# Database Design and Implementation

By Team 3

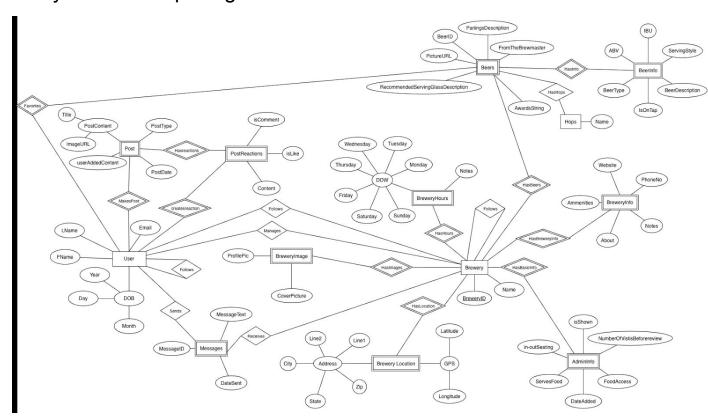


### **Team Members**

Justin Goulet, Austin Miller, Christopher Larsen, Myles Merrill and Mikal Callahan

# **Database Design**

## Entity Relationship Diagram



## Table Diagram

	Cardinality	
Entity 1: R	Relationship	Entity 2: R
User: N	Manages	Brewery: M
User: M	Follows	Brewery: M
User: N	Favorites	Beers: M
User: N	Sends	Messages: M
Brewery: 1	HasLocation	Brewery Location: M
Brewery: N	Receives	Messages: M

Brewery: 1	Has	Beers: M
•		

### **Brewery Table - CREATED**

Browery rubic CREATED	T .	
<u>BreweryID</u>	AUTONUM UNIQUE PRIMARY KEY NOT NULL	Unique key to identify brewery
Name	Text NOT NULL	The name of the brewery
ServesFood	Bool	Will the brewery have a kitchen
in-outSeating	Bool	Is there seating
DateAdded	Date	The day the brewery signed up
FoodAccess	Bool	Will there be access to food (e.g. food trucks)
Website	Text	Link to the brewery's website
PhoneNo	Char(10)	Brewery's phone number
Amenities	Text	Any special amenities offered
About	Text	Description of brewery
Notes	Text	Notes about brewery
ProfilePicURL	Text	Brewery's profile picture
CoverPicURL	Text	Brewery's cover photo
OwnerEmail	Text FOREIGN KEY	Brewery owner's email link to user
Hours	Text	Brewery hours

#### **User Table - CREATED**

Email	Text UNIQUE PRIMARY KEY	The email of the user. This is obtained on sign up
Password	Text NOT NULL	The user password.
FName	Text NOT NULL	The user's first name
LName	Text NOT NULL	The user's last name
DOB	Date	The date of birth for the user. The

		user must be older than 21. Used to determine age by function. yyyy-mm-dd
ProfilePicURL	Text	Location of where their profile picture is stored.

#### Beers - CREATED

<u>beerID</u>	Text UNIQUE PRIMARY KEY	Unique identifier of the beer. Aut increments as more are added
beerName	Text	Name of beer provided from brewery
fromtheBrewmaster	Text	Personal notes from the chef
pairingsDescription	Text	Noted food pairings that could go well with the beer taster
pictureURL	Text	URL of the beer image
recommendedServinGlass	Text	Type of glass the beer is to be served in; goblet, pint, taster, etc
awards	Text	Awards given to the beer, kept in a string
servingStyle	Text	Nitro or CO2 or Helium
ibu	INT	Bitterness number. Usually between 0 and 300
abv	DOUBLE	Percent of alcohol by volume
breweryID*	INT AUTONUM FOREIGN KEY	Brewery that makes the beer

### **BreweryLocation - CREATED**

	T	ı
BreweryID*	AUTONUM FOREIGN KEY	From the brewery table
locationID	AUTONUM UNIQUE	Unique identifier of the location reference
Lat	Float	Latitude of the brewery
Lng	Float	Longitude GPS coordinate of the brewery

AddrLineOne	Text NOT NULL	Street address of the brewery
AddrLineTwo	Text	May be null. Usually can be a business address
City	Text NOT NULL	City of address
State	Char(2) NOT NULL	State Abbreviation of address
Zip	Char(5) NOT NULL	Zip code, 5 digit number

