

PROJECT TYPE

Saas (mobile app)

TECHNOLOGIESReact Native, AWS,
Bluetooth API, WiFi API,
HIPAA-compliant encryption**DURATION**

8 months

METHODOLOGY

Agile

TEAM2 Backend Developers
2 Mobile App Developers
1 UI/UX Designer
1 Project Manager
1 Quality Assurance Specialist

Adaptive Health Monitoring Mobile App for Personalized Wellness Programs

This innovative mobile application uses a smart cuff to offer real-time pulse and pressure metrics. It assists users in understanding whether a selected wellness program is appropriate for their specific health indicators, all while adhering to robust GDPR compliance standards.



Project Special Features

Device connectivity – engineered for seamless integration with the device, the app supports both Wi-Fi and Bluetooth. Wi-Fi functionality allows users to take measurements without needing a nearby phone, as the data syncs automatically over the home network.

GDPR-compliant security – all user data is encrypted and stored in accordance with stringent GDPR guidelines to ensure maximum data security and patient confidentiality.

Health alerts - Sends alerts if metrics deviate from the normal range for the user's age and weight.

Automatic and on-demand measurements – the app offers two real-time monitoring modes:

Periodic Data Fetching – where users can set frequency of pressure and pulse measurements.

Event-Triggered Monitoring – for manual pressure and pulse checks.



Working with SumatoSoft was a game-changer for us. They understood our vision and were able to implement a complex solution that has ultimately improved the wellness journeys for our users. Their attention to detail and focus on security set new standards in the healthcare sector. The partnership was a complete success, and we are excited for future collaborations.

Chief Medical
Information Officer

In-app journaling and easy sharing – the app not only enables easy trend tracking but also facilitates the sharing of health metrics with doctors. Users can effortlessly view their health trends for month, week, year and, with just a few taps, share all measurements in a PDF format with healthcare providers.

Categories – the app features five program sections: breathing, meditation, home exercise, gym training, and running.

Workout history – users can view their completed workouts along with the pulse and pressure parameters from each session.

Business challenge

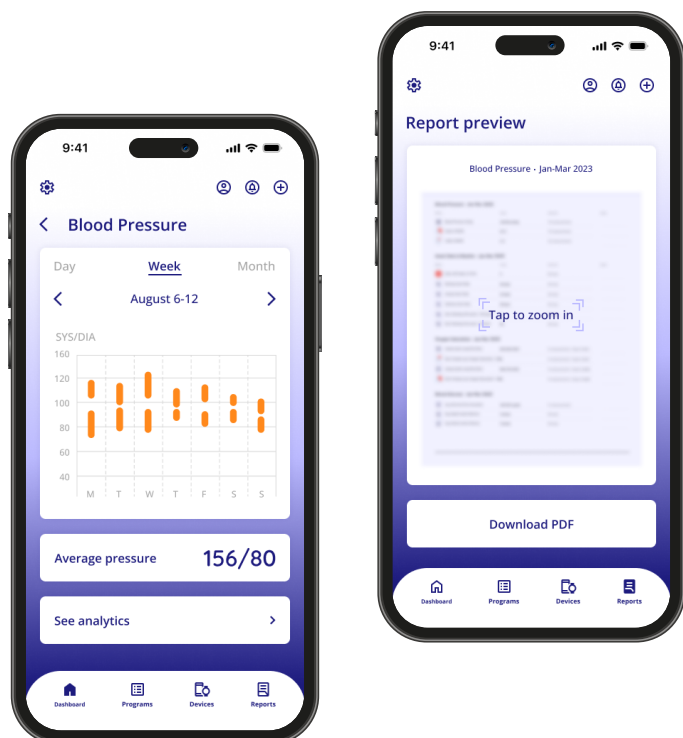
The Client is a longstanding player in the healthcare sector in Europe. The Client approached us with an idea to introduce a new device which helps to improve physical well-being and maintain an active lifestyle by measuring heart rate and blood pressure during different activities. Together with doctors and medical specialists, the Client had developed an array of wellness programs in areas such as breathing exercises, meditation, home-based workouts, gym classes, and running routines. To enhance these programs with real-time metrics, they also co-developed a specialized cuff with a third-party organization for tracking blood pressure and pulse.

Main challenge

The Client needed a mobile application to enter the market. We were supposed to build such an application and integrate it with the Client's device.

Additional challenge

Securing sensitive user information – it's was necessary to strictly adhere to security protocols for handling sensitive user's data.



Our solution

Our first step involved a thorough analysis of the Client's needs and objectives. We initiated the project with an intensive analysis phase, diving deep into the specifics of the device, its functionalities, and the Client's expectations. The device supported connections via Bluetooth and Wi-Fi, and we were tasked with utilizing these options to facilitate multiple connection methods to the device. Essentially, the primary method of connection was presumed to be Bluetooth.

During the discovery phase, our main tasks included compiling a list of features for the app and creating an application architecture compliant with GDPR-guidelines.

We chose React Native to accelerate the time-to-market, cut costs, and simplify future app maintenance. Throughout the development process, we actively tested all features on a real device provided by the Client. The device's software underwent multiple updates during this period, requiring us to adapt our scope of work. Fortunately, our Agile approach allowed us to easily incorporate these changes.

The concept of the app was the following:

First, users connect their device to the app via Bluetooth. After that, they're guided to input their Wi-Fi credentials. This allows the device to store recent health measurements even if it's not currently connected to the phone. The app features two main sections:

- ✓ **A dashboard** – this is where users can see various health statistics at a glance.
- ✓ **Well-being programs** – in this section, users can choose from different wellness programs to participate in.

When a user opts to start a program, the device begins real-time monitoring of their pulse and blood pressure for the duration of the workout. Upon completion, the app analyzes the data, taking into account the user's height, weight and age. It then provides tailored recommendations on whether the workout was suitable, or if a less strenuous exercise would be better. If any health metrics are found to be abnormal, the application informs the user about the need to contact a specialist.

Key features of the application

- ✓ **Show and tell onboarding** – the first time a user opens the app, they are greeted with a series of interactive elements that walk them through the app's core features. As users navigate through these introductory elements, they are simultaneously shown how a feature works.
- ✓ **Device connectivity** – engineered for seamless integration with the device, the app supports both Wi-Fi and Bluetooth. Wi-Fi functionality allows users to take measurements without needing a nearby phone, as the data syncs automatically over the home network.
- ✓ **GDPR-compliant security** – all user data is encrypted and stored in accordance with stringent GDPR guidelines to ensure maximum data security and patient confidentiality.

- ✓ **Secure cloud storage** – all encrypted user data is stored in a cloud database compliant with healthcare security standards. We utilized Amazon RDS for database services, AWS Key Management Service for encryption, and Amazon S3 for large-scale data storage, all managed under AWS Identity and Access Management for stringent access control.
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- ✓ **Automatic and on-demand measurements** – the app offers two real-time monitoring modes:
 - Periodic Data Fetching* – where users can set frequency of pressure and pulse measurements.
 - Event-Triggered Monitoring* – for manual pressure and pulse checks.
- ✓ **User profile** – features the ability to add an avatar, change password, and update height, weight and age information.

Customer's benefits

The app has been successfully released on Google Play and App Store.

What's happening with the project right now?

The application is successfully promoted among users.