HealthAsyst

CASE STUDY

Enhancing Wound Care for Superior Patient Management

CUSTOMER

The client is a global advanced wound care company committed to developing innovative healing solutions for customers and patients.

CONTEXT

VAC machines or Vacuum-Assisted Closure (VAC) machines are used in hospitals to promote the healing of wounds and burns. After getting discharged from hospitals, patients are given VAC machines to assist with the recovery journey at home.These VAC machines, after use by a particular patient, cannot be reused by a different patient without sterilization measures.

THE CHALLENGE

Once the patients went home with the VAC machines, usage patterns dropped. This led to a loss of business, as the machines were occupied but not used, while other patients couldn't access them for their recovery.

Different software systems were used for managing the patient at the hospital and the patients' recovery at home. Machines in these two systems were not synced, leading to a disparity in machine availability and orders leading to loss of business opportunities. Further, managing the different systems also incurred additional cost. Finally, due to the lack of integration between the two systems, the data collected out of the devices could not be used for further business opportunities.

THE SOLUTION

HealthAsyst addressed challenges by launching a greenfield development project, creating a unified and scalable system on Azure Functions. Emphasizing modularity, the system allows independent development and seamless integration of new features. Rigorous security measures, including encryption, authentication, and penetration testing, ensure compliance with industry standards.

The responsive web app prioritizes user-centric design, incorporating feedback and usability testing. Efforts in data management focused on security, availability, and performance. Detailed API design ensured that the system seamlessly integrates with existing and future systems. Technologies like React, Azure Function app service, SignalR, and Durable Functions were carefully chosen to balance between familiarity and innovation. Automation tools like Selenium and Ranorex helped achieve an 80% automation rate in test cases, expediting development and regression testing.

Performance testing using JMeter ensured optimal system performance for up to 100,000 users and 6,000 concurrent users. Comprehensive architectural documentation and performance monitoring provided valuable resources for the development team and stakeholders, reflecting HealthAsyst's commitment to a robust, adaptable, and user-centric solution.

THE IMPACT

The resulting business value was remarkable: The consolidated software system demonstrated remarkable scalability, accommodating up to 100,000 users and 6,000 concurrent users. The streamlined processes and enhanced data flow significantly improved operational efficiency, reducing manual intervention and minimizing error risks. Real-time communication across diverse systems and enriched user interaction enhanced patient care and increased customer satisfaction. The new system facilitated seamless data exchange between hospital management and home ordering, enabling targeted marketing efforts that significantly improved device adoption—a feat previously unattainable.

ABOUT HEALTHASYST

HealthAsyst powers the healthcare industry through product engineering, and digital transformation services. Over the last 24+ years, HealthAsyst has partnered with premiere US healthcare organizations, ISVs, payers, providers, and more to solve healthcare challenges by leveraging technology. With our deep expertise in the healthcare domain, regulatory frameworks, product engineering best practices and a product mindset, we take ownership of solving technology challenges for our customers so that they may focus on their core business.

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