#### Post - CREATED

UserEmail*	Text FOREIGN KEY NOT NULL	User's email for post identification
DatePosted	DATE UNIQUE NOT NULL	Date the post was made
TextContent	Text NOT NULL	Contents of the post

### **BreweryOwner - CREATED**

<u>OwnerID</u>	INT PRIMARY KEY NOT NULL	Owner ID to identify owner
<u>BreweryID</u>	FOREIGN KEY NOT NULL	Brewery ID to identify the brewery being owned
<u>UserEmail</u>	FOREIGN KEY NOT NULL	User's email to identify owner of brewery

## UserFollowsBrewery - CREATED

isFollowing	BOOL PRIMARY KEY NOT NULL	Check if user is following brewery
<u>userEmail</u>	Text FOREIGN KEY NOT NULL	User that is following brewery
BreweryID	INT FOREIGN KEY NOT NULL	Brewery identifier being followed

### **UserFollowsPerson - CREATED**

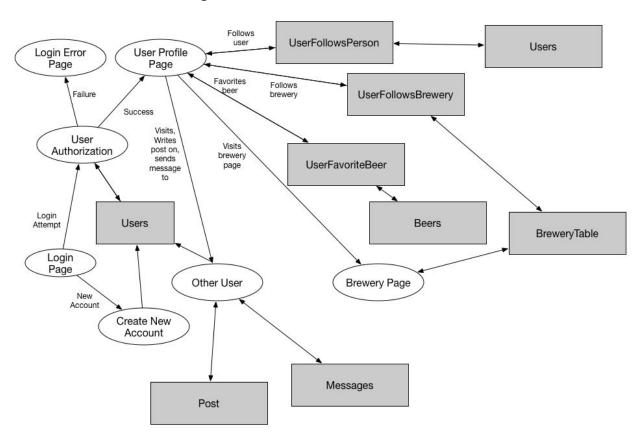
isFollowing	BOOL PRIMARY KEY NOT NULL	Check if user is following that user already
<u>userEmail</u>	FOREIGN KEY NOT NULL	User that will be following another

userEmail FOREIGN KEY NOT NULL	User to be followed
--------------------------------	---------------------

#### **UserFavoritesBeer - CREATED**

<u>isFavorited</u>	BOOL PRIMARY KEY NOT NULL	Has the user favorited the beer
<u>UserEmail</u>	FOREIGN KEY NOT NULL	User that will favorite beer
<u>beerID</u>	FOREIGN KEY NOT NULL	Beer to be favorited

