Group 69: Brew Bros
Arek Engstrom
Michael Allcock
CS340 - Summer '21

Oregon Breweries Database

Website Link:

- Must be connected to OSU VPN to access: http://flip2.engr.oregonstate.edu:3107/

Executive Summary:

Overall, our database design from the beginning is very similar to the final. The basic structure is there, but thanks to peer feedback, we found ways to clean up the database. In the beginning, we had the Cities entity have its PK as cityName with a data type of varchar. After reviews from our peers, we found that even though we only were focusing on cities in Oregon, it would be better to have an attribute called cityID, which would automatically increment as our PK. cityID would then follow to become a FK for other entities in our database.

Another change in our database was the TapHouses entity. Originally, this entity had the basic information for a tap house for a brewery. However, we found that the attributes in this entity were too vague and didn't provide a proper blueprint for expansion to cities outside of the state of Oregon. To fix this, we added an attribute called serveFood, which would help provide context to a user if they were looking for a tap house that served food. We also added to this entity the attribute tapState for future expansion to other states.

A third entity that had the most change was the Specialties entity. Originally, we had planned this table to hold information about the kind of brew a brewery would specialize in. This would include IPAs, Pale Ales, Seltzers, Mead, Cider, etc., and the IBU (International Bitterness Units) of their specialties. This would provide a guide for users so they can pick a brewery based on if they like heavy beers, such as an IPA, or light beers/drinks, such as Pilsners or Seltzers. After initial research into the data, this attribute was too hard to track and display. No one Brewery focused on one specialty. We pivoted and changed the Specialties entity to have a more broad specialty (such as Beer, Cider, Wine etc) and provide a description of that specialty. This provided us a more clean datapoint for our users to search by and it allowed us to have a user search more broadly for what kind of drink they'd prefer, not by the bitterness of the drink.

Thanks to the peer feedback, they helped us catch minor inconsistencies in our database project. From errors in our schemas where we forgot to update attribute titles, to making sure our FK and PK were matched with the correct attribute. Their help helped us make sure that our database and our project was accurate and correct.

Overview

Oregon currently has over 300 craft breweries. With 9.6 breweries per 100,000 adults aged 21 and older, visitors to the state have a lot of options when it comes to sampling local brews[1]. When visiting the state to sample some of these craft options you may feel overwhelmed with the number of choices. Our project idea is to build a database of Oregon Breweries. This database can be used to provide a guide for visitors to Oregon looking to visit a brewery in a specific city or based on what their favorite type of drink is. The entities for our database are individual Breweries (i.e.10 Barrel, Deschutes, etc), TapHouses for those Breweries, brew Specialties (beer, cider, seltzer, etc), and Cities where Breweries and TapHouses are located. Our database aims to eventually include every major and minor brewery in Oregon. Based on 2020 statistics this includes ~300 breweries, and is expected to continue to grow in upcoming years[1]. While this project is restricted ro breweries, this project could potentially expand to include wineries and distilleries by simply adding a new table for each. This would give users a full range of tasting options when visiting the state.

Database Outline

Entities:

