

## **Project Step 7 (Portfolio Assignment)**

### **a.) Executive Summary**

For our CS340 project, we kept the same overall goal of creating a database-driven website that allows the user to manage their alpaca farm. However, we did make various changes to our entities throughout the steps, after receiving the feedback from our peers on Piazza and having discussions with our TAs during office hours.

One major change we made was the initial addition and then removal of the Calendars and Payments entities. For both entities, we received feedback from TAs and decided that removing them would be better suited. As to the Calendars entity, we originally planned to use it to assist the user in keeping track of orders throughout the calendar year and avoid overbooking with the help of data manipulation. However, we realized that this would overcomplicate the database and take away focus and time from the more important entities. Thus, we dropped the idea of capping the total number of experiences per day for the website, though we could later implement it by utilizing the data within the Orders entity as per a TA's advice. If we decided to do so, we could have added up all of the tickets for a specific experience on a certain date and ensure maximum capacity had not been met before allowing the user to complete a transaction. As to the Payments entity, we decided to replace it with the Groups entity to meet the NULLable relationship requirement.

In addition, we made great improvements to our ERD/schema thanks to great feedback from our TAs and peers. For example, it was due to the Step 2 Peer Reviews from Christopher Eckerson's and Vincent Wyborski's that we decided to create the Experiences\_Alpacas relationship entity. Prior to their feedback, we had the Alpacas and Experiences both have direct relationships with the Orders entity, where both Alpacas' and Experiences' keys would be foreign keys within the Orders table. However, upon the receipt of their feedback and some further discussions with our TAs, we decided to implement the Experiences\_Alpacas relationship entity to hold both the Alpacas' and Experiences' keys while utilizing the Experiences\_Alpacas's key as a foreign key within Orders, which streamlined our implementation process while still allowing us to maintain the required number of different relationships.

As a result, these executive decisions that we made have helped us keep our workload manageable and stay focused on our priorities.

## b.) Team Evaluation

# CS 340 TEAM EVALUATION FORM

MARCH 15, 2021

RATE YOUR TEAMS PERFORMANCE USING THE SCALE BELOW.

**1 = Strongly Disagree    2 = Disagree    3 = Agree    4 = Strongly Agree**

GROUP NUMBER	83	
NAME OF GROUP TEAM MEMBERS:	Jung Min Lee, Mengmeng Tang	
SCALE AND COMMENTS	RATING	ADDITIONAL COMMENTS
<b>HOW PREPARED WAS YOUR TEAM?</b> Research, reading, and assignment complete	3	We did not have much experience outside this program, so comparing to other teams with more professional experience, we feel we are not as prepared. However, we have been learning a lot together in this course.
<b>HOW RESPONSIVE &amp; COMMUNICATIVE WERE YOU BOTH AS A TEAM?</b> Responded to requests and assignment modifications needed. Initiated and responded appropriately via email, Slack etc.	4	We communicate almost on a daily basis via Discord.
<b>DID BOTH GROUP MEMBERS PARTICIPATE EQUALLY</b> Contributed best academic ability	4	Yes. We both did our fair share of project tasks and had a very good experience working as a team.
<b>DID YOU BOTH FOLLOW THE INITIAL TEAM CONTRACT?</b> Were both team members both positive and productive?	4	Yes. Very occasionally, we had to reschedule our meetings due to unexpected personal events, but we made sure to meet at least twice a week to work on our project together.

Are there any suggestions for improvement for your team and what are your goals moving forward?

(Better communication, follow the contract better, modify the initial team contract, more contribution, etc.?)

We both had a great experience working as a team for this course. If there is anything that we would have done differently, that would be learning Bootstrap early on to better structure our HTML and JavaScript. In addition, we would learn and become more accustomed to git/github in order to use it more often for collaborations and seeing changes made to our code. Overall, we both learned a lot and improved a lot on our web development and databases skills.

