Kaseware & Ext JS: Designing Intelligent Investigative Solutions to Combat Security Threats

Sencha

CUSTOMER SUCCESS STORY

Ext JS fuels Kaseware's integrated, cloud-based, investigative and evidence management platform to tackle evil actors across the globe

Kasware is an investigative management, intelligence collection, and analytics platform that helps combat threats arising from cybercrime, retail fraud, school violence, narcotics, criminal intelligence, and more. Kaseware's investigative management solution spans the private and the public sectors — from corporate fraud investigations to law enforcement and everything in between and beyond.

Their single solution security platform is capable of handling all stages of investigative management from incident threat to resolution. Kaseware's platform includes incident report generation, intelligence collection and inference, threat linking, detection, autonotification, and finally guard dispatch.

Efficiently managing real-time threats has been a concern for researchers for decades, including threats to human life on the streets, internet security, piracy, luring hackers — the list is endless. Human intelligence coupled with technological tools have been remarkable players in mitigating risks and keeping us secure.

The Kaseware platform was borne out of the work done by the company's founders, who worked in the law enforcement and private IT sector for most of their careers, knew the ins and outs of threats, and as a result knew how to thwart them. Designed using the Ext JS framework and components, Kaseware's platform was able to incorporate all the features they had always envisioned implementing without having to ever go out of the framework.

"With Ext JS we were able to better enforce security within our code base. If you are building an Angular app, you are constantly searching for a widget for this and a widget for that. You don't know if they are maintained or if there is any embedded malware or nefarious code in them. Using Ext JS, we rarely had to go outside the framework and our platform has some really complex security and functionality requirements."

Dorian Deligeorges, CEO & Founder, Kaseware, and former FBI Special Agent.

The "Swiss Army Knife" Toolbox for Tracking Down Fraudulent Activities

A big issue that corporations and law enforcement officers face today is the use of disparate tools and processes to handle smaller security functions without being able to effectively communicate with one another. Kaseware removed that barrier by providing one cohesive system that combines all aspects of security — you can think about them as a toolbox or the "Swiss army knife" platform to do many things. Their application is based on a common set of incident and investigation management actions and is flexible enough to be scaled and adapted to different business use cases.

Platform Functionality Overview:

- **Case Management:** dashboard data view, report creation with automatic graphing, case linking, task management, requests, and notification.
- **Investigation:** search, analysis, and inference connection from data gathered via internal and external sources.
- **Threat Identification:** real-time threat and fraud identification through sources including social media or databases.
- **Protection:** automated threat monitoring, fraud notification, information tip line, collaboration with individuals/teams for access control, and doc classification.
- **Guard Dispatch:** dispatch and incident management using IP addresses/GPS for physical addresses, report completion from the field via mobile app.

The Kaseware platform is spread over two broad solution spaces but is flexible enough to calibrate to specialized business cases.

- Corporate Security (private sector)
- Government and Law Enforcement (public sector)

Versatile Platform Developed with Ext JS

Corporate Security

Meeting the needs of investigators everywhere, the corporate security solution is able to provide a supervisor dashboard to manage cases, display real-time views, and search data from internal sources (disks, email, log files), third-party databases such as OSINT, or previously linked data from other cases and incidents in Kaseware's platform.

Kaseware's solution enables stronger corporate security by giving clients the tool set to quickly identify a suspicious IP address, email address, or financial record from related cases. Fraudulent activity is tracked and security mechanisms dispatched through cloud-based tools to manage the assets and alert appropriate personnel.

Designed with Ext JS: Corporate Security Investigative Management Dashboard

Automated Graphical Link Analysis For Corporate Security Case Management

Law Enforcement

With the help of the Ext JS framework and components, Kaseware's intelligent platform is capable of tracking even the most dangerous public activities, such as narcotics use, human trafficking, school violence, and other criminal pursuits. The platform is widely used by state-level police, local law enforcement agents, and some international agencies.

For a scenario such as a 9-1-1 call being dispatched, the application provides a view of the call origin where the officer is able to gather information such as location, sensor data, live CCTV footage, and so on. At the crime scene, officers are able to write reports through the app via a dynamic form-builder interface, registering incident time, date, and GPS location. The reports are then used as the basis of the case and are linked to other reports in the system for intelligent graph analytics and linking. Optical character recognition (OCR) and text recognition features are able to pull out unstructured data from the report and classify them for detecting and linking related suspicious activity. The app is able to conduct social media searches and data import/export, and it provides a timeline view of different events for a deep dive and investigative insights.