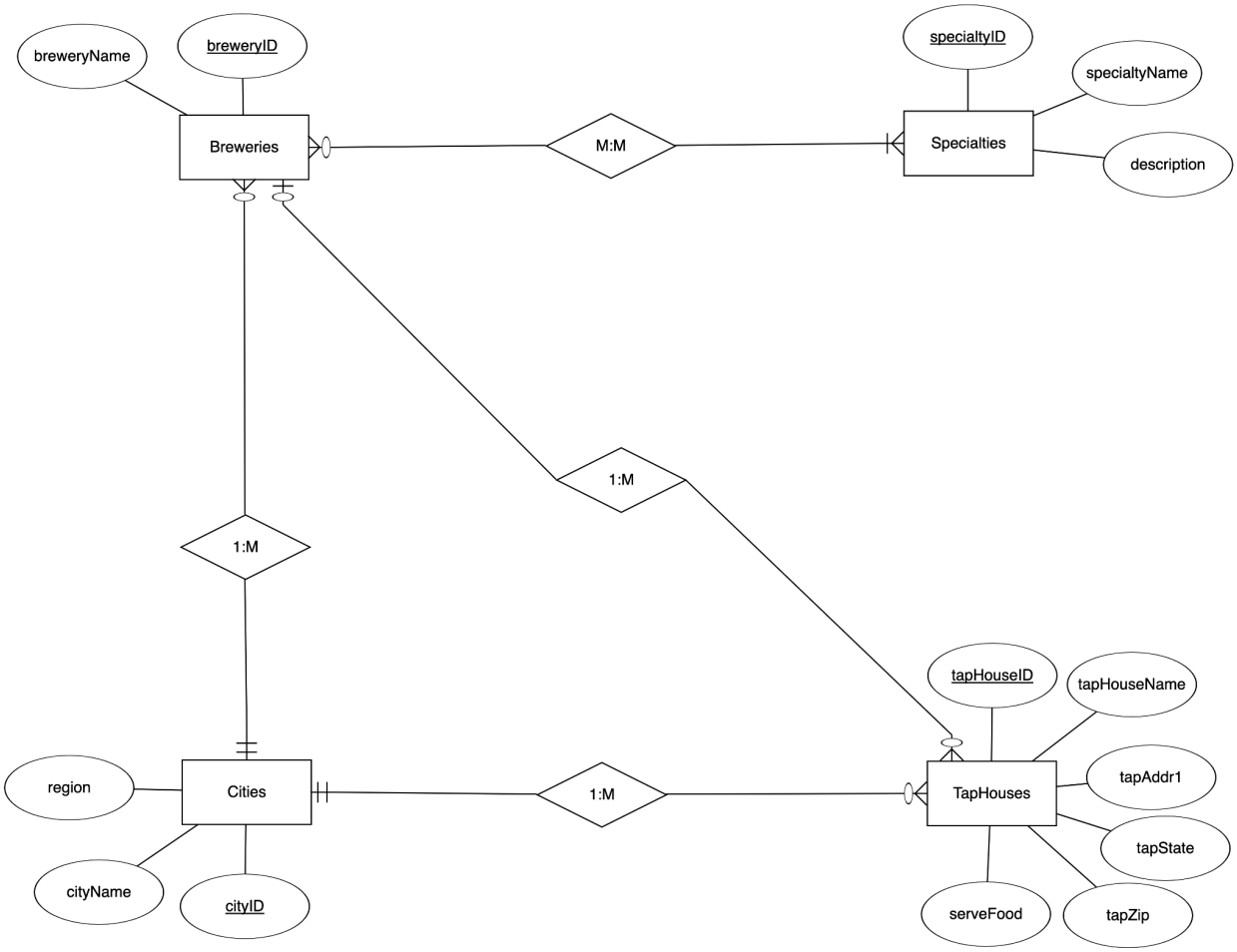
- Breweries
    - Lead Developer: Arek Engstrom
    - Records the relevant business information for each brewery's headquarters such as their name and city location.
    - Attributes:
        - *breweryID: int, auto_increment, unique, not NULL, PK
        - breweryName: varchar, not NULL
            - Name of the brewery
        - cityID: int, not NULL, FK
            - The city where the breweries headquarters are.Used to create a relationship between TapHouse and City. Breweries with their headquarters outside of Oregon will not be included in this project, even if they have TapHouses within the state.
    - Relationships:
        - A partial participation, M:M relationship exists between Breweries and Specialties. One Brewery may have one or multiple Specialities, and multiple Breweries may have the same Specialty, a Specialty can be added even if there is no Brewery specializing in it. This will be implemented with a brew_special table that relates breweryID to specialityName, both as FKs.
        - A partial participation, 1:M relationship exists between a City and Breweries. One City may have zero or many Breweries, but a Brewery is required to be located in only one City. This will be implemented with cityName inside of Brewery as a FK.

