

OpenSleep

Original Project: [openSleep](#)

Hardware

Since the original hardware is outdated i used an ESP32 microcontroller instead. The Heartrate sensor used in the original project did not work for me, so i orderd an MAX30102 sensor that is connected to the esp via i2c. It works a lot better than the old one, although it sometimes also has trouble recognizing a heartbeat. The flexsensor works perfectly fine. Because of the modified hardware i wrote a new script for the esp32 based on an ble example. I attached the hardware with flexible tape to a microfiber glove from real. Its a little bit hard to get into but it is quite comfortable to wear.

[Imgur](<https://i.imgur.com/AXtk2Z0.jpg>)

Software

For the software i used the dormio web application made by [Eyal Perry](#). The application uses the chrome bluetooth api, which means that it does not work with other browsers. Unfortunately, Biosignal Sessions are not supported yet and i dont have much hope that they ever will be, since the application was last updated two years ago. Sessions based on a timer are available and the logging of the biosignals for later analysis does work.



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