Full-Stack Embedded Software Development for a Robotic Medical Device

Witekio
AN AVNET COMPANY

Challenge

A medical robotics company had an early version (V1) of a wearable robotic device that lacked usability and scalability. As the team planned the next generation (V2), they required an embedded software partner with expertise in:

- ***BSP development using custom Linux***
- ***UI and UX design to improve user experience***
- ***Cloud infrastructure to enable connectivity and remote data access***

The objective was to improve the software foundation while preparing the platform for future scalability.



Solution

A full-stack software solution was delivered, covering device, application, and cloud layers:

- ***Development of a custom Linux BSP tailored to the device hardware***
- ***Facilitation of a UX workshop to redesign and improve user interaction***
- ***Implementation of the application layer with a modern, intuitive user interface***
- ***Deployment of secure cloud infrastructure on AWS to support data services and remote integration***

Key Achievements

- ***Faster development cycles through full-stack collaboration***
- ***Improved usability of the device for end users***
- ***Cloud-enabled architecture supporting scalable features and remote updates***