## **c.) Project Outline**

### **Project Overview**

Happy Family Alpaca Ranch provides stellar experiences with their alpacas, such as educational tours, photo ops, and feedings, which generates an additional \$100,000.00 to \$200,000.00 income per year for this family-owned alpaca ranch.

A database-driven website will help Happy Family Alpaca Ranch streamline the ticketing process and better manage their business. The business owners will find an intuitive ticketing process where they can create and keep track of Orders from Customers and monitor growths in sales of Orders for different Experiences for each date. Within an easy-to-access front end design, the users will be able to easily track different aspects of their business such as their Alpacas, Experiences, and Groups within the database while also being able to insert, edit, and delete data. In addition, the website will assist business owners with inserting and deleting data for Orders, Customers, and available Experience/Alpaca packages. The business owner will even be able to search for Customers within the Orders page, further assisting them with keeping track of important information related to the business.

There are over 2.6 million farmers and ranchers in the United States, and many of them provide similar services with different themes, for example, blueberry farms and pony ranches. Capable of recording 20K sales annually, this project is our way to tap into a niche market by offering an affordable and compact software solution that helps our clients run their businesses efficiently.

## d.) Database Outline

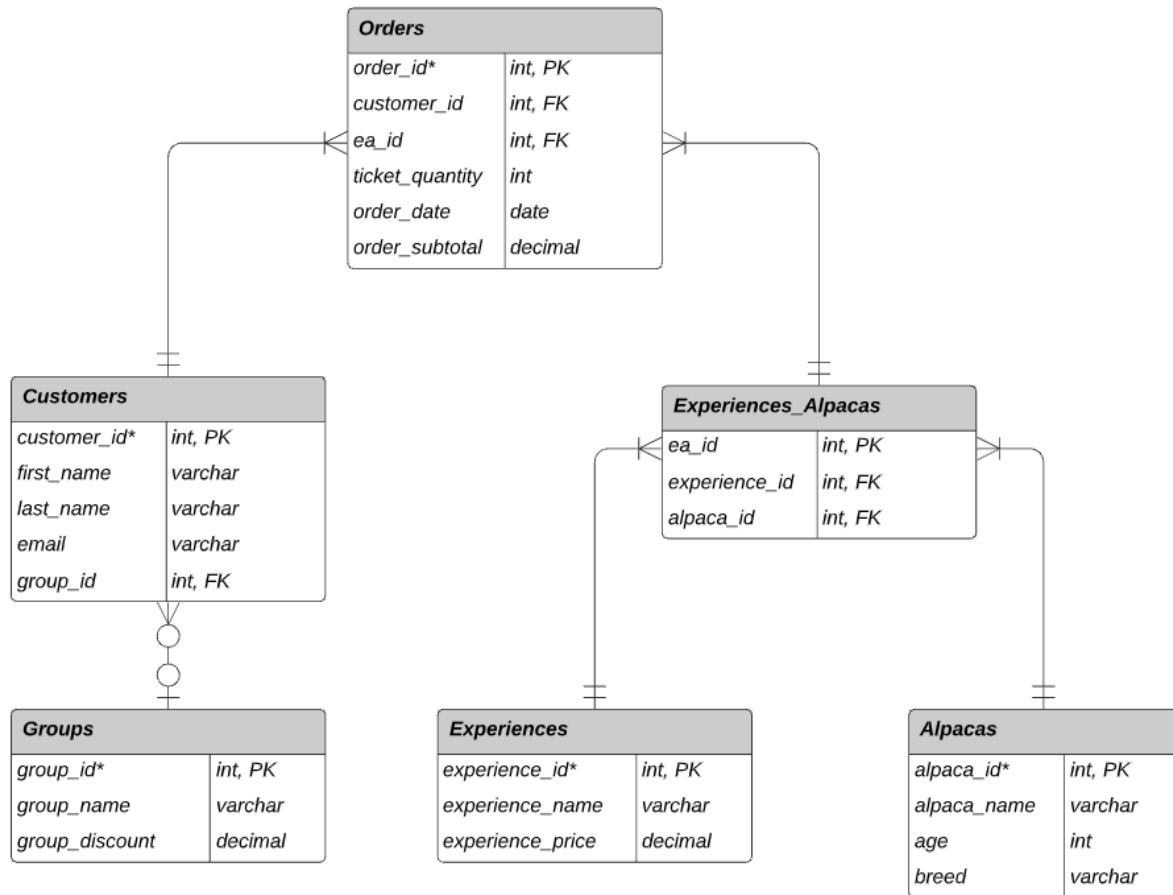
### Database Outline

- **Orders (Entity)**
  - Purpose:
    - records the details of Orders placed by Customers; contains information about the Customers' choice of Experiences, etc.
  - Attributes:
    - order\_id: int, auto\_increment, unique, not NULL, PK
    - customer\_id: int, not NULL, FK
    - ea\_id: int, not NULL, FK
    - ticket\_quantity: int, not NULL
    - order\_date: date, not NULL
    - order\_subtotal: decimal, not NULL
  - Relationships:
    - 1: M relationship between Customers and Orders is implemented with customer\_id as an FK inside of Orders
    - 1: M relationship between Experiences\_Alpacas and Orders is implemented with ea\_id as an FK inside of Orders
- **Customers (Entity)**
  - Purpose:
    - records the details of Customers who place Orders
