Baby Guard

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Abstract

In today's busy world, parents are concerned with baby safety and health. When taking care of young babies, parents want to make sure their babies are within safety distance, their surroundings are safe and their body temperature is monitored. To address this issue, we introduce BabyGuard for around the clock baby safety monitoring. The system consists of three main components: a small wearable device that detect distance and temperature, a home server and an Android mobile app.

Block Diagram

Our solution (BabyGuard) includes a small wearable device and a server.

- The device sends temperature data to a mobile phone if connected. If not connected, it checks the connection with a main server
- Once connection between wearable device and the mobile phone is lost, alarm will be triggered immediately
- The wearable device connects to a main server and sends temperature data periodically.
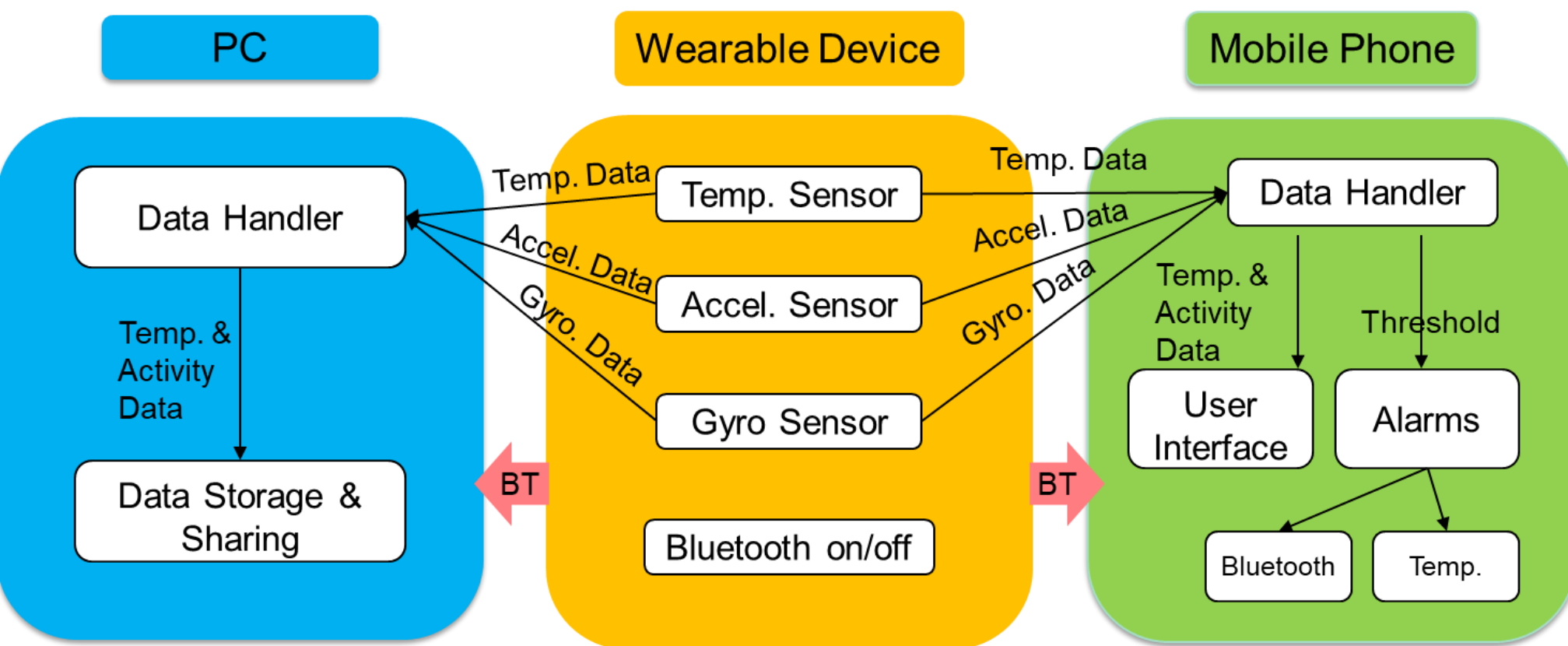

