

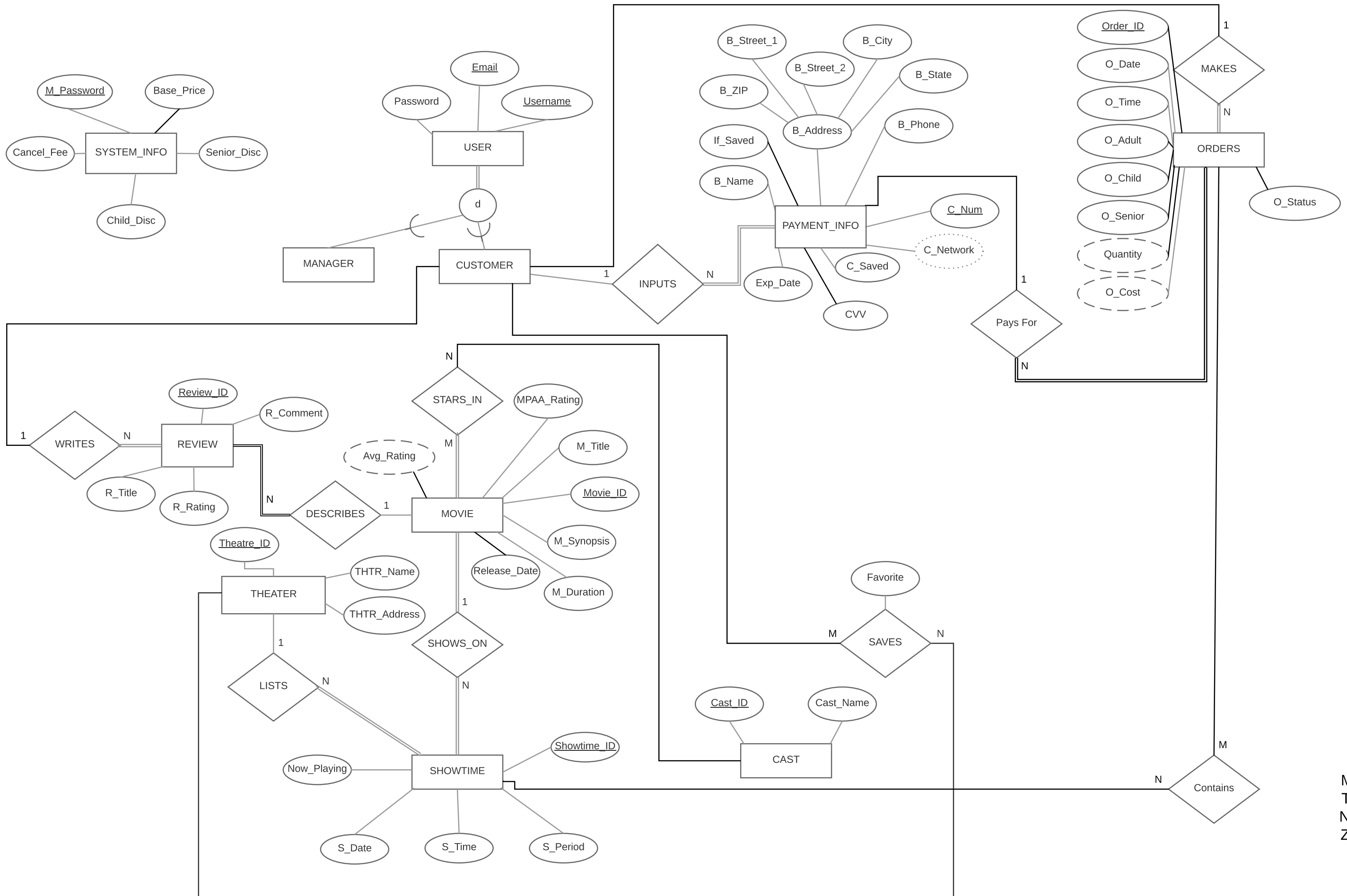
CS 4400

Summer 2016

Group 21

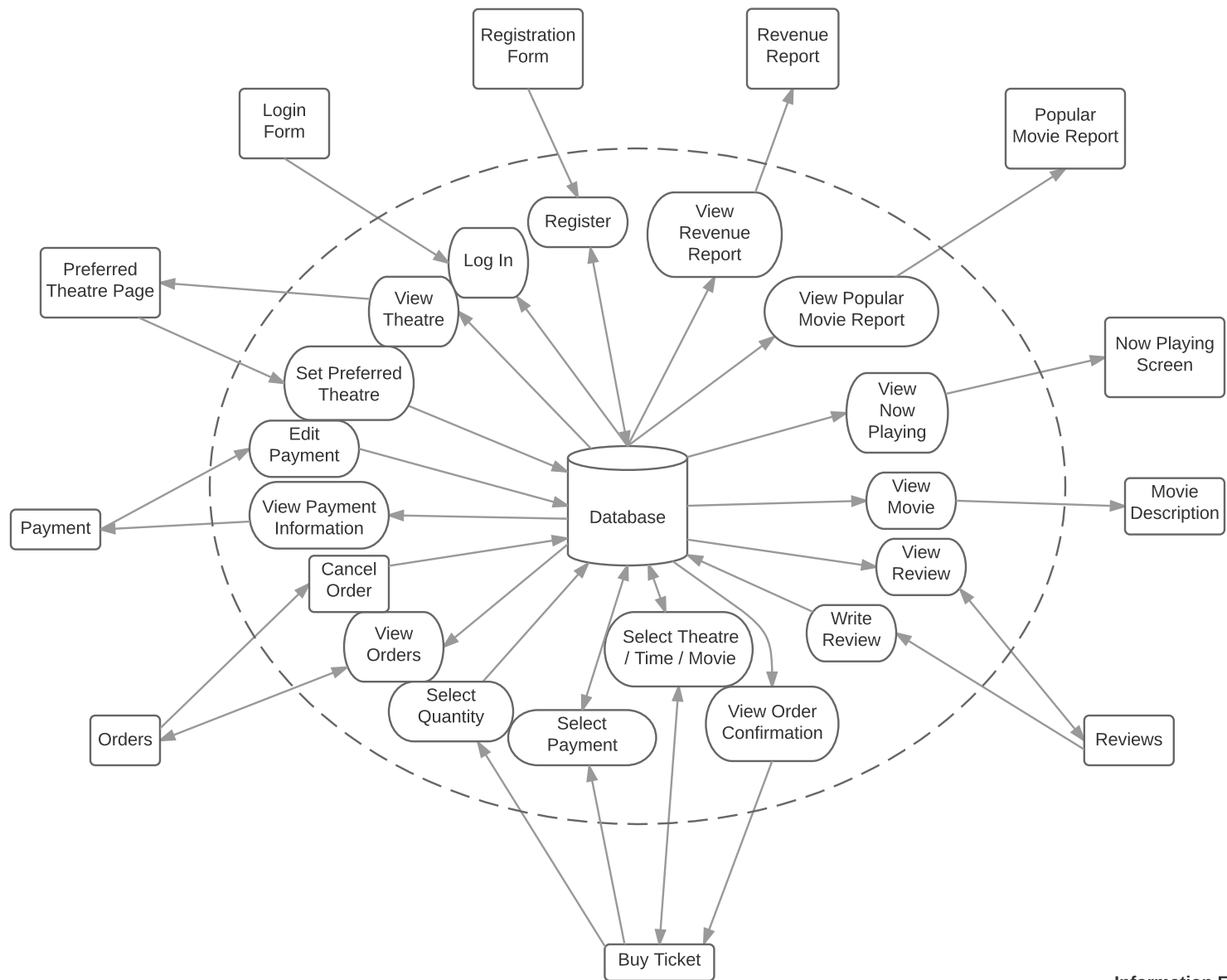
Phase 2 Submission

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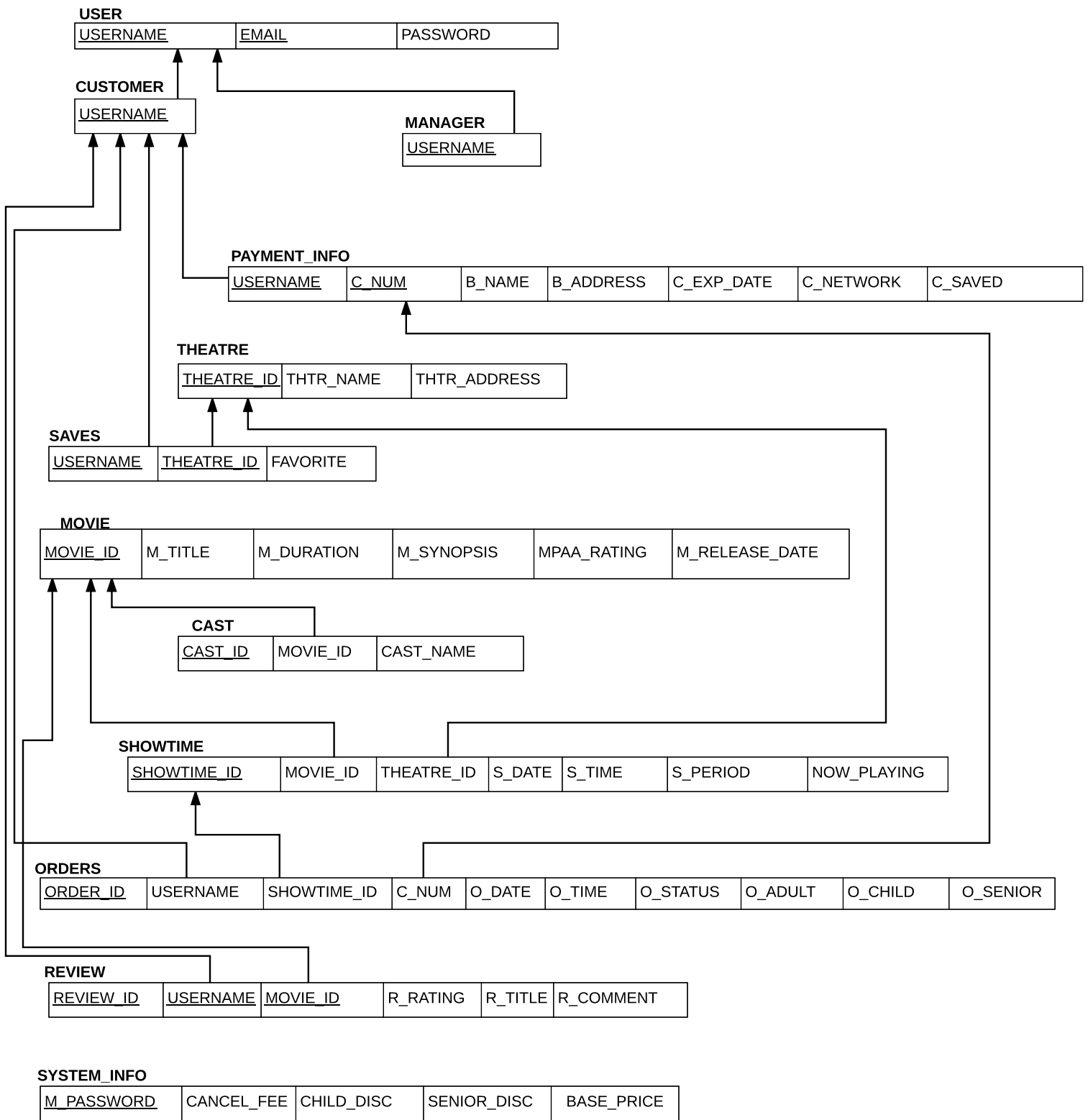
EER Diagram
Jul 08, 2016

Morgan Jacobus
Thomas Hervieu
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Information Flow Diagram
Jul 08, 2016

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Relational Model Diagram
