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Smart Application for Wearable Wristband

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Innovature Consulting Services implements **'Smart Application for Wearable Wristband'** for a growing wearable gadget producer.

Project Overview



Wearable devices have a significant role in today's world in maintaining and improving the quality of life. Weara is a wearable smart wristband that records users activities and sleep patterns. The Smart Application developed for Weara displays activity data of the user, while helping them set goals, and offering suggestions to achieve them. The project goal was to develop a refined and user-friendly application enhancing the usability and user experience.

The Weara Smart Application developed stored biometric information about user activities in the back-end system. The application allowed users to set different goals to improve their lifestyle. It provided easy access using a password-less login system – enabling login with Google and Apple. The application had three modules - Mobile App, BLE Hardware and Back-end System.

Business/ Technical Challenges

Hardware Inconsistency & Connectivity : The mobile application and back-end server was operating with the data provided by the BLE hardware. The hardware was inconsistent in the initial project phase, leading to erratic performance of the entire unit. This led to difficulty in developing the core features which connects the application and hardware.

Requirement for Real-data : The system needed real-data for processing, simulated dummy data was found to be inadequate. This necessitated creating real-data using real-time activities like walking, running, sleeping etc., which consumed more time and increased the development effort.



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The biggest challenge we faced during the initial phase was synchronising the data between different modules and troubleshooting issues. Since the project had three modules and inter-dependencies, the stability issue at each module affected the entire project, as well as making it difficult to pinpoint the root cause to a specific module. The system worked on a large amount of data and subsequent data-processing, hence real-data had to be collected and checked for original results, which meant actual usage of application and real-data generation during the project building stage itself.

Technologies/Platforms Used

Application		Back-end	
Application Type	Mobile Application - iOS & Android	Development Language	Ruby on Rails, JavaScript, Rust
Development Language	Swift, Kotlin	Database	Postgresql
Database	Realm	Tools/Libraries	IFTTT, GitHub, OpenWeatherMap API, Firebase
Tools / Libraries	IFTTT, Firebase		
MS Excel Dependency	2013 or above		

Lack of IFTTT Implementation references : If-This Then-That is a comparatively new method used in project development. This sends custom notifications/social media posts for certain user actions; goal achievement, wake up, go to sleep, etc. Lack of implementation references for IFTTT led to slower build-up and implementation.

Implementation Approach

Weara Smart Application was built as an integrated solution consisting of three modules – 1) BLE hardware module, 2) Connecting mobile application and 3) Back-end server. The hardware module communicates with the mobile application, sending and receiving data, using Bluetooth protocol. The mobile application is linked to the back-end server through https API requests. The back-end server processes the data received, and returns the required results to display in the application. A modular approach was found to be well-suited in developing this application. Different milestones were set for each module and responsibilities distributed among the team, which helped easy tracking and timely releases.

Business Benefits & Key Features

Elimination of Data Inconsistencies: The application processed user data generated by the wearable BLE wristband, providing different sets of health data that included distance covered, calorie count, sleep quality etc. By generating data from the same hardware, data inconsistency was eliminated, giving accurate results.

Enhanced User Experience : Weara Smart Application allowed tracking of entire biometric data - step count, calories burned, distance travelled, heart rate, sleep data - using a simple mobile application. It motivated users by giving badges on reaching milestones and publishing user rankings.

IFTTT Implementation & Triple Tap Notification : Optional IFTTT services enhanced user experience by automating actions in real-life situations. It provided Triple Tap Action notification whereby if the user taps three times on his Weara wristband, IFTTT sends a custom notification – email or facebook post - based on the user settings.

About Innovature



Innovature provides IT consulting to various industry segments like retail, utilities, media & entertainment, energy etc and leverages AI, RPA and block chain technologies to deliver business growth. ISO certification reinforces its pole position globally in the field of information security, as largescale data is processed for effective decision making. Innovature has for more than a decade expertly steered its clients worldwide towards innovative products and services for their digital transformation. It has a track record of successful execution of more than 600 projects for nearly 100 organizations across the world.

For more information, please contact our consultant

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