CarBuyerBot

Readme

Version 1.0

10/17/2019

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1.   Introduction

This document contains all essential information for users to make full use of the CarBuyerBot. This manual includes a description of the functions and capabilities as well as step-by-step procedures for the setup & configuration of the Bot.

1.1   Overview

The CarBuyerBot was created for users who are in the market for a used car for the purpose of allowing them to compare vehicle listings across model years by using a formula to determine the price per mile of the expected remaining life of a car. The output of the bot is the creation of a make/model specific csv which includes all relevant information about each matching vehicle listing.

Price Per Remaining Mile = Vehicle Asking Price/Expected Life of Car (in mi) – Current Mileage

Example:

I am interested in buying a Honda Civic within 500 miles of my zip code. I expect any car to last me 150,000 miles. I would fill those parameters into the variables of the CarBuyerBot and start the bot. The CarBuyerBot will fill in those details into CarGurus.com, pull back all vehicle listings matching my make/model/search radius criteria, and create a spreadsheet applying the formula for determining the price per remaining mile of the car's useful life.

Obviously, this doesn't account for upgrades between models (leather seats, 4 door vs 2 door, technology packages, etc) – but it gives another datapoint to support or refute a vehicle being a good deal at a given price-point/mileage.

Lets take the following listings as an example:

Car 1:

Car 1 Price Per Remaining Mile = $10,995/(150000-74690)

Car 1 Price Per Remaining Mile = $0.1459/mile

Car 2:

Car 2 Price Per Remaining Mile = $15,995/(150000-36603)

Car 2 Price Per Remaining Mile = $0.1410/mile

In our scenario, car 2 is cheaper per mile given an expected remaining life of the car. In this case car 1 happens to be an EX while Car 2 happens to be an SI, so that would have to be taken into consideration, but this bot can help quickly narrow the list of "good deals" and give data points for comparison in the form of a quickly sorted spreadsheet.

	A	B	C	D	E	F	G	H	
1	Year	Model	Price	Mileage	PricePerMile(Rem	CarGurusAnalysis	City	State	URL
2	2015	Honda Civ	10800	70000	0.135	GREAT DEAL	Charlotte	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
3	2015	Honda Civ	14000	31113	0.11775888	GREAT DEAL	Henderso	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
4	2013	Honda Civ	10000	54171	0.104352545	GREAT DEAL	Monroe	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
5	2015	Honda Civ	10995	74690	0.145996548	GREAT DEAL	Monroe	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
6	2014	Honda Civ	8999	89499	0.148741343	GREAT DEAL	Greensbo	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
7	2015	Honda Civ	10500	59000	0.115384615	GREAT DEAL	Greensbo	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
8	2019	Honda Civ	16995	10724	0.122023895	GREAT DEAL	Charlotte	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
9	2012	Honda Civ	8995	61200	0.101295045	GREAT DEAL	Charlotte	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
10	2018	Honda Civ	16800	11147	0.120991264	GREAT DEAL	Charlotte	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
11	2015	Honda Civ	11700	47000	0.113592233	GREAT DEAL	Greensbo	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
12	2018	Honda Civ	20629	19820	0.158465202	GREAT DEAL	Charlotte	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
13	2018	Honda Civ	19500	27000	0.158536585	GREAT DEAL	Gastonia	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
14	2017	Honda Civ	14562	36095	0.127843378	GREAT DEAL	Indian Tra	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
15	2012	Honda Civ	8981	81110	0.130367252	GREAT DEAL	Pineville	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
16	2014	Honda Civ	15995	36603	0.141053114	GREAT DEAL	Charlotte	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
17	2017	Honda Civ	18896	34033	0.162942906	GREAT DEAL	Winston S	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
18	2018	Honda Civ	14839	40165	0.135102654	GOOD DEAL	Charlotte	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
19	2013	Honda Civ	8500	98633	0.165475889	GOOD DEAL	Moore	SC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
20	2015	Honda Civ	14291	83689	0.215514771	GOOD DEAL	Charlotte	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
21	2018	Honda Civ	21000	9267	0.149218733	GOOD DEAL	Sanford	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte
22	2015	Honda Civ	10999	82861	0.163824305	GOOD DEAL	North Wil	NC	https://www.cargurus.com/Cars/inventorylisting/viewDetailsFilte

1.2 Common Use cases

The CarBuyerBot can be used to search for any make and model combination supported by CarGurus.com – it also supports all "search within distance" criteria that CarGurus.com supports – from 10mi to Nationwide.

This is especially useful because available tools for identifying a "good deal" aren't terribly accurate. Take a look at the result below comparing 2 cars in the same geographic area of the same model year. CarGuru's analysis of the car on line 18 was that this is a "Fair Deal". Compare that to the car from line 45 which CarGuru's analysis says is a Good deal even though it has over twice the mileage as the car from row 18 and is only $800 less expensive.