## Information Flow Diagram





# **Database Implementation**

`ABV` double default NULL,

Views: //To automatically check if a user is over 21 years of age **CREATE VIEW** valid\_Users AS **SELECT** p.Email, CONCAT(p.FName, '', p.LName) AS Name, p.DOB AS Birthdate, (DATE\_FORMAT(FROM\_DAYS(TO\_DAYS(NOW()) - TO\_DAYS(p.DOB))), '%Y') + 0) AS Current\_Age FROM Users p WHERE  $((DATE\_FORMAT(FROM\_DAYS(TO\_DAYS(NOW()) - TO\_DAYS(p.DOB))), '%Y') + 0) > 21);$ //To get all beers greater than 10 ABV **CREATE VIEW** DrunkAF AS SELECT beerName, ABV **FROM** Beers WHERE ABV >= 10; Tables: //Beers Table **CREATE TABLE `Beers` (** `BeerID` int(11) NOT NULL auto\_increment, 'BeerName' text NOT NULL, `FromTheBrewmaster` text, 'PairingsDescription' text, 'PictureURL' text, `RecommendedServingGlass` text, `Awards` text, `ServingStyle` varchar(10) default NULL, `IBU` int(11) default NULL,

```
`BreweryID` int(11) default NULL,
 'BeerType' text,
 'OnTap' char(1) default 'T',
 'BeerDescription' text,
 PRIMARY KEY ('BeerID'),
 KEY 'breweryID' ('BreweryID'),
 CONSTRAINT `Beers_ibfk_1` FOREIGN KEY (`BreweryID`) REFERENCES `BreweryTable`
('BreweryID')
//Brewery Location
CREATE TABLE `BreweryLocation` (
 'LocationID' int(11) NOT NULL auto increment,
 'BreweryID' int(11) NOT NULL,
 `Lat` float default NULL,
 `Lng` float default NULL,
 `AddrLineOne` text NOT NULL,
 `AddrLineTwo` text NOT NULL,
 'City' text NOT NULL,
 'State' char(2) NOT NULL default ",
 'Zip' char(5) NOT NULL default ",
 PRIMARY KEY ('LocationID'),
 KEY 'breweryID' ('BreweryID'),
 CONSTRAINT 'BreweryLocation ibfk 1' FOREIGN KEY ('BreweryID') REFERENCES
`BreweryTable` (`BreweryID`)
//Brewery Owner
CREATE TABLE `BreweryOwner` (
 `OwnerID` int(11) NOT NULL auto_increment,
 'UserEmail' varchar(50) NOT NULL default ",
 'BreweryID' int(11) NOT NULL,
 PRIMARY KEY ('OwnerID'),
 KEY 'UserEmail' ('UserEmail'),
 KEY 'BreweryID' ('BreweryID'),
 CONSTRAINT `BreweryOwner_ibfk_1` FOREIGN KEY (`UserEmail`) REFERENCES `Users`
(`Email`),
 CONSTRAINT `BreweryOwner_ibfk_2` FOREIGN KEY (`BreweryID`) REFERENCES
`BreweryTable` (`BreweryID`)
//BreweryTable
```

```
CREATE TABLE `BreweryTable` (
 `BreweryID` int(11) NOT NULL auto increment,
 'BreweryName' varchar(30) NOT NULL,
 `ServesFood` tinyint(1) default NULL,
 'InOutSeating' tinyint(1) default NULL,
 'DateAdded' date default NULL,
 `FoodAccess` tinyint(1) default NULL,
 'Website' varchar(100) default NULL,
 'PhoneNo' varchar(15) default NULL,
 'Amenities' text,
 `About` text.
 'Notes' text.
 'ProfilePicURL' varchar(255) default NULL,
 'CoverPicURL' varchar(255) default NULL,
 'Hours' text,
 PRIMARY KEY ('BreweryID')
)
//DaBosses - Creators
CREATE TABLE 'DaBosses' (
 `PersonID` int(11) unsigned NOT NULL auto_increment,
 `LastName` varchar(255) NOT NULL default ",
 `FirstName` varchar(255) NOT NULL default ",
 'Address' varchar(255) default NULL,
 'City' varchar(255) default NULL,
 PRIMARY KEY ('PersonID')
//Messages
CREATE TABLE 'Messages' (
 'MessageID' int(11) NOT NULL auto increment,
 'MessageText' text NOT NULL,
 'DateSent' date NOT NULL,
 'UserEmail' varchar(50) default NULL,
 'BreweryID' int(11) default NULL,
 'OtherUserEmail' varchar(50) default NULL,
 'OtherBrewerID' int(11) default NULL,
 PRIMARY KEY ('MessageID'),
 KEY 'UserEmail' ('UserEmail'),
 KEY 'BreweryID' ('BreweryID'),
 CONSTRAINT `Messages_ibfk_1` FOREIGN KEY (`UserEmail`) REFERENCES `Users`
(`Email`),
 CONSTRAINT `Messages_ibfk_2` FOREIGN KEY (`BreweryID`) REFERENCES
```

```
`BreweryTable` (`BreweryID`)
)
//Post
CREATE TABLE 'Post' (
 'auto ID' int(11) NOT NULL auto increment,
 'UserEmail' varchar(30) NOT NULL,
 'PostDate' datetime default NULL,
 'TextContent' varchar(255) default NULL,
PRIMARY KEY ('auto_ID', 'UserEmail')
);
//PostComments
CREATE TABLE `PostComments` (
 'UserEmail' varchar(30) NOT NULL,
 `IsComment` tinyint(1) default NULL,
 `IsLike` tinyint(1) default NULL,
 `TextContent` text,
PRIMARY KEY ('UserEmail')
);
//UserFavoritesBeer
CREATE TABLE `UserFavoritesBeer` (
 'UserEmail' varchar(30) NOT NULL,
 'BeerID' int(11) NOT NULL,
 PRIMARY KEY ('UserEmail', 'BeerID'),
 KEY 'BeerID' ('BeerID'),
 CONSTRAINT `UserFavoritesBeer ibfk 1` FOREIGN KEY (`UserEmail`) REFERENCES
'Users' ('Email'),
 CONSTRAINT `UserFavoritesBeer_ibfk_2` FOREIGN KEY (`BeerID`) REFERENCES `Beers`
('BeerID')
)
//User Follows Brewery
CREATE TABLE `UserFollowsBrewery` (
'UserEmail' varchar(30) NOT NULL,
 'BreweryID' int(11) NOT NULL,
 KEY 'UserEmail' ('UserEmail'),
 KEY 'BreweryID' ('BreweryID'),
 CONSTRAINT `UserFollowsBrewery_ibfk_1` FOREIGN KEY (`UserEmail`) REFERENCES
'Users' ('Email'),
 CONSTRAINT `UserFollowsBrewery ibfk 2` FOREIGN KEY (`BreweryID`) REFERENCES
```

