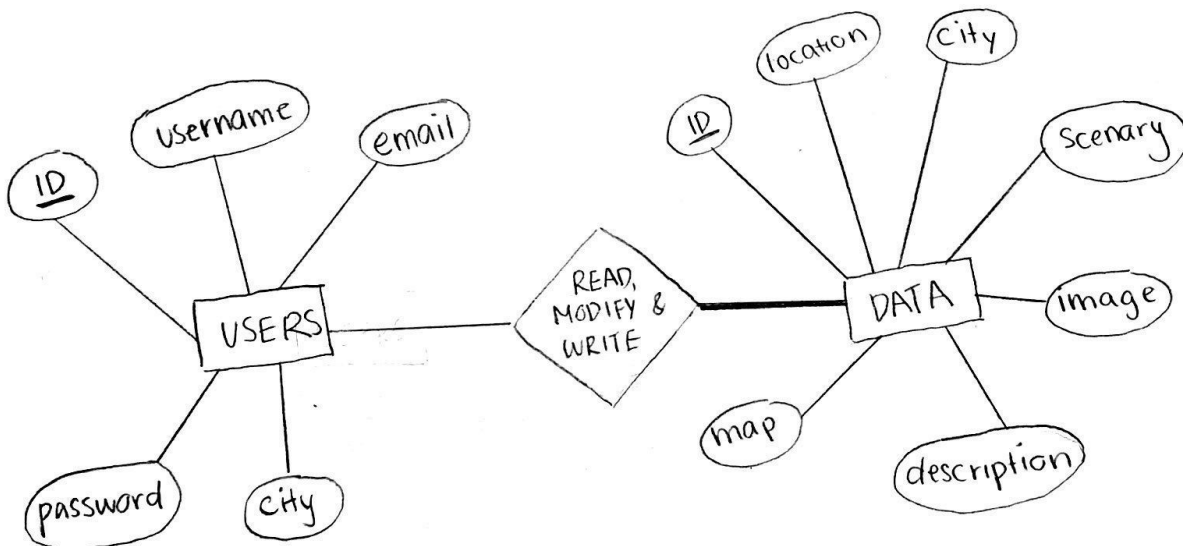


PA2: Technical Report

DATABASE DESIGN

The database was designed with two simple things in mind: user interactions and website data. Firstly, the users table contains very basic information of the user. The users table is designed with columns for ID (primary auto incrementing key), username (unique), email (unique), password, and city (preference to be used for home page). This table is used to register, login, and change user information once logged in. Currently, it is kept simple as I hope to implement reviews in PA3, that would be connecting the user ID to data ID (listings) so users are able to add reviews.

Secondly, the data table is designed to make it easy to add and delete entries later on, while having all the information at one spot so it is easy to generate pages with the data. The data table is designed with columns for ID (primary auto incrementing key), location (name), city, scenery, image, description, map (for directions). This table is used in the browsing tab, sorting and filtering, showing the location, city, and image, while using the ID for the link. The data in the table is also used in each individual listing, making it easy to generate multiple pages at once, and change each page's format as needed.



DATABASE CONNECTIVITY CODE

Following the requirements, the *db.php* file holds connectivity code:

```
$con = mysqli_connect("localhost","root","","TIFFANY_REN");
```

Pages that connect to the database are *browse.php*, *login.php*, *register.php*, *account.php*, and all listings. In order to make it as easy as possible to implement, I made sure that all the form data could be queried easily into the database, as well as using if/else statements to ensure that only required pieces of data are put into the query. Conversely, I made sure that all the data pulled from the query could be easily and efficiently implemented into the code. For example, for all listings, each listing page only has a different ID number (from the database), and is able to generate an entire listing based on that single ID number. For example, the below code is the first listing:

```
$query = "SELECT * FROM `data` WHERE id='1'";
```

In the *browse.php*, the link to this listing is done by placing the ID into the file name as such:

```
echo '<a href="listing'.$row["$columnDisplay[1]"].'.php">'
```

Where `$row["$columnDisplay[1]"]` holds the ID data. Other queries were used not to simply extract data from the data table, but to count the amount of entries so it could be paginated correctly:

```
$total_pages_sql = "SELECT COUNT(*) FROM `data`";
```

Which was then used with a preset number of entries per page to paginate everything.

