

Christopher Silverwood  
Marissa Rapaport  
Joe Guan  
Frank Barbour

# Team 8 Final Report

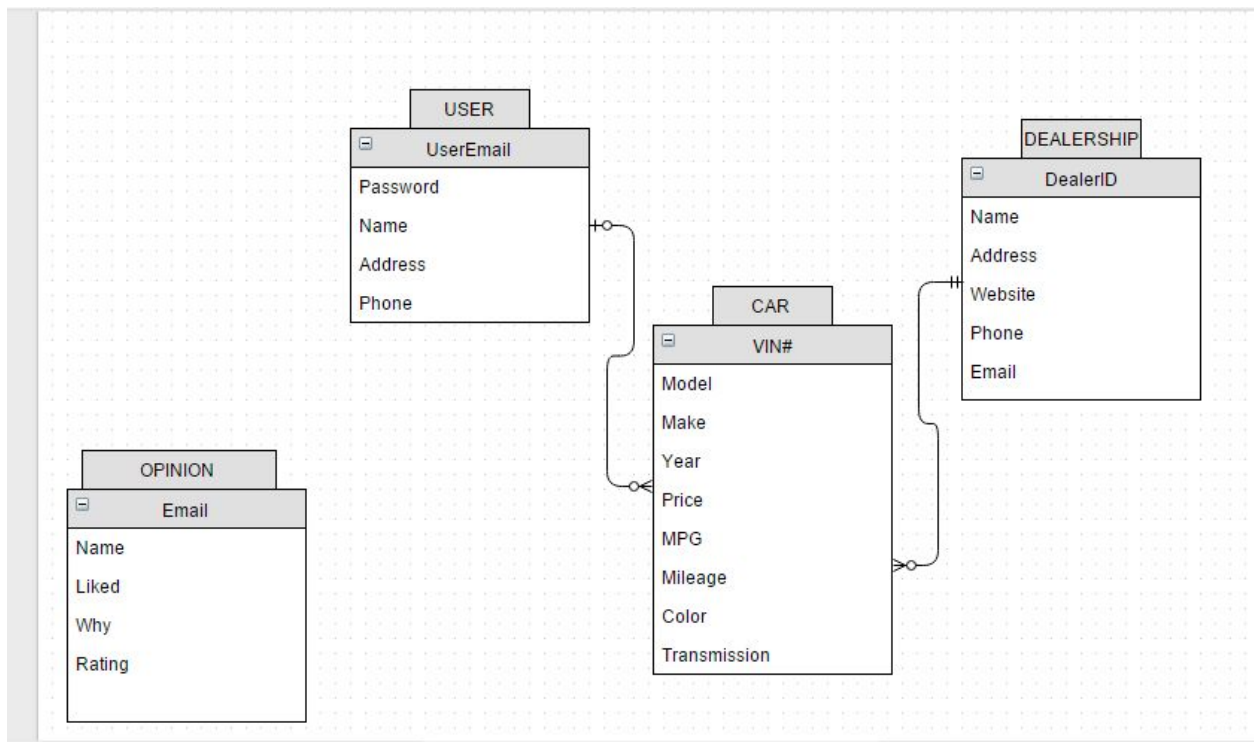
Penn State Used Car Finder

Website URL: <https://my.up.ist.psu.edu/zog5064/main.php>

Project Description: The goal of the Penn State Used Car finder is to assist students of Penn State as well as residents in the state college area in finding a vehicle based on certain search criteria of their choosing (make of the vehicle and price). Additionally, once a user makes an account on our website, they can advertise their vehicle for free on our website for it to be sold. Essentially, the Penn State used car finder takes a lot of the hassle out of searching for a used car or trying to sell a used car. Our website also gives users valuable information about dealerships like what used cars they have, their location, as well as all their necessary contact info. Finally, our website implements a feedback feature so users can comment on any problems with the website as well as rate the website (all of which is stored in SQL after inputted) in order to keep it functioning as smoothly and trouble-free as possible.