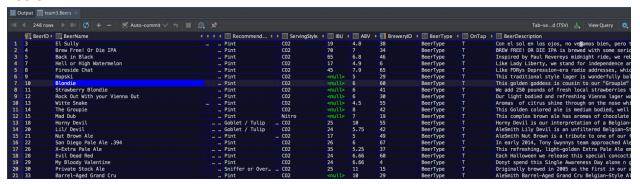
```
`BreweryTable` (`BreweryID`)
);
//Users
CREATE TABLE `Users` (
 `Email` varchar(50) NOT NULL default ",
 'Password' varchar(30) NOT NULL default ",
 `FName` varchar(30) NOT NULL,
 'LName' varchar(30) NOT NULL,
 'DOB' date default NULL,
 `ProfilePicURL` varchar(200) default
'http://gagnons.com/media/wysiwyg/blank-profile-_bowtie.png',
 'IsActive' char(1) default 'Y' COMMENT 'To determine if the user is active or not.',
 `LastLogin` date default NULL,
 PRIMARY KEY ('Email')
);
//UserFollowsUser
CREATE TABLE `UserFollowsUser` (
 `ID` int(11) NOT NULL auto_increment,
 'UserEmail' text NOT NULL,
 'OtherUserEmail' text NOT NULL,
 PRIMARY KEY ('ID'),
 UNIQUE KEY 'ID_UNIQUE' ('ID')
```

### **Populated Tables**

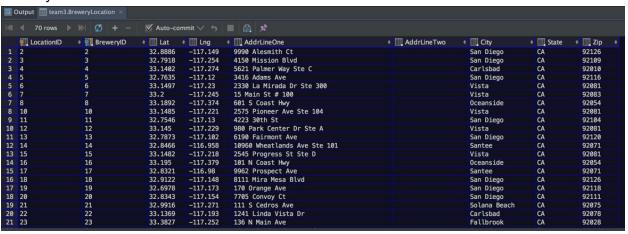
#### 1. Users

```
| Output | | team3.Users | | Tab-se...d (TSV) | Tab-
```

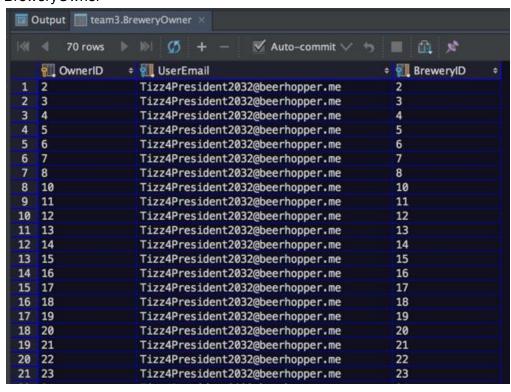
#### 2. Beers:



