



OPEN SOURCE INTELLIGENCE AND ANALYTICS

**iAcuity**



## iAcuity: Finding the Needle in the Haystack

It took 38 years for radio broadcasters and 13 years for television to reach an audience of 50 million, but internet did it in just four years. Back in 1993, World Wide Web (WWW) had hardly fifty pages, but today, it sizes around 1.7 billion pages with nearly 2.4 billion users, making it the most widely used source of information.

70 percent of these users use the Internet daily to both contribute and receive information in order to learn about the world around them and to influence that same world — constantly organizing information around pieces that reflect their desires.

The advent of social media platforms like Facebook and Twitter have given a staggering boost to its popularity and usage. Today, we hardly come across an individual who doesn't have a presence in at least one social media platform. Facebook itself has around 1.11 billion active users while Twitter has crossed the mark of 200 million active users.

With billions expressing their thoughts and views, these social media platforms have become a rich source of vital unstructured data for law governing bodies. If these bits and pieces of information are linked, correlated, analyzed and sensed accurately and timely, we can witness a significant reduction in the occurrence of crime & terror.

According to United Nations Office on Drugs and Crime (UNODC),

“One of the primary uses of the Internet by terrorists is for the dissemination of propaganda. Propaganda generally takes the form of multimedia communications providing ideological or practical instruction, explanations, justifications or promotion of terrorist activities. These may include virtual messages, presentations, magazines, treatises, audio and video files and video games developed by terrorist organizations or sympathizers.”

UNODC have also pointed out the fact that terrorist use the Internet as a primary platform to publicize fear, lawlessness & terror. Terrorists get a free hand in distributing their activities via the Internet unlike the traditional methods of news distributions in which the content is closely monitored, verified and censored.

The infinite reach of the Internet provides criminals, terrorist organizations and sympathizers a huge reach to recruit and influence people to join their cause.

Today, criminals and terrorists are using password protected cyber forums for plotting, recruiting, training, provoking violence and financing their unlawful activities. With constant monitoring on these platforms, LEAs and investigators can trace the plotting at a very early stage and can prevent major events.

But, it's easier said than done. Monitoring and analyzing oceans of data is impossible without a proper solution. The time consumed to gather, tally and analyze the data without an efficient tool has every possibility of becoming the decider of life and death for countless lives.

Xalted's iAcuity accesses and analyzes open source information by extracting, curating and correlating data from publicly available sources like media houses, web communities, social- networking sites, wikis and blogs, reports, documents, speeches & presentations, giving the investigator a 360 degree visualization of the entire situation. iAcuity



## Data Integration

The main source of information for iAcuity is raw data that is available in the public domain like wikis, blogs, Facebook and Twitter. The main challenge of using these sources is to identify the data that is relevant to the investigation and ensure its optimum utilization.

iAcuity uses its rich set of crawlers and APIs for extracting information from social media providers and automated robots for web scraping. iAcuity's automated robots and crawlers are capable of extracting data from a targeted website as well as carry out mass crawling from a large number of websites. The crawlers are even designed to extract information from the deep web. For example, iAcuity's crawlers can extract a traveler's review of a particular hotel from a specific website or provide continuous feed from over 5000 social media sources within a few minutes.

These crawlers can be configured for custom filtering, crawler scheduling and also for the processing and transformation of data. Data extraction can be done anonymously without revealing the identity of the source and the robots can also be customized in accordance to the specific requirement of the agency.

Once the data has been collected, it is then stored securely in an advanced big data cluster so as to ensure that it can be safely utilized as a reference or evidence in future.



## Entity extraction

The powerful Text Analysis of iAcuity is capable of extracting named entities of common types like Person, Organization, Company, Place, and Product as well as specialized types like Dates, Numbers, Address Components etc. The tool can also detect the themes and concepts associated with the context and entities.

