CS 4400 Group Project
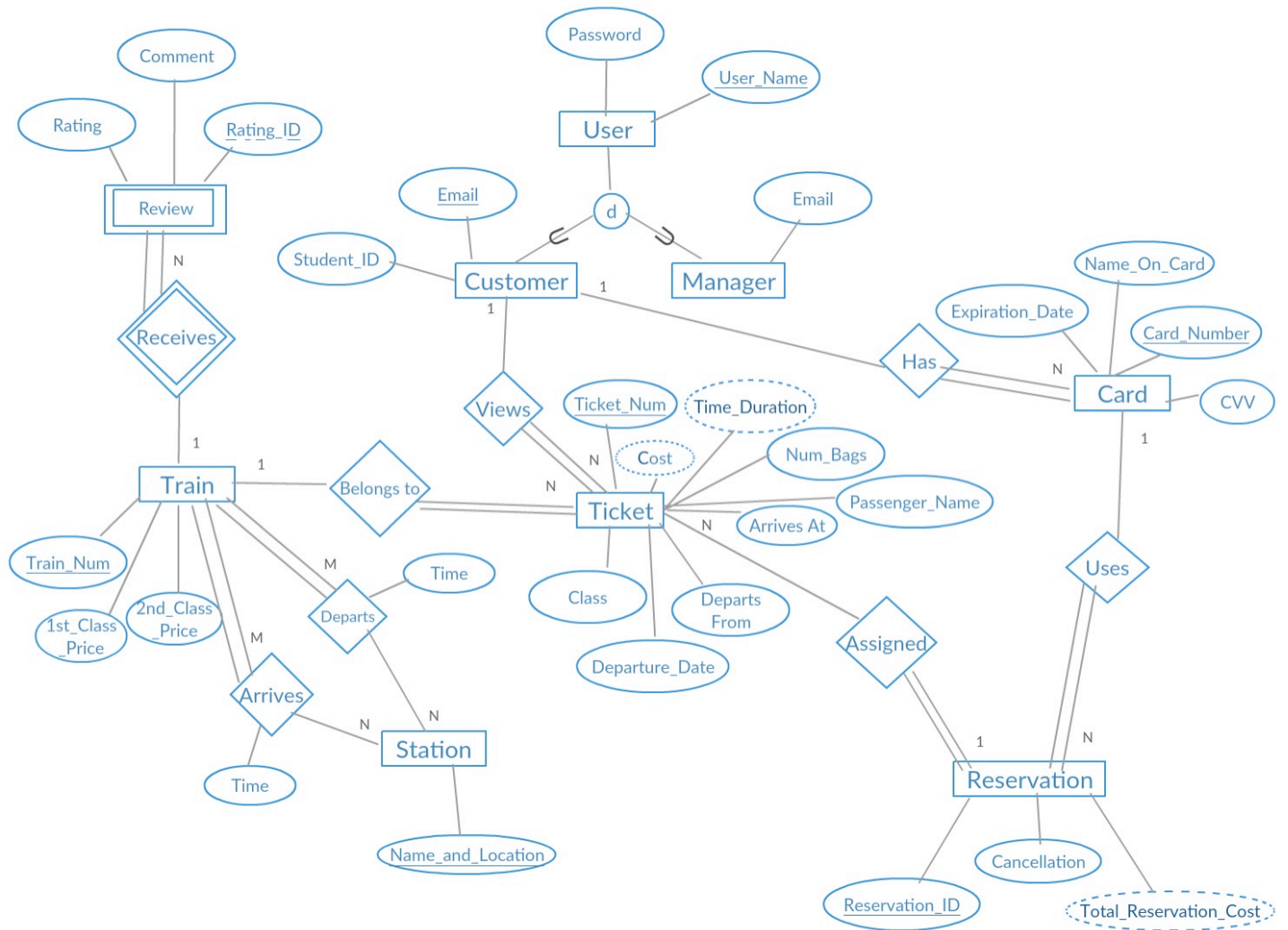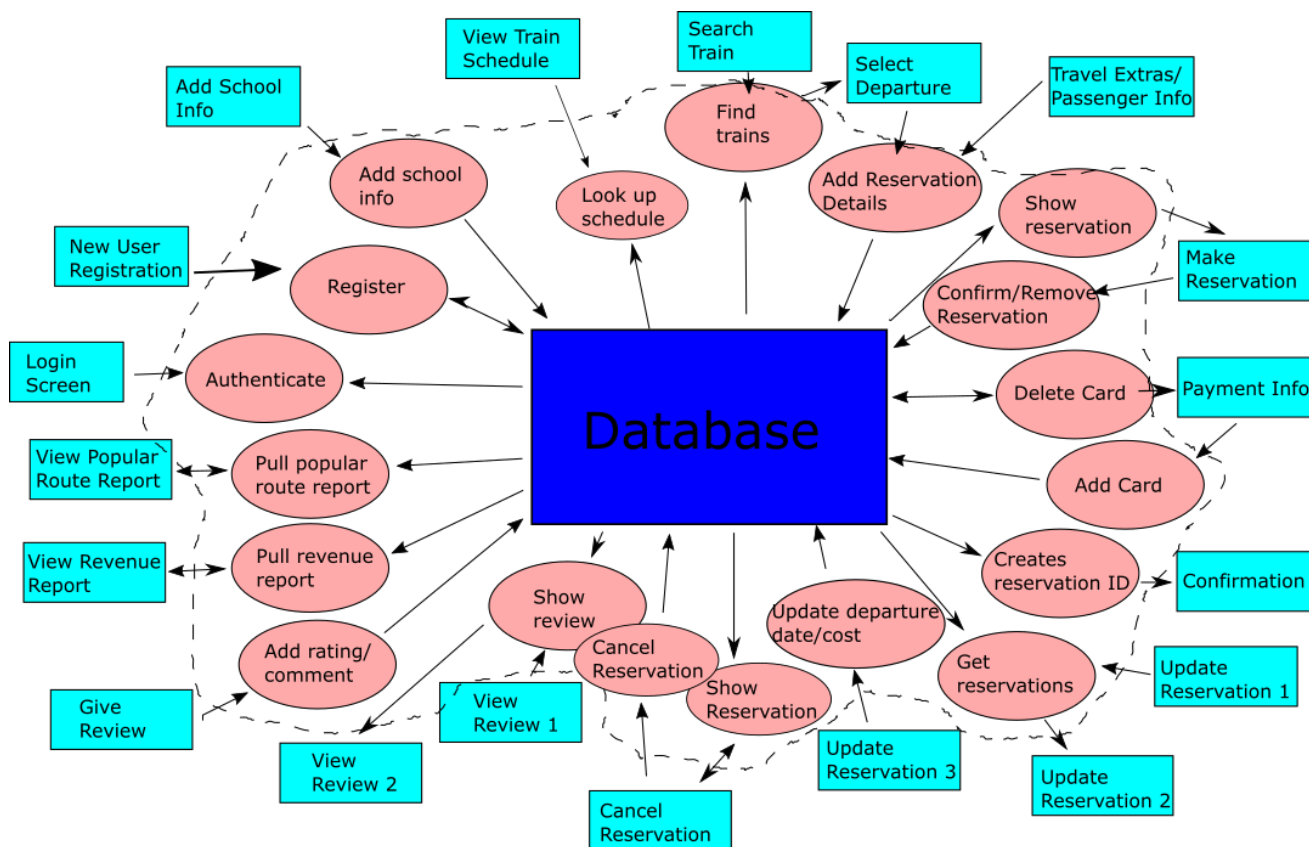# Phase 1
Cover Page