- TapHouses
    - Lead Developer: Michael Allcock

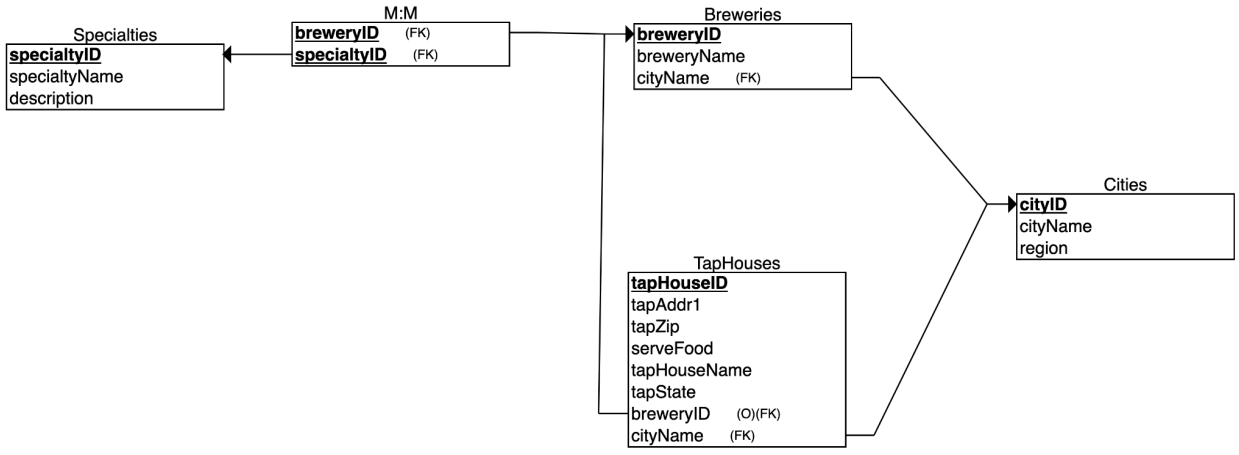
    - Records details of each TapHouse that is owned by a Brewery, including the full address divided into line one, line two (optional), city name, and zip code. A breweryID will also be associated with each tap house so that you can know which brewery the tap house is owned by.
    - Attributes:
        - *tapHouseID: int, auto_increment, unique, not NULL, PK
        - tapHouseName: varchar, not NULL
        - tapAddr1: varchar, not NULL
            - First line of street address
        - cityID: int, not NULL, FK
            - Used to create a relationship between TapHouse and City
        - tapState: varchar, not NULL, default ‘OR’
            - State for the TapHouse. Currently defaults to ‘OR’ since we are only focusing on Oregon at the moment.
        - tapZip: varchar, not NULL
            - Five digit zip code of the TapHouse
        - serveFood: BINARY
            - True if they serve food False if they do not, will allow users to decide if they want somewhere to eat and drink or just drink.
        - breweryID: int, can be NULL, FK
            - Used to create relationship between Brewery and TapHouse
    - Relationships:
        - A partial participation, M:1 relationship exists between TapHouses and a Brewery. One Brewery may have zero or many TapHouses, and a TapHouse may have one or zero Breweries. This will be implemented with a NULLable FK of breweryID inside of TapHouse as a FK. TapHouses not associated with a brewery or associated with many breweries will be assigned a FK of NULL here as they are not the direct child of any one Brewery.
        - A partial participation, M:1 relationship exists between a City and TapHouses. One City may have zero or many TapHouses, but a TapHouse is required to be located in only one City. This will be implemented with cityName inside of TapHouse as a FK.
- Cities
    - Lead Developer: Michael Allcock
    - Records the relevant details of each City where a Brewery or TapHouse can be based. These details include the unique city name and the region in which the city is located.
    - Attributes:
        - *cityID: int, auto_increment, unique, not NULL, PK
        - cityName: varchar, unique, not NULL
        - region: varchar, not NULL
            - Used to identify and sort Breweries and TapHouses by their geographical region within Oregon

        - Regions: North Coast, South Coast, Portland Metropolitan, Willamette Valley, Columbia Gorge, Central Oregon, Northeast Oregon, Southern Oregon, South Central & Southeast Oregon[2].
- Specialties
    - Lead Developer: Arek Engstrom
    - Records the relevant details of popular drinks at a brewery (Beer, Cider, Meed, etc.)
    - Attributes:
        - *specialtyID: int, auto_increment, unique, not NULL, PK
        - specialtyName: varchar, unique, not NULL
            - Examples: Beer, Sour, Mead, Cider, Seltzer, etc.
        - description: text, not NULL
            - A brief description (2-3 sentences) of the speciality and who might like it.

Entity-Relationship Diagram



Schema:



Schema Key: Primary Keys = **Bold & Underlined**; Forign Keys = (FK); Optional Attributes = (O)

Screen Captures of UI for Reference: All dropdown selections for forign key references are dynamically populated with information that is useful to the user. All forms for adding and editing entries have client side validation to prevent incomplete data entry.

Figure 1 - User interface for viewing all entries in the Breweries table. Form at the top of the page allows for the creation of new entries into the table. Edit and Dynamic Search functionality seen in *Figure 2* and *Figure 3* below.

