

CS421/621 Project Report

WebCraft - Nathan Ledbetter, John Robertson, Mario Pendleton

Auto Repair Shop Site

Summary of Project:

Our group took on the task of trying to create a functional website for an auto repair shop run by Mario's brother. We implemented a Flask project with <https://vpic.nhtsa.dot.gov/api/>, web-scraping, an appointment scheduler and manager, and an integrated map so that customers can find the shop.

Technology:

We used Flask as the framework for the website, with HTML/CSS for the layout and style of the site. We also used a free API from NHTSA.gov and SQLAlchemy. The API from NHTSA comes in 3 formats, json; csv; and HTML. The Research database was created using the json format of the API. The functions calls allow the user to do the following task: "Decode VIN," "Decode WMI," "Get WMIs for Manufacturer," "Get All Makes," "Get Manufacturer Details," "Get Makes for Vehicle Type by Vehicle Type Name," "Get Vehicle Types for Make by Name," "Get Vehicle Types for Make by Id," "Get Models for Make," "Get Models for MakeId," "Get Models for Make and a combination of Year and Vehicle Type," and "Get Vehicle Variables List"

All tables were manually constructed. The appointment scheduler was created using SQLAlchemy. Users are able to schedule an appointment, cancel an appointment, Search for an appointment by first and last name, and view all appointments. The coupon link is created using an os call that pulls all images for the coupon folder and displays them on screen. Requests combined with re are used to scrape from a tire shopping website by aggregating all its top tires from each category onto one convenient page, and likewise for wheels. The map on the website uses an API from MapBox. The style of the map was created through MapBox Studio, and the map controls, starting coordinates, markers, and popup were added through a JS script within the page's HTML.

Set Up Instructions:

Run the scrape.py file in a First Flask environment to launch the site.

Challenges:

We were unable to access many of the API's we wanted to use, difficulty merging our branches, and a group member dropped the class midway through the project. We resorted to web scraping for the tire and wheel portion when we had realized that the only tire shopping API that was freely available is no longer free. We kept encountering git's unhelpful "error: failed to push some refs..." and hints, so we manually merged our branches using Edit and copy-pasting onto GitLab. We were going originally to have a user login, but the group member who would have implemented that had to leave, so he could no longer help us to make it.

References:

Flask : <https://flask.palletsprojects.com/en/1.1.x/tutorial/>

MapBox API: <https://docs.mapbox.com/api/>

NHTSA API <https://vpic.nhtsa.dot.gov/api/>

Flask SQLAlchemy <https://docs.sqlalchemy.org/en/13/orm/tutorial.html>

Logos provided by Terry Pendleon at Pendleton Automotive

Screenshots:

NHTSA API

The NHTSA Product Information Catalog Vehicle Listing (vPIC) Application Programming Interface (API) provides different ways to gather information on Vehicles and their specifications. The vPIC Dataset is populated using the information submitted by the Motor Vehicle manufacturers through the 565 submittals. All the information on how a VIN is assigned by the manufacturer is captured in this catalog and used to decode a VIN and extract vehicle information.

[Click here to see examples in Multiple Languages.](#)

API Action

Output Format

Decode VIN

/vehicles/DecodeVin/5UXWX7C5*BA?format=xml&modelyear=2011
[More Information](#)

XML CSV JSON

Decode VIN (flat format)

/vehicles/DecodeVinValues/5UXWX7C5*BA?format=xml&modelyear=2011
[More Information](#)

XML CSV JSON

Decode VIN Extended

/vehicles/DecodeVinExtended/5UXWX7C5*BA?format=json&modelyear=2011
[More Information](#)

XML CSV JSON

Decode VIN Extended (flat format)

/vehicles/DecodeVinValuesExtended/5UXWX7C5*BA?format=json&modelyear=2011
[More Information](#)

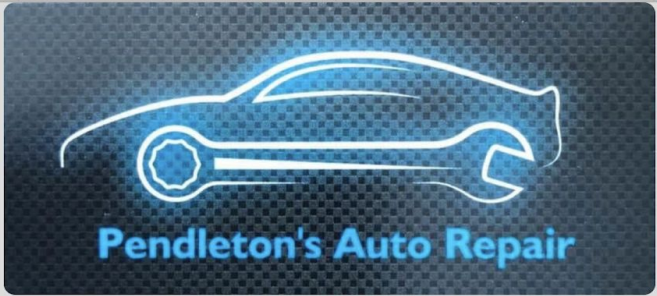
XML CSV JSON

Decode WMI

/vehicles/DecodeWMI/1PD?format=xml
[More Information](#)

