The New Cadillac Database©
With Structured Database and Dynamic Website

NYU Information Technology Project

The Cadillac & LaSalle Club

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About the Organizations

Established in 1958, **The Cadillac & LaSalle Club, Inc. (CLC)** aims to encourage the preservation of early Cadillacs and LaSalles.

Determined to preserve the brands' legacy, several members of the Cadillac & LaSalle Club founded the **Cadillac-LaSalle Club Museum & Research Center (CLCMRC)** in 1995. Beyond maintaining and exhibiting collectible Cadillacs and LaSalles, the focus of the CLCMRC is to protect, promote and share the exciting history of these premier automobiles as well as their impact in the United States and worldwide over the past 100-plus years.

The Cadillac Database© is a non-commercial, non- profit, ad-free virtual book for the Cadillac & LaSalle enthusiasts. It is owned by the Museum & Research Center of the Cadillac & La Salle Club, Inc.

Scope of Project

The existing Cadillac Database was a collection of content-specific static HTML pages supporting each page on the website.

Issues

The issues considered for defining the scope of project were :

- Difficulty in managing 500+ individual pages.
- Content update process involved downloading existing HTML file, modifying, and uploading it to file server system.
- Design related changes cannot be applied across all pages, and each page had to be modified.

Approach taken

- Content database system was introduced and tables were designed to organize and store the contents of the website.
- Pages were analyzed to design generic layouts

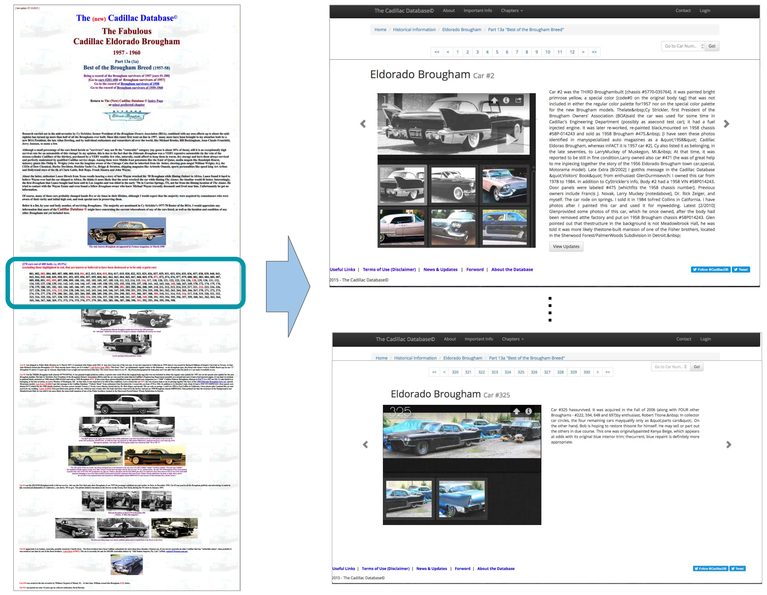
Benefits

- Hundreds of HTML files replaced by database and design templates.
- Single design layout to support each web page category.
- Easy to add, modify, and delete contents from the website.
- Design changes can be applied to all pages at once.

Dynamic Webpage

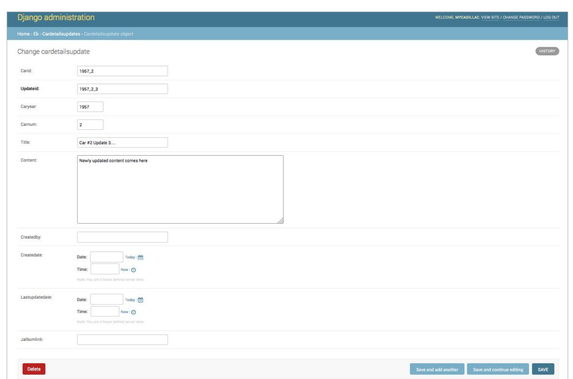
New layouts were designed based on patterns observed on existing pages through content analysis.

With the introduction of back-end database system, every time a new page is loaded, the content is read from the database and displayed to users.



Content Management System

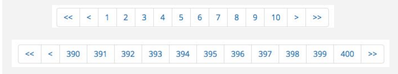
User friendly interface to access the content database to add, modify and delete web pages.



Enhanced Navigation

Enhanced navigation was prioritized while designing the page layout. Lengthy topics were segmented into smaller pages and navigation related features were added to the web pages to facilitate locating required information. These improvements enhances the overall user experience.

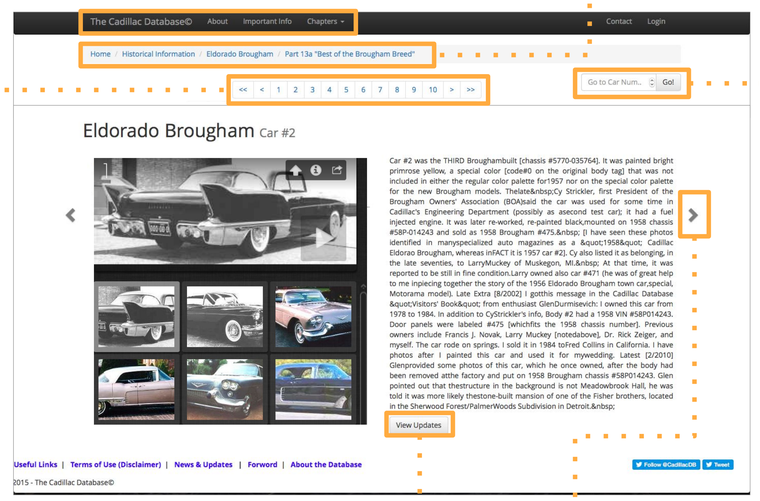
Pagination
Dynamic pagination based on current page