## Database:

E-R diagram (final version):



(We updated our final ER diagram to contain the OPINION entity because we decided to implement a feedback function on our website and the OPINION entity is formed into the table that stores the feedback data that users enter into our website)

Tables Used: CAR  
DEALERSHIP  
OPINION  
USERS

SQL Scripts used to create the tables:

```
CREATE TABLE USERS(  
    UserEmail    Char(50)    NOT NULL    PRIMARY KEY,  
    Name        Char(100)   NOT NULL,  
    Address      Char(100)   NULL,  
    Phone       Char(12)    NULL,  
    Password    Char(50)    NOT NULL,  
);
```

```
CREATE TABLE DEALERSHIP(  
    DealerID    Int          NOT NULL    IDENTITY(1,1) PRIMARY KEY,  
    Name        Char(50)    NOT NULL,  
    Address      Char(100)   NOT NULL,  
    Website     Char(100)   NULL,  
    Phone       Char(12)    NOT NULL,  
    Email       Char(50)    NOT NULL,  
);
```

```
CREATE TABLE CAR(  
    VIN#        Char(20)    NOT NULL    PRIMARY KEY,  
    Model       Char(20)    NOT NULL,  
    Make        Char(20)    NOT NULL,  
    Year        Char(4)     NOT NULL,  
    Price       Char(10)    NULL,
```

```

MPG                Char(10)    NULL,
Mileage            Char(10)    NOT NULL,
Color              Char(15)    NULL,
Transmission Char(10)    NOT NULL,
DealerID          Int          NULL,
UserEmail          Char(50)    NULL,
CONSTRAINTCAR_DEALERSHIP_FK FOREIGN KEY(DealerID)
                    REFERENCES DEALERSHIP(DealerID)
                    ON UPDATE CASCADE
                    ON DELETE CASCADE,
CONSTRAINTCAR_USER_FK FOREIGN KEY(UserEmail)
                    REFERENCES USERS(UserEmail)
                    ON UPDATE CASCADE
                    ON DELETE CASCADE
);

```

```

CREATE TABLE OPINION (
  NAME Char(35) NOT NULL,
  EMAIL Char(50) NOT NULL PRIMARY KEY,
  LIKED int NOT NULL,
  WHY Char(300) NOT NULL,
  RATING int
);

```

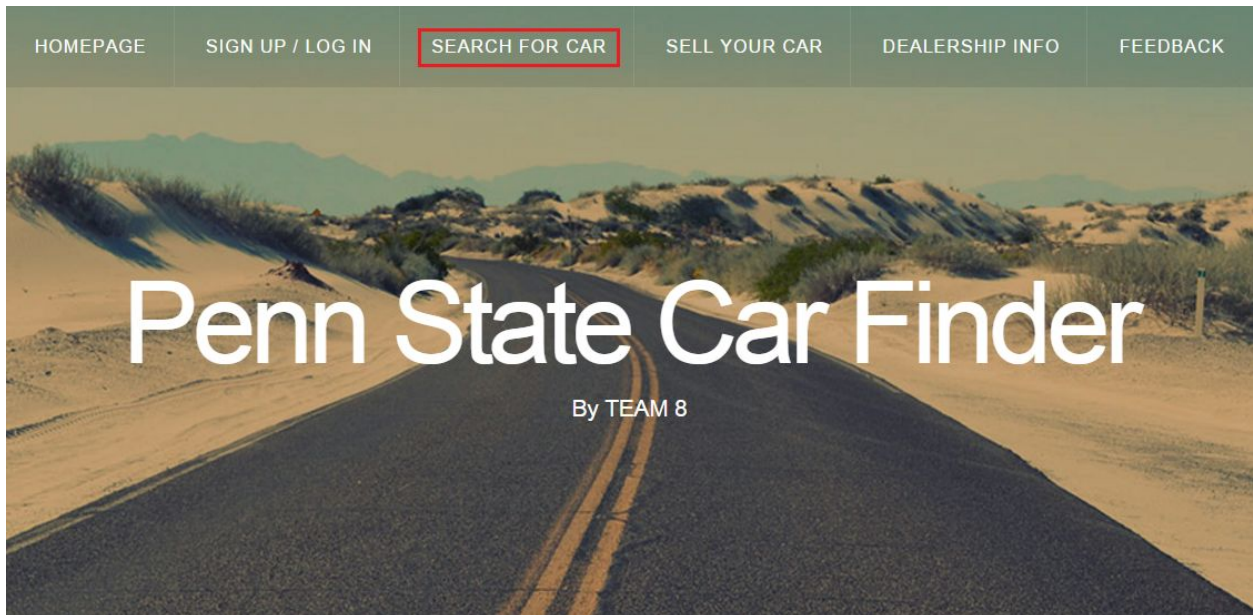
Data Collection: Initially, our team only entered 5 cars into our database because it served as reasonable size for testing our website when we were still constructing it. Additionally, we knew that users would be entering in their own vehicles to be sold on the website once they made an account so a starting size of 5 cars for our database was sufficient (there are currently 7 cars in our database). As far as collecting our data goes, all of the cars in our database are made up. That being said, they are priced accurately and the features of the vehicle (Year, MPG, color, transmission) are all features you would find on that car in real life. This is because our team went to many used car websites and analyzed certain price points for vehicles based off their mileage and we also researched their average MPG as well as colors these cars are commonly

