Case Study : Kotlin Apps on Dialysis machine for Remote Patient Monitoring

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TECHNOLOGIES

Business Challenge

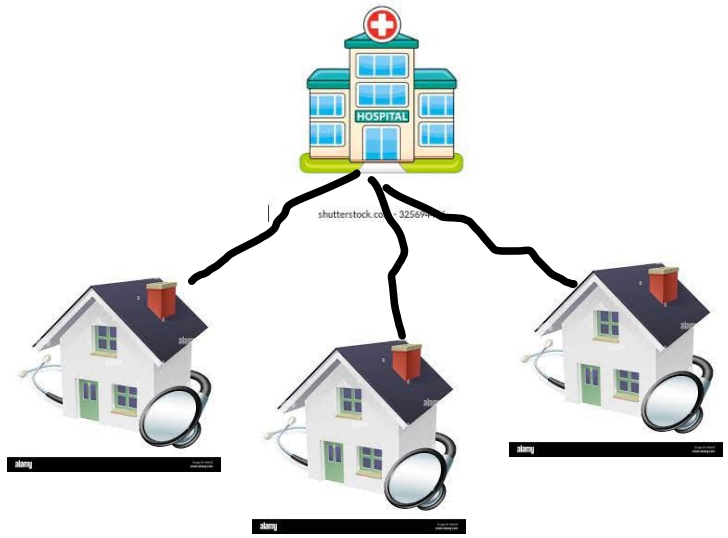
To equip a dialysis machine with an Android tablet that provided various connectivity options such as Wi-Fi, BLE, CAN, and Ethernet. Android application connect with medically certified IoT devices such as weighing machines, thermometers, BP machines, and glucometers to collect data and send the same to cloud for analysis & Corrective Action by doctors.

Requirement

- To build Kotlin based Android application to connect with various ISO 0073 certified device securely and reliably.
- The Kotlin application shall communicated over the CAN interface device like various sensor device in the dialysis machine like Pneumatic Sensor, Air bubble sensor and other actuators.
- The application shall connect securely with cloud to send the encrypted data which shall be analysed further for analysis.
- User friendly and informative user interface for easy navigation, system configuration.
- Remote secure configuration for altering the setting and options to remotely and securely configure the solution required for dialysis .
- Application shall contain reporting and alerting features for the patients.

Technology & Tools

- Android with Kotlin, BLE, WiFi, Ethernet & CAN.
- RSM cloud for Remote Patient monitoring (RPM)



Value add by Mirafra

- Building the complete team with our customer to build Remote Patient Monitoring (RPM) application.
- Quick ramp up on Kotlin which was identified as the best framework for connectivity and building application. Where the team was initially built with Android Java.
- Building security features and CAN payloads "ProtoBuff" with was tailored for this solution.
- Designing of UI/UX improving the user experience.
- Enhancing the feature for remote secure configuration to set new parameters for the Dialysis device.