1	Year	Model	Price	Mileage	PricePerMile	CarGurusAnalysis	City	State
16	2016	Toyota Prius	17494	29404	0.145062854	GOOD DEAL	Charlotte	NC
17	2016	Toyota Prius	19598	17601	0.148022266	FAIR DEAL	Statesville	NC
18	2016	Toyota Prius	18998	22178	0.148628562	FAIR DEAL	Gastonia	NC
33	2016	Toyota Prius	20959	20736	0.162141045	HIGH PRICE	Los Angel	CA
34	2016	Toyota Prius	19299	31723	0.163167818	HIGH PRICE	Los Angel	CA
36	2016	Toyota Prius	22300	16128	0.166577029	HIGH PRICE	Chicago	IL
40	2016	Toyota Prius	22300	18778	0.169941016	OVERPRICED	Temple Hi	MD
44	2016	Toyota Prius	22259	22208	0.174181482	FAIR DEAL	Stafford	TX
45	2016	Toyota Prius	18188	46571	0.1758501	GOOD DEAL	Tarboro	NC
47	2016	Toyota Prius	21000	31710	0.1775298	HIGH PRICE	Saint Loui	MO

2.   Requirements & Prerequisites

2.1   System Requirements

Windows 64-bit and 32-bit versions are supported. No specific hardware requirements outside of those requirements needed for the installation of the Automation Anywhere enterprise client. as well as Automation Anywhere 11.3.3 and above.

2.2   Prerequisites

Requires Automation Anywhere 11.3.3, Google Chrome, and the installation of the Automation Anywhere Google Chrome plugin.
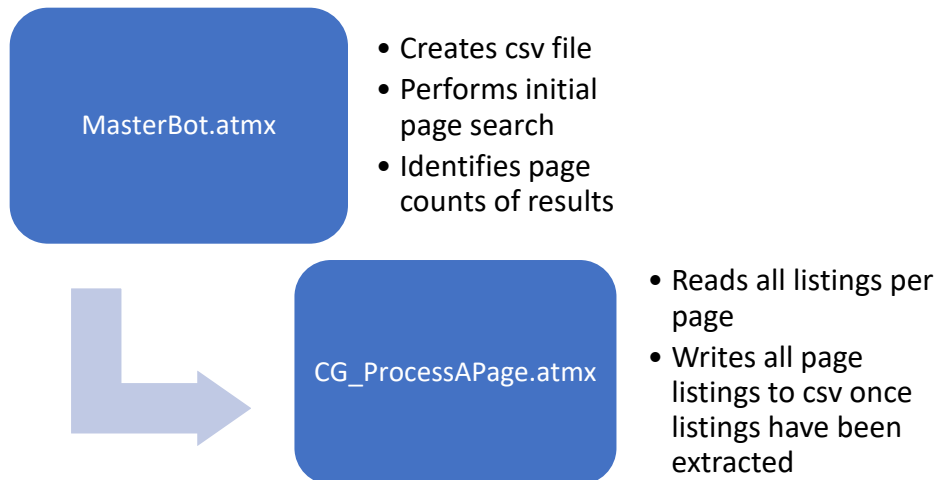
2.3   Security Measures

No specific Security Measures required as this bot utilizes a publicly available website and writes to a locally hosted csv.

2.4   Disclaimers

Any decision on buying a car should be taken seriously based on many factors…vehicle history report, budget, reputation of seller, model reliability, etc – this bot is designed to give car buyers another interesting data point to consider with evaluating vehicle listings.

3.   Getting Started

3.1   Skill Matrix

MasterBot.atmx
- Creates csv file
- Performs initial page search
- Identifies page counts of results

CG_ProcessAPage.atmx
- Reads all listings per page
- Writes all page listings to csv once listings have been extracted

3.2   Installation Hierarchy

CarBuyerBot-AutomationAnywhere

My Tasks

MasterBot.atmx – Main processing bot

CGProcessAPage.atmx – subtask for processing individual pages

Error Folder

Logs

ErrorLogs date.txt – records all bot errors with date/time

CarBuyerBot_Log.txt – records entry for every successfully processed page (can be used for debugging)

Snapshots

Recent screen captures on bot failures.

Output Folder

Make_Model-DD-MM-YYYY.csv – output of the CarBuyerBot based on make/model/date. Only one file per make/model/date will exist…bot deletes previous file if created on the same day with same make/model.

Input Folder

Input.csv – values imported by CarBuyerBot for search criteria.

3.3   Quick Start

The setup for the CarBuyerBot is very straightforward as there are only a few criteria which need to be set to enable the search to take place.

3.3.1   Setup

No external application setup required. All configurations handled through setting variables directly in the bot setup.

3.3.2   Configuration

Open the Input.csv from the My Tasks\Bot Store\CarBuyerBot-Automation Anywhere\Input Folder directory. This comma separated file is used for running the search on CarGurus.com as well as controlling the error handling of the bot.

The bot is expecting a single row of 6 **required** total values in the format of:

Make,Model,Zip,Search Radius,Expected Life of Car mileage,Retry Count

Make/**Model** Can be any make/model supported by CarGurus.com. Attempt to use the site manually once to make note of how the make/model are displayed in their dropdowns.The values in Input.csv must match the CarGuru.com dropdown values exactly.

