SpatialKey

Innovative firm unlocks the power of location intelligence for enterprises using a web-based data visualization solution built on the Adobe® Flash® Platform

SpatialKey
www.spatialkey.com

Industry
Technology

Challenges
• Unlock location-based business intelligence in a high-performance environment
• Integrate with legacy BI (business intelligence) and LI (location intelligence) systems

Solution
• Web-based data visualization
SpatialKey uses the Adobe Flash Platform to empower enterprises to make better decisions faster by visualizing diverse business data in geographically relevant ways.

Results
• Provided business users with actionable insight into data
• Enabled users to make better decisions
• Allowed rapid system implementation
• Transcended need for static desktop data applications
• Accelerated development cycle
• Exceeded sales targets

Systems at a glance
• Adobe Flash Platform. Components used include:
  Adobe Flex® Builder™
  Adobe Flash Builder 4
• Adobe Creative Suite® 4 Master Collection

Satisfying an enterprise niche

As experienced rich Internet application (RIA) developers, the experts behind SpatialKey have a long history of working with the Adobe Flash Platform, using it to develop highly interactive, dashboard-style enterprise applications at parent company, Universal Mind. Correctly identifying a niche in need of a solution, the team identified the market opportunity for a web-based solution that enables people to visualize data geographically, leveraging the power of the Adobe Flash Platform. And thus SpatialKey was born.

Having gravitated toward the dashboard space for several years in response to client needs, the team set out to find a usable way to make huge sets of complex data more interactive and visually rich, while at the same time overcoming the need for desktop tools and other more static ways of dispersing information.

"We needed a geographic information platform that could do more than put pins on a map," says Tom Link, managing director at SpatialKey, adding that enterprise decision-makers needed an agile, interactive way to navigate through information, and rapidly visualize geographic context. The goal was to empower enterprise workers to gain more actionable insight into data, make more informed decisions, and allow for rapid implementation. The system also had to integrate with massive legacy data repositories.

The result is SpatialKey. It brings geographic information system capabilities previously available only to highly technical analysts to enterprise decision-makers—in a powerful, web-based, self-service package that does not require the heavy infrastructure typically found in business intelligence systems. There is no install or special skills required by users.

The team routed analysis through different business intelligence systems and quickly realized that there was no web-based tool on the market that could visualize great amounts of data that had location sense to it. The Adobe Flash Platform allowed the team to provide a valuable service to enterprise users. In real time, users can manipulate hundreds of thousands of data points, understand them in a visually stunning mapping interface, and quickly share insights with colleagues.

"The Adobe Flash Platform is being used to facilitate a critical business need that was previously unmet," says Annick Baudot Mohageg, marketing director at SpatialKey. "SpatialKey provides real-time, geo-specific capabilities to business users that very powerful business intelligence systems lacked."

Standout business results via legacy tie-ins

Initially, SpatialKey targeted small business as its likely customer base. However, it quickly found sales patterns trending to larger enterprises implementing multiple product seats deep inside organizations. Broader use across the public and private sectors has resulted in greater revenue for SpatialKey.

One reason for such unanticipated enterprise penetration is SpatialKey's powerful and flexible ability to integrate with back-end systems and other record-level business processes. For instance, EnerNOC, a fast-growing player in the energy industry, automatically pushes data every five minutes from its energy management application platform into SpatialKey. From there, decision makers can visualize multinational megawatt distribution and correlate it with data like energy prices and load conditions, giving EnerNOC a tremendous off-the-shelf cost benefit.

"Even if we'd taken a year to build a proprietary system, it wouldn't have been as flexible as SpatialKey," says Jim Nichols, enterprise architect at EnerNOC. "The level of richness and visualization that SpatialKey delivers is beyond compare. It gives us capabilities we hadn't even imagined."

Built on the Adobe Flash Platform, the SpatialKey application brings new interactivity and visualizations to enterprise users looking to gain greater insight into critical business processes, from tracking energy use to monitoring sales trends by region to a host of other activities.
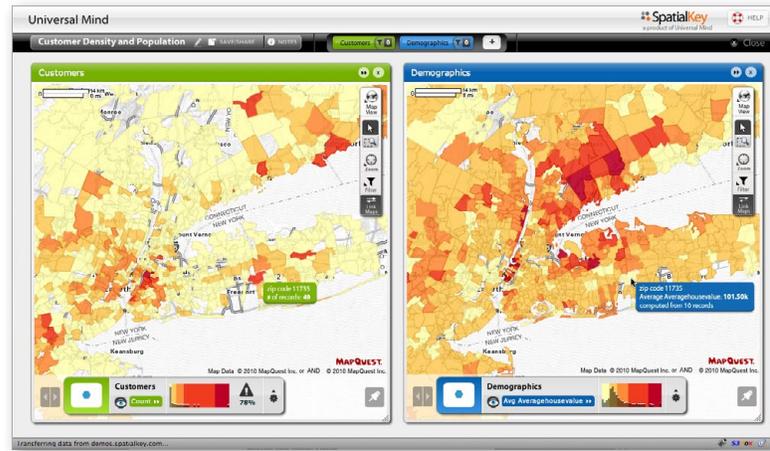
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Tom Link
Managing director,
SpatialKey

At BuyWithMe, Inc., the premier community buying website that connects shoppers with limited time offers from leading local merchants, location is key to the business model. "SpatialKey gives us incredible insights to fine tune our geo-focused marketing and sales efforts on a dime," says Eric Yohay, user acquisition at BuyWithMe. "We can make decisions in an hour that without SpatialKey took us a month."

