**CS 4400 Group Project**

**Cover Page**

**Phase II**

**Group #9**

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3. Section: A with Professor Sweat

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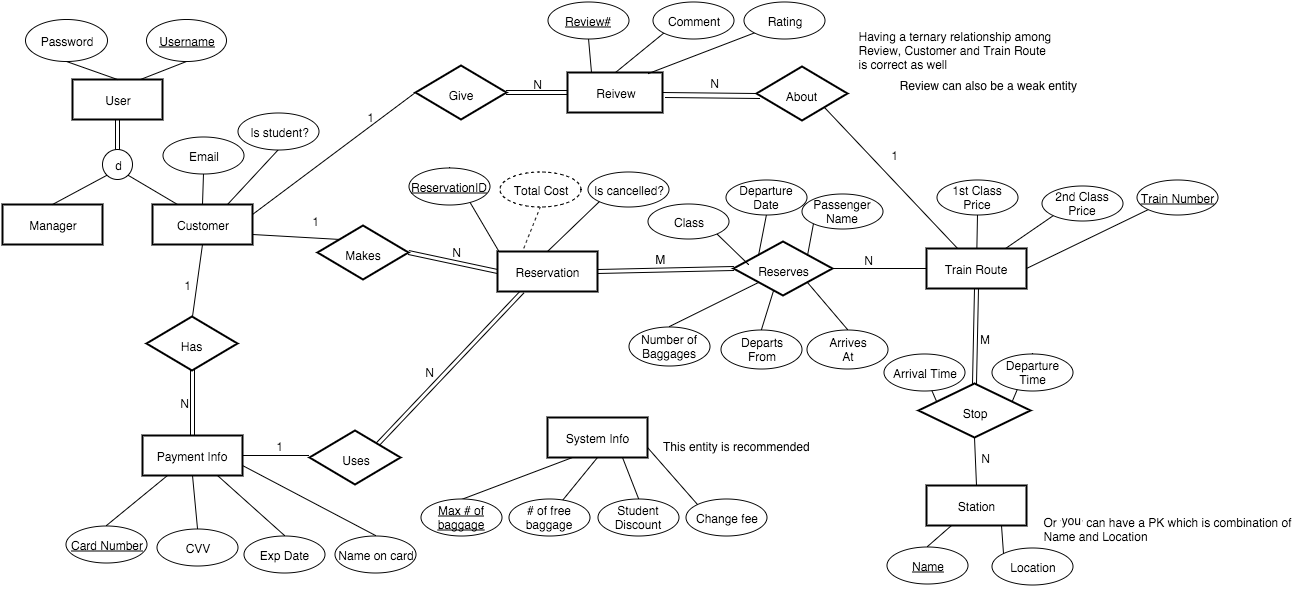
1. Neil Barooah

a. Section: A with Professor Sweat

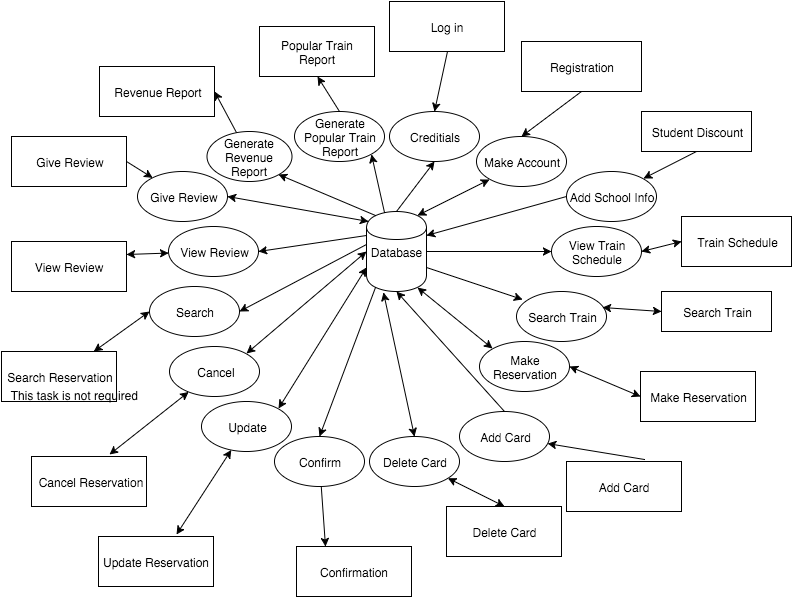
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**EER Diagram**



**Information Flow Diagram**



**Relational Schema for Group #9**

USER

|  |  |
| --- | --- |
| Username | Password |

MANAGER

|  |
| --- |
| Username |

CUSTOMER

|  |  |  |
| --- | --- | --- |
| Username | Email | Is\_Student |

PAYMENT\_INFO

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Card\_No | CVV | Exp\_Date | Name\_on\_Card | C\_Username |

REVIEW

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Review\_No | Comment | Rating | C\_Username | Train\_No |

RESERVATION

|  |  |  |  |
| --- | --- | --- | --- |
| Reservation\_ID | Is\_Canceled | Card\_No | C\_Username |

RESERVES

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Reservation\_ID | Train\_No | Class | Departure\_Date | Passenger\_Name | No\_Bags | Departs\_From | Arrives\_At |

TRAIN\_ROUTE

|  |  |  |
| --- | --- | --- |
| Train\_No | First\_Class\_Price | Second\_Class\_Price |

