

Tracking Customer Sentiments in Real-Time

Teragram Sentiment Analysis Manager (SAM) is a social media analysis tool that captures relevant product reviews enabling brand managers to analyze the sentiments expressed by their products' end-users. SAM's automated processes locate and analyze digital content in real time to determine the writer's emotional meaning, identify changing trends, while catching singular product defects early.

Teragram Sentiment Analysis Manager pulls consumer reviews from mainstream sites such as Amazon and Overstock, as well as social media outlets like blogs and Twitter messages, and captures the overall opinion of the combined assessments. SAM also analyzes the number of stars in a product rating to extract the general consumer reaction to the product. Teragram Sentiment Analysis Manager searches and evaluates both positive and negative phrases in these texts, including an analysis of the subtle, and often seemingly contradictory, emotional content of the words comprising this review. SAM provides a detailed breakdown of these online evaluations allowing users to extrapolate information from SAM and to create color-coded graphs to understand exactly what these online posts mean in terms of the overall expressed sentiment for their brand.

Traditionally, the process of analyzing text to discover the positive and negative emotions of the reviewer has been labor intensive. These reviews have also been the domain of professionals. Today, with the advent of social networking sites, the multi-faceted complexities of capturing, returning, and analyzing this data in real-time have exploded. It has never been more crucial for profitable companies to quickly identify the public sentiment that is being expressed for their products.

Teragram Sentiment Analysis Manager addresses the specific concerns of marketing and brand management professionals who need to discover and interpret the emotions

Addressing Today's Branding Challenges

- Automatically locate and extract the sentiment behind customers' feedback on the Internet and within social networking sites
- Track the sentiment of an entity, organization, brand, product, or a product features
- Gain real-time awareness that enables rapid reaction to customer feedback
- Avoid the rapid snowball effect of

behind the qualitative information that customers post on the Internet. For example, if a brand manager for a cellular phone company wants to gauge the overall consumer sentiment for a specific model, he or she could use SAM to crawl the Web to gain a comprehensive snapshot of the sentiment behind the reviews for this particular phone.

SAM crawls and analyzes reviews, such as, *bad reception* and *expensive data plan*, as well as feature language like *fast Internet browser*, and *clear screen*, and so forth. SAM extracts the key phrases from these reviews and also differentiates nuances when a commonly positive or negative word to express a different tone such as, *not the best phone on the market*.

Teragram created Sentiment Analysis Manager so that marketing and brand management professionals could distinguish exactly what their customers are writing about their products in online forums in real time. Teragram's Advanced Linguistic and Content Categorization technologies have enabled us to introduce this statistical- and Linguistic-based, customizable system to an industry that has relied on qualitative research in the past.

Teragram Sentiment Analysis Solution automatically extracts from text the sentiment of the text.

Teragram Sentiment Analysis Solution is the next generation, automated solution to sentiment discovery. With the ever-increasing volume and speed at which new content is being published in today's information-centric world and due to the need to be aware of sentiment trends in real-time, this task can no longer be performed manually.

With the rise of information being published on the Internet and the rise in popularity of social networking sites, the need for Teragram's real-time Sentiment Analysis Manager automation has become even more acute.

It has become critical that companies be aware of customer feedback as soon as possible in order to avoid any snowball effect. In addition to the real-time aspect of sentiment tracking, there is also the need to identify general trends over long periods of time. Teragram Sentiment Analysis Manager is the solution that cuts through the buzz, or noise of the Internet, and automatically extracts the sentiment of a brand, sub-brand, product or its features in real-time.

The tone of a product review can be positive, critical, or subtly nuanced but it is always influential. This tone, or Sentiment, is important to the reader—who is often influenced by these words and the emotions that they express. Sentiment Analysis consists in recognizing this sentiment automatically. The sentiment of a text can also be referred to as *the polarity of this document*, because of its potential to influence potential customers one way or another.

Sentiment Analysis is especially useful when we are able to answer the question: *Sentiment about what?* For example, it is not enough to say that a product review is negative; one feature might be positively reviewed while another might receive low marks. Two products—or two brands, might be mentioned in the same text, one positively and one negatively.

SAM Reaches all Industries

All organizations need to track the voices of their customers, including:

- Retail
- Health Care
- Pharmaceutical companies
- Banking (services)
- Large Enterprises
- Government agencies
- Political organizations

Solution

SAS offers the industry's most comprehensive Sentiment Analysis solution. It enables organizations to:

- Measure overall customer response to brand and products
- Identify trends in sentiment
- Identify sentiment singularities triggered by brand or product problems
- Compare customer reaction between brands
- Improve the response time in addressing customer problems
- Improve brand image
- Zoom-in on sentiment associated with product features

Hybrid System: Combining Statistics and Linguistic Rules

Teragram Sentiment Analysis Manager uniquely combines an array of state-of-the-art statistical techniques and rules based techniques. This unique combination enables high accuracy and unparalleled flexibility.