available in. All the used car dealerships within our database are made up however they demonstrate what potential a website like this could have if in fact it leveraged real life data. Any other data within our website (feedback or user accounts) is generated by users when they use the website.

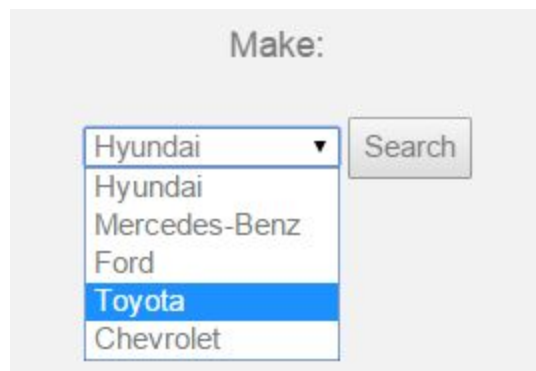
### 5 Functions of our database:

1. Car search
  - a. User wants to search for a car that was made by Toyota

Start at the home page and click the "Search for Car" tab at the top of the page.



Here they are able to select different vehicles based on make, in this case they select a Toyota.



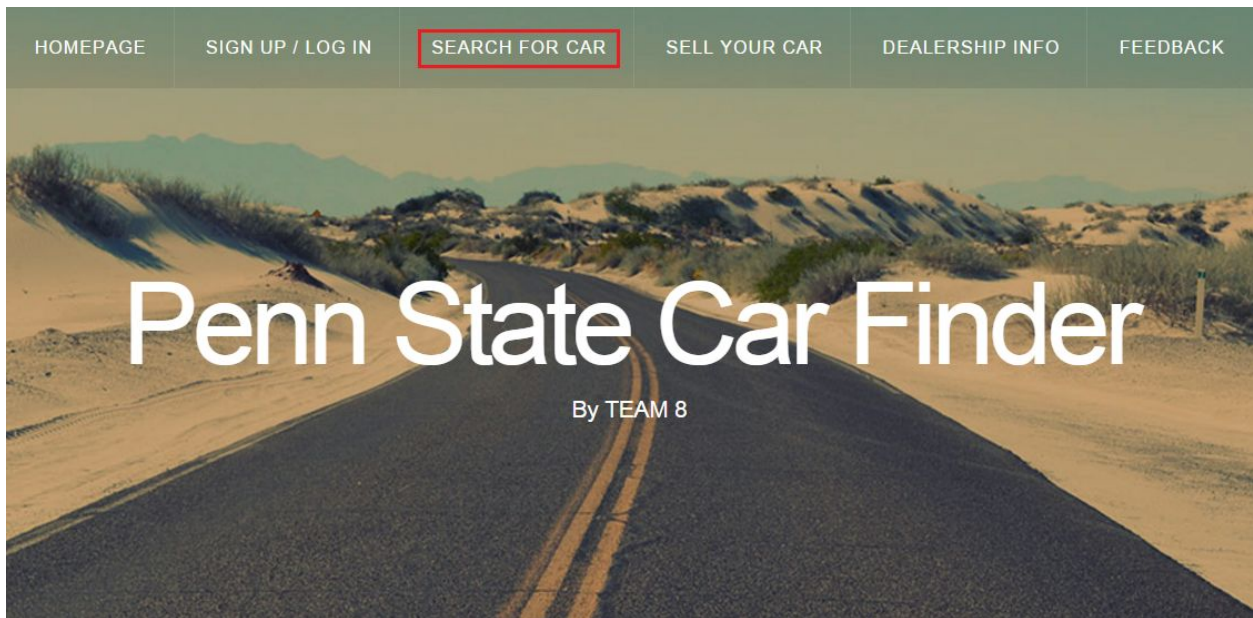
After they select "Toyota," they can view information about the car.

