

# Multi-Source Social Media Analytics Platform Development

## → Type of Project:

Custom BI Solution / RIA (Rich Internet Application) development

## → Technologies:

Adobe Flex, Java / J2EE, SQL Server, BlazeDS, MarkLogic, Development Frameworks Springs, Hibernate, Robotlegs, and Quartz

## → Team Size:

30 InfoCeptions, 20 Customer Associates

## → Our Roles:

Front end User Interface, Data Visualizations, SOA Middle tier development and Project Management

## → Users:

Brand Managers, Product Managers, Research Analysts



## Executive Summary:

We designed and developed an analytics platform for a leading provider of consumer analytics. The platform is now used by over 2,000 customers each day to understand how their brand is being perceived across the internet. Our customer was able to drive nearly \$13 million in incremental revenue through the sale of this platform. The application has been built to accommodate projected future growth through its Service Oriented Architecture and Custom BI interface.

## Business Challenge

Facebook postings, blogs, tweets and the like (also known as Consumer Generated Media (CGM)) are the fastest growing segment of the media industry. Every day millions of consumers go online to express their opinions and share their views. For companies, this is both a large threat and a huge opportunity. Reputations can be severely damaged in seconds. Social media amplified market buzz can create winners overnight.

Our customer, a leading provider of Social Media research for Brand Managers and Marketers, sold a market-leading service that enabled brand managers to easily monitor and analyze all the content being generated on social media. However this solution had begun to trail the market. Our customer came to us to help them build a new social media analytics platform to replace their existing one. The existing one suffered from many shortcomings, including:

- A user interface that lacked workflow, user interaction and output customization functionality. This led to most users just using the application to access data directly using an API that was provided.
- Overlapping functionality and inconsistency among the several legacy tools that our customer marketed. This led to inefficiencies in maintenance and a diminished user experience.
- The technical architecture was not designed to scale, leading to some concerns about how to handle future data and user growth.
- An inability to manage the “Big Data” originating from 16 million blogs, 45,000 sources of online news and magazines, user groups and social media networking sites.
- Inability to meet the needs of both external users (Brand Managers, Product Managers and Marketing professionals) and internal users (Research Analysts)

To meet these challenges, we worked with our sponsor to establish the following high level goals for this project

- Create a highly flexible, dynamic User Interface with intuitive navigation and guided workflow, designed for the product's different user types

- Consolidate functionality from the different products that our customer was offering the marketplace
- Create a technical architecture that would enable our customer to support increasing amounts of data and user concurrency requirements

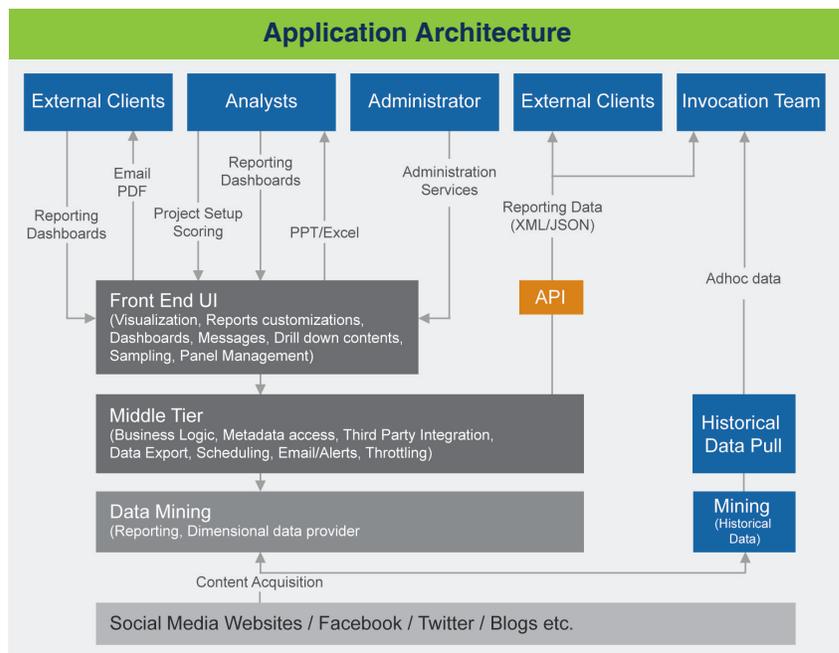
## How We Helped

Our customer faced increasing competitive pressures, thus requiring an accelerated development cycle to bring the new product to market quickly. Our team of 30 InfoCeptions and 20 of our customer's professionals worked over the course of seven months to build an entirely new Social Analytics platform.