SECURE AUTHENTICATION HANDLING & MEMBER REGISTRATION

In order to ensure each field would be authenticated properly, I first looked at what was required:

ID would be automatic and unique.

Usernames would need to be unique, to identify each user.

Emails would also need to be unique, to identify each user, and would need to be authenticated as a real email address.

Passwords would not need to be unique and have the least authentication needed in this case.

Using this framework, I was able to implement authentication during registration, login. Once in the account page, I used authentication to allow users to update their username and password.

For example, to check if a username was unique:

```
//Checking if username is in use already
```

```
$uquery = "SELECT * FROM `users` WHERE username='$username'";
$result = mysqli_query($con,$uquery) or die(mysql_error());
$row = mysqli_num_rows($result);
```

Similar queries were used to check at login whether a user has previously registered, or if the email has already signed up for an account.

Another example, to update the username:

```
//enter into users database
$query = "UPDATE `users` SET `username` = '$username' WHERE
`users`.`id` = '$id'";
$result = mysqli_query($con,$query);
$_SESSION['username'] = $username;
```

Similarly, passwords were also updated in a similar fashion (without updating the session username).

To authenticate each entry into the system (outside of duplicates), I implemented the following code snippets:

```
$email = stripslashes($_POST['email']);
$email = mysqli_real_escape_string($con,$email);
```

With username, email, password, strip back slashes and special characters.

```
if (!filter_var($email, FILTER_VALIDATE_EMAIL)) {
    echo "<h3>Email invalid.</h3>";
}
```

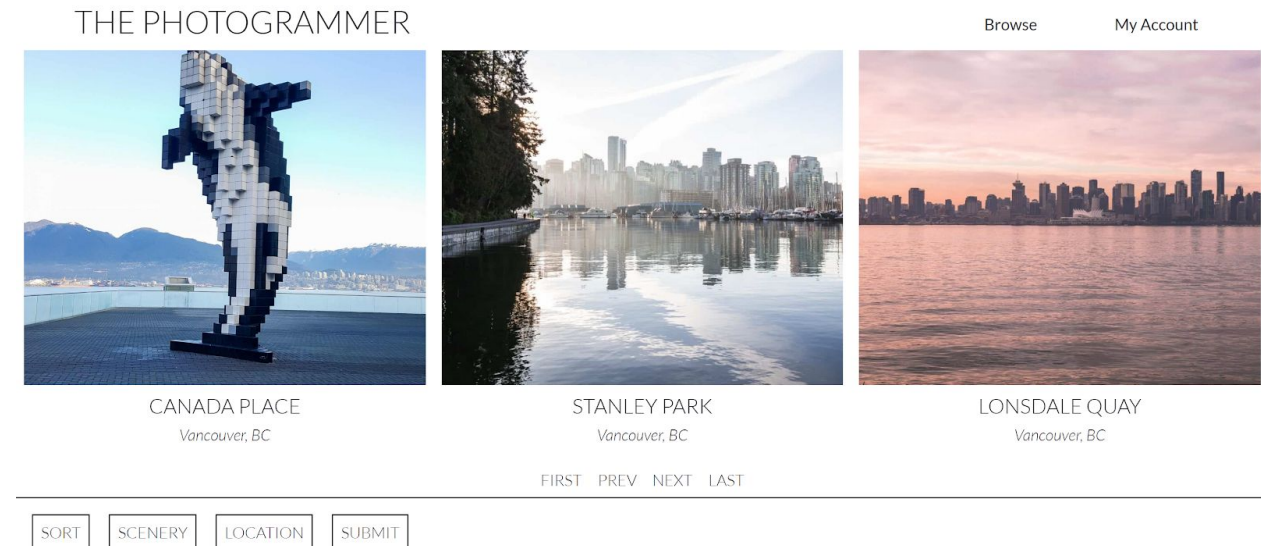
Email validity (FILTER_VALIDATE_EMAIL is a php function that operates accurately).

