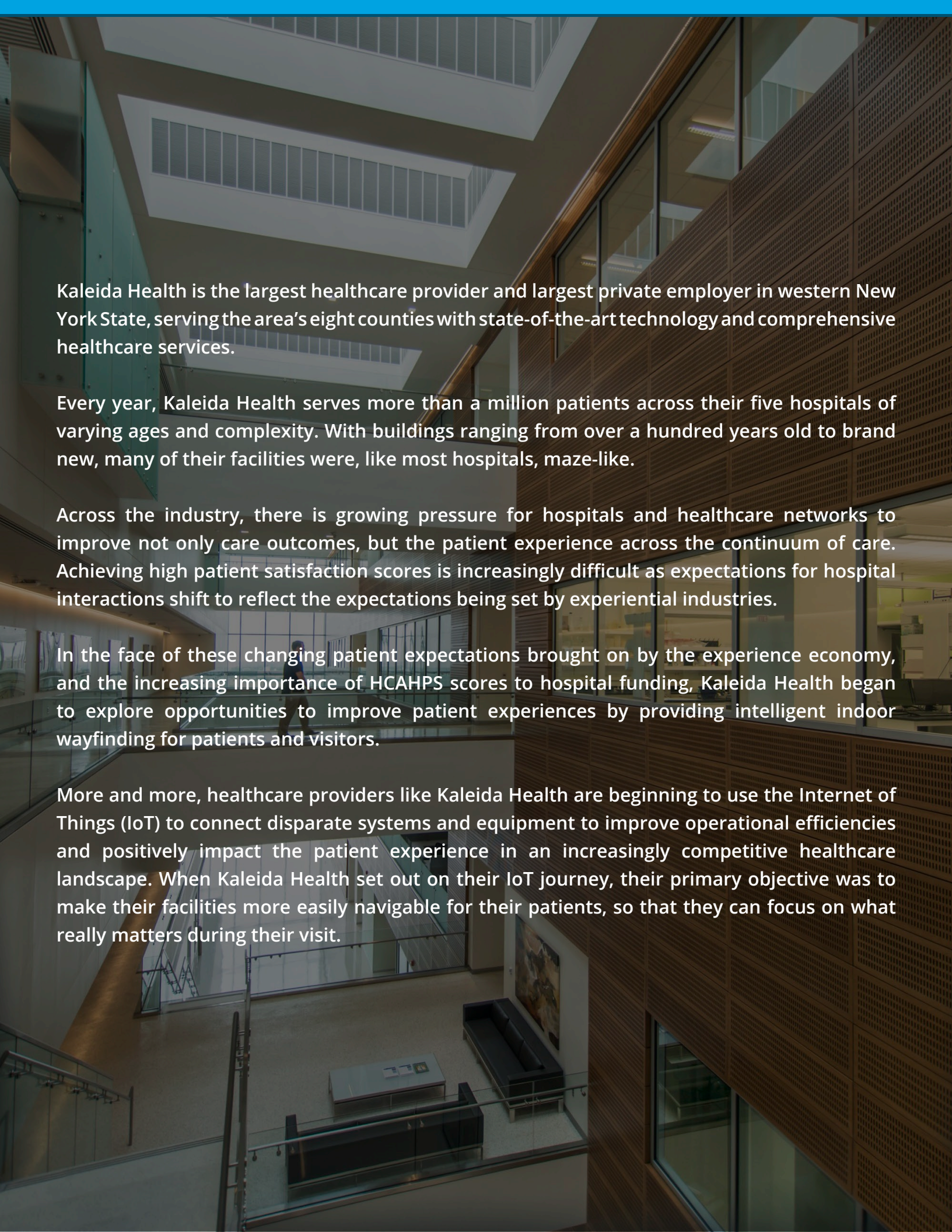Kaleida Health

Award-Winning Patient Experiences

How Kaleida Health used indoor mapping and real-time location technology to build a better patient experience

Kaleida Health is the largest healthcare provider and largest private employer in western New York State, serving the area's eight counties with state-of-the-art technology and comprehensive healthcare services.

Every year, Kaleida Health serves more than a million patients across their five hospitals of varying ages and complexity. With buildings ranging from over a hundred years old to brand new, many of their facilities were, like most hospitals, maze-like.