XML CSV JSON

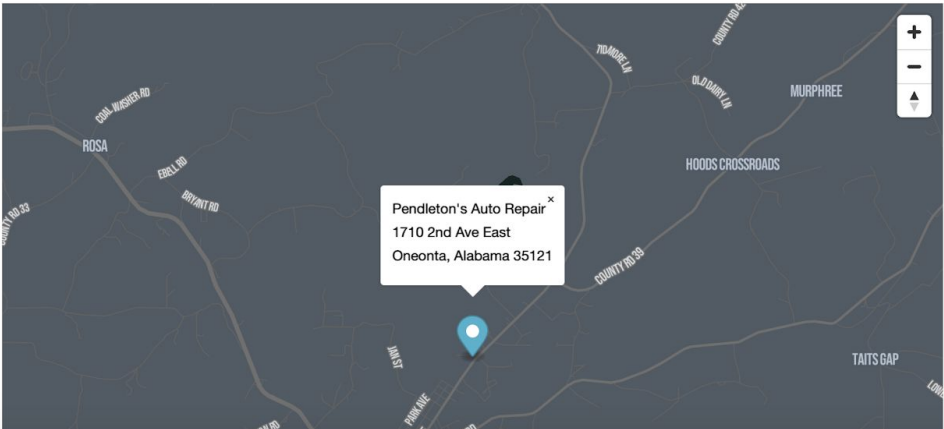
Home Page



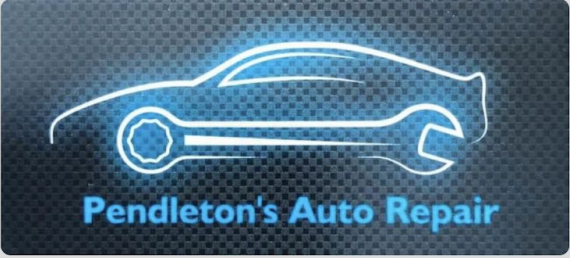
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WELCOME TO PENDLETON AUTOMOTIVE

PENDLETON'S AUTO REPAIR
1710 2ND AVE EAST
ONEONTA, ALABAMA 35121



Vehicle Research



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Vehicle Search Selection

Request

✓ Decode VIN

Decode WMI

Get All Makes

Get Makes for Vehicle Type by Vehicle Type Name

Get Manufacturer Details

Get Models for Make

Get Models for Make and a combination of Year and Vehicle Type

Get Models for MakeId

Get Vehicle Types for Make by Id

Get Vehicle Types for Make by Name

Get Vehicle Variables List

Get WMIs for Manufacturer

Submit

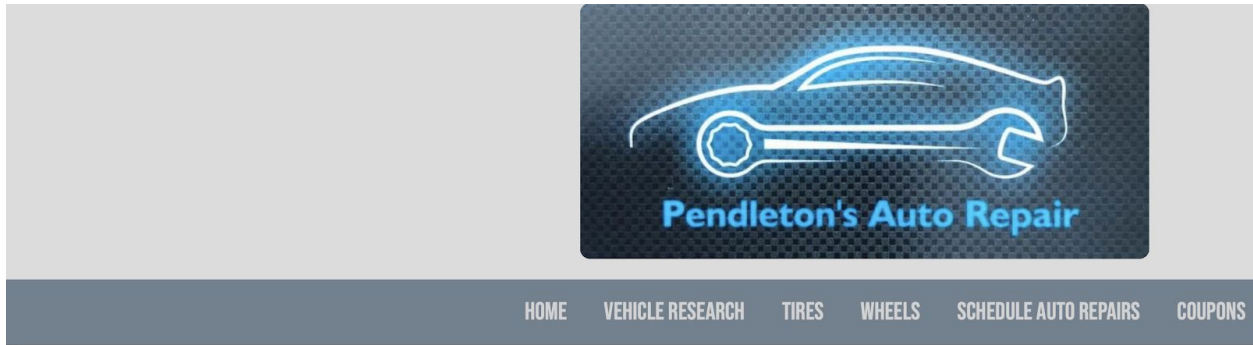


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ults:

Name	World Manufacturer ID	Country	Created On	Date Made Available to Public	ID	Updated On	Type	Parent Company Name
HONDA MOTOR CO., LTD	JHM	None	2015-03-26	2015-01-01	987	2015-06-04	Passenger Car	
HONDA OF AMERICA MFG., INC.	1HG	UNITED STATES (USA)	2015-03-26	2015-01-01	988	None	Passenger Car	
HONDA MFG., ALABAMA., LLC.	5KB	UNITED STATES (USA)	2015-03-26	2015-01-01	989	None	Passenger Car	
HONDA OF CANADA MFG., INC.	2HG	CANADA	2015-03-26	2015-01-01	990	None	Passenger Car	
HONDA OF THE U.K. MFG., LTD.	SHH	UNITED KINGDOM (UK)	2015-03-26	2015-01-01	991	None	Passenger Car	
HONDA DE MEXICO	3HG	MEXICO	2015-03-26	2015-01-01	992	None	Passenger Car	

Tires and Wheels



Tires
[Century Touring](#)
[3t Radial Touring Vp Plus](#)
[Michelin Defender Ltx M S](#)
[Century Crossover](#)
[Century Uhp](#)
[Dhtsu Tire Ep0612 A S](#)
[Arizonian Silver Edition Iii](#)
[Cumho Solus K121](#)
[Provider Entrada Ht](#)
[Century Touring](#)
[3t Radial Touring Vp Plus](#)
[Michelin Defender Ltx M S](#)
[Century Crossover](#)
[Century Uhp](#)
[Dhtsu Tire Ep0612 A S](#)
[Arizonian Silver Edition Iii](#)
[Cumho Solus K121](#)
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Appointments

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Appointment Scheduler
Please complete the information below to schedule your appointment

First Name:	<input type="text"/>	Last Name:	<input type="text"/>	Phone Number:	<input type="text"/>
Email Address:	<input type="text"/>	Vehicle Year:	<input type="text"/>	Vehicle Make:	<input type="text"/>
Vehicle Model:	<input type="text"/>	Appointment Date (yyyy-mm-dd):	<input type="text"/>		

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Appointment ID	Appointment Date	Client	Contact Number	Email Address	Vehicle Year	Vehicle Make	Vehicle Model
1	2020-10-10	Mario Pendleton	2055321489	mmpmtenacity@aol.com	2017	honda	accord
2	2020-09-07	Mavis Brown	2055432233	MAVIS@MAVIS.COM	2019	Nissan	Pathfinder

Coupons



Pendleton's Auto Repair

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FREE

Tire balance with installation of 2 or more new tires.



\$50 off Air Services

Save \$50 instantly on any air condition service of \$200 or more.



15% Tire Rotations



25% off Brake Services