Additionally, to ensure that users were able to access functionalities while they were logged in, sessions were implemented to start after login. Using the files *auth_sessionActiveCheck.php* and *auth_sessionNotActiveCheck.php*, checks occur at *login.php* and *account.php* pages to ensure the right page is accessed. I.e. When logged in, login page automatically redirects to account, and when logged out, account page automatically redirects to login page.

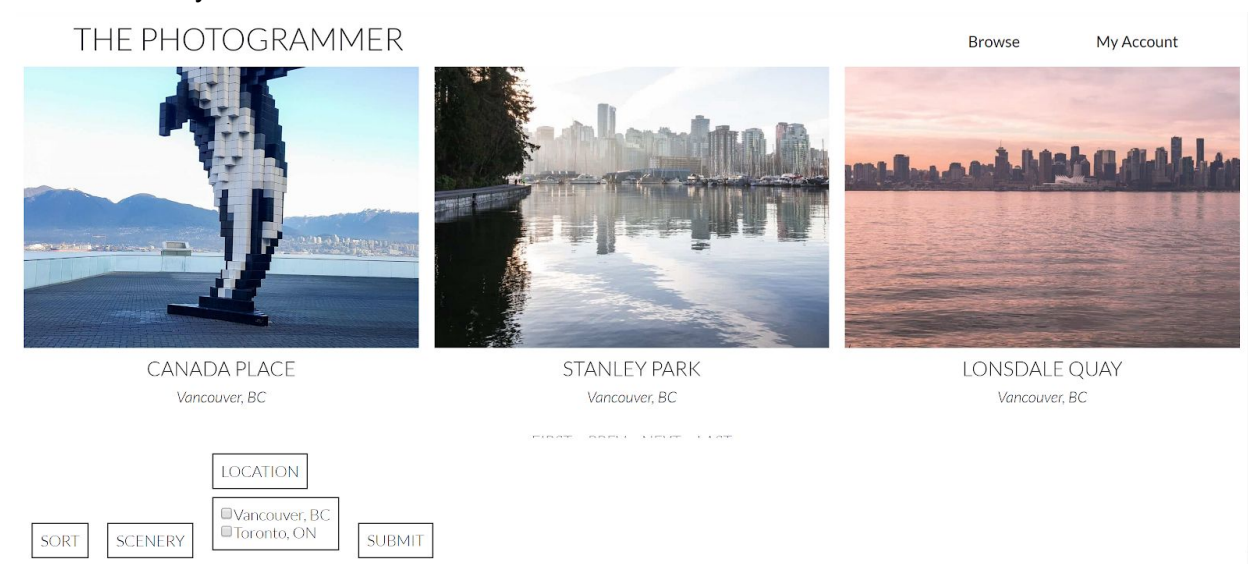
VISITOR FUNCTIONALITY & IMPLEMENTATION

Visitors are able to look through all of the listings of photographic locations available on the website. These locations can be sorted alphabetically, filtered by scenery (city life or nature), as well as city (Vancouver or Toronto). Each listing has a description of information about the location, as well as an embedded google map to help them find the location. Below, there is currently a placeholder review that will be updated to allow registered users to post reviews, as well as see them in their account page. Members are able to access the account page once logged in to change their username and password.

Functionalities available on browsing page:



Roll over sticky footer to select filters:



In each listing, select “MORE INFORMATION” for the google map location:

THE PHOTOGRAMMER

[Browse](#)[My Account](#)

VANCOUVER, BC

► Overview

Canada Place is a building situated on the Burrard Inlet waterfront of Vancouver, British Columbia. It is the home of the Vancouver Convention Centre, the Pan Pacific Vancouver Hotel, Vancouver's World Trade Centre, and the virtual flight ride FlyOver Canada.

► More Information

