**What hardware and software to do health monitor bracelet**

Hardware:

1. Microcontroller: A microcontroller is the heart of any wearable device. Some popular options are the Arduino, Raspberry Pi, or ESP32.

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| Arduino | Raspberry Pi | ESP32 |
| **What is an Arduino? - SparkFun Learn** | RPI4-MODBP-8GB - Raspberry-pi - Single Board Computer, Raspberry Pi 4 Model  B, BCM2711 SoC |  |
| <https://shopee.com.my/Arduino-Uno-REV3-ATMega328PU-DEV-board-i.167619662.23524022618?sp_atk=91216ef8-6dbe-4ee9-9275-50b917af298c&xptdk=91216ef8-6dbe-4ee9-9275-50b917af298c> | <https://shopee.com.my/Raspberry-Pi-Pico-2-Yr-Warranty--i.6641351.6477482208?sp_atk=a78a1af6-3488-418e-877f-68f03f23db53&xptdk=a78a1af6-3488-418e-877f-68f03f23db53> | <https://shopee.com.my/ESP32-WIFI-Bluetooth-Module-IOT-NODE-MCU32-ESP32S-Node-MCU-(READY-STOCK)-Node-MCU32S-i.187266709.5372382567?sp_atk=be1f2f9a-70d4-45d9-a2c2-b98d265f55e2&xptdk=be1f2f9a-70d4-45d9-a2c2-b98d265f55e2> |

1. Sensors: Sensors are used to detect different physiological parameters. The sensors can be of different types, such as ECG sensors, PPG sensors, temperature sensors, accelerometer sensors, etc.

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| Heart-Rate Pulse Sensor & Oximeter MAX30100 MAX30102 |
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| <https://shopee.com.my/Heart-Rate-Pulse-Sensor-Oximeter-MAX30100-MAX30102-compatible-Arduino-Raspberry-STM32-i.126211897.9905846610?sp_atk=25c1dae3-1683-4f00-a002-69f3331817b8&xptdk=25c1dae3-1683-4f00-a002-69f3331817b8> |

1. Battery: A battery is required to power the device. A lithium-ion battery is a common choice for wearables as it is compact and provides high energy density.

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| 3.7V 1050mAh 803040 Lithium Polymer Li-Po ion Rechargeable Battery For MP4 MP5 GPS PSP mobile Pocket |
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| <https://shopee.com.my/3.7V-1050mAh-803040-Lithium-Polymer-Li-Po-ion-Rechargeable-Battery-For-MP4-MP5-GPS-PSP-mobile-Pocket-i.22727342.6121269171?sp_atk=318c17de-78cf-491a-9bb7-749853152a63&xptdk=318c17de-78cf-491a-9bb7-749853152a63> |

1. Display: A display can be added to the device to show the user's health parameters, such as heart rate, blood pressure, etc.
2. Bluetooth: Adding Bluetooth functionality to the device allows it to communicate with smartphones or other devices.

Software:

1. Operating System: The wearable device needs an operating system to function. You can use various open-source operating systems such as FreeRTOS, NuttX, or Zephyr.
2. Programming Language: You will need to program the device using a programming language. Some popular programming languages for developing wearable devices include C, C++, Python, and Java.
3. App Development: You will need to develop an app that can communicate with the device and display the user's health data. This app can be developed for iOS, Android, or both.
4. Cloud Integration: If you want to store the user's data on a cloud server, you will need to integrate the device with a cloud service.
5. User Interface: You will need to develop a user interface that is easy to use and provides relevant information to the user.