CUSTOMER SUCCESS STORY

Smart Lock Management Solution For Multi-Complex Properties

Company Bio

Our client is a leading provider of comprehensive access control services, specializing in the repair, maintenance, and installation of cutting-edge systems for existing and new properties. They also deliver advanced surveillance solutions, utilizing solar-powered camera networks to ensure comprehensive coverage and security for diverse assets. Additionally, they also offer tailored IT services, including custom software development for access control, surveillance, and other client needs. With a commitment to innovation and excellence, they ensure the safety and security of diverse properties and assets, making them a trusted partner in the industry.

Business Challenge

Our client, a subsidiary of a prominent property developer in the US, faced a critical challenge amidst the rapid proliferation of smart lock technology nationwide. Tasked with managing four new apartment complexes, each boasting 300 apartments, they urgently needed to devise a centralized system to address potential issues with smart locks. The primary objective of this centralized system was to provide remote unlocking capabilities for smart locks in instances where residents forgot their access credentials or encountered jammed locks.

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The necessity for such a system arose from the impracticality and inefficiency of manual interventions. Recruiting technicians with the requisite technological expertise posed a significant challenge, and even with skilled personnel, the manual approach would inevitably consume valuable time and resources. Thus, the imperative was clear: our client needed an automated solution capable of swiftly and effectively managing smart lock access across multiple properties, minimizing disruptions for residents, and optimizing operational efficiency.

Solution

The client initially approached us with a clear vision, aiming to integrate the Alexa smart home management application - 'Alexa Residential 'into their system framework. With a contractual agreement in place and expectations set, the project commenced with Alexa as the central component. However, unforeseen circumstances arose when Alexa unexpectedly withdrew from the collaboration, leaving the project at a standstill.

Undeterred by this setback, our team embarked on an intensive research and development phase to identify alternative solutions. This quest led us to uncover a promising protocol akin to Alexa, albeit with minimal precedence in similar applications and lacking community support. The core challenge lies in leveraging this uncharted protocol to establish a wireless communication system capable of accessing digital locks securely without relying on the Internet.

Our solution was centered on deploying a centralized hub within each apartment complex, strategically positioned to facilitate seamless communication with individual apartment devices. To uphold stringent security standards, these hubs established a fortified connection to our servers via a dedicated network infrastructure, ensuring data integrity and confidentiality.

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One of the primary hurdles we encountered was the limited range of the digital locks, constraining our ability to access them directly from the hub. To overcome this obstacle, we ingeniously leveraged the diverse ecosystem of smart home devices offered by the protocol's parent company. By incorporating compatible devices, such as smart bulbs, as signal repeaters, we extended the reach of our communication network, guaranteeing reliable connectivity throughout the apartment complexes.

Through meticulous planning and rigorous experimentation, we succeeded in orchestrating a sophisticated solution that not only circumvented the initial setback but also surpassed the client's expectations. By harnessing cutting-edge technology and innovative design principles, we established a robust infrastructure capable of seamlessly managing smart lock access across multiple properties.

Business Benefit

With the successful implementation of our solution, our client now possesses a secure automated system that efficiently manages smart locks across multiple properties. Through our centralized hub deployment and utilization of compatible devices, we've enabled swift and effective management of smart lock access, ensuring seamless operation and minimal disruptions for residents.

Additionally, our solution provides the flexibility for smart homeownership accounts, allowing users to remotely manage their smart devices with ease. This marks a significant milestone in our client's quest for excellence in access control services, reaffirming their position as a leader in the industry and setting a new standard for smart home management in multi-complex properties.

Technologies Employed

- Stored procedures
- Azure functions
- Azure managed SQL Server
- Azure Monitor
- React
- NodeJs