The solution is a fully-customizable enterprise application used by brand managers to easily monitor and analyze what's being said online about their brand. Accessible via a Web interface, the platform provides real-time analysis and segmentation capabilities, at-a-glance-metrics and a range of reports. 2000+ external customers use these services.

### Application Architecture:

The solution is a multi-layered application providing a Service Oriented Architecture. Data acquired from social media streams is processed by Next-Generation Data management platform (MarkLogic). It handles text mining for various attributes on unstructured social data to calculate sentiment scores. This data is further processed by a Gateway Layer which executes search and reports. The Gateway is further integrated with a ServiceLayer which acts as backbone of application and provides orchestration for the application. Built upon Spring and JPA Hibernate frameworks, it provides ease of integration with the backend and serves as a B2B layer (API layer). The front end of the application is designed using Adobe Flex 4.6 and follows RobotLegs framework. With multi-tabbed entity management screens and asynchronous request mechanism built upon BlazeDS integration, the front end provides faster data transfer than the HTTP protocol.



### Brand Monitoring and Analytics Dashboard for Brand Managers:

The fully-customizable Brand Monitoring and Analytics Dashboard allow users to:

- Know what is being said about their brand, service, or company
- Identify key metrics and establish benchmarks
- Narrow the lens to focus on and compare across key customer segments
- Quickly uncover opportunities and spot threats
- Proactively monitor, protect and promote one's brand and organization
- Evaluate the effectiveness of marketing campaigns

## User Interface Features (Built in Flex):

- A Report Builder with pre-built and flexible workflow
- A “federated” layout provides consistency across all tabs of the application
- Navigation features including a multi-tab interface, one-touch controls, search and “drag-able” dashboard widgets
- Clickable and drillable dashboard widgets with multiple visualization options
- Drag and drop customization features
- A simplified toolkit for Marketing Analysts
- Localization in 10 languages
- Alerting based on customer sentiment thresholds, brand product, author and other elements
- Specific user functionality for Analysts and Administrators including panels and message scoring, sample/panel management, user access privileges
- Multiple export outputs

## Service Layer Architecture:

To address the technical architecture’s current challenges, as well as to anticipate future ones, we created a Java based service layer to efficiently transfer large volumes of data to the User Interface.

Additional features of this service layer included:

- Report queuing, scheduling and data export services
- Access to the metadata
- Integration of the Enterprise Java middle layer with source data
- Common application services to be accessed by other applications
- API’s to provide direct access to the social media data
- Throttling and caching functionality
- Scheduler to access data from various application services. The scheduler also emails users to let them know their data is available

## UI Interface

The screenshot displays two main sections of the application interface. The top section is a dashboard with three charts: 'Apple last 365 days trends' (line chart), 'Apple product popularity' (bar chart), and 'Volume social Media Comparison - Apple Brands' (stacked bar chart). The bottom section shows a 'Message View' for a sample message about an Apple iPod Shuffle, with a 'Scoring' panel on the right. The scoring panel includes a table of scores and a 'Basic tags' section with checkboxes for 'Insightful', 'Relevant', 'Non-Verbatim', and 'Verbatim'. A 'Translate to English' button is visible at the bottom of the message view.

Entity Management Screens

Dashboard with Dynamic Reports (Multitab UI)

Scoring Section with category and Tags

Review individual messages

Translation support for messages

# High ROI BI Delivered

As a result of our efforts, the new system now provides social media analytical services to over 2,000 customers. We achieved numerous tangible and intangible benefits, including:

- ➔ User concurrency increased from 30 to 90 users
- ➔ Reduced maintenance of the overall system
- ➔ Greater end user (internal and external) satisfaction due to the new User Interface
- ➔ For an equivalent capital expenditure, the new highly scalable architecture was able to support 50 million messages per day of content acquisition and 40,000 queries versus 29 million and 29,000 queries previously

- ➔ The legacy system could only process 25,000 messages in one instance, versus 100,000 in the new system

Based on our customer's internal analysis, they believe they will be able to drive nearly \$13 million dollars in incremental revenue, increase their win rate from 36% to 42% and their customer renewal rate from 57% to 72%.

The end result: We provided our customer with Powerful Analytics + Quality Data + Speed, resulting in impactful insights in a fraction of time for our customer's clients.

## ➔ About InfoCepts

Since 2004, InfoCepts has delivered on the promise of Business Intelligence. Our consulting capabilities and process oriented approach, with world class governance frameworks have delivered high quality solutions to our customers. Our technology

specific methodologies and global delivery model provides exceptional ROI for our customers. Our services include high quality Mobile Apps, award winning Dashboards and end-to-end business intelligence development and support using a host of technologies.

