



CASE STUDY

Axiom: End-to-End Communication Solution for Healthcare

All-in-one communication platform designed to improve patient care through timely response.



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Project Overview

The Axiom project was initiated to streamline hospital communication and reduce operational chaos, directly improving patient care and response times. Hospitals often faced issues with fragmented communication systems, where staff use multiple devices—such as pagers, smart phones, cisco phones, tablets etc —to interact with colleagues across different departments.

The goal of the project was to consolidate these tools into a single device and application, making it easier for staff to communicate effectively for both medical and administrative tasks. The solution would allow hospitals to manage everything from urgent medical alerts to routine maintenance issues like air conditioning problems—all through one app, helping to ensure timely responses across the board.



Technical Details & Solutions

CanWill Athenaworks designed and developed Axiom using cutting-edge technologies to create a robust, HIPAA-compliant platform that integrates voice calls, messaging, and notifications into a sleek, intuitive user interface (UI).

- **Frontend Technologies:** ReactJS, Objective-C, Swift
- **Backend Technologies:** C#, .NET, Microsoft SQL Server, and Asterisk for secure voice communication

Key Features

- 1** Consolidated Communication: Staff can make voice calls, send messages, and receive alerts on a single device, reducing the need to juggle multiple systems.
- 2** Encrypted Communication: Voice calls and messages are fully encrypted to ensure compliance with healthcare standards, specifically staying within the hospital network and avoiding the use of non-HIPAA-compliant technologies like 5G and cloud services.
- 3** Custom Integrations: The system integrates seamlessly with existing hospital hardware, using de-identified Medical Record Numbers (MRNs) to maintain patient confidentiality while providing critical information.

One of the most significant innovations lies in the design. The system's intuitive UI allows hospital staff to easily identify and respond to varying levels of urgency, such as pressing a Code Blue button that instantly alerts the appropriate personnel. This clear, efficient system prevents miscommunication and ensures the right staff are notified in time-sensitive situations.



Client & Industry Context

The client is a U.S.-based hospital group that faced key pain points around fragmented communication and delayed patient response times. Axiom was designed to address these issues by reducing the reliance on multiple devices and creating a unified communication platform.

Given the healthcare industry's stringent compliance standards, the project had to meet regulatory requirements, especially HIPAA. While the system handles patient communication and room-specific alerts, it does not touch Electronic Health Records (EHR), reducing risk and maintaining strict compliance. Instead, it relies on de-identified MRNs to ensure privacy.

Team and Timeline

This greenfield project took 2.5 years from conception to deployment, with a dedicated team at CanWill Athenaworks managing everything from development to installation. A year was spent in robust testing to ensure the system's reliability in real-world hospital environments, using mock scenarios to simulate potential bugs and patient interactions.





Results and Impact

The implementation of Axiom has had a dramatic impact on hospital operations, especially in reducing patient response times. In some cases, hospitals have reported up to a 3x reduction in response times after the solution was deployed. This improvement has been vital for both routine and emergency scenarios, ensuring faster, more efficient care.

Other measurable outcomes include:

- **Advanced Reporting:** Hospital management now has access to detailed reports, allowing them to analyze communication metrics and identify areas for process improvement. This data-driven approach enables hospitals to take proactive measures in optimizing workflows.
- **Positive Feedback:** The system has been praised for its user-friendly design and seamless integration into existing workflows, requiring minimal training for hospital staff.

Lessons Learned

While the project was highly successful, there were several challenges, especially around ensuring compliance with HIPAA regulations. One key lesson was the importance of designing for hospital-specific requirements, such as avoiding the use of non-compliant communication technologies like 5G or cloud-based messaging.

Additionally, a focus on UI design proved to be a critical factor in the project's success. By prioritizing an intuitive and easy-to-use interface, CanWill Athenaworks ensured that hospital staff could quickly adapt to the new system, minimizing operational disruption.

Competitive Edge

CanWill Athenaworks demonstrated its expertise not only in technical development but also in understanding the unique challenges of healthcare environments. By delivering a solution that consolidates communication, reduces chaos, and improves patient outcomes, CanWill Athenaworks showcased its ability to design and implement software that directly addresses critical client needs while meeting strict regulatory standards.

Contact Us

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