  - Attributes:
    - customer\_id: int, auto\_increment, unique, not NULL, PK
    - first\_name: varchar, not NULL
    - last\_name: varchar, not NULL
    - email: varchar, not NULL
    - group\_id: int, FK (optional)
  - Relationships:
    - 1: M relationship between Customers and Orders is implemented with customer\_id as an FK inside of Orders
    - 1: M relationship between Groups and Customers is implemented with group\_id as an FK inside of Customers
- **Groups (Entity)**
  - Purpose:
    - records the types customers based on specific groupings (ex. veterans, seniors, etc.), where those customers receive a set discount on their order
  - Attributes:
    - group\_id: int, auto\_increment, unique, not NULL, PK
    - group\_name: varchar, not NULL
    - group\_discount: decimal, not NULL
  - Relationships:
    - 1: M relationship between Groups and Customers is implemented with group\_id as an FK inside of Customers
    - 1: M relationship between Experiences\_Alpacas and Customers is implemented with ea\_id as an FK inside of Customers
- **Experiences (Entity)**
  - Purpose:
    - records the details of Experiences available for Customers; is linked to an Alpaca

- Attributes:
  - experience\_id: int, auto\_increment, unique, not NULL, PK
  - experience\_name: varchar, not NULL
  - experience\_price: decimal, not NULL
- Relationships:
  - M: M relationship between Experiences and Alpacas is implemented with Experiences\_Alpacas as the intersection table
- **Alpacas (Entity)**
  - Purpose:
    - records the details of Alpacas owned by the ranch and are available for Experiences
  - Attributes:
    - alpaca\_id: int, auto\_increment, unique, not NULL, PK
    - alpaca\_name: varchar, not NULL
    - age: int, age must be greater than 0, not NULL
    - breed: varchar, not NULL
  - Relationships:
    - M: M relationship between Experiences and Alpacas is implemented with Experiences\_Alpacas as the intersection table
- **Experiences\_Alpacas (Intersection Table, Entity)**
  - Purpose:
    - intersection table that shows the M:M relationship between Experiences and Alpacas
  - Attributes:
    - ea\_id: int, auto\_increment, unique, not NULL, PK
    - experience\_id: int, not NULL, FK
    - alpaca\_id: int, not NULL, FK
  - Relationships:
    - 1: M relationship between Experiences\_Alpacas and Orders is implemented with ea\_id as an FK inside of Orders