Zip Search Should be the zip code to search for. If youre searching nationwide this doesn't matter as much, but a zip code is still required.

Search Radius supports all search criteria supported by CarGurus.com. This includes the values: 10 mi, 25 mi, 50 mi, 75 mi, 100 mi, 150 mi, 200 mi, 500 mi, or Nationwide. Please make sure that the search radius value is formatted exactly as above. There should be a space between the number and the mi.

Expected Life of Car Mileage This should be the expected working life of the car (or at least when you plan to get rid of it). The higher the expected life of car mileage, the more cars that can be accurately compared in the output.

Retry Count Page loads can fail time to time. The retry count specifies the number of times you want the subtask to try to run again in the case that its not able to successfully extract all items from a page. There should be little reason for this to be anything but 3.
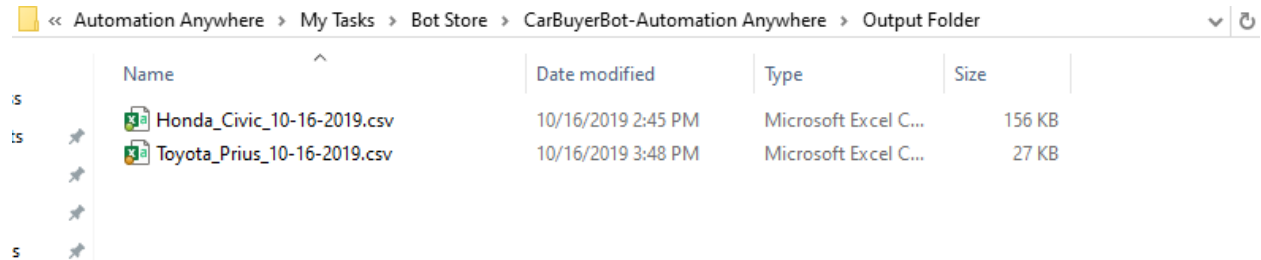
Example:

Toyota,Prius,28031,50 mi,150000,3

4.   Reports

The output created by this bot is in the Output Folder subdirectory.

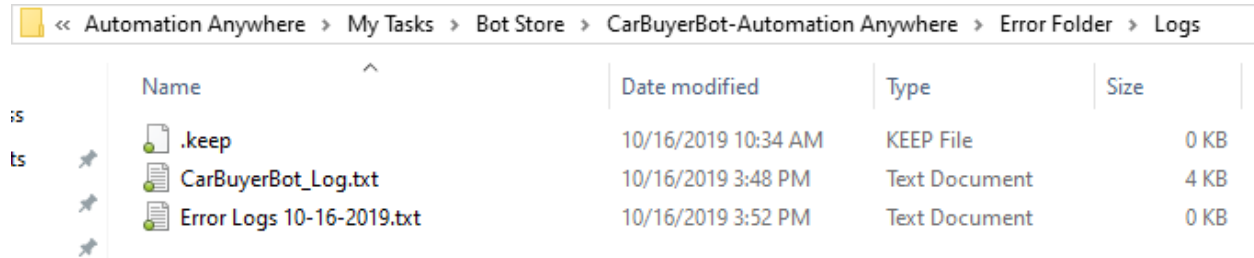Inside this directory, you will find a csv file for each make_model combination you have searched for. Note: each file is dated by default. If I were to run the bot again with Toyota Prius as my make and model and today was still 10-16-2019, it would overwrite the existing file. If I ran the bot with the same make and model the following day, it would create a separate file with the same make/model, but a different date.

The contents of the csv include the year, model, price, mileage, calculated price per mile, CarGurus.com deal analysis, city, state, and URL. These fields should allow any user to make informed decisions on comparing, sorting, and filtering on different vehicle listings.

5.   Logs

Logs are generated and stored in the Automation Anywhere\My Tasks\Bot Store\CarBuyerBot-Automation Anywhere\Error Folder\Logs directory.

Here you will find the CarBuyerBot_Log.txt which captures the successful processing time/page number of each processed page.

You'll also find the Error Logs based on date which are generated when/if the bot runs in to any processing errors. This Error Logs file is helpful in identifying where the bot may have had issues should you not see an export file.

6.   Troubleshooting & Support

6.1   Support

Should you run into any issues with you bot executing double check the following:

1. Make sure that you input file exists, and the values in it match possible options in the CarGurus.com drop downs for make/model.

    a. Additionally, make sure that each of the fields are not prefixed with spaces.

2. Should the bot not run correctly, make sure to check the error folder, logs and screenshots subfolders to see where the bot may have had an issue.

6.2   FAQs

Appendix A: Record of Changes

No.	Version Number	Date of Change	Author	Notes
01	1.0	10/17/2019	Micah Smith	Initial release of the CarBuyerBot. Currently only supports CarGurus.com

Appendix B: Acronyms

No.	Acronym	Description

Appendix C: References

No.	Topic	Reference Link