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Smart Home Automation with a Scalable IoT Platform

About the Client

Our client, a UK-based visionary in the smart living industry, is redefining home automation with their flagship product, the "House Coms" system.

This groundbreaking solution integrates home automation, security, healthcare, and lifestyle management into a unified, modular ecosystem. It offers customers the flexibility to adopt features incrementally and scale both functionalities and user access as their needs evolve. Leveraging IoT technologies and AI-driven automation, "House Coms" combines advanced capabilities with intuitive control to enhance modern living. By seamlessly integrating platforms like Apple's Alexa, Samsung's SmartThings, and Google Home into one cohesive system, it delivers adaptability, convenience, and efficiency for households seeking smarter, more connected living environments.

Challenges

The smart home market, though rapidly growing, remains fragmented, with existing solutions requiring multiple systems to manage various devices and functionalities. A unified platform that integrates all aspects of smart living, from home automation and security to healthcare and lifestyle management, remained an untapped opportunity. Recognizing the complexity of these challenges, the client engaged Codora's UK office, known for its expertise in innovative IoT solutions, to architect a cutting-edge platform.

These challenges extended beyond integration, requiring innovative solutions for seamless device communication, server independence, and robust data privacy safeguards. Most existing platforms required continuous internet connectivity and relied heavily on centralized servers for functionality and data storage, raising privacy concerns.

Additionally, the goal was to create a modular system capable of scaling from a single device in a compact home to hundreds in large estates, supporting diverse use cases such as energy efficiency, advanced security, and personalized user interactions.

Codora's dedicated team set out with a bold ambition: to engineer a groundbreaking platform integrating 23

distinct functionalities, establishing a new benchmark for simplicity, scalability, and affordability in smart living.

Solution

Codora delivered a well-engineered Minimum Viable Product (MVP) to address the challenges of a fragmented smart home market. The MVP integrated 20+ functionalities into a modular system, enabling communication across devices and scalability from small setups to large estates. Using Flutter and Firebase Realtime Database, Codora developed a web-based application with real-time updates for monitoring and controlling IoT devices. Changes made by one user synchronized instantly across app instances and were designed for future IoT hardware integration, enabling effective user-device communication and a connected ecosystem. To ensure reliability, the system operated without offsite servers, maintaining functionality during internet outages. User privacy was prioritized by incorporating local data storage, giving users full control over their information. Through Agile methodologies and collaboration, Codora delivered a scalable and technically sound MVP that redefined smart living.

Technologies & Integrations

- **Back-end:** Firebase Realtime Database
- **Front-end:** Flutter (PWA)
- **IoT Integration:** WebSockets
- **Security:** TLS/SSL encryption, Local data storage
- **Cloud Services:** Firebase

Results

- Delivered a scalable MVP integrating 20+ functionalities into a unified, user-friendly platform.
- Enabled modular scalability for small setups and large estates.
- Enhanced reliability with server-independent functionality.
- Prioritized user privacy with local data storage.
- Integrated seamlessly with popular smart home ecosystems for ease of use.

About Codora

Codora is a full-stack technology consulting and business process outsourcing company based in Copenhagen, Denmark. We provide an extensive range of cutting-edge technologies and customized services to aid our clients in optimizing their business operations, controlling costs, and increasing the efficiency of their processes.

Our clients come from diverse industries, including finance, healthcare, education, supply chain, technology, and retail. We have a deep understanding of both web2.0 and web3.0 technologies and how they can be leveraged to drive businesses forward. As a result, we are able to tailor our services to meet the specific needs of each client. We have regional offices in the UK, Canada and Pakistan, which enables us to support our global clientele effectively.

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