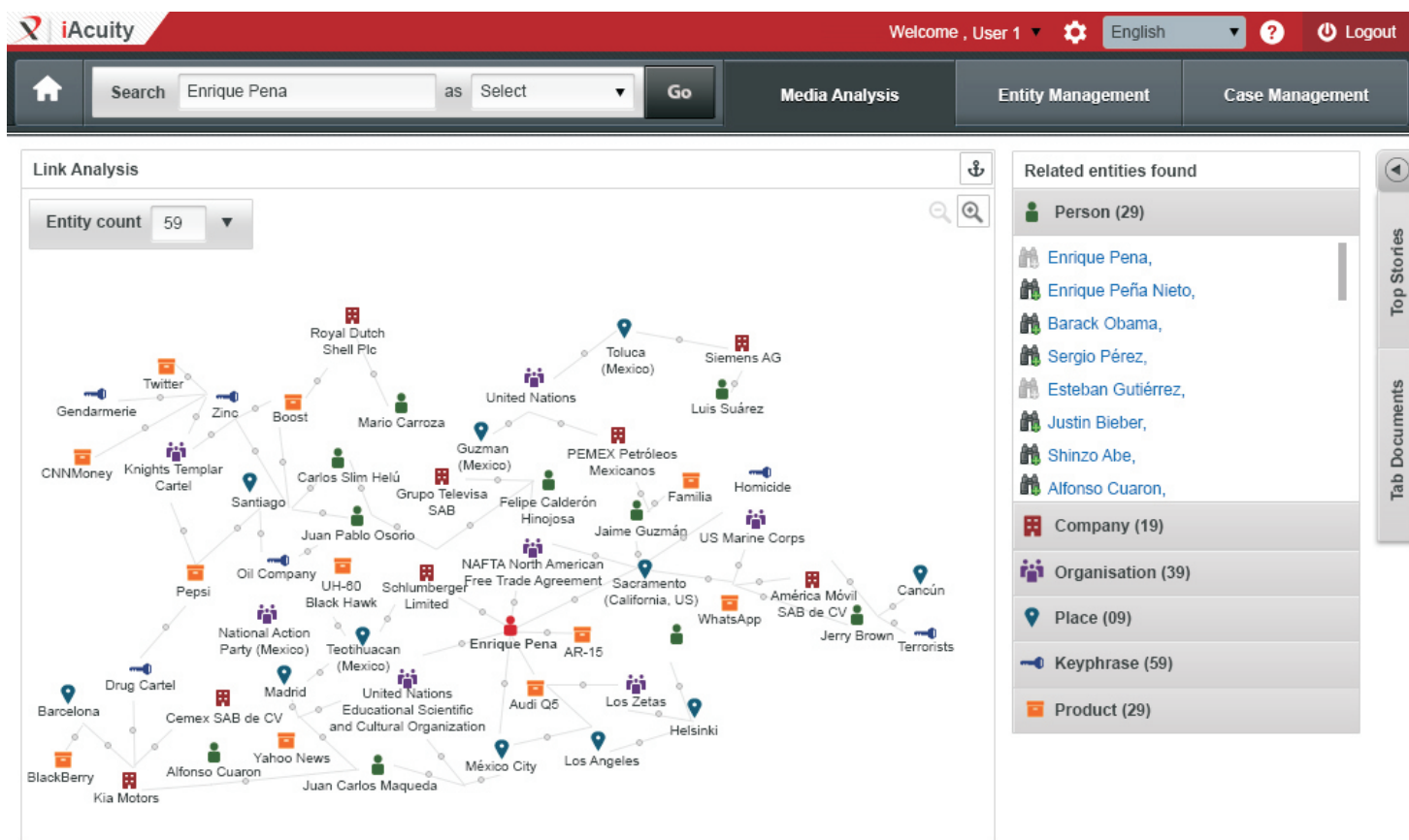
iAcuity's Big Data Engine continuously processes entities extracted from a huge number of documents in order to establish the relationships of the entities and create profiles in background. The extracted information can be queried instantaneously for finding the patterns needed to take the investigation forward. User can also use iAcuity for continuous monitoring of the social presence of an entity for building a profile for real time analysis.

## Text Analytics

iAcuity supports faceted free text search for any key-phrase or concept or theme to pinpoint all related entities. The investigator can search documents, posts, blogs and other sources for key phrases or entities, giving the investigator the power to drill down to the information that is important to the investigation, thus focusing on what really matters.

## Visualization of Linkages

iAcuity extracts huge amount of entities and expresses the existence of multiple level relationships, analyzes them and reflects them in an easy to understand manner. It classifies the linked identities into categories like people, organizations, groups, places, products and key phrases and reflects the context behind the relationships. This gives the user a clear picture of the weightage and associations of the searched individual and guides him to employ measures according to that. iAcuity gives the investigator the ability to explore linkages across multiple degrees of relations and find reflections and further linkages of discovered entities across all open source domains. Its intuitive visualization map makes the exploration task seamlessly easy.



