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Porting NuttX RTOS on a smartwatch, with a focus on low power

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Power consumption is an important factor when it comes to wearables, due to their small size and limited, but varied, capabilities. This thesis explores the different techniques through which lower energy expenditure is achieved, and their trade-offs, using a smartwatch and NuttX, an Open-Source RTOS. The main objective is to obtain a battery autonomy of at least 24 hours, without compromising the functionality of the watch. Careful device driver and application design is needed to attain this goal, as well as using the low power functions of the hardware. This thesis also presents the results obtained and further steps that can be made in the energy-efficient direction.

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