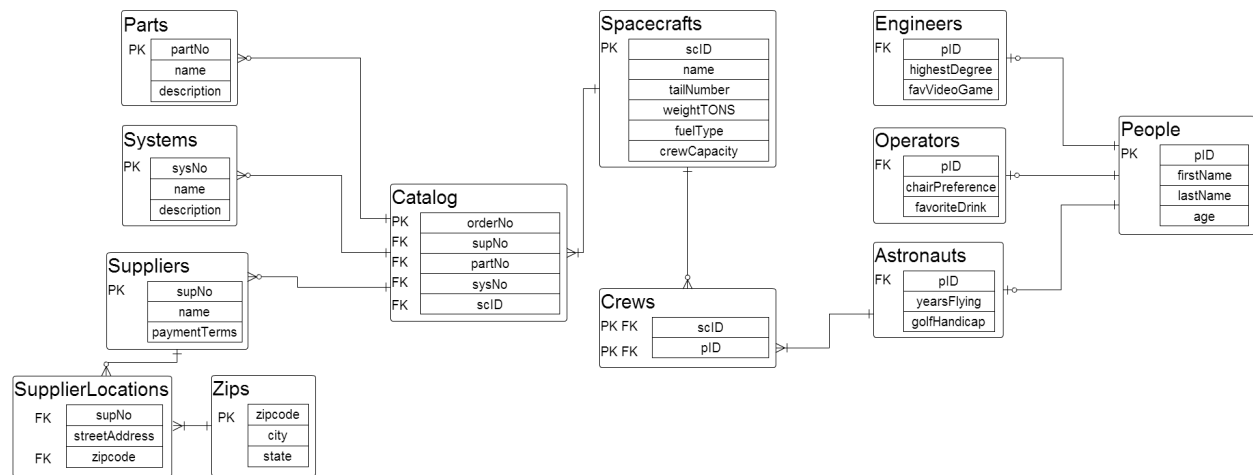


Cassandra Graves

Lab 9

4/15/2014

1) E/R Diagram



2) SQL Create Statements

```
CREATE TABLE Spacecrafts(  
    scID          TEXT NOT NULL,  
    name          TEXT NOT NULL,  
    tailNumber    INT,  
    weightTONS    INT,  
    fuelType      TEXT,  
    crewCapacity  INT,  
    PRIMARY KEY(scID)  
);  
  
CREATE TABLE People(  
    pID          TEXT NOT NULL,  
    firstName    TEXT NOT NULL,  
    lastName     DATE,  
    age          INT,  
    PRIMARY KEY(pID)  
);  
  
CREATE TABLE Engineers(  
    pID          TEXT NOT NULL REFERENCES People(pID),  
    highestDegree TEXT,  
    favVideoGame TEXT  
);  
  
CREATE TABLE Operators(  
    pID          TEXT NOT NULL REFERENCES People(pID),  
    chairPreference TEXT,  
    favoriteDrink TEXT  
);  
  
CREATE TABLE Astronauts(  
    pID          TEXT NOT NULL REFERENCES People(pID),  
    yearsFlying  INT,  
    golfHandicap INT  
);  
  
CREATE TABLE Crews(  
    pID          TEXT NOT NULL REFERENCES Astronauts(pID),  
    scID         TEXT NOT NULL REFERENCES Spacecrafts(scID)  
);  
  
CREATE TABLE Suppliers(  
    supNo        INT NOT NULL,  
    name         TEXT NOT NULL,  
    paymentTerms TEXT  
);
```

```
CREATE TABLE Parts(  
    partNo          INT NOT NULL,  
    name            TEXT NOT NULL,  
    description      TEXT  
);
```

```
CREATE TABLE Systems(  
    sysNo           INT NOT NULL,  
    name            TEXT NOT NULL,  
    description      TEXT,  
    PRIMARY KEY(sysNo)  
);
```

```
CREATE TABLE Catalog(  
    orderNo         INT NOT NULL,  
    supNo           INT NOT NULL REFERENCES Suppliers(supNo),  
    partNo          INT NOT NULL REFERENCES Parts(partNo),  
    sysNo           INT NOT NULL REFERENCES Systems(sysNo),  
    scID            TEXT NOT NULL REFERENCES Spacecrafts(scID),  
    PRIMARY KEY(orderNo)  
);
```

```
CREATE TABLE Zips(  
    zipcode         INT NOT NULL,  
    city            TEXT NOT NULL,  
    state           TEXT NOT NULL,  
    PRIMARY KEY(zipcode)  
);
```

```
CREATE TABLE SupplierLocations(  
    supNo           INT NOT NULL REFERENCES Suppliers(supNo),  
    streetAddress    TEXT,  
    zipcode          INT REFERENCES Zips(zipcode)  
);
```

