WHITEPAPER

CLASSIFIED AUTO LISTING SITES 101

DATAONE SOFTWARE

Overview

Classified auto listing sites have long been developed as an alternative to print and other media vehicle advertising. Classified sites work on a local-regional-national level as consumers continue to expand their reach through incentives in price, shipping, and ever growing convenience of purchasing online.

This market continues to grow with classified sites being introduced and launched regularly across the country.

Classified site ventures may have as objectives any number of goals that may include supporting print publications, other web properties, or revenues through advertising sponsorship. The site may also be offered as an added benefit as part of a concerted dealer inventory marketing program within a regional area.

Regardless of the objectives or the market (local-regional-national) – there are certain fundamental elements to developing a classified listing site that can greatly contribute to success in development and design. This paper will outline some key strategies and recommendations.

Obtaining Dealer Inventory

The functionality of a traditional classified listing site is fairly straightforward at a high level.

Display dealer inventory

This is a basic objective and it makes sense that now the challenge becomes "how do I get the dealer inventory?"

Data Acquisition

There are several ways that you can obtain dealer inventory for listing on your site.

1. **DMS Polling / Extraction.** Dealerships DMS (dealer management system) is the heartbeat of the dealership and where some information about the vehicle resides. It can be difficult and expensive to obtain certification to allow you to interface with a DMS directly and there are several third party providers that can provide this service to you on a per dealer fee basis.

    a. Pros: Easy custom formatted flat files that you can import into your system every night. These files will typically be complete file replacements that will allow you to automatically drop off vehicles that have been sold and add new vehicles that have come in.

    b. Cons: At best the data is very scarce and can vary from DMS to DMS in formatting. You might only get the 17 digit VIN, Year, Make, Model (sometimes trim, exterior colors), mileage, and list price. The process of adding a dealership can take several days to a week or more, and sometimes it can take even longer to ensure that you have the right price field and correct information within the flat file. Additionally now that you have this data – you will need to enhance it greatly with additional data from an automotive data source. Consumers will expect to see things like engine, transmission, drive type, doors, body type, MPG, and perhaps even a list of installed equipment and the vehicle options. It is typical to also see custom photos of the vehicle – none of these things can be obtained through the DMS extraction process alone.

2. **Third Party Inventory Management Providers.** Every franchise dealership (New Vehicle Dealer) and many large independent dealers (Used Vehicle Dealer) utilize an inventory management (IVM) system. This can be a service or a solution that is utilized in-house. The functionality of an IVM system is to take data from the DMS, and augment it with a full complement of VIN decoding, referenced data and specification data. Additionally an IVM system will have functionality to support price management and may automatically attach stock photos for new vehicles or allow uploading of custom / actual photos for used inventory. The feeds that you can obtain from an IVM solution provider will give you everything that you need to list the vehicle online.

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a. Pros: You can obtain this feed on a per dealer basis for free in most cases by working with the dealership direct. They will direct their current IVM provider to send you the feed on their behalf. IVM solution providers may be sending dealer inventory feeds to anywhere between 5 and well over 100 destinations such as AutoTrader and Cars.com and many other online lead generators and portals.

b. Cons: You will need to rely on the quality of the feed and accuracy of the data that comes from these providers and likely need to work with an increasing number of unique companies as you add more dealers in your regional area. Some IVM's will charge a fee for creating a custom export for the vehicle feed.

3. Inventory Distribution / Aggregators. These companies accept feeds from many IVM providers across the country and have "on hand" inventory available for most dealers. By working with these companies you can obtain a list of dealers in your target market that the Aggregator has inventory for and upon successfully signing that dealer – instantly have photos and data turned on for them.

a. Pros: Simple process of obtaining inventory by working with one or two companies instead of a different IVM company for every dealership. High quality of process and standards. Ability to determine dealers in your target market that you can commit to having listed within 24 hours or so.

b. Cons: Some aggregators will have a minimum number of dealers that you must pay for in order to utilize their services. Some will charge setup fees for initiating your feed and meeting your feed requirements.