Jul 08, 2016

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```
CREATE TABLE User (  
    Username VARCHAR(30) PRIMARY KEY,  
    Password VARCHAR(30) NOT NULL,  
    Email VARCHAR(30) NOT NULL UNIQUE  
);
```

```
CREATE TABLE Manager (  
    Username VARCHAR(30) PRIMARY KEY REFERENCES User(Username)  
);
```

```
CREATE TABLE Customer (  
    Username VARCHAR(30) PRIMARY KEY REFERENCES User(Username)  
);
```

```
CREATE TABLE Payment_Info (  
    C_Num VARCHAR(16) PRIMARY KEY,  
    B_Name VARCHAR(50) NOT NULL,  
    B_Street_1 VARCHAR (50) NOT NULL,  
    B_Street_2 VARCHAR(50) NULL,  
    B_City VARCHAR(30) NOT NULL,  
    B_State VARCHAR(30) NOT NULL,  
    B_ZIP VARCHAR(10) NOT NULL,  
    C_Exp_Date DATETIME NOT NULL,  
    C_Network VARCHAR(30) NOT NULL,  
    C_Saved BOOLEAN DEFAULT 0,  
    Username VARCHAR(30) NOT NULL,  
    FOREIGN KEY (Username) REFERENCES Customer(Username)  
);
```

