Escuela de Ingenería Informática

Karl Deilmann
Dani Quinteero

Computacíon en la Nube

Report

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Contents

Exercise 1

For this assignment we provide our main program code in the file `Ejercicio_1.ino`. Because there might be problems with re-establishing the USB connection after the sleep-wakeup cycle is ended, we provide a second code `readFlash.ino`. This code is taken from the provided examples and serves only to verify the memory has been written with the correct data

RTC and Deep Sleep

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Our Code will make the Arduino setup the RTC, the Flash memory module, clean the memory and format the filesystem on boot-up. After this setup period, we subscribe to the RCT clock event interrupt and a PIN readout on PIN 5 as an external interrupt source. Finally we send the Arduino to deep-sleep. To show that interrupts are happening, we make the internal LED flash 2-times slowly on internal interrupts (by RTC) and 3-times fast on an external interrupt (pull-down on PIN 5).

In our main loop, we wake up the μ-Controller from the interrupt, check if it was internal or external and safe the timestamp with the key *internal* or *external* to flash memory. (Technically we also print the timestamp to serial as was required by task 2, but since deep-sleep breaks the USB connection, we cannot see this). After `limitLoop` iterations (in this case 5 loops) we wait for 5 seconds to enable the USB host to re-establish a connection and then print out the internals of the memory chip. It will include the regular timestamps from the RTC wake-ups and, if they existed, also timestamps from external wake-ups (pull-down on PIN 5).

Appendix A

Git repository: https://github.com/Puvogel/Internt_de_las_Cosas