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# Visual Search Engine for Retail & e-Commerce
## Machine Learning & Visual Intelligence

## About the client

HNTRISM is a digital lifestyle platform for individuals to be inspired and entertained, to browse and discover, and to purchase trend setting, personal luxury goods that reflect their own personal style and identity. HNTRISM includes:

HNTRISM - a digital magazine providing insightful, meaningful content about brands, products, designers and lifestyle trends

Asbury Apothecary - a skincare, haircare and fragrance marketplace

Berchard's Fine Living - a home décor and entertaining marketplace

FOUR/POINT/EIGHT - a men's and women's fashion marketplace

## Client need

The client wanted customers to have the ability to visually search across inventory in their three digital marketplaces by capturing an image real-time or uploading an image of a desired product. The visual search engine should present ranked results displayed visually and semantically based on certain criteria based on machine learning intelligence.

## Product challenges

Using Google Cloud Vision API to detect product objects in images, the biggest challenge was training custom machine learning models to understand, classify, and match labels in the client's product dataset. Another challenge was determining the primary product when more than one product object was present in an image.

## The delaPlex solution

delaPlex partnered with Plakkr to deliver a cloud-based, visual search engine for customers to more easily find their products. The visual search technology was integrated into a mobile app to enable shoppers to find products simply by taking a photo. The visual search engine uses AI & ML to analyze objects in an image and finds results that relate to visual cues with information on the product (or very similar ones), cost options and how to purchase it. The technology provides convenience, saves time, and provides product search options not previously available.

"The Visual Search feature is amazing and will differentiate HNTRISM from the competition. The delaPlex and Plakkr team worked tirelessly to have a beta version ready ahead of schedule."

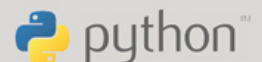**David Garrard, Founder and CCO**
HNTRISM

## How we did it

The dedicated team at delaPlex work with Plakkr to utilized the following development concepts and tools to deliver the customized visual search feature to our client:

— **Web application**
Developed web application in React JS and consumed Python web service.

— **Visual product creation**
Created a set of products each containing reference images that visually describe the product from a set of viewpoints.

— **Image data processing**
Created Python based web services to process image data and display the search results.

— **Image optimization**
Integrated image optimization for product search results.

## Core stack

Plakkr      Bitbucket

Cloud Vision API      React

Magento      python

delaPlex is a global software development and business solutions provider helping companies drive growth, revenue and marketplace value. Our innovative business methodology has built an unmatched reputation of bringing an alliance of collaborative industry experts, across industries and skillsets, to clients anywhere around the world.

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