4. Accept the listing of vehicles directly at your site. This is least desirable for a franchise or large independent dealership as it represents that much more work for the dealer to visit the site, log in, and enter the vehicle information, upload photos, manage pricing, remove sold vehicles etc. You will also need to provide the VIN decoding portion of the listing functionality and essentially will need to write a "light" IVM system to accommodate the self listing feature set.

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a. Pros: This functionality can allow you to work with a much greater population of smaller independent dealers who will list 5-20 vehicles a month in this manner. This method also works well for single vehicle listings by consumers.

b. Cons: Investment to write an IVM system. Not suitable for franchise dealers.

So which of these methods of data / inventory acquisition is best for your solution? The answer is – at some point – probably all methods will need to be employed. To start off with however, if you are primarily working with

Franchise dealerships or large independent dealers that have a mainstream DMS and invest in their inventory management and marketing, solutions 2 & 3 will probably make the most sense from a time / investment / simplicity standpoint.

- Third Party Inventory Management Providers (IVM)

- Inventory Distribution / Aggregators

Display of Inventory

Objective:

Display vehicle inventory in an attractive manner in order to promote the sale of the vehicle and cause the consumer / potential buyer to contact the dealership

Imports

Whether you are obtaining data from an IVM company or an inventory aggregator – the process will be very similar. You will need to provide this company with a feed requirement. This is a description of how you need to receive the data and media for all dealers from that company so that you can easily import it into your system.

As mentioned previously, many companies will charge for a custom feed. In some cases you can avoid this by using one of the most common feed requirements available.

AutoTrader.com and Cars.com are two of the largest lead generators across the US and just about every IVM and aggregator works with them. If you use one of these feed specifications there is likely to be less work required for the third party and there can be some cost benfit. You will need to have an FTP site to receive this information, as well as being prepared to retrieve the file from a third parties FTP site if that is their process.

Keep in mind that specification documents for some of the larger lead generators do change over time. At the end of this paper you will find a specification sample document that can be used as a template for your requirements.

Normalizing feeds

Once you have obtained a few feeds you will start to notice that there are some discrepancies between how trims / body types, doors etc... are presented in the data. The more sources you obtain data through – the more you will see this. This is where you will need to have a basic vehicle decoding or VIN Explosion file for use in your system to set the standard for display on your site. Rather than mapping every feed to your first feed, or your current largest feed providers standard – it is better to obtain a single source of data that uses approved marketing descriptions.

Recommendation

- Do not re-decode the entire vehicle! A lot of work has gone into establishing the options, colors, and feature set on the vehicle and some of this has required someone to eyeball the car in person to make the selection. Instead – use fields such as: Year, Make, Model, Trim, Engine, Transmission, Drive Type, Doors, Vehicle Type / Body Type, Fuel Type to standardize just the basics of the vehicle description which will pave the way for attractive display and search...

Search & Display Functionality

When your feeds have been normalized to your specific data set, you can also use this basic VIN data set to build out your search functionality via drop down lists or filters. If you rely on the values from the feeds in your database to display drop down search and filter selection you can end up with an unsightly display which may look similar to the following for a 2008

Ford F-150
F-150
F150
f150
F-Series
F series
Fseries
F150 XLT
Pickup F150
Etc…

Other Options

Accept the listing of vehicles directly at your site

This method of accepting vehicle data for listings applies both to consumer listings and to the smaller independent dealers who may not have systems that can export data. In this scenario, you will need to develop a basic IVM system that allows the user to type or paste in a VIN number to list the vehicle as well as managing pricing, sold vehicles, and uploading pictures.

Some companies provide only a basic listing capability and utilize the basic VIN file which is already in use for feed normalization and for building out dropdowns for search and filter. Others provide decode plus the ability to reference installed equipment, technical specifications and optionally available equipment.