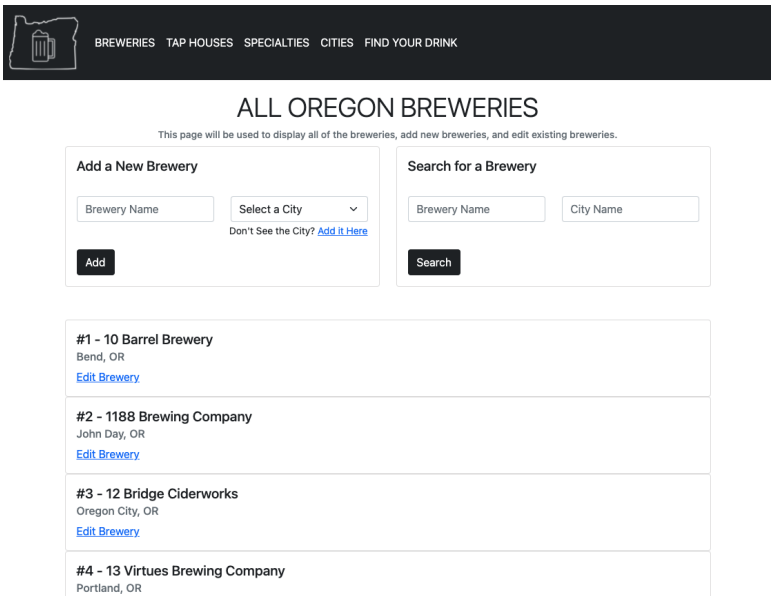


Figure 2 - User interface for viewing and editing a single entry in the Breweries table. The form is pre-populated with the selected brewery's data. The breweryID field is locked to prevent editing. "Update" button will commit changes to the database and redirect to the table of all Breweries. "Delete" button allows for deletion of the entry.

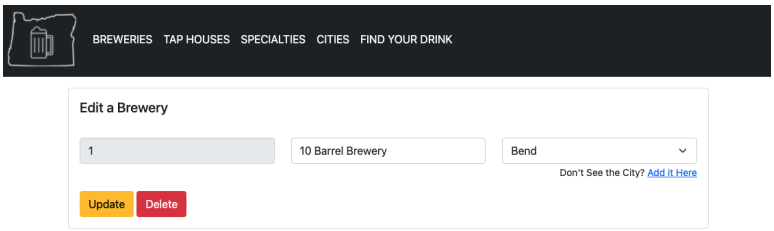


Figure 3 - User interface for dynamically sorting the Breweries Table. Search performed using the cityName search keyword “bend.” Users are able to search using a keyword for either breweryName, cityName, or both as seen in *Figure 1*.

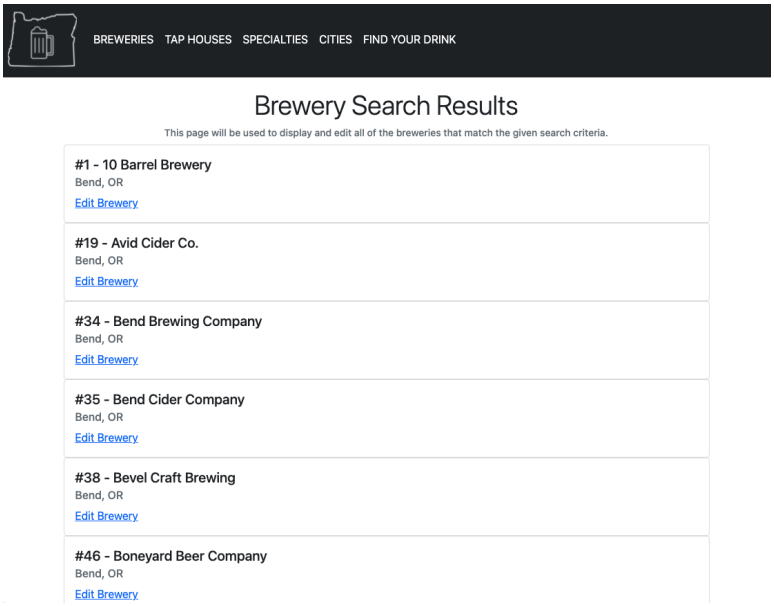


Figure 4 - User interface for viewing all entries in the TapHouses table. Form at the top of the page allows for the creation of new entries into the table. Edit functionality seen in *Figure 5.* **Please note that the relationship between TapHouse:Breweries is NULLable when the “Not Owned by a Brewery" option is selected in “Select a Brewery” drop down.