STOP

|  |  |  |  |
| --- | --- | --- | --- |
| Train\_No | S\_Name | Arrival\_Time | Departure\_Time |

STATION

|  |  |
| --- | --- |
| Name | Location |

SYSTEM\_INFO

|  |  |  |  |
| --- | --- | --- | --- |
| Max\_No\_Bags | No\_Free\_Bags | Student\_Discount | Change\_Fee |

**SQL Table Statements for Group #9**

**CREATE TABLE** USER

(Username VARCHAR(20) **NOT NULL,**

Password VARCHAR(20) **NOT NULL**,

**PRIMARY KEY** (Username) );

**CREATE TABLE** MANAGER

(Username VARCHAR(20) **NOT NULL,**

**PRIMARY KEY** (USERNAME),

**FOREIGN KEY** (Username) **REFERENCES** USER(Username)

**ON UPDATE** CASCADE);

**CREATE TABLE** CUSTOMER

(Username                    VARCHAR(20)                     **NOT NULL,**

Email                             VARCHAR(30)                     **NOT NULL,**

Is\_Student                     BOOL,

**PRIMARY KEY**(Username),

**FOREIGN KEY** (Username) **REFERENCES** USER(Username)

**ON UPDATE** CASCADE,

**UNIQUE**(Email));

**CREATE TABLE** PAYMENT\_INFO

(Card\_Number INT **NOT NULL**,

CVV INT **NOT NULL**,

Exp\_Date CHAR(5) **NOT NULL**,

Name\_on\_Card VARCHAR(50) **NOT NULL**,

C\_Username VARCHAR(20) **NOT NULL**,

**PRIMARY KEY** (Card\_Number),

**FOREIGN KEY** (C\_Username) **REFERENCES** CUSTOMER(Username)

**ON UPDATE** CASCADE);

**CREATE TABLE** TRAIN\_ROUTE

(Train\_Number   INT            **NOT NULL,**

1st\_Class\_Price   DECIMAL(5,2)            **NOT NULL,**

2nd\_Class\_Price   DECIMAL(4,2)            **NOT NULL,**

**PRIMARY KEY** (Train\_Number) );

**CREATE TABLE** REVIEW

(Review\_No  INT **NOT NULL,**

Comment  VARCHAR(400),

Rating  INT **NOT NULL,**

C\_Username  VARCHAR(20) **NOT NULL,**

Train\_Number  INT **NOT NULL,**

**PRIMARY KEY**(Review\_No),

**FOREIGN KEY** (C\_Username) **REFERENCES** CUSTOMER(Username)

**ON UPDATE** CASCADE,

**FOREIGN KEY** (Train\_Number) **REFERENCES** TRAIN\_ROUTE(Train\_Number)

**ON UPDATE** CASCADE);

**CREATE TABLE** RESERVATION

(Reservation\_ID             INT                                      **NOT NULL,**

Is\_Cancelled                  BOOL                                  **NOT NULL,**

Card\_Number                INT                                      **,**

C\_Username                 VARCHAR(20)                     **NOT NULL,**

**PRIMARY KEY** (Reservation\_ID),

**FOREIGN KEY** (Card\_Number) **REFERENCES** PAYMENT\_INFO (Card\_Number)

**ON DELETE** SET NULL **ON UPDATE** CASCADE,

**FOREIGN KEY** (C\_Username) **REFERENCES** CUSTOMER (Username)

**ON UPDATE** CASCADE);

\*\*We will only allow them to delete the card after the reservation is complete (using the UI), but after that, it will be set to null when deleted

**CREATE TABLE** RESERVES

(Reservation\_ID            INT                                      **NOT NULL,**

Train\_Number               INT                                      **NOT NULL,**

Class                             INT                                      **NOT NULL,**

Departure\_Date            DATE                                   **NOT NULL,**

Passenger\_Name         VARCHAR(50)                    **NOT NULL,**

No\_Bags                       INT                                      **NOT NULL,**

Departs\_From               VARCHAR(50)                    **NOT NULL,**

Arrives\_At                      VARCHAR(50)                    **NOT NULL,**

**PRIMARY KEY** (Reservation\_ID),

**FOREIGN KEY** (Train\_Number) **REFERENCES** TRAIN\_ROUTE (Train\_Number)

**ON UPDATE** CASCADE);

**CREATE TABLE** STATION

(Name VARCHAR(50) **NOT NULL**,

Location VARCHAR(50) **NOT NULL**,

**PRIMARY KEY** (Name) );

**CREATE TABLE** STOP

(Train\_Number INT **NOT NULL**,

S\_Name VARCHAR(50) **NOT NULL,**

Arrival\_Time TIME **NOT NULL**,

Departure\_Time TIME **NOT NULL**,

**PRIMARY KEY** (Train\_Number, S\_Name),

**FOREIGN KEY** (Train\_Number) **REFERENCES** TRAIN\_ROUTE(Train\_Number)

**ON UPDATE** CASCADE,

**FOREIGN KEY** (S\_Name) **REFERENCES** STATION(Name)

**ON UPDATE** CASCADE);

**CREATE TABLE** SYSTEM\_INFO

(Max\_No\_Bags INT **NOT NULL,**

No\_Free\_Bags INT **NOT NULL,**

Student\_Discount DECIMAL(2,2) **NOT NULL,**

Change\_Fee DECIMAL(4,2) **NOT NULL,**

**PRIMARY KEY**(Max\_No\_Bags) );