Optionally available equipment includes things like "Sport Package", "Premium Rims" – extras that are charged on top of the vehicle base price for new vehicles and may add some additional value to used vehicles. This sort of data is not available from VIN alone; however the list of truly available equipment can be provided for the user to select.

This "extended" data is complex and goes far beyond the level of data that can be presented within a simple flat file. Typically this is presented within a relational database table set or accessed via calls to a web service.

Business Benefits

Since 1999 DataOne Software has fulfilled unique content and data needs in the automotive marketplace, providing businesses with cost effective data solution as well as support for rapid technology development. The company sources automotive content for several sectors of the automotive industry and was one of the first companies to make automotive content available by web service.

DataOne Software automotive content includes some of the data that has been described within this paper, including content that has been designed specifically to meet some of these needs from an integration and use standpoint.

The following are solutions that continue to meet the needs of the inventory marketing sector including classified listing sites year after year with concise, well formatted, industry standard descriptions. The collections available represent one of the largest within the US market place in terms of year range and depth.

Infosheet

2017 Nissan GT-R Premium Coupe 2dr AWD

Engine: 3.8L Twin Turbo V6 565hp 467ft. lbs.
Transmission: 6-Speed Double Clutch
Drive Type: AWD   **Doors:** 2
Body Type: Coupe   **Fuel Type:** Gas
MSRP: $109,990

Basic Identification
Year: 2017
Make: Nissan
Model: GT-R
Trim: Premium

Body Type: Coupe
Vehicle Type: Car
Doors: 2
Plant: Tochigi, Japan

Drive train
Drive Type: AWD

Fuel
Fuel Capacity: 19.5
Fuel Type: Gas

Decoded Engine
Stroke: 3.48
Engine Cylinders: 6
Engine Displacement: 3.8
Valve Timing: VVT
Engine Aspiration: TT

Decoded Transmission
Transmission Type: A
Gears: 6

Safety
Restraint Type: Driver and passenger front, side impact, and side curtain airbags with occupant sensing deactivation

Vehicle Specifications
Length: 185.4
Height: 53.9
Width: 74.6
Curb Weight: 3933
Wheelbase: 109.4

Exterior Colors:
Basic Exterior Colors: Black, Dk. Blue, Gray, Silver, White, Red, Orange
OEM Exterior Colors: Jet Black, Deep Blue Pearl, Gun Metallic, Super Silver, Pearl White, Solid Red, Blaze Metallic
Exterior Color Codes: GAG, RAY, KAD, KAB, QAB, A54, EBG

Interior Colors:
Basic Interior Colors: Off White, Red, Tan, Black
OEM Interior Colors: Ivory, Red Amber, Rakuda Tan, Black

Basic VIN Explosion Data

As a solution for feed normalization and building out drop down lists for search/filter as well as providing a basic VIN explosion with key reference fields appended – the VINBasic™ Autos file represents a clear advantage. Available fields include:
VIN Pattern, Vehicle ID, Year, Make, Model, Trim, Style, Vehicle Type (Car, Truck etc), Body Type (Sedan ,Coupe etc), Body Subtype (Crew Cab, King Cab etc), Doors, MSRP, Plant, Restraint Type, Length, Width, Height, Wheelbase, Curb Weight, GVW Rating, Wheel Dimensions, Fuel Tank, Fuel Capacity, Drive Type, Fuel Type, Engine Block Type, Cylinder Quantity, Engine Size, Engine Size UoM (Deprecated), Aspiration (Turbo, Supercharged), Transmission Type, Transmission # of Gears

This file has been referred to as "the Swiss army knife of VIN data products" due to the flexibility, ease of use and application across so many products and sectors.

Extended Data

When there is a need for more data to provide a more robust vehicle listing AND this data is not being obtained in a full vehicle feed from a third party – DataOne Software Extended data via database or web services may be a good fit.