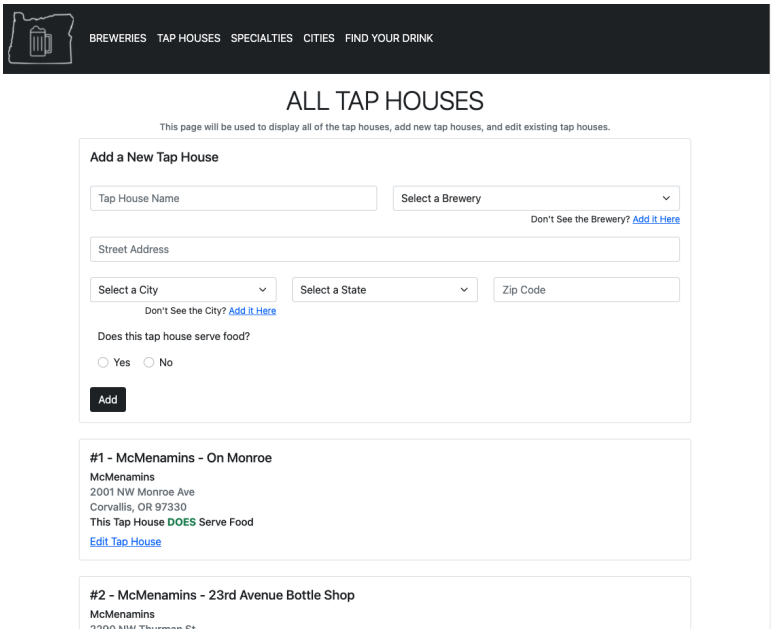


Figure 5 - User interface for viewing and editing a single entry in the TapHouses table. The form is pre-populated with the selected tap house's data. The tapHouseID field is locked to prevent editing. "Update" button will commit changes to the database and redirect to the table of all TapHouses. "Delete" button allows for deletion of the entry.

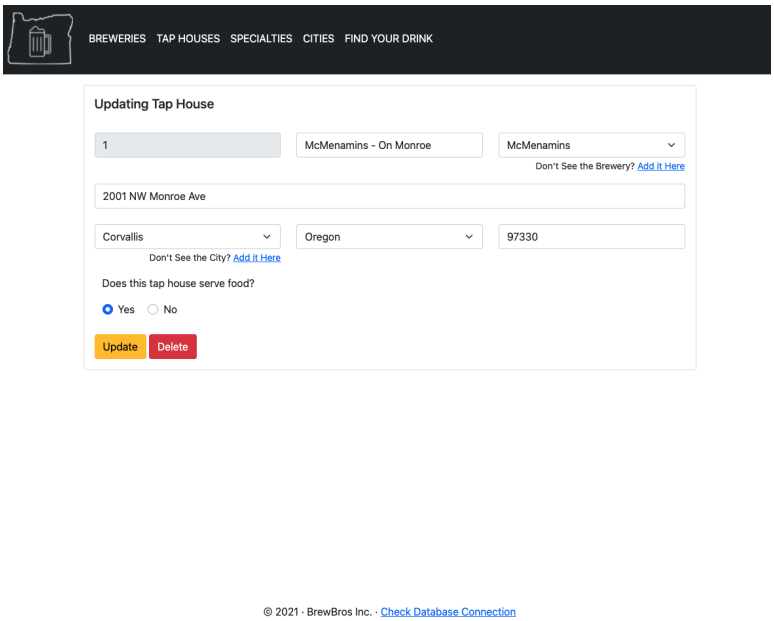


Figure 6 - User interface for viewing all entries in the Specialties table. Form at the top of the page allows for the creation of new entries into the table. Edit functionality seen in *Figure 7.*