3) SQL Insert Statements

--Spacecrafts

INSERT INTO Spacecrafts

(scID, name, tailNumber, weightTONS, fuelType, crewCapacity)

VALUES('sc001','Endeavour',42,172000,'MMH/N2O4',200);

INSERT INTO Spacecrafts

(scID, name, tailNumber, weightTONS, fuelType, crewCapacity)

VALUES('sc002','Columbia',9,240000,'ATREX',31);

--People

INSERT INTO People

(pID, firstName, lastName, age)

VALUES('p001','Farrell','Clinton',25);

INSERT INTO People

(pID, firstName, lastName, age)

VALUES('p002','Ormond','Barrett',30);

INSERT INTO People

(pID, firstName, lastName, age)

VALUES('p003','Rube','Hedley',41);

INSERT INTO People

(pID, firstName, lastName, age)

VALUES('p004','Wilton','Eldridge',24);

INSERT INTO People

(pID, firstName, lastName, age)

VALUES('p005','Jackson','Waters',28);

--Astronauts

INSERT INTO Astronauts(pID, yearsFlying, golfHandicap)

VALUES('p002',3,16);

INSERT INTO Astronauts(pID, yearsFlying, golfHandicap)

VALUES('p004',1,21);

INSERT INTO Astronauts(pID, yearsFlying, golfHandicap)

VALUES('p005',5,9);

--Engineers

INSERT INTO Engineers(pID, highestDegree, favVideoGame)

VALUES('p001','PhD','Tetris');

--Operators

```
INSERT INTO Operators(pID, chairPreference, favoriteDrink)
VALUES('p003','NorSap 2000', 'Jack Daniels');
```

--Crews

```
INSERT INTO Crews(scID, pID)
VALUES('sc001','p004');
```

```
INSERT INTO Crews(scID, pID)
VALUES('sc001','p005');
```

```
INSERT INTO Crews(scID, pID)
VALUES('sc002','p002');
```

--Suppliers

```
INSERT INTO Suppliers(supNo, name, paymentTerms)
VALUES(001,'Parts-R-Us','Cash-Only');
```

```
INSERT INTO Suppliers(supNo, name, paymentTerms)
VALUES(002,'All Things Space','Cash-Only');
```

--Parts

```
INSERT INTO Parts(partNo, name, description)
VALUES(88, 'ImportantThing', 'Shiny');
```

```
INSERT INTO Parts(partNo, name, description)
VALUES(99, 'Thingy', 'Not shiny');
```

--Systems

```
INSERT INTO Systems(sysNo, name, description)
VALUES(4, 'Dust Detector', 'Dirty');
```

```
INSERT INTO Systems(sysNo, name, description)
VALUES(44, 'Altimeter', 'Complicated');
```

--Zips

```
INSERT INTO Zips(zipcode, city, state)
VALUES(10940,'Middletown','NY');
```

```
INSERT INTO Zips(zipcode, city, state)
VALUES(12601,'Poughkeepsie','NY');
```

--SupplierLocations

```
INSERT INTO SupplierLocations(supNo, streetAddress, zipcode)
VALUES(001,'1 Main St',12601);
```

```
INSERT INTO SupplierLocations(supNo, streetAddress, zipcode)
VALUES(002,'3 Blue Ave',10940);
```

```
--Catalog
INSERT INTO Catalog(orderNo, supNo, partNo, sysNo, scID)
VALUES(1000, 001, 88, 4, 'sc001');
```

```
INSERT INTO Catalog(orderNo, supNo, partNo, sysNo, scID)
VALUES(1001, 001, 99, 44, 'sc001');
```

```
INSERT INTO Catalog(orderNo, supNo, partNo, sysNo, scID)
VALUES(1002, 002, 99, 4, 'sc002');
```

```
INSERT INTO Catalog(orderNo, supNo, partNo, sysNo, scID)
VALUES(1003, 002, 88, 44, 'sc002');
```

4) Functional Dependencies

People

pid → firstName, lastName, age

Engineers

pid → highestDegree, favVideoGame

Operators

pid → chairPreference, favoriteDrink

Astronauts

pid → yearsFlying, golfHandicap

Crews

scID, pid →

Spacecrafts

scID → name, tailNumber, weightTONS, fuelType, crewCapacity

Parts

partNo → name, description

Systems

sysNo → name, description

Suppliers

supNo → name, paymentTerms

Catalog

orderNo → supNo, partNo, sysNo, scID

Zips

zipcode → city, state

SupplierLocations

supNo → streetAddress, zipcode

