

Semester Project V2.0

Internet of Things -- Project

20/10/2019



Let's talk

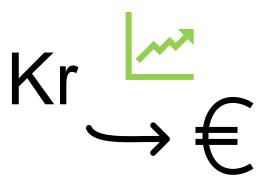
- 1. Introduction to your project
- 2. Key requirements
- 3. Technical challenges
- 4. Choice og sensors/actuators/web-data sources
- 5. How do you plan to test
- 6. Introduction to your github repository

Bored with Kroner coins in your wallet?

Danske Kroner Money Converter



Let the « DKMC » help you with your coins and let it count for you!



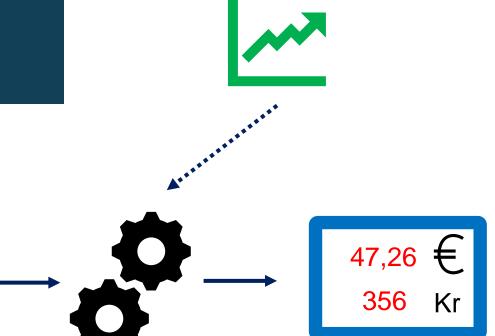


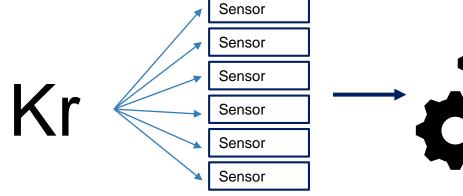
Why?

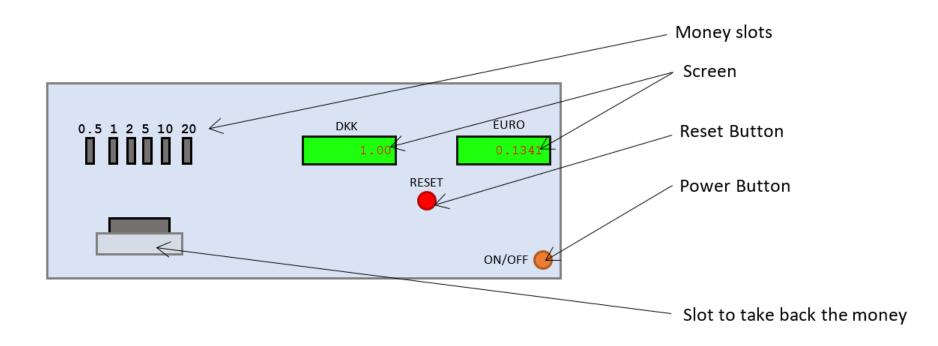
Let's start with the begining



How does it work?









Key requirements

Let's build!

How to built it?

We are going to use:

- 6 Sensors to count how many coins are inserted.
- The photon device that will compute with the exchange rate of the day.
- 2 buttons (Reset & Power)
- 2 screens to print the data.



Technical Challenges

Let us think about it!



There are some challenges:

The main problems:

- There is not many pin slot on the photon.
- We are not sure that the power will be enough to all the components.



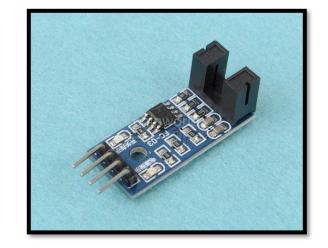
Choice of sensors/actuat ors/web-data sources

Let's build!





