid, firstName, lastName, address, birthday, hairColor, eyeColor, height, weight)
        VALUES('p004', 'John', 'Johnson', '16 Front Street', '1983-06-15', 'brown', 'blue', 76, 274);

INSERT INTO people(pid, firstName, lastName, address, birthday, hairColor, eyeColor, height, weight)
        VALUES('p005', 'Jim', 'Jones', '33 South Road', '1975-02-14', 'brown', 'brown', 70, 200);

INSERT INTO people(pid, firstName, lastName, address, birthday, hairColor, eyeColor, height, weight)
        VALUES('p006', 'Bob', 'Williams', '99 East Road', '1962-11-09', 'gray', 'blue', 70, 200);

INSERT INTO people(pid, firstName, lastName, address, birthday, hairColor, eyeColor, height, weight)
        VALUES('p007', 'Sean', 'Connery', '2000 Star Way', '1930-08-05', 'gray', 'brown', 70, 200);

INSERT INTO people(pid, firstName, lastName, address, birthday, hairColor, eyeColor, height, weight)
        VALUES('p008', 'Nick', 'DiCamillo', '14 Myles Ave', '1994-09-08', 'blonde', 'blue', 71, 200);

```sql
-- Actors Values --
INSERT INTO actors(pid, actorsGuildDate)
        VALUES('p001', '1997-03-10');

INSERT INTO actors(pid, actorsGuildDate)
        VALUES('p003', '2007-07-27');

INSERT INTO actors(pid, actorsGuildDate)
        VALUES('p004', '2003-12-10');

INSERT INTO actors(pid, actorsGuildDate)
        VALUES('p006', '1980-09-09');

INSERT INTO actors(pid, actorsGuildDate)
        VALUES('p007', '1950-01-15');

INSERT INTO actors(pid, actorsGuildDate)
        VALUES('p008', '2010-12-25');

-- Directors Values --
INSERT INTO directors(pid, filmSchool, directorsGuildDate)
        VALUES('p001', 'Yale', '2005-10-07');

INSERT INTO directors(pid, filmSchool, directorsGuildDate)
        VALUES('p002', 'Princeton', '1980-08-19');

INSERT INTO directors(pid, filmSchool, directorsGuildDate)
        VALUES('p005', 'Columbia', '1998-09-18');

INSERT INTO directors(pid, filmSchool, directorsGuildDate)
        VALUES('p006', 'Harvard', '1986-09-24');

INSERT INTO directors(pid, filmSchool, directorsGuildDate)
        VALUES('p008', 'Cornell', '2011-03-08');
```

-- Movies Values --
INSERT INTO movies(mid, release, salesDomesticUSD, salesForeignUSD, diskSalesUSD, name)
        VALUES('m001', '2008', '123000.00', '45000.00', '20000.00', 'Step Brothers');

INSERT INTO movies(mid, release, salesDomesticUSD, salesForeignUSD, diskSalesUSD, name)
        VALUES('m002', '2009', '45660000.00', '5609900.00', '15000.00', 'James Bond');

INSERT INTO movies(mid, release, salesDomesticUSD, salesForeignUSD, diskSalesUSD, name)
        VALUES('m003', '2012', '4236545.00', '345125241.00', '3142315.00', 'Lincoln');

INSERT INTO movies(mid, release, salesDomesticUSD, salesForeignUSD, diskSalesUSD, name)
        VALUES('m004', '2013', '312452.00', '1245415.00', '145431.00', 'Gravity');

-- FilmedBy Values --
INSERT INTO filmedBy(mid, pid)
        VALUES('m001', 'p005');

INSERT INTO filmedBy(mid, pid)
        VALUES('m002', 'p001');

INSERT INTO filmedBy(mid, pid)
        VALUES('m002', 'p008');

INSERT INTO filmedBy(mid, pid)
        VALUES('m003', 'p006');

INSERT INTO filmedBy(mid, pid)
        VALUES('m004', 'p002');

-- FilmCast Values --
INSERT INTO filmCast(mid, pid)
        VALUES('m001', 'p003');

INSERT INTO filmCast(mid, pid)
        VALUES('m001', 'p004');

INSERT INTO filmCast(mid, pid)
        VALUES('m002', 'p002');

INSERT INTO filmCast(mid, pid)
        VALUES('m002', 'p006');

INSERT INTO filmCast(mid, pid)
        VALUES('m002', 'p007');

INSERT INTO filmCast(mid, pid)
        VALUES('m002', 'p008');

INSERT INTO filmCast(mid, pid)
        VALUES('m003', 'p004');

INSERT INTO filmCast(mid, pid)
        VALUES('m003', 'p003');

INSERT INTO filmCast(mid, pid)
        VALUES('m004', 'p006');

Functional Dependencies:

People:
pid -> firstName, lastName, address, birthday, hairColor, eyeColor, height, weight

Actors:
pid -> actorsGuildDate

Directors:
pid -> directorsGuildDate, filmSchool

Movies:
mid -> year, salesDomesticUSD, salesForeignUSD, diskSalesUSD, name

Actors, Movies -> filmCast
Directors, Movies -> filmedBy

Query for Sean Connery:

```sql
Select distinct p2.firstName, p2.lastName
From people as p,
     people as p2,
     actors as a,
     directors as d,
     movies as m,
     filmCast as fc,
     filmedBy as fb
Where p.firstName = 'Sean'
and   p.lastName = 'Connery'
and   p.pid = a.pid
and   fc.pid = a.pid
and   fc.mid = m.mid
and   fb.mid = m.mid
and   fb.pid = d.pid
and   d.pid = p2.pid
```