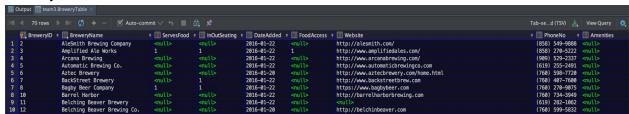
#### 3. BreweryLocation



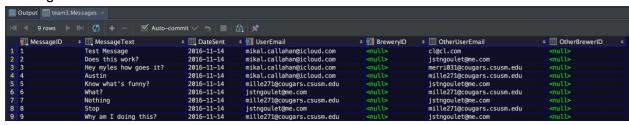
#### 4. BreweryOwner



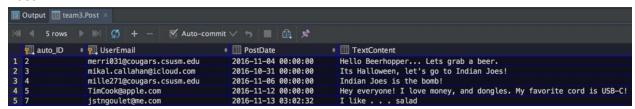
5. BreweryTable



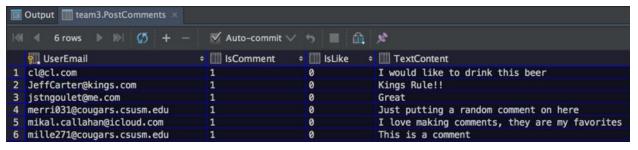
6. Messages



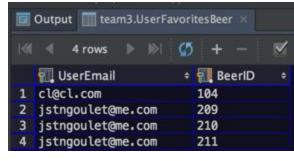
7. Post



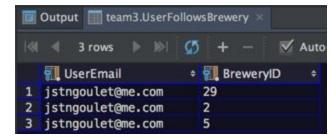
8. PostComments



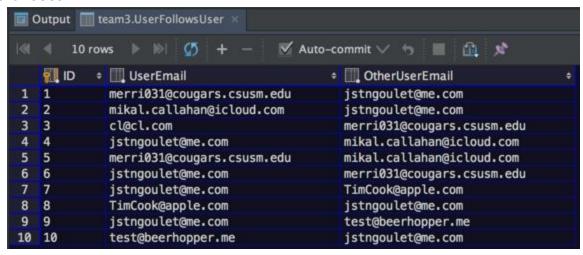
UserFavoritesBeer



10. UserFollowsBrewery



11. UserFollowsUser



**SQL Statements for Pages** 

-Shows which gueries will be used on specific pages

## Login Page

a.

```
WHERE
       u.Email="User_trying_to_login";
//Update the last time logged in for the user upon success
Create User Page
//Insert new user into the table - success if user email is not yet in DB
INSERT INTO
       Users (Email, Password, FName, LName, DOB, ProfilePicURL, IsActive)
VALUES
       ("cl@cl.com", "Pa551", "Chris", "Larsen", "2000-01-01", "http://www.google.com", 'Y');
//Check to see if the user is less than 21 (part of valid_users) - On submit
SELECT
       COUNT(*)
FROM
       valid_Users v
WHERE
       v.Email='jstngoulet@me.com';
Main Profile Page
//Get users followers
SELECT DISTINCT
       u.UserEmail, u.OtherUserEmail, them.ProfilePicURL, CONCAT(them.`FName`, '', them.`LName`)
AS 'Name'
FROM
       UserFollowsUser u, Users p, Users them
WHERE
       u.OtherUserEmail='jstngoulet@me.com' AND u.OtherUserEmail=p.Email AND
them.Email=u.UserEmail
LIMIT 3;
//Get breweries that user is following
SELECT DISTINCT
       BreweryName, ProfilePicURL, b.BreweryID, u.UserEmail
FROM
       BreweryTable b, UserFollowsBrewery u
WHERE
       u.BreweryID = b.BreweryID AND u.UserEmail ='jstngoulet@me.com'
GROUP BY
       u.BreweryID
LIMIT 3;
```

```
//Get favorite beers
SELECT
      BeerName, PictureURL
FROM
      Beers b, UserFavoritesBeer ub
WHERE
      u.UserEmail = 'jstngoulet@me.com';
//Get user profile picture, name
SELECT
      u.ProfilePicURL, CONCAT(u.`FName`,u.`LName`) AS 'UserName';
FROM
      Users u
WHERE
      u.Email='jstngoulet@me.com';
Main Brewery Page
//Get the brewery cover photo, profile picture, name, and location
SELECT DISTINCT
      b.CoverPicURL, b.ProfilePicURL, b.BreweryName, CONCAT(I.City, ', ', I.State) AS
Location
FROM
      BreweryTable b, BreweryLocation I
WHERE
      b.BreweryID=I.BreweryID AND BreweryID=29;
//Get the current beerlist from the brewery (BeerNames, Pic, and ID)
SELECT DISTINCT
      b.BeerID, b.ProfilePicURL, b.BeerName
FROM
      Beers b
WHERE
      b.breweryID=29;
//Get the people following the brewery (Profile Pic, Name, Email)
SELECT
      CONCAT(u.FName, '<br'>', u.LName) AS UserName, u.ProfilePicURL, u.Email
FROM
      Users u, UserFollowsBrewery ub
WHERE
```

ub.UserEmail=u.Email AND ub.breweryID=29 LIMIT 3;