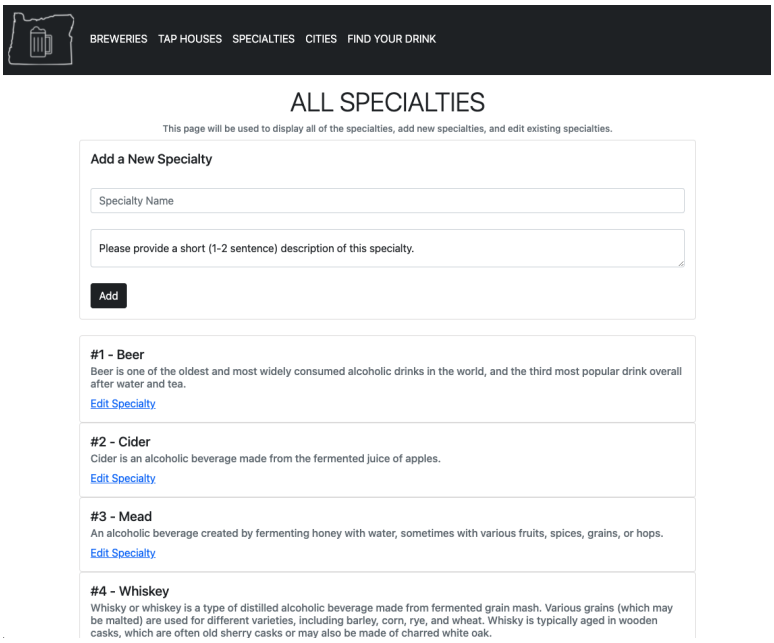


Figure 7 - User interface for viewing and editing a single entry in the Specialties table. The form is pre-populated with the selected specialty's data. The specialtyID field is locked to prevent editing. "Update" button will commit changes to the database and redirect to the table of all Specialties. "Delete" button allows for deletion of the entry.

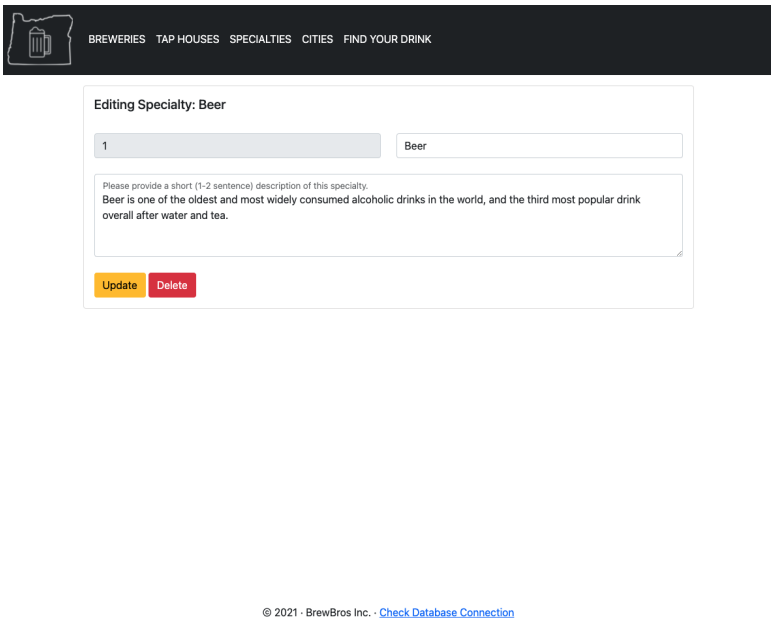


Figure 8 - User interface for viewing all entries in the Cities table. Form at the top of the page allows for the creation of new entries into the table. Edit functionality seen in *Figure 9.*

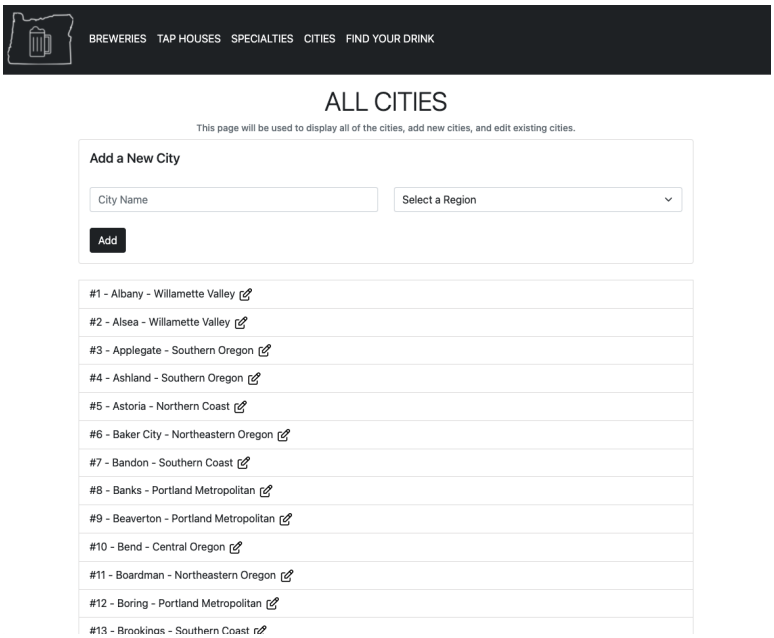


Figure 9 - User interface for viewing and editing a single entry in the Cities table. The form is pre-populated with the selected city's data. The cityID field is locked to prevent editing. "Update" button will commit changes to the database and redirect to the table of all Cities. "Delete" button allows for deletion of the entry.