VIN#	Model	Make	Year	Price	MPG	Mileage	Color	Transmission	DealerID
JTDKB20UX60999999	Prius	Toyota	2007	\$13,000	50	81,491	silver	automatic	1

Query: SELECT \* FROM CAR WHERE VIN# ='\$VIN';

b. User searches for a car within their price range

Start at the home page and click the "Search for Car" tab at the top of the page.



Here they are able to select the price range they are looking for. They select a price range between \$10,001 and \$20,000.

Price:

After they enter in the price range, they are shown several vehicles that are within their price range.

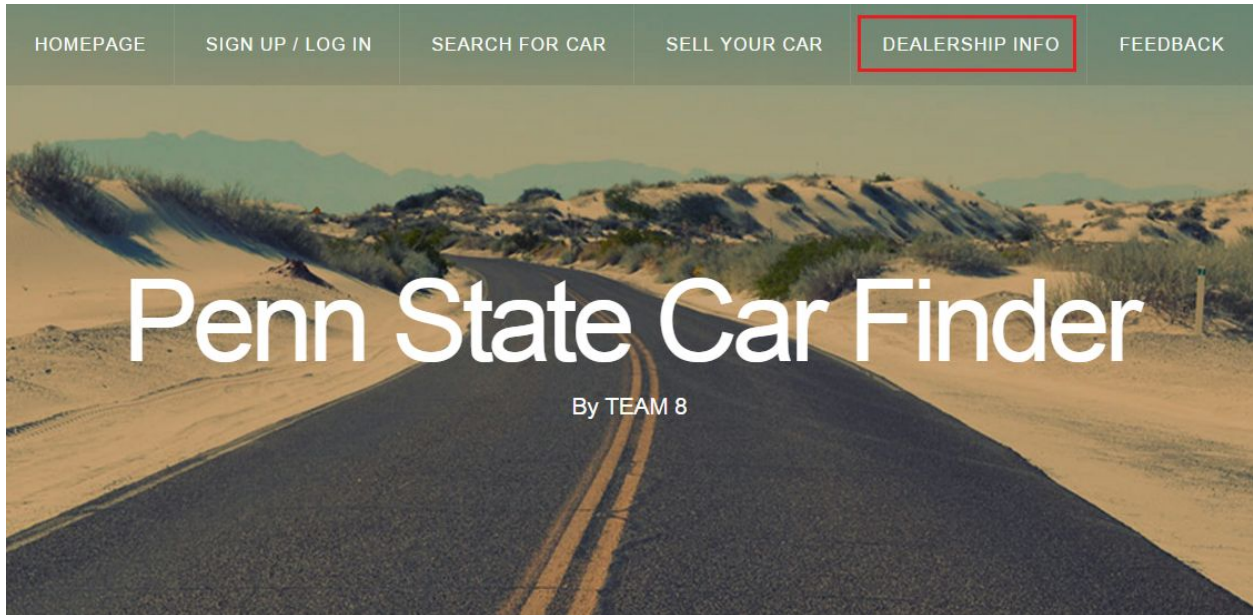
VIN#	Model	Make	Year	Price	MPG	Mileage	Color	Transmission	DealerID
176FQI50H827ST99	Tuscon	Hyundai	2013	\$12,995	24	51,762	blue	manual	5
8F02R157039	Mustang	Ford	2010	\$16,999	19	81,763	black	manual	2
JTDKB20UX60999999	Prius	Toyota	2007	\$13,000	50	81,491	silver	automatic	1
LCERT2610BD00S672	Cruze	Chevrolet	2015	\$14,799	37	6,500	red	automatic	4

[Go back](#)

Query: `SELECT * FROM CAR WHERE Price LIKE '$price';`

## 2. User looks up information on dealerships

Starting from the homepage, you navigate to the “Dealership Info” tab along the top of the screen and click on it.



From there the user will be brought to the page that contains information for all the dealerships that have cars on our website. This information includes location, contact information and each of them is given a number that matches up to vehicles that they have on our site.