Reporting and Dashboard

SAM run-time includes different reporting and monitoring tools, including overall sentiment as well as specific feature sentiments in the overall documents. Also included is the capability to track sentiment over time.

INPUT

- **Good**, but a **little outdated**. I bought the **Nikon Coolpix L10** as my first digital compact P&S camera. I had it for a couple of weeks, until mine had a **'lens error'** that basically **made the camera inoperable** (it was stuck open). It might've been due to batteries running low, but I tried another set (which I now think was also low).
- The **picture quality** from the L10 was **very good**, **a bit of barrel distortion** was noticed in the wide angle and shooting tall skyscrapers (noticed by the curve along the side of the frame where the buildings are supposed to be straight). Another gripe I had with the camera was how **slow** the **autofocus** was. It would basically go through the whole range of focus every time I pressed the shutter half-way and then some. This became more annoying the more I used it.
- Eventually a lot of my **pictures came out blurry**, including outdoor overcast days with 3x optical zoom. Basically anytime there's zoom & less than ideal lighting, I would have to have rock steady hands to get non-blurry pictures. Overall it's a **good camera** if **you can overlook the issues** I mentioned.

OUTPUT

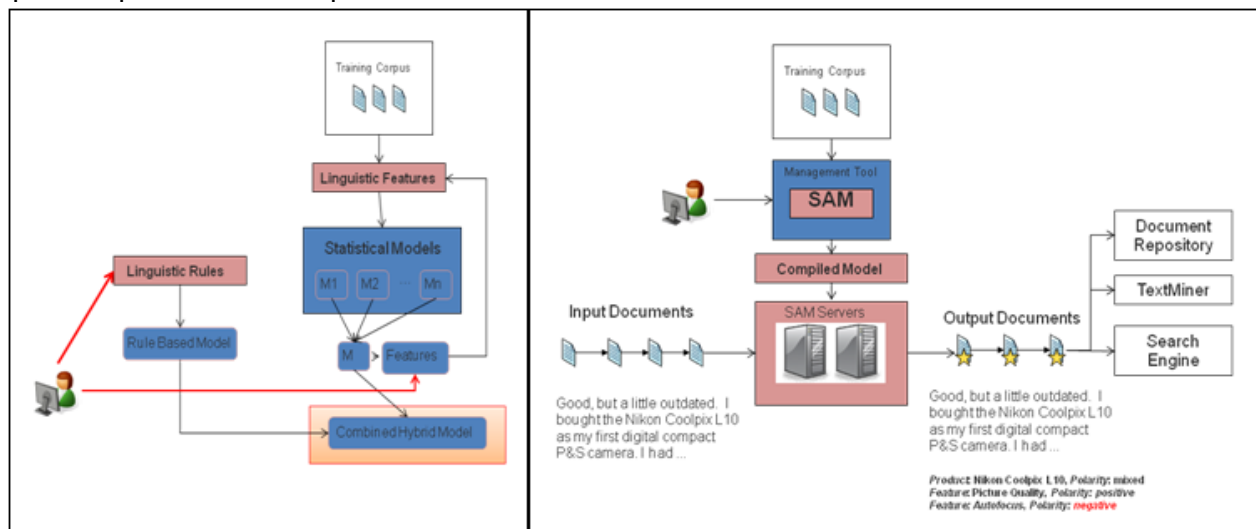
Product: Nikon Coolpix L10, Polarity: mixed