- use imported groove coupler sensor
- the groove width of 5mm.
- output status indicator, the lamp output high, output low lights.
- the comparator output, the signal is clean, the waveform, driving ability, more than 15mA.
- operating voltage 3.3V-5V
- The output in the form: Digital switching outputs (0 and 1)
- small plates PCB Dimensions: 3.2cm x 1.4cm



LCD1602 IIC/I2C Blue Backlight

- I2C Address: 0x27
- Backlight (White character on Blue background)
- Supply voltage: 5V
- Size: 82x35x18 mm
- Come with IIC interface, which can be connected by DuPont Package Include:
 - 1 X IIC/I2C/TWI 1602 Serial LCD Module





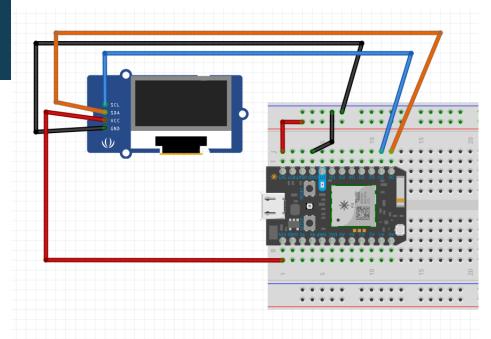
How do we plan to test

First step in the project

Test the LCD

The simplest way to test it:

```
#include<LiquidCrystal_I2C_Spark.h>
LiquidCrystal_I2C *lcd;
void setup() {
Serial.begin(9600);
lcd = new LiquidCrystal_I2C(0x3F, 16, 2);
lcd->init();
lcd->backlight();
lcd->clear();
void loop() {
if (Time.now(), "%H:%M:%S" == "00:00:00") {
lcd->clear();
lcd->setCursor(0,0);
lcd->print("Coins-Coins");
}
```

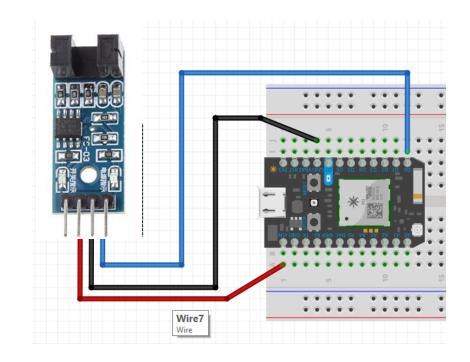


Test Slot-type Optocoupler Module

The simplest way to test it:

"The output in the form: Digital switching outputs (0 and 1)"

We just need to plug it in and add a listener to the photon



Test the rate currency



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http://www.floatrates.com/daily/dkk.json?fbclid=lwAR2plNzplh0qDPdBoi09xpbDeyEoMjt_Az5RtZC g-6uiEvP5C333gdGibBA



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Best project

GitHub

IoT-Project - DKMC

BENJAMIN MILLE VIRGILE CRESPEL

Hej! Welcome to our IOT Project.

Project description: Work in progress

There will be updates on this read me file every time needed:

SOURCES:

JSON FILE FOR RATE: http://www.floatrates.com/daily/dkk.json?fbclid=lwAR2plNzplh0qDPdBoi09xpbDeyEoMjt Az5RtZCq-6uiEvP5C333qdGibBA

MATERIAL: https://arduinotech.dk

TEST THE MATERIAL: https://docs.particle.io/reference/device-cloud/webhooks /?fbclid=lwAR14YTb9KTHh9BBWYFeBuFMvk1uWMndM9At9uy7JJ73LwQ7K7flGSpyMaO4 https://www1.oanda.com/lang/fr/currency/live-exchange-rates/EURDKK/?fbclid=lwAR2wFW1A83cpIR-CAlHA2AhXQO9cZM7Abx_ZOCkIT_BPjoeM_-4RqV75d6c

Sources:

- https://docs.particle.io/reference/devicecloud/webhooks/?fbclid=lwAR14YTb9KTHh9BBWYFeBuFMvk1uWMndM9At9uy7JJ73L wQ7K7flGSpyMaO4
- https://www1.oanda.com/lang/fr/currency/live-exchangerates/EURDKK/?fbclid=lwAR2wFW1A83cplR-CAIHA2AhXQO9cZM7Abx ZOCkIT_BPjoeM -4RqV75d6c
- https://arduinotech.dk

THANKS!

Any questions?