

mobileoptx

Making Medical Equipment Smart to Improve Data Accessibility & Security

The Challenge

- > Making their medical equipment “smart”
- > Enabling users to more easily integrate the data collected by their smart medical equipment product into the care coordination and delivery process
- > Encrypting recorded and stored PHI

The Opportunity

- > Physician users were demanding and ready for a more comprehensive solution
- > Healthcare organizations need HIT solutions that align with their broader care coordination goals in order to effectively deliver value-based care

Solution

- > Smart medical equipment solution that physicians can capture and manage data collected at the point of care
- > mHealth app with HD video and photo capture, encrypted data storage and transmission capabilities

Why Sempercon?

- > mHealth and Industrial IoT expertise
- > CirrusCon Smart Device Platform sped backend development
- > Deep understanding of PHI/HIPAA requirements, HL7 and other healthcare specific interfaces
- > Collaborative advisory process



A Classic Data Silo Problem

MobileOptx's hardware solution did not include a mobile app that could enable physicians and other members of the clinical care team to apply meaning to the recordings collected at the point of care. Physicians were using their iPhone's native camera application, and then using their phone's email or messaging applications to send their video or photo recording to themselves or others for further review. Although MobileOptx's early adopters were generally pleased with the hardware's performance, many suggested that the company introduce new features to help them make more effective usage of their captured videos and images.

Only mHealth Could Make The Hardware's Data Actionable

Few HIT leaders are willing to adopt new technologies that may burden physicians' workflows, have little impact on care coordination, or can not be configured to integrate with their Electronic Medical Record system. MobileOptx's smart medical equipment data needed a HIPAA secure mHealth app to meet these needs. With this added solution component, they could more effectively service physicians and provider organizations (i.e. hospitals, ACOs, health systems).

However, by connecting their hardware's data to the internet, MobileOptx was opening itself up to a host of technical and legal challenges. Their founders needed an experienced mHealth app development team to help them develop and execute on a suitable action plan.

Evolving Their Product into an Industrial IoT Solution

MobileOptx came to Sempercon in need of guidance on how to introduce connectivity to their hardware device. They wanted their mHealth app to enable physicians to record their endoscopic examinations with high definition photos and/or videos data and digitally store or share this data. Sempercon explained the procedural and technical requirements of connecting their medical equipment to the internet. This was more than a simple mHealth undertaking—Sempercon produced a strategy for implementing a smart IoT solution that their engineers next developed.

Over the years, SemperCon has worked with plenty of technology entrepreneurs who faced similar situations; having mobile ideas but lacking the expertise to properly translate their vision into a well-designed and developed mobile frontend and a secure backend system. UX/UI experts created various user flows and UI design options before deciding which was most suitable for the frontend of MobileOptx's mHealth app. Engineers then developed an iOS application with the following features:

- **Customized camera controls:** Allows physicians to capture video and take still pictures while recording video
- **Voice command:** Allows hands-free control of the camera functions
- **Note taking:** Physicians can easily review and comment on video and still images within the app's HIPAA secure environment
- **Care collaboration:** Physicians can share their exam recording via email, text/ and cloud storage
- **Security:** Patient data is managed and securely stored in accordance with HIPAA requirements
- **Meta data:** Inclusion of meta data allows for organized storage and quick retrieval of past exams

Using the CirrusCon Smart Device Platform, SemperCon's engineers were able to expedite the backend development process. They connected all associated devices and equipment, and setup an administrative user management system, dashboard and data monitoring and analytics functions for MobileOptx.

Full Speed Ahead

MobileOptx is already working with SemperCon to further increase their solution's value by integrating their mobile app's backend system with physicians and provider organizations' EMR systems.



"Sempercon helped us make sense of our ideas for an app and quickly translated them into design specifications. Their engineers delivered us a functional prototype within weeks. While they led our app development effort, we were able to focus on the many other action items requiring our attention. We are significantly increasing the value of our product solution with this app, and the response so far has been positive."

—Natasha Mirza, MD, FACS, Co-Founder of MobileOptx

