

IoT-based Healthcare Monitoring Platform

Introduction:

Our client, a distinguished healthcare solutions provider in the United States, approached us with a need to create an IoT-based healthcare application. The goal was to develop a platform capable of seamlessly communicating with various Bluetooth-enabled healthcare devices such as Blood Pressure monitors, Weight scales, Activity Trackers, Thermometers, Glucometers, Pulse oximeters etc. The app had to work seamlessly on both iOS and Android, acting as a central hub for essential health data.

Client Details:

Name: Confidential | **Industry:** Healthcare, IoT | **Location:** US

Technologies:

Technology: iOS, Android, Swift, Kotlin, Java

Platform: iOS, Android

Database: Core Data, SQLite, PostgreSQL

Cloud Services: AWS EC2, Lambda, S3, SES, SQS, CloudWatch, API Gateway, RDS, IAM

IDE: xCode, Android Studio

Project Description:

Project Scope:

- Develop SDKs and applications for iOS and Android platforms.
- Establish secure and efficient communication with a variety of Bluetooth-enabled healthcare devices.
- Transmit collected data to a cloud server for required processing and storage.
- Implement stringent security measures to ensure data integrity.

Our development team created native applications for iOS and Android that seamlessly connect with Bluetooth-enabled healthcare devices. These applications efficiently retrieve data as soon as a measurement is taken, ensuring real-time monitoring of patients' health. The data collected is securely transmitted to a cloud server, where rigorous measures are implemented to validate the authenticity of each device.

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Bluetooth-enabled Devices:

The platform supports a range of healthcare devices, including:

- Blood Pressure monitors
- Weight scales
- Glucometers
- Pulse oximeters
- Activity Trackers
- Thermometers

Data Processing and Storage:

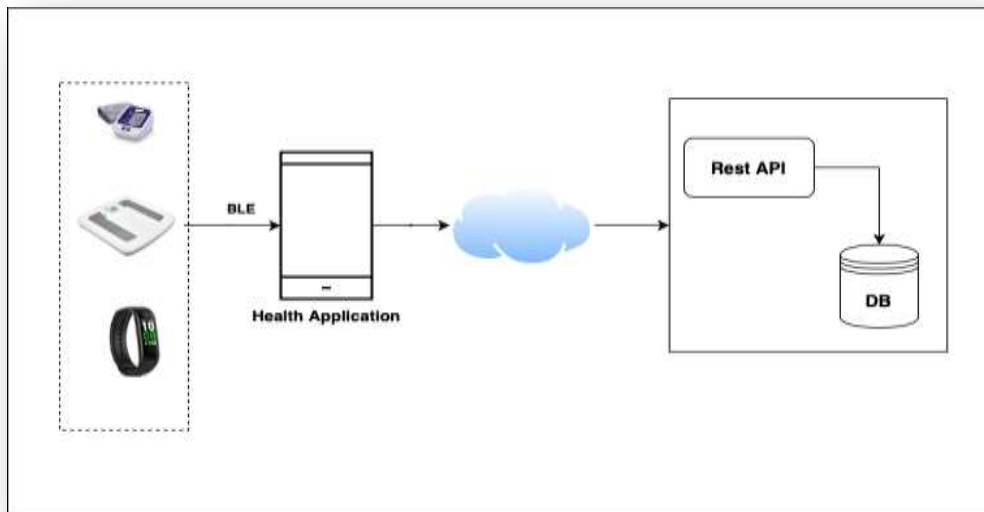
Upon reaching the server, the data collected undergoes a standardized formatting process to ensure consistency. This standardized data is securely stored in a database, making it easily accessible for interpretation and analysis. The platform also forwards the processed data to the respective customer's server, providing medical professionals with readily available vital health information.

Benefits and Outcomes:

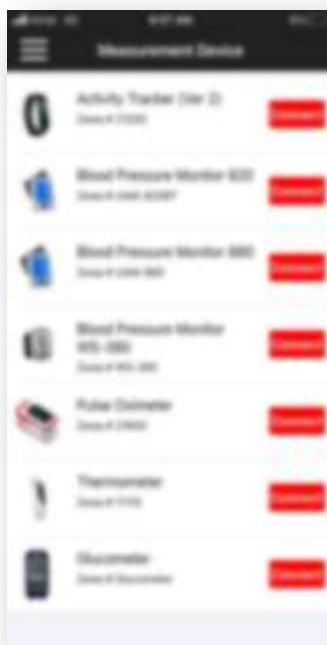
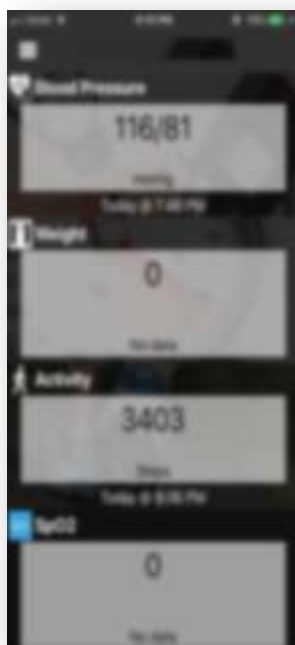
- Real-time monitoring of patients' health using Bluetooth-enabled devices.
- Standardized and easily interpretable data for medical professionals.
- Secure data transmission and storage.
- Seamless communication with a diverse range of healthcare devices.
- Enhanced accessibility to vital health information for medical professionals.

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Architecture Diagram:



Screenshots:



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Conclusion:

The successful implementation of the Bluetooth-based healthcare monitoring platform has not only met but exceeded the client's expectations. The application serves as a comprehensive repository for healthcare data, enabling medical professionals to monitor and analyze patients' vital health information efficiently. The seamless integration with a variety of Bluetooth-enabled devices ensures a versatile and user-friendly experience, contributing to the advancement of healthcare technology and patient care.