DealerID	Name	Address	Website	Phone	Email
1	Penn State Rider	168 N Atherton St, State Collge, PA 16803	pennstaterider.com	814-678-8363	contact@pennstaterider.com
2	The Nittany Mobile	478 S allen St, State College, PA 1683	nittanymobilePA.com	814-864-9864	susan@nittanymobilePA.com
3	State College Pre-owned Cars	182 Pugh St, State College, PA 16803	StateCollegeCARS.com	814-779-9272	Cars@StateCollege.com
4	Beaver Pre-Owned Wheels	711 E Beaver ave, State college, PA 16802	beaverwheels.com	814-075-1236	contactbeaver@beaverwheels.com
5	Mike's Toyota and Hyuandi Dealership	577 W college ave, State college, PA 16802	Mikesdealership.com	814-742-9626	mike@mikesdealership.com

VIN#	Model	Make	Year	Price	MPG	Mileage	Color	Transmission	DealerID
JTDKB20UX60999999	Prius	Toyota	2007	\$13,000	50	81,491	silver	automatic	1

Query: SELECT \* FROM DEALERSHIP;

### 3. User Sign-up/login

#### a. User Sign up

As a new visitor to the website, at the homepage you can scroll down to the bottom and select the Sign-up button which will take you to the Sign Up/Login tab.

# Welcome to Penn State Car Finder

This is **Penn State Car Finder**. The aim of our project is to assist anyone in the State College area in finding a used vehicle based off of specific search criteria. Users will be provided with many crucial search options that fits each individual user's needs. This search engine will leverage information from local used car dealerships and private owners to assist State College residents in their search for a used vehicle. This will eliminate much of the stress and hassles one experiences when searching for a car at a dealership, on a dealership website, or finding a trustworthy private owner. Ultimately, our search engine will facilitate the user's experience in finding the right vehicle that fit their needs.

[Sign Up >>](#)

Once you are brought to the Sign Up/Login tab, you will be prompted to insert information for signing-up for the site. This will allow you to leave feedback and sell your car if you wanted.

## Sign up

Below is an example of the filled out user information.



The image shows a 'Sign up' form with the following fields and buttons:

- Header: Sign up
- Email field: abc@123.com
- Password field: \*\*\*\*
- Name field: Student
- Address field: 123 Fast Lane
- Phone field: 444-444-4444
- Buttons: Sign Up, Log In

After you have inserted your information, you will be prompted that you have successfully signed-up for the site.

The image shows a confirmation message with the following elements:

- Header: Signup Successfully!
- Buttons: Go Back, Login

Query: INSERT INTO USERS (Name, userEmail, Password, Address, Phone) VALUES ('\$name', '\$email', '\$password', '\$address', '\$phone');

b. User Login

Once you have gone to the Sign Up/Login tab, as directed before, and you already have an account you can go to the bottom of the page and find the login button.

Sign up

Once you have selected the button you will be taken to the login screen where you will be able to enter in your email and password.

Login

After you select the login button, you will be able to see your profile and personal information that you entered.

Name	Address	Phone	UserEmail
Student	123 Fast Lane	444-444-4444	abc@123.com

Welcome! Here is your personal information above.

You can now **search for car** that you want to buy or **sell your own car** by clicking either button below.

[Go Searching For Cars](#)

[Go Selling Your Cars](#)

[Go Back / Log Out](#)

Query: SELECT Name, Address, Phone, UserEmail FROM USERS WHERE UserEmail=".\$email." and Password=".\$password.";

c. Error for invalid Sign-up or Login

If you have created an account in the past and try to login again, you will be directed by the website that the account already exists. The sign-up goes off of the email that is entered not by the name or other information.

Sign up

abc@123.com

....