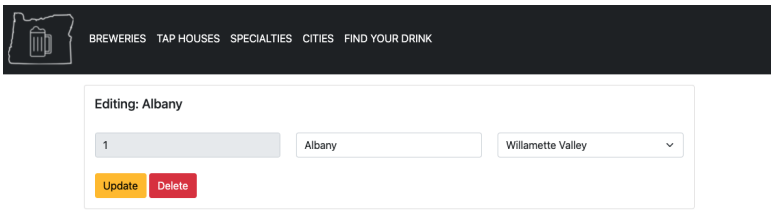


Figure 10 - User interface for viewing all entries in the brew_special table. Form at the top of the page allows for the creation of new entries into the table. Edit functionality seen in *Figure 11.*

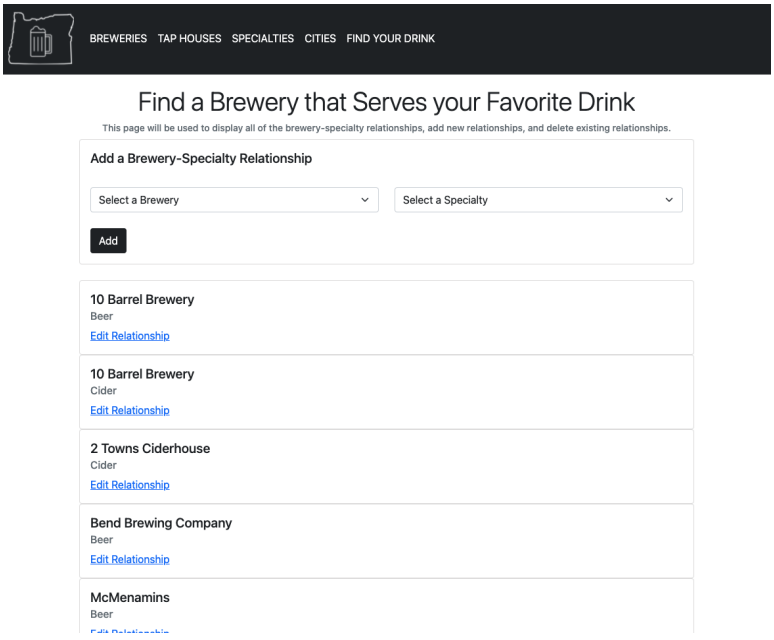


Figure 11 - User interface for viewing and editing a single entry in the brew_special table. The form is pre-populated with the selected relationship's data. Currently updating/editing these relationships is not supported. "Delete" button allows for deletion of the entry.