Model finder
Enables direct navigation to a specific car model

Drop down menu
Directs user to main categories

Breadcrumbs
Appearance of dynamic breadcrumbs based on depth of current page



Updates
Users can view further updates about the survivor model and track its history.
The View Updates button will only appear if there is an update

Page turners
Facilitates navigation to adjacent pages. This gives the Survivors Registry layout a catalog like look and feel

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Website Upgrade Approach

To address the business needs of improving User Experience and Content Management, a wide spectrum of technologies including MVC Framework, DJango, HTML, MySql, JAlbum and Java were used to efficiently handle the vast repository of content. A new database was created to cater the needs of the multiple layouts of information. The old webpage gets scraped through a python script and the data is organized into the database. It is then used by the MVC framework to present the text, and the images through the use of jAbum APIs.

Hosting

Both the development and production environment were hosted on a paid domain using GoDaddy's hosting services.

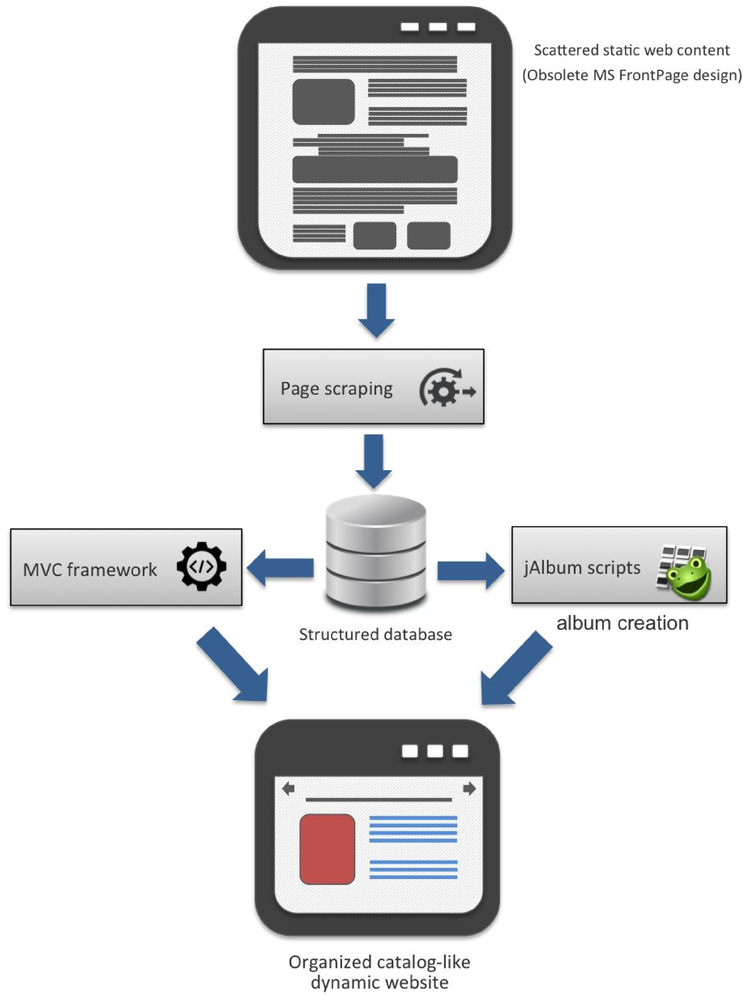
(TBD)

Dynamic Webpage

Layouts were designed based on patterns observed on existing pages through content analysis.

The content database approach eliminated the need for manually creating html code for every page in the link. The layout helped us to segregate the whole website into few number of templates.

Thus with the help of database, a single template led us to render hundreds of web page dynamically. This facilitated scaling a huge website into organized structure.



Gallery

The image gallery is a 3-step process

1. Car specific images are read from the website and copied into arranged directories to be fed into jAlbum automation script.
2. The script takes the input of images directory and configuration information, and creates the album.
3. The album structure for all the cars are uploaded on the hosting server and URL are stored in thedaabase

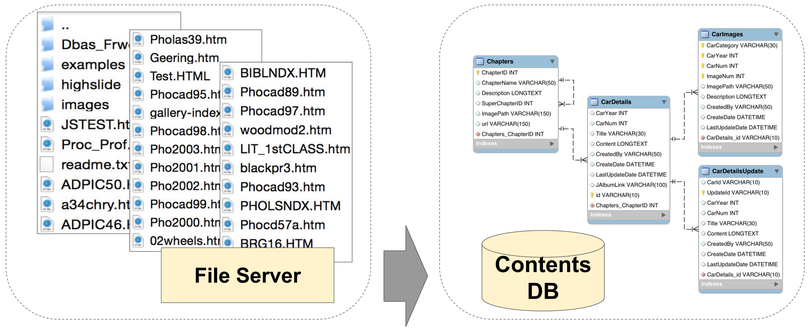
Data Migration

Lack of previous content database system hindered the speed of web development. For this and numerous reasons, we modelled the database schema which can be scaled in future.

A new update table has been created to meet the requirment of viewing car specific changes.

A basic page crawler script was written in python to crawl and parse HTML pages and save the contents of the website to the database.

For the purpose of JAlbum, image path has also been parsed from the html to help the creation of jAlbum.



Next Steps

Content Management

- Scale the content management system to other parts of the website by :
  . migrating content data from HTML files to the database.
  . creating different layout templates for other content patterns.

Front end interface for jAlbum creation and updates

- Provide mechanism to update the cars' album and add new images through the website.