TDT4258 - Exercise 1

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Abstract

As the world today becomes more and more digitialized and depended on computers for efficiency, embededded systems have become increasingly popular. One of the main reasons for this is the microcontroller, a small computer on a single integrated curcuit. Since microcontrollers are flexible and programmable, you can use the same microcontroller in several different embedded systems. Thus reducing project and product cost, since you do not have to spend time designing a special purpose processor.

But due to the vast increase of computer usage and the use of computers in extreme environments, power consumption and longtivity has become a major challenge within embedded computer design.

This report covers the first exercise in the course TDT4258 Energy Efficient Computer Systems at NTNU. The main purpose of this exercise is to get an introduction and general understanding of the architecture of *the ARM Cortex-M3 microcontroller* and *the EFM32GG DK3750 development board*. Thus this report will guide you through our process of making a simple program that uses the microcontroller to turn on LEDs when a button is pressed. We will also present the design choices made in order to use as little power as possible.

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