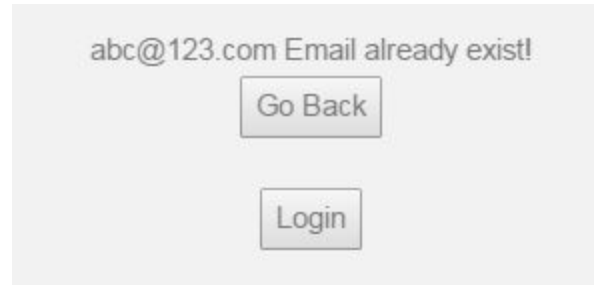
Student

123 Fast Lane

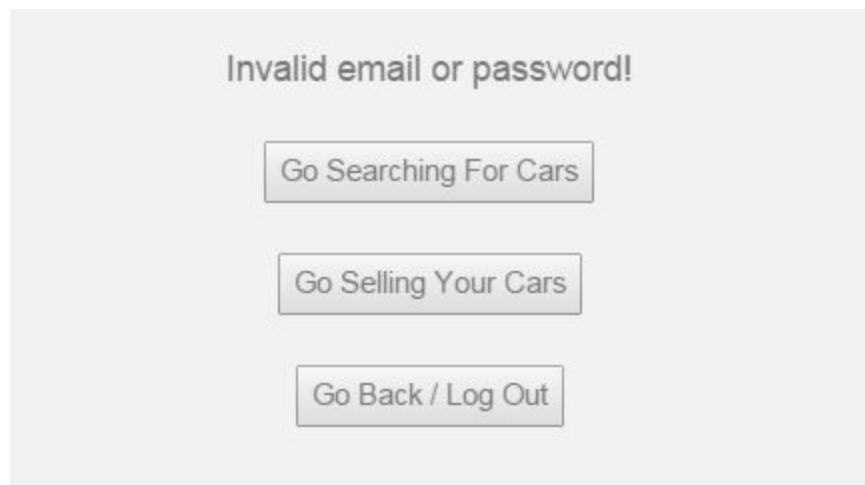
444-444-4444

Sign Up

Log In



If you have an account and try to login using the improper username or password, the site will notify you and you need to try again or you can continue with looking for other cars on the site.



#### 4. User sells their car

A user can put their car on the site to sell it by selecting the Sell Your Car tab from the homepage.

[HOMEPAGE](#)[SIGN UP / LOG IN](#)[SEARCH FOR CAR](#)[SELL YOUR CAR](#)[DEALERSHIP INFO](#)[FEEDBACK](#)

# Penn State Car Finder

By TEAM 8

From there they will be given a prompt to enter in their email they used for their profile, if not they need to sign up on the site. Then they will need to enter in the information about their car. The most important parts being the VIN#, Make, Model, Year, Mileage, and Transmission.

You can sell your own vehicle in our website.

You have to sign up first.

Enter your email below:

Enter your car's information below:

Below is an example of a completed car information section.

You can sell your own vehicle in our website.

You have to sign up first.

Enter your email below:

abc@123.com

Enter your car's information below:

3C6JR7AG0DG555747

Dodge

Ram 1500

2013

19,999

23

10,609

White

Automatic

Submit

After you submit your car, you will be notified that the site has received your car and will display it on the Search for Car tab.

We have received your sell request. Your car is now been listed on our website.

Go Back

Go To Search

Below is the information displayed about the car that was just inserted.

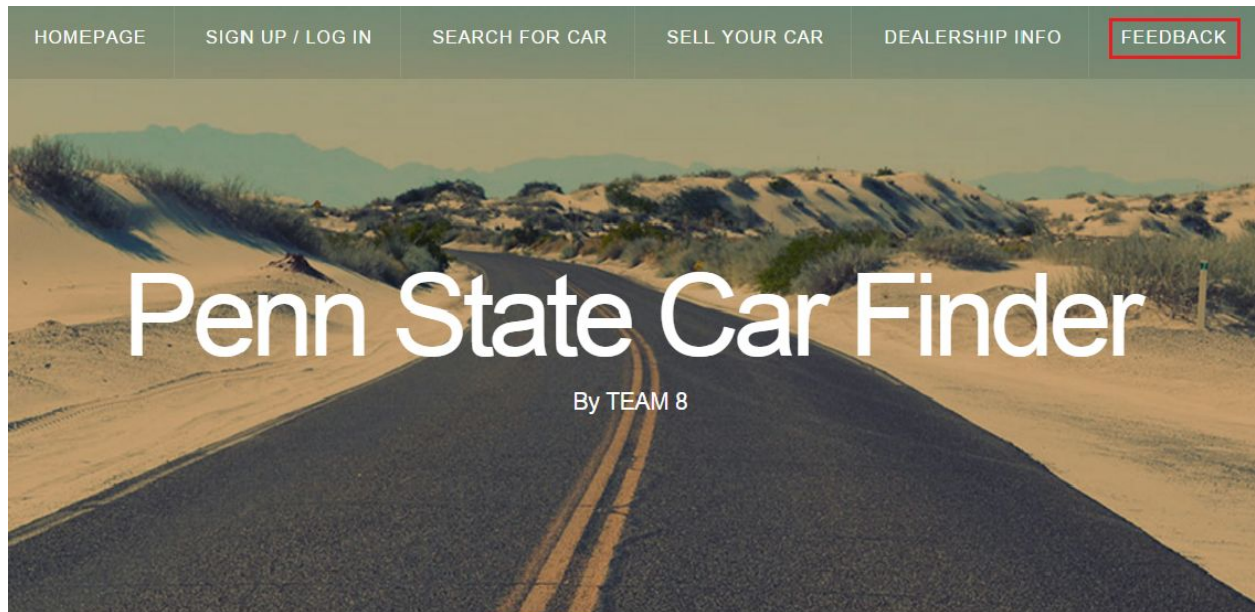
VIN#	Model	Make	Year	Price	MPG	Mileage	Color	Transmission	DealerID	UserEmail
3C6JR7AG0DG555747	Ram 1500	Dodge	2013	19,999	23	10,609	White	Automatic		abc@123.com