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EER Diagram

Comment

Rating

Rating_ID

Review

N

Receives

1

Password

User_Name

User

Email

d

Email

Student_ID

Customer

1

Manager

Name_On_Card

Expiration_Date

Card_Number

1

Has

N

Card

CVV

Views

Ticket_Num

Time_Duration

Num_Bags

N

Cost

Passenger_Name

Train

1

Belongs to

N

Ticket

N

Arrives At

1

Uses

Train_Num

M

Time

Class

Departs From

1

1st_Class_Price

2nd_Class_Price

Departs

Departure_Date

Assigned

M

Arrives

N

N

Station

1

Reservation

N

Time

Name_and_Location

Cancellation

Reservation_ID

Total_Reservation_Cost

Information Flow Diagram

Assumptions and Explanations

● All managers' accounts have already been created behind the scenes.
   ○ This is to exclude the need for a manager registration option.
● All passengers will only provide reviews after his or her trips.
   ○ This is to ensure that a train trip will receive a review from every passenger.
● We assume customer will automatically take student discount as long as email address ends with ".edu".
   ○ This is to ensure that users with an ".edu" email will receive and use the discount.
● We assume the schedule of each individual train is the same everyday.
   ○ This is to keep the daily schedules simple and consistent.
● We assume all trains are active and have current schedules.
   ○ This is to eliminate any chance of having trains that aren't running / are inactive.
● We assume that manager has an email, but it is not unique.
   ○ This is so they will have unique usernames, but the email can be a community email.

Semantic or Business Logic Constraints

● If customer updates their ticket, a $50 change fee will occur.
● 80% of the original total cost will be refunded if the customer cancelled the reservation more than 7 days earlier than the earliest departure date
● 50% of the original total cost will be refunded if the customer cancelled the reservation more than 1 day but less than 7 days earlier than the earliest departure date.
● User must have 1 card on file in order to submit a reservation.
● The expiration date for the card must be a date that is past the current date.
● Customer can only use 1 card per transaction.
● Customer cannot delete card until journey is complete for updating purposes.
● Users can only update departure date of ticket.
● Customers can only update 1 ticket at a time.
● Customers are not allowed to bring more than 4 baggage.
● An update should be made at least 1 day before departure.
● Customer cannot cancel or update a cancelled reservation.
● If the train review is given, the rating must be one of the following: very bad, bad, neutral, good, very good,