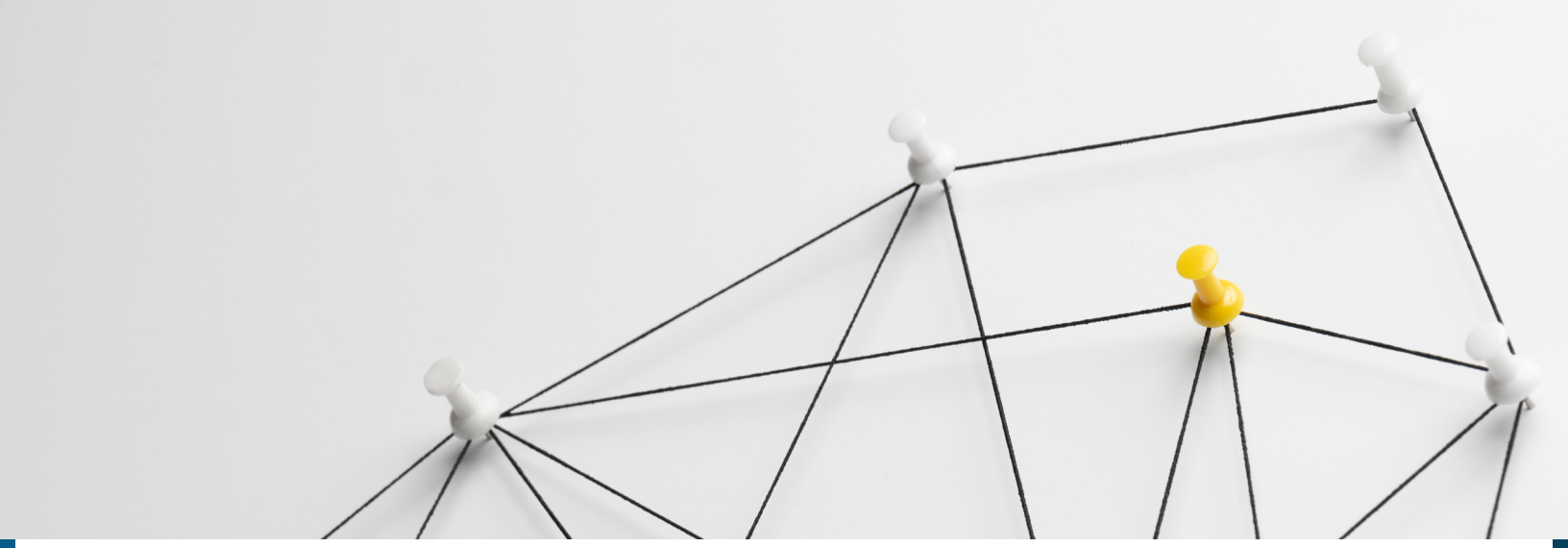
Kaseware's customizable and configurable dashboard view for law enforcement use cases is comprised of Ext JS components such as data grids, drop-down menus, form builders, visualizations, heat maps, geospatial searches, maps, a rich text editor for incident reporting, panels, themes, and much more.

Instant ID Scanning and Automated Data Logging

Advanced Case Suspect Search Interface Built With Ext JS

"We use almost every aspect of Ext JS and have components that are customized for the application. Ext JS provides a secure set of components to build our web-based and mobile platform and gives us the capability to customize the app the way we want,"

Dorian Deligeorges, CEO & Founder, Kaseware, and former FBI Special Agent.



"Connecting the Dots" via an Intelligent Platform and Secure Framework

Kaseware's platform is built to provide security to its users, so when the time for selecting the framework solution for the project came up, security, component completeness, and scalability were of top priority.

> "Because of the sensitive nature of the use cases our platform was built for, we take the security of our front-end application as well as the development tools we use very, very seriously,"
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> **Nathan Burrows**, Chief Operating Officer, Kaseware, and former FBI Special Agent.

When Kaseware first started this project a few years ago, they did an initial prototype challenge internally with three different tool sets — Ext JS, Angular, and Telerik's Kendo UI.

"With Ext JS we were able to better enforce security within our code base. If you are building an Angular app, you are constantly searching for a widget for this and a widget for that. You don't know if they are maintained or if there is any embedded malware or nefarious code in them. Using Ext JS, we rarely had to go outside the framework and our platform has some really complex security and functionality requirements," says Deligeorges.

"Ext JS definitely helps by providing more of a 'walled garden' approach to building a secure client application," said Burrows.

From Prototype to Deployment

The Kaseware founders were special agents in the FBI. After several vendors failed to develop a modern case-management system for the FBI, the Kaseware founders were tasked with internally developing one for the FBI. *"Most government IT projects go well, but unfortunately this one didn't, and so our founders stepped in to take it to success,"* says Mark Dodge, Chief Business Officer at Kaseware.

After the success of the project, they founded Kaseware with the goal to take the platform to a broader market.

When Deligeorges and the team started designing the Kaseware platform, they had some stringent requirements for app consistency across the different views.

Whether a user is simply viewing a case, a dispatcher is working in an operation center, or an analyst is doing graph analytics, the application was required to have a consistent look and feel. *"Designing the app with Ext JS allows all the components to behave the same way, and that's also beneficial internally because the code is consistent by following the standards. So our internal developers are able to come up to speed quickly, and we find it easier to maintain the application that way,"* said Deligeorges.

Kaseware's platform consists of many complex features covering the entire gamut — from simple text forms, media files such as body camera videos, audio recordings, social media integrations, and evidence management to integrated tip line and innovative relational graph analytics for intelligent suspect tracing.

From prototype to finished product, Kaseware was able to build up its complex platform with all the functionality they envisioned — with no framework limitations or performance surprises.

We take advantage of the Sencha CMD build process, which is an important component of automated builds and our solution scalability. We are able to run our app in an automated Kubernetes deployment environment and Ext JS plays nicely with that through CMD. We are able to build the app in various environments and tool sets without much hassle.

Dorian Deligeorges, CEO & Founder, Kaseware, and former FBI Special Agent.

On a Mission to Create a Safer World

For centuries, humans have been exposed to security threats and have used creative strategies to combat them. On an almost daily basis, we hear about incidents in our schools and on the streets, and the digital-era advent of cyberespionage has exponentially increased our risks.

Kaseware is on a mission to tackle evil actors and make the world a safer place.

Choosing secure, flexible, and efficient development tools is key to designing innovative platforms that solve the most pressing challenges. Thousands of companies and millions of developers around the globe trust Ext JS to design their mission-critical web and mobile applications.

Ext JS

A Safer Ecosystem for App Development

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Sencha tools help companies accelerate development cycles for enterprise-ready web applications. Sencha's development framework offers a single coding paradigm across all components, with hundreds of preintegrated and tested UI components, built-in themes, and sample apps and stencils. More than 60 percent of the Fortune 100 use Sencha products to design, develop, and test their data-intensive, cross-platform web, and mobile applications.

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