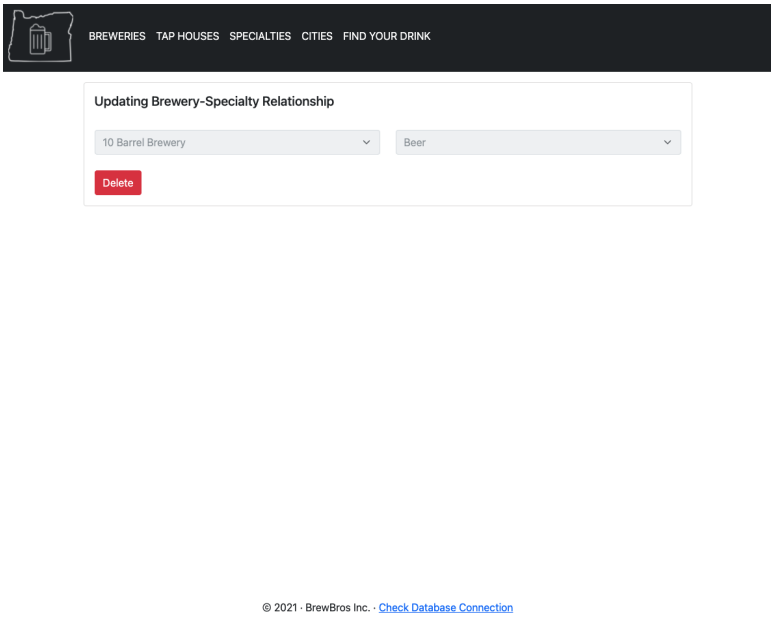
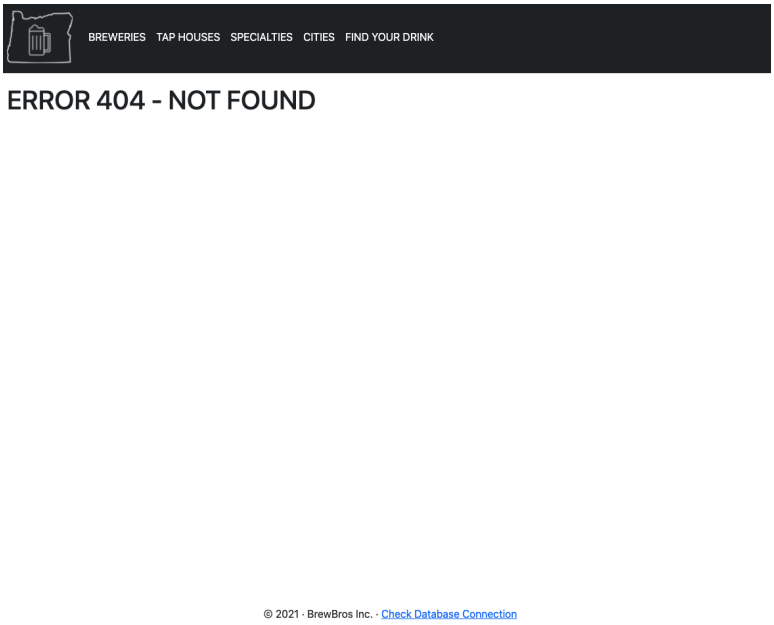


Figure 12 - Error 404 page for when the user requests a bad URL address.



Sources:

1. https://www.brewersassociation.org/statistics-and-data/state-craft-beer-stats/?state=OR
2. https://ecampus.oregonstate.edu/services/proctoring/testsites.htm

CS 340 TEAM EVALUATION FORM
August, 2021

RATE YOUR TEAMS PERFORMANCE USING THE SCALE BELOW.

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

GROUP NUMBER	Group 69: Brew Bros	
NAME OF GROUP TEAM MEMBERS:	Arek Engstrom (Me) & Michael Allcock	
SCALE AND COMMENTS	RATING	ADDITIONAL COMMENTS
HOW PREPARED WAS YOUR TEAM? Research, reading, and assignment complete	4	We worked well together and I am proud of our final product!
HOW RESPONSIVE & COMMUNICATIVE WERE YOU BOTH AS A TEAM? Responded to requests and assignment modifications needed. Initiated and responded appropriately via email, Slack etc.	4	Never had any communication issues, used Teams and text to communicate well all term
DID BOTH GROUP MEMBERS PARTICIPATE EQUALLY Contributed best academic ability	4	Yes we have a good balance of responsibilities.
DID YOU BOTH FOLLOW THE INITIAL TEAM CONTRACT? Were both team members both positive and productive?	4	Yep!

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

Over the course of the term we worked well together and I would partner with Michael again in future terms!

CS 340 TEAM EVALUATION FORM
August 9, 2021

RATE YOUR TEAMS PERFORMANCE USING THE SCALE BELOW.

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

GROUP NUMBER	Group 69: Brew Bros	
NAME OF GROUP TEAM MEMBERS:	Michael Allcock (Me) & Arek Engstrom	
SCALE AND COMMENTS	RATING	ADDITIONAL COMMENTS
HOW PREPARED WAS YOUR TEAM? Research, reading, and assignment complete	4	We both were well prepared for this assignment. We kept up to date on weekly material to work on the project.
HOW RESPONSIVE & COMMUNICATIVE WERE YOU BOTH AS A TEAM? Responded to requests and assignment modifications needed. Initiated and responded appropriately via email, Slack etc.	4	Great team communication. We would text regularly and when we needed more in-depth conversations, we would use video chat on Teams.
DID BOTH GROUP MEMBERS PARTICIPATE EQUALLY Contributed best academic ability	4	Yes. Both members had equal amounts of work and contributed fair amounts of work.
DID YOU BOTH FOLLOW THE INITIAL TEAM CONTRACT? Were both team members both positive and productive?	4	Yes.

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

No suggestions from me. I think we worked very well together. We delegated certain parts of our projects and completed them in a timely manner.