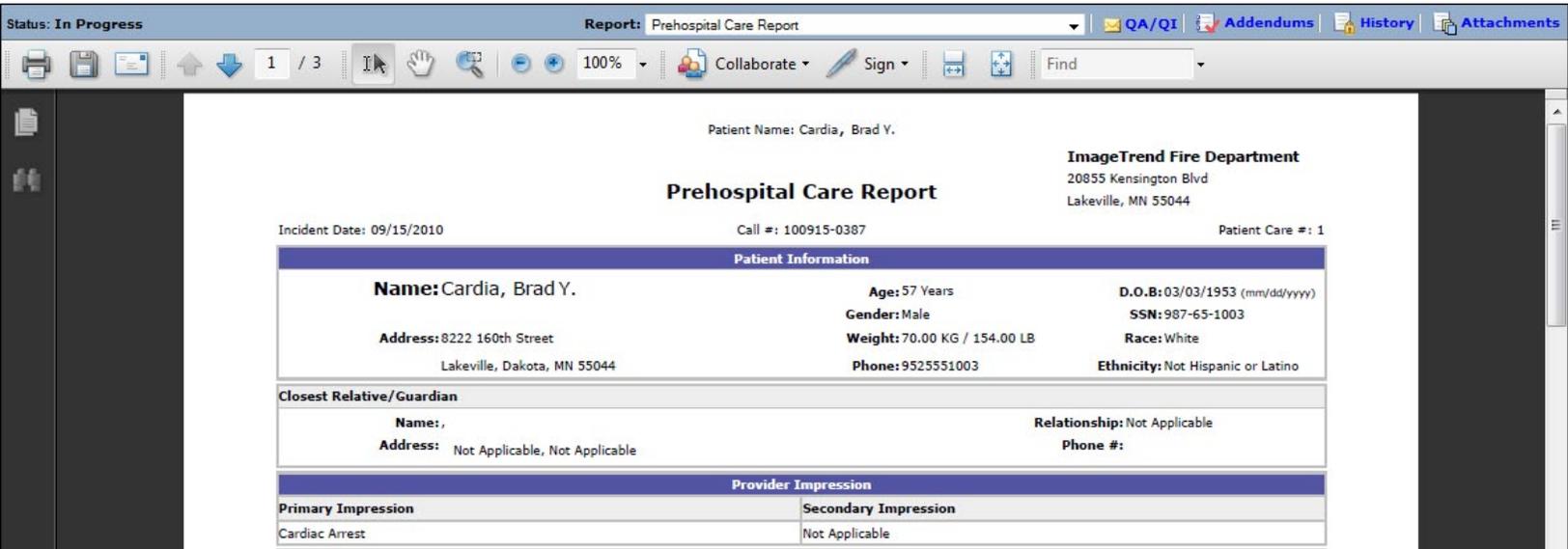




ImageTrend Faster access to life-saving information



ImageTrend
Lakeville, Minnesota
<http://imagnetrend.com>

Pioneering software developer helps hospitals and emergency responders save lives as they share information more efficiently using the Adobe® Flash® Platform

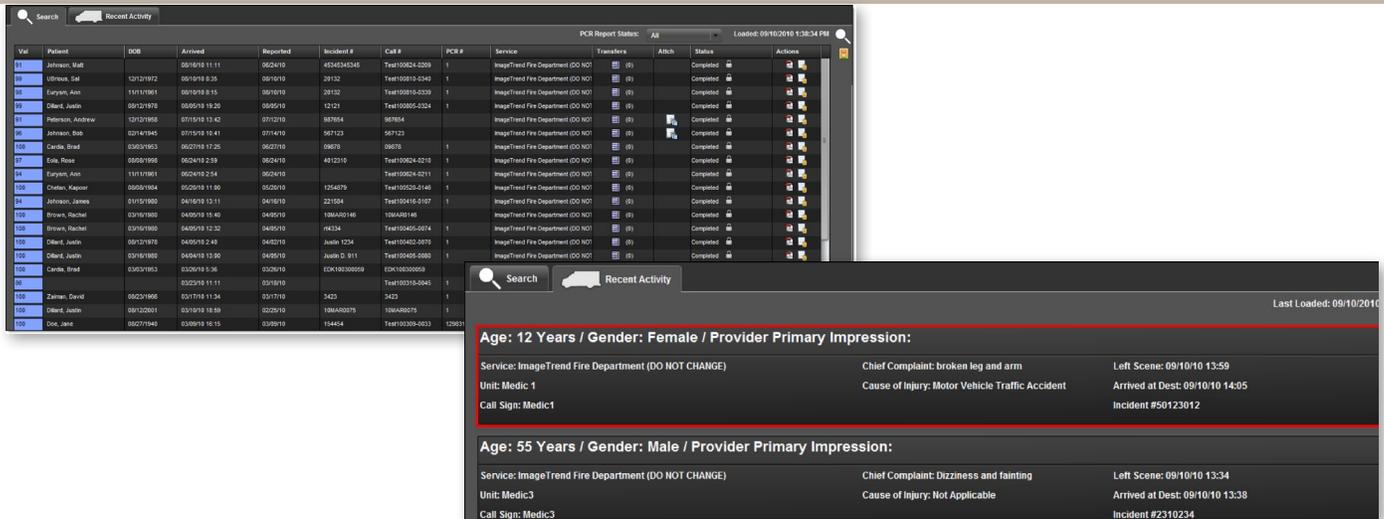
When an ambulance is dispatched to respond to an emergency, each second can be the difference between a life saved and a life lost. As mobile triage units, ambulances help stabilize emergency victims while they're transported to the hospital for care.