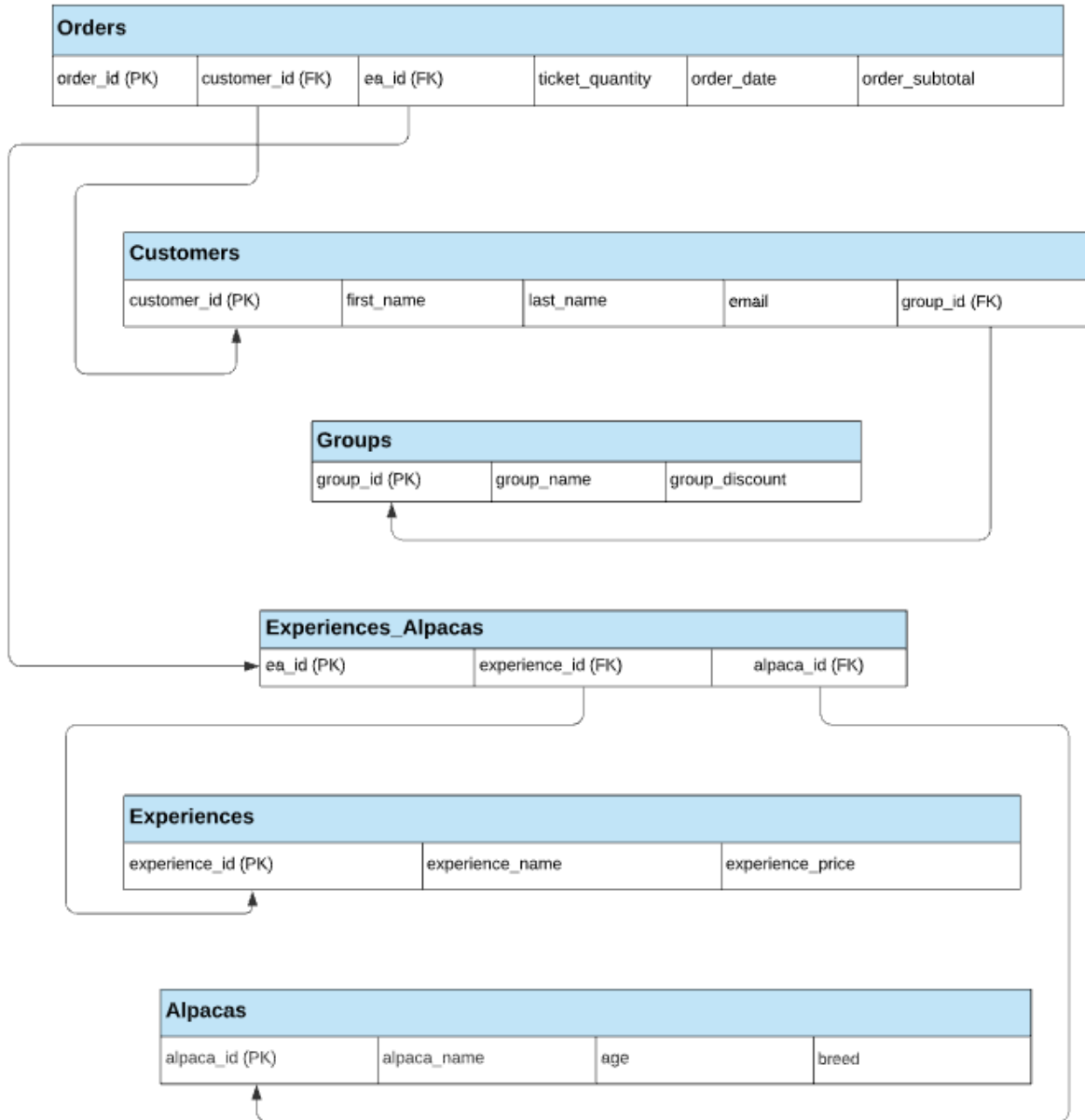
## e.) ERD

### Updated ERD



## f.) Schema

### Updated Schema



## g.) Screen Captures

### Orders – CREATE/READ/DELETE/SEARCH orders page

#### Manage Orders

[Home](#) [Orders](#) [Customers](#) [Groups](#) [Experiences](#) [Alpacas](#) [Experiences-Alpacas](#)