In the financial sector, a leading insurance agency is capturing tens of millions of records—claims and policy data—in SpatialKey for visualization, analysis, and action. Law enforcement agencies use SpatialKey to integrate data from record management systems to visualize crime and incident trends geographically, enabling public safety organizations to allocate resources where they are needed most. Other customers are taking business intelligence from legacy data repositories into SpatialKey to work with data in more agile and visual formats, complementing existing intelligence systems and empowering decision-makers in a more self-service way without relying on programmers.

In the social media space, where.com uses SpatialKey to provide advertisers with the advanced ability to measure the effectiveness of ad campaigns. Instead of distributing static spreadsheets to advertisers, where.com sends out highly visual, interactive, easy-to-consume SpatialKey reports that deliver richer insight into ad performance.

Of particular note, SpatialKey has developed a custom integration with SalesForce.com that enables users to import Salesforce data including opportunities, accounts, and contacts into SpatialKey. It has a customer connector feature that grabs data automatically and pushes it into specialized sales and marketing visualizations. There, users can geographically compare sales activity over time among different states, and visualize which lead sources have greater penetration and higher success in certain areas.

Unmatched performance and ubiquity

By far, one of the most compelling reasons for SpatialKey to build its service on the Adobe Flash Platform is, according to Link, its performance and ubiquity. "Even if other technologies catch up to the features and performance of the Adobe Flash Platform, we don't see that happening in a timeframe that would provide the ubiquity to be a viable platform for SpatialKey," he says. Already, the Adobe Flash Player is installed on 98% of Internet-connected computers worldwide.

In Link's view, no other technology would allow equally smooth and reliable shuffling of such enormous amounts of complex enterprise data. An important element of the Flash Platform that makes the core technology of SpatialKey possible is the underlying graphics API, which is used for efficiently rendering all sorts of map layers.

From a coding workflow, code management, and runtime perspective, Adobe Flex Builder and Adobe Flash Builder™ bring exceptional engineering features to SpatialKey's collaborative development process. Libraries, in particular, were a huge benefit when developing SpatialKey. Developers saved significant time by easily extending existing frameworks without coding from scratch.

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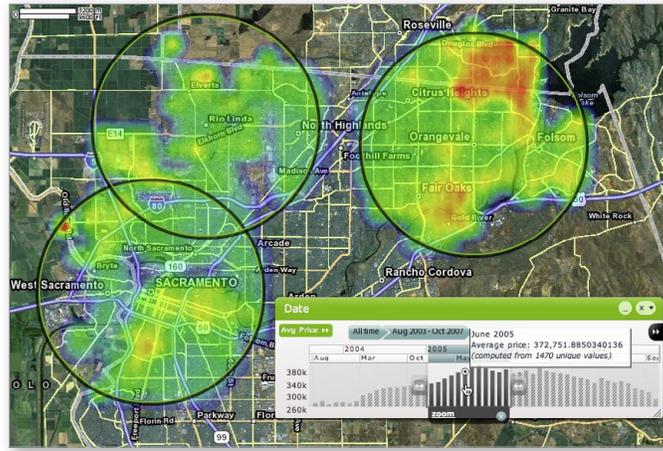
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Throughout its experience, the SpatialKey development team has quickly adopted the latest releases of Flex Builder. Most recently it found the profiler in Flex Builder 3 accelerated the processor and memory tasks that generate the SpatialKey maps. "Flex is extremely fast and efficient. We can produce custom work for clients in just hours, which has consistently impressed our customers," says Link.

Developers also found it easy to transition from Flex Builder 3 to Adobe Flash Builder 4. Now using Adobe Flash Builder 4, Link notes that the code editing improvements have significantly improved the team's efficiencies. "Adobe Flash Builder allows our team to work more efficiently as we build a complex business application," says Link.

The team makes extensive use of the command-line compiler in Flash Builder 4 to integrate with their continuous integration build system. That feature enables them to automate the entire SpatialKey deployment system, so pushing a new build out to clients—either to release new features or to fix critical bugs—takes only a matter of minutes.

As SpatialKey developers move onto Adobe Flash Player 10, they find improved performance with vector data and the ability to save files locally without proxying them through a server.

Other Adobe products play important roles inside the SpatialKey application as well as the company itself. The development team uses components of Adobe Creative Suite 4 Master Collection, relying on Adobe Photoshop® CS4 Extended and Fireworks® CS4 to update assets coming from the design team and then simply exporting PNG images for skinning in the application. The design team uses Fireworks CS4 extensively to create graphical assets. Most of SpatialKey's marketing efforts revolve around its web presence, which is created using a variety of Adobe tools. Corporate and marketing print materials are created using Adobe InDesign® CS4, Illustrator® CS4, and Photoshop CS4 Extended.

Exceeding forward-thinking customer demands

As SpatialKey looks to the future, it learns from the past in terms of what enterprises have come to expect from business intelligence. One area where the organization sees growing interest from customers is in an insatiable desire to provide data in better ways to their customers.

"Enterprises are hamstrung by spreadsheets," says Link. By using SpatialKey to better deploy data to customers, organizations are supplying end users with a platform on which they can take action, make decisions, and improve critical business processes in tandem with colleagues across the globe.

"In the past, it may have been acceptable to receive static data from a vendor. Now, we hear from customers that people don't just expect actionable ways to interact with data, they demand them," says Link. "The Adobe Flash Platform is enabling innovators like us to anticipate market demands and meet them."

For more information
www.adobe.com/flashplatform/