Feature: Picture Quality, Polarity: positive

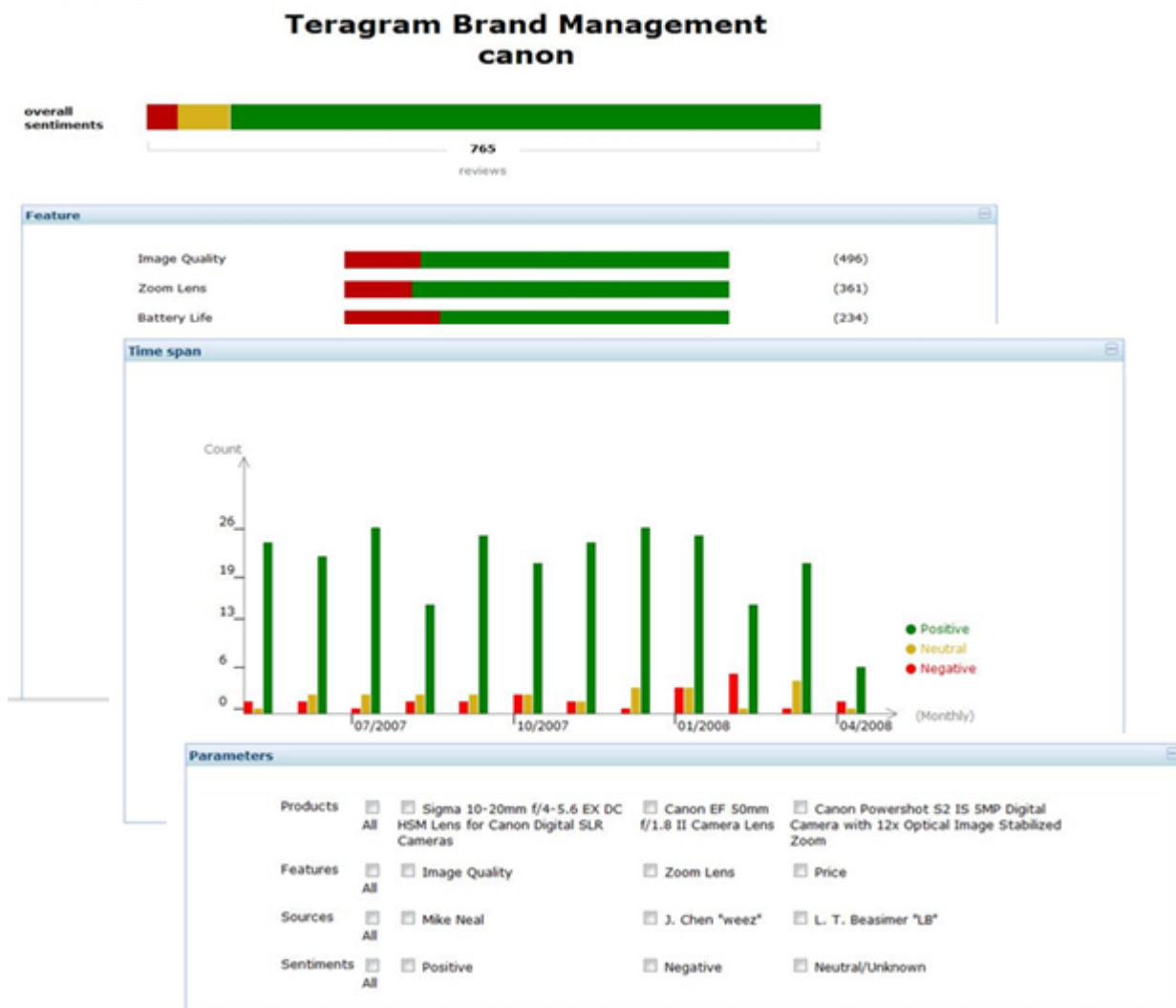
Feature: Autofocus, Polarity: negative

Description of Teragram Sentiment Analysis Manager

At the core of Teragram Sentiment Analysis is management tool called SAM (Sentiment Analysis Manager). SAM is a management tool in which a sentiment analysis project is defined and tested before it is launched on a server. In addition to configuration and testing, SAM specifies the behavior of the server software (SAM Server) that actually computes the sentiments within documents. The SAM servers process documents and output the features and their sentiments. These types of features are defined in the management tool and can be a brand, a product, or a specific specification of a product or other entities.



The output of SAM servers can then be stored on some document repository and be the input to additional processing software, such as SAS Text Miner or a search engine.



About Teragram

Teragram, a division of SAS Institute Inc., is the market leader in multilingual natural language processing technologies that use the meaning of text to distill relevant information from vast amounts of data. Founded in 1997 by innovators in the field of computational linguistics, Teragram alone offers the speed, accuracy and global language support that customers and partners demand to retrieve and organize growing volumes of digital information. Teragram helps customers perform more efficient searches and better organize information in more than 30 languages, enabling them to reach new markets and make better decisions. Teragram serves customers across the publishing, pharmaceutical, telecommunications and financial industries, including Ariba, Ask.com, Associated Press, CNN, Factiva, EBSCO Publishing, eBay, FAST Search & Transfer, Forbes.com, InfoSpace, NYTimes Digital, OneSource, Reed Business Information, Sony, WashingtonPost.com, Wolters Kluwer, the World Bank and Yahoo!. For more information, please contact 1-617-576-6800 or visit <http://www.teragram.com/info>.

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