Across the industry, there is growing pressure for hospitals and healthcare networks to improve not only care outcomes, but the patient experience across the continuum of care. Achieving high patient satisfaction scores is increasingly difficult as expectations for hospital interactions shift to reflect the expectations being set by experiential industries.

In the face of these changing patient expectations brought on by the experience economy, and the increasing importance of HCAHPS scores to hospital funding, Kaleida Health began to explore opportunities to improve patient experiences by providing intelligent indoor wayfinding for patients and visitors.

More and more, healthcare providers like Kaleida Health are beginning to use the Internet of Things (IoT) to connect disparate systems and equipment to improve operational efficiencies and positively impact the patient experience in an increasingly competitive healthcare landscape. When Kaleida Health set out on their IoT journey, their primary objective was to make their facilities more easily navigable for their patients, so that they can focus on what really matters during their visit.

The Challenge

Kaleida Health had an existing mobile application that functioned largely as a brochure, when their team was tasked with finding a way to improve it. Hospital executives, tired of relying on physical signage and printed maps that were difficult and costly to maintain and update, had requested smarter wayfinding solutions.

Spurred by the desire to ensure that they were offering the best tools to their patients to make their stay as smooth as possible, the team at Kaleida Health set about to seamlessly integrate an intelligent indoor wayfinding solution within the existing MyKaleida mobile app.

With an ambitious goal to become completely situationally aware and patient-centric in a constantly changing environment, the team set about designing a wayfinding experience that continued the navigational flow from the outdoors in.

Their previous attempt at implementing wayfinding kiosks had not been hugely successful, resulting in friction with staff, and not providing the type of patient experience they were hoping for.

Kaleida Health faced the challenge of finding technology partners that would fit intuitively within their existing mobile application and not limit them from expanding their use cases to become a real-time health system. They also needed to ensure that they maintained buy-in from their key stakeholders, and that there was a culture shift within the organization to keep staff feeling engaged and involved in the initiative.

Project Goals

Kaelida Health's team set out to achieve three main objectives:

1. Improve patient and visitor satisfaction for Kaleida Health's million annual patients

2. Provide seamlessly integrated wayfinding within the existing MyKaleida app

3. Build a real-time location system that would scale, and wouldn't limit Kaleida Health over time

Kaleida Health started their journey with an existing mobile app that had initially been a top-down initiative to modernize within the organization. However, the app didn't initially have a clearly articulated vision or goal, so it became a simple mobile brochure. The Kaleida Health team had dreams of making it useful for guests, and wanted to provide something of real value to patients.

Wayfinding was identified early on as a valuable use case to address. Hospital executives had already indicated that navigation was a pain point within the hospitals, and their existing solutions were neither effective nor efficient. Signage became outdated quickly in the constantly changing landscape of the buildings, and their previous attempt at a kiosk solution had not been successful. The kiosks featured labor-intensive hand drawn maps and routes which had been placed next to their information desks where well-meaning volunteers would approach visitors directly and dissuade them from using the technology.

When they commenced their research phase for this project, they had a basic understanding of wayfinding technologies and used shopping malls as a frame of reference. However, these shopping malls with their fixed-position kiosks that were only occasionally interactive weren't what they were looking for, and they didn't see examples of the advanced routing capabilities or mobile hand-off that they envisioned. When they eventually discovered Inpixon's real-time location technology and layer-based indoor maps combined with blue dot wayfinding, the team felt that they had found the missing piece.

The Journey

With buy-in from the hospital site presidents and the organization's CIO, Kaleida Health began their extensive research phase. Because of the previously identified need for wayfinding across the organization, the project had become a priority project.

The Kaleida Health team knew they wanted to be able to embed their indoor maps and positioning into their existing mobile app. It was imperative, especially to their Senior Technical Specialist, Web and Mobile Developer, Brian de Cicco, that the technology shouldn't dictate what they could or couldn't do. In their evaluation phase, many of the vendors they interviewed turned out to be point solutions that had many limitations around interoperability and seamless integration, and would ultimately limit them in the long run.