**iAcuity** Welcome , User 1 English ? Logout

Search Enrique Pena as Select Go Media Analysis Entity Management Case Management

**Link Analysis**

Entity count 59

**Related entities found**

- Person (29)
  - Enrique Pena,
  - Enrique Peña Nieto,
  - Barack Obama,
  - Sergio Pérez,
  - Esteban Gutiérrez,
  - Justin Bieber,
  - Shinzo Abe,
  - Alfonso Cuarón,
- Company (19)
- Organisation (39)
- Place (09)
- Keypphrase (59)
- Product (29)

Top Stories  
Tab Documents

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## Visualization of Profiles

iAcuity provides a 360 degree visualization of an individual's profile in one single frame. When an individual is searched in iAcuity, the robots extract data about the individual from unstructured data platforms like Facebook and Twitter, and then analyzes the data. iAcuity displays detailed information about the searched entity (like date of birth, nationality, educational background, languages, hometown and also the name of spouse). Other than this, iAcuity also keeps track of his last known location and recent activity such as posts and likes on social media platforms. This helps the user to gain insights about an individual including discovering his thoughts, point of views and opinions.

**iAcuity** Welcome , User 1 English ? Logout

Search Iqbal Go Media Analysis Entity Management Case Management

**Searched Results**

- Iqbal Yusaf
- Asad Iqbal
- Ashabu Yusaf
- Mohammad Iqbal
- Rashid Iqbal

**Iqbal Yusaf**

Full name  
**Iqbal Yusaf**

Nationality  
**Iraqi**

Born  
**1973 (age 43–45)**

Languages  
**Arabic, Urdu, Hindi**

Education  
**BA, Islamic University of Baghdad**

Gender  
**Male**

Religion  
**Salafist Sunni Islam**

Hometown  
**Samarra, Iraq**

Spouse  
**Saja al-Duleimi**

Baghdad

For more last known locations

**Recent Activities**

- Meet Iqbal Yusaf, The Self-Declared Leader**  
A man purporting to be Abu Bakr al-Baghdadi, the head of the Islamic State group, formerly known as Isis, is ...
- BBC News - Profile: Iqbal Yusaf - BBC.com**  
Jul 5, 2014 - A profile of Abu Bakr al-Baghdadi, the man believed to be leader of the Islamic State of Iraq and the Levant ...
- Profile of Islamic State and leader, Iqbal Yusaf**  
Aug 12, 2014 - Newsnight's Secunder Kermani looks at the rise of the group Islamic State, formerly known as Isis and its leader, Iqbal Yusaf...

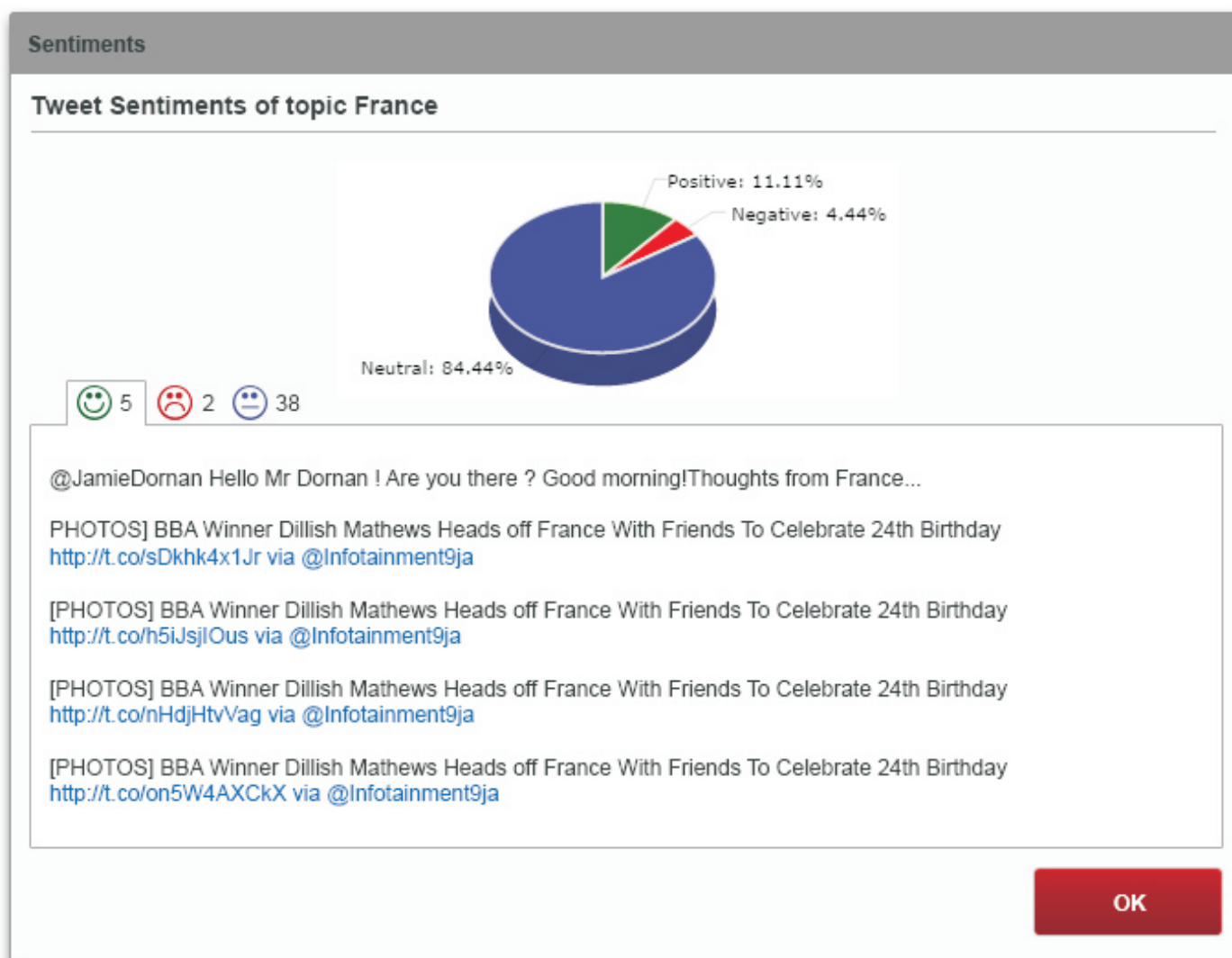
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## Sentiment Analysis