Web Services

Companies with a need to decode under 1500 vehicles per month may find the Web Services (XML VIN Decoder) to be a good fit from a cost as well as rapid development standpoint. The pricing scales according to the volume of lookups per month and this can be an excellent way to start off with a minimal investment.

Relational Table Set

A relational database is the right solution when there will be a high volume of vehicle decodes or when there are technical specifications that require data to be used internally.

In either case – whether Web Services or Relational Table set is used – the data is the same and is updated on a daily basis.

These data products and more can be reviewed at www.dataonesoftware.com along with a host of other dealer marketing materials that may be useful for your solution as you continue to grow and compete. Editorial content, media, service related data are common additions to an established classified site where consumers can return for research and service needs on a regular basis.

In Review

Methods to obtain dealership inventory for your classified listing site

- DMS Polling / Extraction

- Third Party Inventory Management Providers (IVM)

- Inventory Distribution / Aggregators

- Accept the listing of vehicles directly at your site

For most scenarios, forming relationships and working with IVM providers and Inventory Aggregators will be the best approach to securing listing dealer inventory complete with rich descriptions and photos.

Cost savings

License only a basic VIN explosion file to normalize your feeds and build out search / filter content on your site. Add more data when / if you decide to accept consumer listings or to work with dealerships that do not have an IVM system.

Suggested products from DataOne Software:

- VINBasic™ Autos file for basic VIN Explosion and commonly used fields.

- XML Web Services for comprehensive vehicle specification information priced to scale based on your volume.

- Relational database for comprehensive vehicle specification information, in-house solution.

Other services offered other Dominion Enterprises Divisions

- Inventory Aggregation / Dealer Feeds (photos and data)

- Hosted Portal Solutions

Feed Specifications Document Template

(To be used when requesting a dealer inventory feed from a third party)

Requirements:
FTP data files, Comma Delimited

The comma delimited text file must use a double-quote for a text-qualifier. The text-qualifier is required for every field regardless if the field actually contains any data. If yo are using Microsoft Excel to create your file, you can simply save the file as 'Comma Delimited'.

Example:

"700338","N3974A","1998","Subaru","Legacy"," ","4S3BG6851W7123456",

"48013","16500","Red","Grey"," ","4S3BG6851W7123456.jpg","Wagon, Automatic Trans, All Wheel Drive, Bucket Seats, Leather Seats, Heated Seats, AM/FM Stereo, Cassette, CD Player, Dual Air Bags, Anti-Lock Brakes, Power Steering, Power Brakes, Power Windows, Power Locks, Air Conditioning, Dual Power Mirrors"

Note: The description field cannot contain any double-quotes within the field.

Each data file you create should contain a complete listing of the entire inventory you wish to list on mycompanyurl.com. Every file you send will completely replace the inventory that was sent in your previous file. We do require that you send the file daily.

The naming convention for data files will be as follows:

Used car files - USED{DEALER_ID}_[MMDDYY].txt
(e.g. USED123456_062801.txt)

New car files - NEW{DEALER_ID}_[MMDDYY].txt
(e.g. NEW123456_062801.txt)

If you wish to include images with your data you may create a zip file that includes your data file (named as above) along with any images you wish to send. This file should be named: USED{DEALER_ID}_[MMDDYY].zip or NEW{DEALER_ID}_[MMDDYY].zip

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Note: The file extension - .txt or .zip – must always be lower case.

Please do NOT include a header line in the file.

Please do NOT include dollar signs ($) and or decimals with cents: e.g. (.50) in the price fields.

Images

There are two methods we can receive images.

Physical Photos

The first is sending the individual image files to us via FTP. Images should be in JPG format and can be named anyway you wish, however, you must include the image name within your data file so we can match the image to the proper car record. The image name within your data file must exactly match the actual image name - including upper or lower case letters (e.g. V1234.jpg does not match v1234.jpg or V1234.JPG).

Using this method does not support receiving multiple images.