```
CREATE TABLE Theatre (  
    Theatre_ID INT AUTO_INCREMENT PRIMARY KEY,  
    THTR_Name VARCHAR(50) NOT NULL,  
    THTR_Street_1 VARCHAR (50) NOT NULL,  
    THTR_Street_2 VARCHAR(50) NULL,  
    THTR_City VARCHAR(30) NOT NULL,  
    THTR_State VARCHAR(30) NOT NULL,  
    THTR_ZIP VARCHAR(10) NOT NULL  
);
```

```
CREATE TABLE Saves(  
    Username VARCHAR(30) NOT NULL,  
    Theatre_ID INT NOT NULL,  
    Favorite BOOLEAN DEFAULT 0,
```

```
PRIMARY KEY (Username, Theatre_ID),  
FOREIGN KEY (Username) REFERENCES Customer(Username),  
FOREIGN KEY (Theatre_ID) REFERENCES Theatre(Theatre_ID)  
);
```

```
CREATE TABLE Movie (  
    Movie_ID INT PRIMARY KEY,  
    M_Title VARCHAR(255) NOT NULL,  
    M_Duration DATETIME NOT NULL,  
    M_Synopsis VARCHAR(1000) NOT NULL,  
    MPAA_Rating VARCHAR(10) NOT NULL,  
    M_Release_Date DATETIME NOT NULL  
);
```

```
CREATE TABLE Cast (  
    Movie_ID INT,  
    Cast_ID INT AUTO_INCREMENT PRIMARY KEY,  
    Cast_Name VARCHAR(50) NOT NULL,  
    FOREIGN KEY (Movie_ID) References Movie(Movie_ID)  
);
```

```
CREATE TABLE Showtime (  
    Showtime_ID INT AUTO_INCREMENT PRIMARY KEY,  
    Movie_ID INT,  
    Theatre_ID INT,  
    S_Date DATETIME NOT NULL,  
    S_Time DATETIME NOT NULL,  
    S_Period VARCHAR(2) NOT NULL,  
    Now_Playing BOOLEAN DEFAULT 0,  
    FOREIGN KEY (Movie_ID) REFERENCES Movie(Movie_ID),  
    FOREIGN KEY (Theatre_ID) REFERENCES Theatre(Theatre_ID)  
);
```

```
CREATE TABLE Orders (  
    Username VARCHAR(30) NOT NULL,  
    C_Num VARCHAR(16),  
    Order_ID INT AUTO_INCREMENT PRIMARY KEY,  
    Showtime_ID INT,  
    O_Date DATE NOT NULL,  
    O_Time DATETIME NOT NULL,  
    O_Cost DECIMAL(5,2) NOT NULL,  
    O_Status BOOLEAN DEFAULT 0,
```

```
O_Adult INT NOT NULL,  
O_Child INT NOT NULL,  
O_SENIOR INT NOT NULL,  
FOREIGN KEY (Username) REFERENCES Customer(Username),  
FOREIGN KEY (Showtime_ID) REFERENCES Showtime(Showtime_ID),  
FOREIGN KEY (C_Num) REFERENCES Payment_Info(C_Num)  
);
```

```
CREATE TABLE Review (  
    Username VARCHAR(30) NOT NULL,  
    Movie_ID INT,  
    Review_ID INT AUTO_INCREMENT PRIMARY KEY,  
    R_Rating DECIMAL(2,2) NOT NULL,  
    R_Title VARCHAR (50) NOT NULL,  
    R_Comment VARCHAR(50) NOT NULL,  
    FOREIGN KEY (Username) REFERENCES Customer(Username),  
    FOREIGN KEY (Movie_ID) REFERENCES Movie(Movie_ID)  
);
```

```
CREATE TABLE System_Info (  
    M_Password VARCHAR(30) PRIMARY KEY,  
    Cancel_Fee DECIMAL(3,2) NOT NULL,  
    Senior_Disc DECIMAL(2,2) NOT NULL,  
    Child_Disc DECIMAL(2,2) NOT NULL,  
    Base_Price DECIMAL(4,2) NOT NULL  
);
```

Number	Assumption	Explanation
Phase 1		
1	CVV of the payment form should not be saved by the Database system	CVV is sensitive. Users may not want this to be stored on a website
2	Card network is defined by the first digit of the card number	This is how the payment clearing house works in the real world
Phase 2		
3	"Base Price" = "Adult Price", and it does not change amongst theaters	All special prices are calculated on "Base Price", and it remains constant among all theaters for all movies