Specifications

Wearable Device	Dimension	– Diameter: 0.94in / 24mm
		– H: 0.24in / 6mm
	Weight	– 5.6gms
	Connectivity	– Bluetooth LE 4.0 – 2.4Ghz
		– Up to 100ft of range – typical 10m
		– Stream sensor Data from 1 Hz to 100 Hz
		– Log sensor Data from 1 Hz to 400 Hz
	Temperature	– 40…85°C Range
	Battery	– 200 – 220mAH CR2032 Coin cell battery
Home server	Windows PC	Windows 10 OS
Mobile Device	Android	Android 4 and above

System Overview
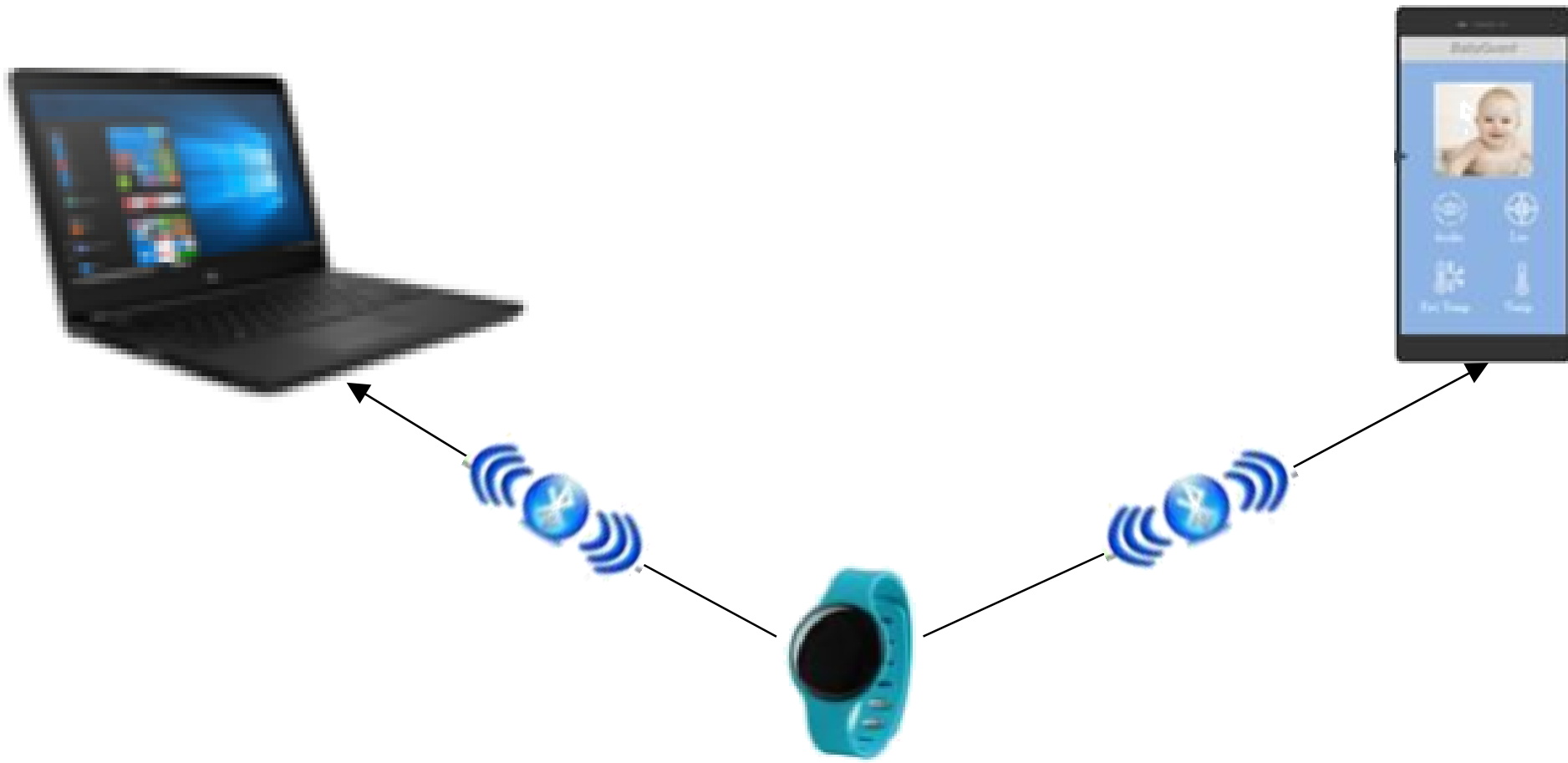
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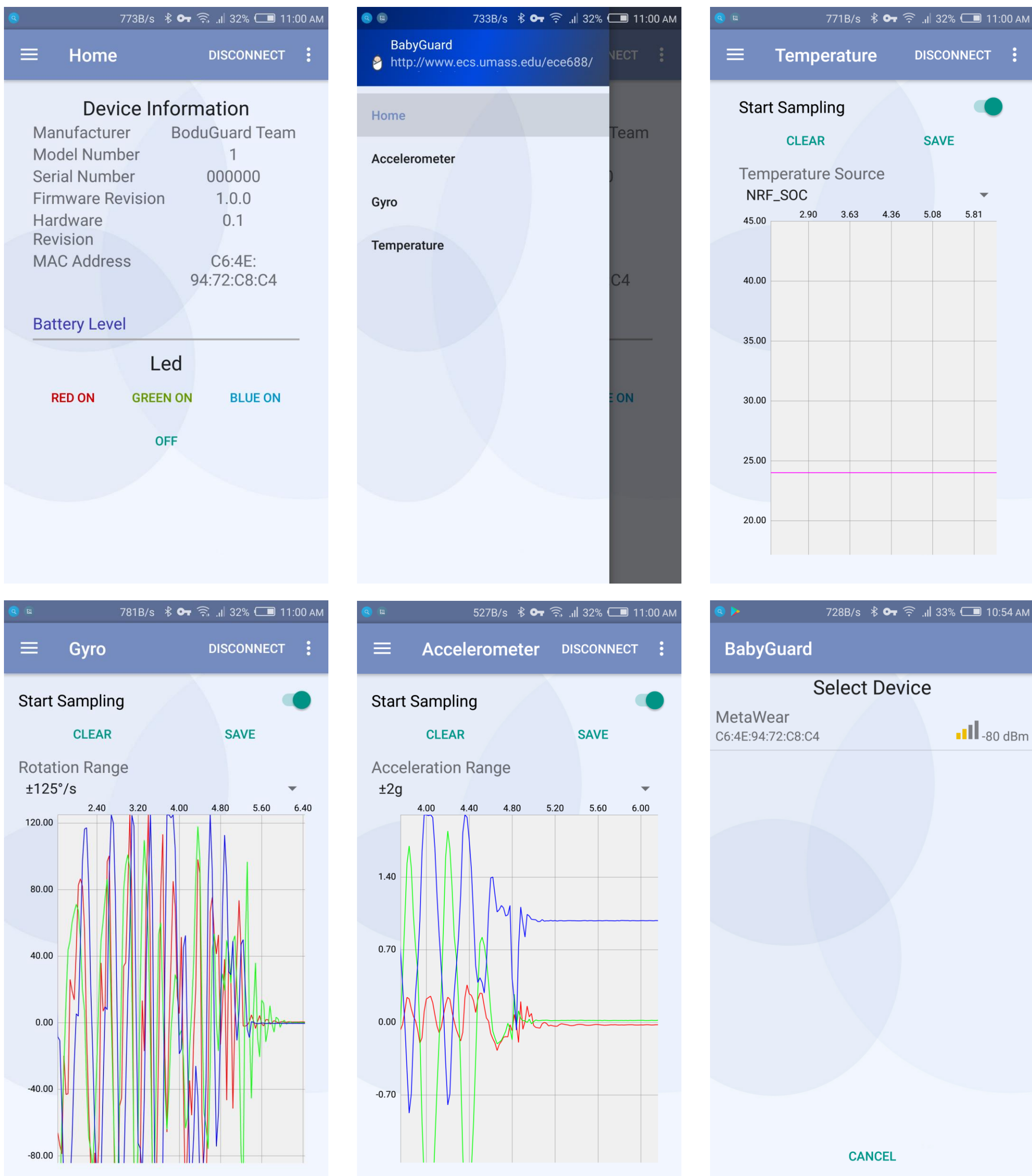
The alarms have also been implemented: once the wearable device's Bluetooth is disconnected, alarm 1 will be triggered, and when temperature is above user defined threshold, the alarm 2 will be triggered.

Acknowledgement