On the other side, however, is an emergency room and hospital staff waiting to accept the new patient, often unaware of the specific details of a patient's condition. Delays in collecting a patient's medical history and assessment of his or her current condition means delays in providing care.

Using components of the Adobe Flash Platform, ImageTrend—a pioneering medical software development firm—is bridging the information and communications gap between first responders and emergency room physicians with a powerful electronic patient records system called the ImageTrend Hospital Dashboard.

"The Hospital Dashboard will change the way emergency medicine is practiced because it facilitates rapid, reliable sharing of vital information," says Michael Patock, director of development at ImageTrend. "We have a long history of using Adobe solutions to develop stable, enterprise-level applications, so it made sense to use the Adobe Flash Platform to develop the Hospital Dashboard."

Adobe ColdFusion helped ImageTrend develop and deploy the Hospital Dashboard in just a few months. The Adobe environment enables developers to rapidly build enterprise-ready Internet applications by condensing complex business logic into fewer lines of code. It also integrates with Adobe Flash Platform applications for accelerated data exchange between front-end and back-end systems.



Challenge

- Enable emergency medical personnel to share information more efficiently and securely
- Accelerate care for patients
- Increase operating efficiencies

Solution

- Electronic medical records management

ImageTrend is using the Adobe Flash Platform to deliver a secure, efficient electronic medical records management platform to help emergency physicians care for patients more effectively.

Benefits

- Managed millions of patient records
- Addressed the latest HIPAA data privacy standards
- Reduced hospital costs by hundreds of thousands of dollars annually
- Shortened EMT response times by 17 minutes

Toolkit

Adobe Flash Platform. Components used include:

- Flex framework
- Adobe Flash Builder

Adobe ColdFusion

Streamlined development and faster time to market

ImageTrend chose to develop the Hospital Dashboard using the Adobe Flash Platform because the solution allows the company to quickly develop, launch, and maintain secure, enterprise-level applications.

"One of the big advantages of the Adobe Flash Platform is the ability to seamlessly connect back-end data sources with front-end displays in real time," says Patock. "In particular, Adobe ColdFusion* lets us expand the user interface to securely deliver data via a web browser and display the information on TVs in the ER. It's a simple technology solution that immediately improves user experiences, while giving us the foundation to expand our services to mobile phones and other devices in the future."

Along with Adobe ColdFusion, the ImageTrend Hospital Dashboard uses applications built with the Flex* framework to gather real-time information and transfer it to an interactive dashboard displaying up-to-date data that works on different web browsers. Adobe Flash Builder™ enables ImageTrend developers to quickly create a higher performing application utilizing features specifically designed to build Flex applications with a ColdFusion back-end, accelerating development and deployment times.

"The Adobe Flash Platform provides great stability and accessibility across platforms, meaning we can develop it once and use it repeatedly regardless of a hospital's operating system," says Patock. "We were able to fully develop and deploy the solution in just a few months, which is extremely fast, given the extent of the functionality it offers. It would have taken about 20% longer to develop the system using other technologies."

Patient information in advance

Traditionally, patient records had been collected after a patient arrived at the hospital. Hospital staff had to request paper or faxed versions of patient care reports (PCRs), which often delayed admitting a patient to the right department and making critical decisions about a patient's care. The Hospital Dashboard helps eliminate the need for paper-based forms.

