

Case Study



Client Profile:

Graymatics is a Singapore & Silicon Valley-based company founded in June 2011. Graymatics has developed the industry-leading, scalable cloud platform allowing for automatic real-time indexing, analysis and classification of videos / images with a suite of search, curation, recommendation and advertising tools. Their initiative is to better monetize and organize their image and video content through content-based search, content-based curation, content-based advertising and also enable compelling web, smartphone and SmartTV applications.

Tecnology Used:

Python, MySQL

Business Situation:

The G3C provides contextual information, referred to as Visual Meta Data or simply as Meta Data, pertaining to images, videos, and video frames using Graymatics' AdVisualyzer (ad-optimized image/video analysis platform). Our processing model supports both on-demand/on line and batch/off-line mode.

The previous system had a preliminary architecture which supported computer cluster scalability and a basic level of fault tolerance. This basic level of fault-tolerance was not sufficient for providing a highlevel of Service Level Agreement (SLA) for the customers. Many implementation level optimizations should be made to reduce the latencies in the workflow which are crucial for the customer response performance. The current implementations did not support the video analysis very well and that needed to be taken care of in the new architecture.

Solution Approach:

Graymatics Augment Mobile is an Android Mobile Application which showcases the functionalities of the Graymatics Context Connect Cloud (G3C). Compassites was primarily involved in engineering the G3C API. G3C analyses the videos and images in a publishers' site, categorizes it and checks on the relevancy of the image/video by creating a contextual ad or catalog product placement either over the content or within the image/video directly. Finally G3C identifies the most suited contextual ad to match the image/video content, which is placed at an impactful place at the viewers' screen.

- ❑ Application Cloud (aCloud)- The API supports On Demand and Batch modes of operations. In the On Demand mode, the response along with the analyzed metadata is returned in the same call. In the Batch mode, a Job ID is returned to the customer immediately and the job is expected to be completed before the Service Level Agreement time of a request. The metadata can be fetched either by resubmitting the URL or by providing the Job ID.

- ▣ Separate API and URL Fetch Components - The separation of URL Fetch from the API facilitates video analysis to be done in the background and also reduces the response time for new URL requests.
- ▣ API Authentication by introducing a memory cache in all the web servers.
- ▣ Security & image/video formats supported.
- ▣ Image Transformation Layer is present between the URL Fetch Component and the dCloud Queue where the image is transformed to the standard format and the standard resolution decided.
- ▣ Queuing System - The initial set of queues thought of are URL Fetch Queue, Detection Cloud Queue and Post Processing Queue.

Benefits & Results:

The fault tolerance has improved tremendously. Fault tolerance specifies the ability of the system to continue to function in the occurrence of software and hardware faults. Also, the Graymatics cloud is able to scale up to accept millions of requests and still maintain the SLA requirements to analyze the media content in a given time frame.

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