Example:

"700338","N3974A","1998","Subaru","Legacy","Outback Limited", "4S3BG6851W7621433","48013","16500","Red","Grey","Auto", "N3874A.jpg", "Wagon, Automatic Trans, All Wheel Drive, Bucket Seats, Leather Seats, Heated Seats, AM/FM Stereo, Cassette, CD Player, Dual Air Bags, Anti-Lock Brakes, Power Steering, Power Brakes, Power Windows, Power Locks, Air Conditioning, Dual Power Mirrors"

Image URLs

The second method is to include in the data file the full URL of the image, as it exists on your server. When your file loads, we will copy the image from your server to our own the first time the vehicle listing loads or any time the image URL changes.

This method also supports up to twenty seven (27) multiple images. To send multiple images, simply enter the image URL for each image separated by a comma. We accept multiple images for both new & used vehicle files.

Example:

"700338","N3974A","1998","Subaru","Legacy","Outback Limited",
"4S3BG6851W7621433","48013","16500","Red","Grey","Auto",
"http://www.yourserver.com/N3874A.jpg, http://www.yourserver/N3874A-2.jpg, http://
www.yourserver.com/N3874A-3.jpg","Wagon, Automatic Trans, All Wheel Drive, Bucket
Seats, Leather Seats, Heated Seats, AM/FM Stereo, Cassette, CD Player, Dual Air Bags,
Anti-Lock Brakes, Power Steering, Power Brakes, Power Windows, Power Locks, Air
Conditioning, Dual Power Mirrors"

Data File Columns

This is our standard layout for a USED CAR data file. It must be followed precisely:

Column	Column Name	Type	Example of Data
1	Dealer ID*	TEXT (10)	123456
2	Stock Number	TEXT (30)	V1234
3	Year	NUMBER (4)	1999
4	Make	TEXT (10)	Dodge
5	Model	TEXT (10)	Dakota
6	Trim	TEXT (30)	Club Cab
7	VIN*	TEXT (18)	1B7GG22Y9XS137588
8	Mileage*	NUMBER (8)	31043
9	Price*	NUMBER (8)	17990
10	Exterior Color*	TEXT (30)	Black
11	Interior Color*	TEXT (30)	Gray
12	Transmission	TEXT (50)	Automatic
13	Image	TEXT (3000)	See "Images" above
14	Description	TEXT (1500)	CD Player, Air Conditioning
15	Body Type*	TEXT (50)	Truck
16	Engine Type*	TEXT (50)	V6
17	Drive Type*	TEXT (50)	Rear Wheel Drive
18	Fuel Type*	TEXT (50)	Gasoline

*Indicates a required field.

**The fields are not currently used. This information is extracted from the VIN in most cases.

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This is our standard layout for a NEW CAR data file. It must be followed precisely:

Column	Column Name	Type	Example of Data
1	Dealer ID	TEXT (10)	13579
2	Stock Number	TEXT (30)	T2510
3	Year	NUMBER (4)	2002
4	Make	TEXT (10)	Dodge
5	Model	TEXT (10)	Dakota
6	Trim	TEXT (30)	Club Cab
7	VIN*	TEXT (18)	1B7HL48X62S557215
8	Mileage*	NUMBER (8)	0
9	MSRP	NUMBER (8)	23990
10	Dealer Price*	NUMBER (8)	19990
11	Exterior Color*	TEXT (30)	Red
12	Interior Color	TEXT (30)	Gray
13	Transmission	TEXT (50)	Manual
14	Image	TEXT (3000)	See "Images" above
15	Description	TEXT (1500)	CD Player, Air Conditioning
16	Body Type**	TEXT (50)	Truck
17	Engine Type**	TEXT (50)	V6
18	Drive Type**	TEXT (50)	Rear Wheel Drive
19	Fuel Type**	TEXT (50)	Gasoline

*Indicates a required field.

** The fields are not currently used. This information is extracted from the VIN in most cases.

THANK YOU FOR READING

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