Go back

Query: INSERT INTO CAR (VIN#, Make, Model, Year, Price, Mileage, MPG, Color, Transmission, userEmail) VALUES ('\$VIN','\$make','\$model','\$year','\$price','\$mileage','\$MPG','\$color','\$transmission', '\$email');

5. User leaves feedback

If the user has created an account, they will be able to leave feedback about the site. First they will select the Feedback tab at the top of the homepage.



There you will be prompted to enter in your email, name, and then what you think about the site.



Email:

Name:

Did you like the Penn State Used Car Finder?  Yes  No

Why or why not:

Rating:  ▼

Below is an example of a completed user feedback page.

Email:

Name:

Did you like the Penn State Used Car Finder?  Yes  No

Why or why not:

Rating:

After you submit the feedback, the site will store the values that were input about the site and then return a brief summary to the user about the feedback that was given.

Thank you for your feedback Student!

We value your feedback and we hoped to have assisted you in your search for a used vehicle in State College!

Your comment( Great Site!!) has been submitted and will be used to help improve our website

You rating of 5 has been submitted and will also be used to help improve our website

Query: INSERT INTO OPINION (NAME, EMAIL, LIKED, WHY, RATING) VALUES ('\$name', '\$email', \$Liked, '\$comment', \$Rating);

Summary: Initially, this project took a lot of careful thinking in that our group had to come up with an idea for a website (that queries an SQL database) that would be both useful but at the same time wouldn't be too out of reach for our team to code in Notepad++ as well as SQL. After going ahead with a used car finder for the state college area, we started to cover the specifics. For instance we decided that our website should allow users to log into an account they create, they should be able to search for cars based on specific search criteria, they should be greeted by a welcome page that tells them about the website, they should be able to sell their car, view info about used car dealerships, and give website feedback. Originally, we wanted our users to be able to generate a wishlist of potential used cars they're interested in, however, we didn't have enough time to implement this feature because of how long our login function took to create so we got rid of the idea. We then (after some trial and error) formed our ER diagrams and subsequently our tables to create the SQL database our website would use the information from. After some revision of what functions we would realistically be able to implement into our website, we began making queries for the search for vehicle function (this required multiple queries since you can search for cars based off different search criteria) and we also made queries for our dealership info page. We then designed our website, applied a CSS template that fit the theme of used car finder, and connected our web server and database. At this point our team hit a roadblock in that we couldn't figure out to store values that users would input on our website into SQL. After many hours of research and trial and error we figured out how to do this and finished our websites feedback, log in, and sell your car functions, our website was complete. Throughout this project our group learned how to apply a CSS template to a website and how to connect a web server with an SQL database. Additionally we learned how to store user inputted data on a website into an SQL database (very challenging) and how to make realistic plans for the creation of a website that queries an SQL database.

What we could do better: If our group was to do this project again, the first thing we would do is allow a user to search for a vehicle based off more than just the make and price range. We would create a search based on vehicle model, color, transmission, MPG and mileage. We simply didn't have enough time to do the coding for all these features. Also, we would have inputted a lot more data into our used cars but for the purpose of this project 5 was sufficient since we were just demonstrating the capability of a website like this. Finally, we would have tried to implement a wishlist function where users could add a used car they like to their "wishlist" but we simply were restricted by time again.

Group Log:

For this report, we met Sunday, December 6th to discuss what part each person was working on. We decided to edit our project description and added the E-R Diagram and SQL scripts and how we collected our data. Then, after class on Monday December 7th, we then used took screen shots of our functions. Then discussed our summary and what we could do better. Then we made the youtube video. Every group member was present and participated throughout this report.