Kaleida Health's evaluation process started with an online search and an analyst call. However, as early adopters of indoor location technologies, they found that the market was so new that they wound up being the ones to educate the analysts with their project research. After many comprehensive vendor interviews with rigorous questioning and technology demonstrations, the Kaleida Health team found that Inpixon was different from the market in many of the ways they'd hoped for, and were assured of the importance of keeping their technology vendors open and agnostic. They selected Inpixon for their commitment to interoperability with the hospital's existing applications and potential future use cases, and the ability to augment their existing workflows.

Kaleida Health had a lean development team, and didn't have the skill-set in house to develop natively for iOS or Android. Thanks to Inpixon Mapping's robust SDKs for web, iOS and Android, the Kaleida Health development team didn't have to outsource their development and could play to their internal strengths. They decided to work with the technology stack they knew internally - HTML, CSS and JavaScript - and pushed it through phone gap. Inpixon Mapping's web SDK worked perfectly for their model and enabled them to do everything they wanted to, and then some.

After a successful Proof-of-Concept (POC) deployment at a smaller building in the Kaleida Health network to test the technology, the team received positive feedback from employees, and began to implement the technology across the organization's other larger hospitals.

Learning from their previous experiences with the underused kiosks, they engaged the entire organization to promote the wayfinding solution. Volunteers and staff were trained to help visitors learn how to use the technology, while the marketing department and clinicians were engaged early on to promote the new multi-functional app across all hospital interactions.
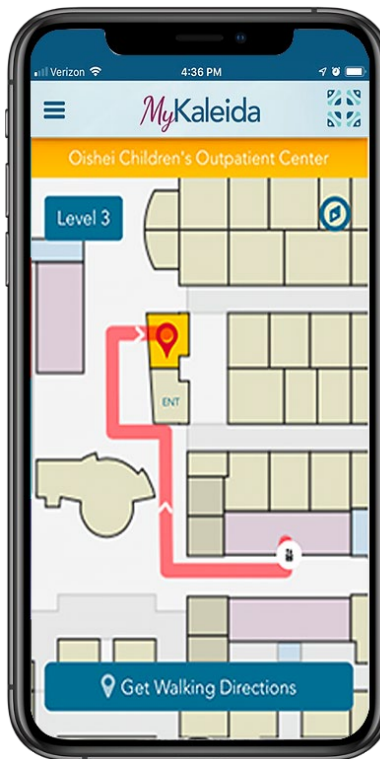
The Solution

After achieving a seamless integration between their digitized indoor maps and their mobile application, MyKaleida app users can now get turn by turn directions to destinations throughout the Kaleida healthcare facilities with a cohesive user experience reducing friction and stress in what is often a stressful time.

Healthcare App

The MyKaleida healthcare app features a patient portal with wayfinding, contact information, billing information, ER wait times, health records, EMRs and more

Mobile Wayfinding

The MyKaleida app's wayfinding solution features indoor maps, blue dot wayfinding, walking directions to and within the facilities

"The stuff Inpixon has been working on is incredible! We clearly made the right decision when selecting our wayfinding partner."

Brian DeCicco, Senior Technical Specialist, Web and Mobile Developer, Kaleida Health

The Future

Kaleida Health has exciting plans to leverage Inpixon Mapping's industry-leading Map Profiles capabilities to support further use cases and to optimize operations and experiences within their hospitals.

Some of their future projects include:
- An employee app with focus on new employee facility orientation
- An accreditation readiness application for rovers doing audits on the physical space and assets with a work order management integration
- An asset tracking system for surgical suites to reduce waiting and down time
- Wheelchair and equipment tracking and location notifications
- And more

As the team receives more feedback from staff, more ideas are generated for ways to improve operations on the back-end that have a direct impact on patient experience. The future of real-time location technology and IoT solutions at Kaleida Health is exciting, and possible thanks to the interoperability and open architectures of the solutions they initially chose to address their indoor wayfinding use case.

About Inpixon

Inpixon is an Indoor Intelligence™ company that specializes in capturing, interpreting and giving context to indoor data so it can be translated into actionable intelligence. The company's indoor location and data platform ingests diverse data from IoT, third-party and proprietary sensors. Paired with a high-performance data analytics engine, patented algorithms, and advanced mapping technology, Inpixon's solutions are leveraged by a multitude of industries to do good with indoor data. The multidisciplinary depiction of indoor data enables users to increase revenue, decrease costs and enhance safety.

Let's talk about your goals.

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