Search Order by Customer Name

#### Add a New Order

Customer  Experiences-Alpaca  Quantity  Date

#### Display All Orders

Customer Name	Experience-Alpaca	Ticket Quantity	Order Date	Subtotal	
Stephen Strange	Feeding Meringue	2	10/25/2020	17	<input type="button" value="delete"/>
King T'Challa	Feeding Cocoa	1	11/13/2020	10	<input type="button" value="delete"/>
Peter Parker	Touring Sprinkles	2	10/25/2020	54	<input type="button" value="delete"/>

### Customers – CREATE/READ/DELETE customers page

#### Manage Customers

[Home](#) [Orders](#) [Customers](#) [Groups](#) [Experiences](#) [Alpacas](#) [Experiences-Alpacas](#)

#### Add a New Customer

First Name  Last Name  Email  Group

#### Display All Customers

First Name	Last Name	Email	Group ID	
Stephen	Strange	strangephmdmd@supremeso	2	<input type="button" value="delete"/>
King	T'Challa	bpanther@wakanda.org		<input type="button" value="delete"/>
Peter	Parker	peterparker@midtownhs.ed	3	<input type="button" value="delete"/>
Steve	Rogers	captainamerica@avengers.c	4	<input type="button" value="delete"/>

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### Groups – CREATE/READ/UPDATE/DELETE groups page

#### Manage Groups

[Home](#) [Orders](#) [Customers](#) [Groups](#) [Experiences](#) [Alpacas](#) [Experiences-Alpacas](#)

#### Add a New Group

Group Name  Discount

#### Display All Groups

Group Name	Group Discount	
Senior	20	<input type="button" value="update"/> <input type="button" value="delete"/>
Holiday	15	<input type="button" value="update"/> <input type="button" value="delete"/>
Student	10	<input type="button" value="update"/> <input type="button" value="delete"/>
Veteran	25	<input type="button" value="update"/> <input type="button" value="delete"/>

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## Experiences – CREATE/READ/UPDATE/DELETE experiences page

### Manage Experiences

[Home](#) [Orders](#) [Customers](#) [Groups](#) [Experiences](#) [Alpacas](#) [Experiences-Alpacas](#)

#### Add a New Experience

Experience Name  Experience Price

#### Display All Experiences

Experience Name	Experience Price	
Feeding	10	<input type="button" value="update"/> <input type="button" value="delete"/>
Touring	20	<input type="button" value="update"/> <input type="button" value="delete"/>
Grooming	15	<input type="button" value="update"/> <input type="button" value="delete"/>

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## Alpacas – CREATE/READ/UPDATE/DELETE alpacas page

### Manage Alpacas

[Home](#) [Orders](#) [Customers](#) [Groups](#) [Experiences](#) [Alpacas](#) [Experiences-Alpacas](#)

#### Add a New Alpaca

Alpaca Name  Age  Breed

#### Display All Alpacas

Alpaca Name	Age	Breed	
Cocoa	7	Suri	<input type="button" value="update"/> <input type="button" value="delete"/>
Meringue	20	Huacaya	<input type="button" value="update"/> <input type="button" value="delete"/>
Sprinkles	6	Huacaya	<input type="button" value="update"/> <input type="button" value="delete"/>
Caramel	12	Huacaya	<input type="button" value="update"/> <input type="button" value="delete"/>

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## Experiences-Alpacas – CREATE/READ/DELETE experiences-alpacas page

### Manage Experiences-Alpacas

[Home](#) [Orders](#) [Customers](#) [Groups](#) [Experiences](#) [Alpacas](#) [Experiences-Alpacas](#)

#### Add a New Experiences-Alpaca Combination

Experience  Alpaca

#### Display All Experiences-Alpaca Combinations

Experience	Alpaca	
Feeding	Meringue	<input type="button" value="delete"/>
Feeding	Cocoa	<input type="button" value="delete"/>
Touring	Sprinkles	<input type="button" value="delete"/>

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