iAcuity also explores emotions behind a communication, post, message or comment. iAcuity's sentiment analysis helps investigators to have a better understanding of the weightage of a post or a communication message. Whether positive, negative or neutral, the investigator will have a rounded understanding of the communications of a suspect.



## Geo-fencing

iAcuity supports the geo-spatial data analysis of entities on time and space dimensions. It allows the investigator to configure a geographical area (circle, polygon) for continuous monitoring of activities. The Geo-mapping UI of iAcuity visualizes the movement and geo-fenced activities of the entities.

## Network Infiltration

iAcuity aids the investigator in building an undercover social networking identity, a fabricated profile for the purpose of infiltrating into a suspects social network by befriending them or their connections. iAcuity recommends topics and themes of interest to the investigator that are relevant to a suspect. Using tested techniques iAcuity then helps investigators to create and share the right content in a planned manner, thereby grabbing the attention of a suspect and helping to enter their network. Investigators can thusly gain further insights into the behaviors and activities of a suspect, and increase the scope of intelligence available to law enforcement agencies.

## Bridging the Gap Between Structured and Unstructured Data

The true power of iAcuity lies in the ability to collect, correlate and analyze information from all unstructured open source platforms whether web sites, news, blogs, social media, documents, reports and even structured databases such as existing suspect and target lists. This empowers investigators with a 360-degree view and a holistic picture.

## The Power of iAcuity

Today we are at the point of inflection where the reach & importance of unstructured data has become essential to law enforcement and intelligence agencies. Surveys reveal that an average human being spends around two hours daily on social networking platforms, constantly generating oceans of data. With such a huge reach and daily significant engagement of the active users, social media platforms are definitely something that cannot be taken lightly anymore. Raw data in bits and pieces are available throughout the World Wide Web, which if connected, correlated & sensed, can save countless lives.

iAcuity takes in all open source information, extracts entities and relationships, providing the investigator with powerful visualization tools to explore and understand linkages of entities and profile entities and suspects. The investigator can also understand the sentiment behind individual post or a topic as a whole. iAcuity gives law enforcement personnel the ability to define a geo fence thereby filtering the scope of their investigation to a relevant geographical location. Investigators can even get insights into content, themes and topics that will aid them in infiltrating a suspects network. iAcuity correlates with structured data sources thereby enhancing the data set and information available to the investigator.

Designed with the best of breed architecture, iAcuity is truly scalable and flexible to take in oceans of data without compromising on performance. This solution is a powerful tool for law enforcement agencies to access disparate open source information, correlate data across domains, create a 360-degree holistic view, and actionable intelligence thereby helping find the needle in the haystack. It aids law enforcement and intelligence agencies in creating a safer world.



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