The solution provides a comprehensive summary of all vital patient information—patient medical history and current condition as reported by first responders—that can be viewed on any monitor or screen in an emergency room. The information is sourced from a centralized patient care database and allows a hospital to electronically view all patient care reports for incoming patients from a single interface.

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Director of development,
ImageTrend

"Streamlining the collection and processing of patient condition information is fundamental to saving lives," says ImageTrend president and CEO Mike McBrady. "With the Adobe Flash Platform, we have a solution that enables emergency medical staff to exchange information visually that can help them make smarter, faster decisions to get patients the care they need." The visually rich dashboard solution offers an intuitive user interface complementing the robust enterprise application by improving customer service and response times.

McBrady says that in the case of a burn victim, for example, using an Adobe Flash interface enables emergency medical technicians (EMTs) to input data that creates a 3D model of a body displaying the extent and severity of the burns. With visual data, physicians can quickly determine the proper course of action and to which trauma center a patient should be transferred. When staff at the receiving hospital opens the patient records, they will see the patient's exact condition prior to arrival, enabling them to quickly prepare and deliver the patient to the appropriate unit.

The City of Virginia Beach, Virginia—home to the largest volunteer emergency medical services staff in the United States—is applying the benefits of the Hospital Dashboard to its daily operations, accelerating patient intake by hours and reducing expenses across the board by thousands of dollars per patient per year.

According to the city's Division Chief of regulation, enforcement, and technology, Tom Green, first responders and emergency medical staff can easily, yet securely, exchange patient records on the fly for as many as 38,000 patients annually among the area's 12 main hospitals and trauma centers.

"With the Hospital Dashboard, we can respond to emergency calls faster, using fewer resources," Green says. "By exchanging records electronically, we're saving as many as 300,000 sheets of paper per year—which equates to millions of dollars saved—and can complete ambulance drop-offs by an average of 17 minutes faster, meaning we're available for more calls. It's tremendously advantageous both from a business perspective and a patient-care standpoint."

Protecting patient privacy

In addition to faster response times and reduced costs, the Adobe solution also helps hospitals better protect patient medical records. In the past, records were shared using paper forms that required additional floor space for storage and could easily be misplaced, jeopardizing patient privacy and leaving hospitals vulnerable to lawsuits.

With the Adobe solution—specifically Adobe PDF—patient records are managed electronically, leveraging various integrated security features such as password-protected forms and required user logins to help ensure that only authorized personnel can access files.

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Division chief of regulation, enforcement, and technology,
City of Virginia Beach, Virginia

"Considering the magnitude of patient medical records we now manage, it's important to have a fail-safe data security system in place," Patock says. "With the Adobe Flash Platform, we can automatically sort data so that receiving hospitals can only view information for patients who have actually arrived."

ImageTrend addresses the latest state and federal data privacy standards and Health Insurance Portability and Accountability Act (HIPAA) guidelines. Security measures are implemented throughout the application with the use of the hierarchical security business rules, which provides the environment for controlling the access necessary to provide data protection.

Bringing greater responsiveness and efficiencies to patient care

The Hospital Dashboard is helping to transform the way hospitals and emergency response teams work. Instead of hard-to-secure and frequently inaccurate paper-based medical records, secure electronic forms can be quickly distributed for faster decision making, better patient care, and reduced costs to the hospitals.

"We look at the return on investment (ROI) that the Adobe solution delivers in two parts: patient care and financial savings," McBrady says. "On one hand, ER personnel who know the condition of a patient ahead of time can make preparations to deliver the appropriate care faster. On the other hand, having information in advance can help physicians avoid thousands of dollars worth of unnecessary testing, procedures, or staff mobilization. As well, money saved from unnecessary procedures can be reinvested back into patient care. It's really beneficial to the patient and to the hospital."

McBrady anticipates broader adoption of the Hospital Dashboard in 2011. The company is expecting several hundred local and county services across 25 states to implement it, helping to improve the response to local emergencies while reducing required resources in a time of soaring medical costs.

"We chose the Adobe Flash Platform for the Hospital Dashboard because we can plan and easily replicate the solutions for future iterations including the next step to mobile extensibility. This mission-critical application, built on the Adobe Flash Platform, will enable hospitals nationwide to help more patients and operate more efficiently," he says.

For more information

www.adobe.com/ap/products/flashplatform



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