

Smart Fridge Watchdog

Joel Junnila, Joonas Partanen, Arttu Tähtinen, Teemu Väänänen TVT19SPO
Information Technology, Software Engineering

Introduction

The aims of this project was to develop a smart fridge watchdog which takes a picture from the fridge. The picture is sent to a website. It also measures the temperature of the fridge every 10 seconds. It is then sent to watchdogs website.

The user can use the website to view fridges current temperature. Temperatures in the last 10 minutes can also be seen there.

The watchdog also warns the user if the temperature of the fridge goes over 15°C Degrees.



FIGURE 1. Raspberry Pi and Nucleo

Objectives

The main objective of this project was to make a fridge camera which also monitors the temperature of the fridge. Database was needed for storage of pictures and temperature data.

Methods

The programming language used in Raspberry Pi code was Python and in Nucleo we used C++. The components used in the project were Raspberry Pi 4 that handles web server and Nucleo F303RE that measures data for server.

The database was made with MySQL language in Python code with the help of Flask web framework. The website was programmed with HTML, CSS and JavaScript.

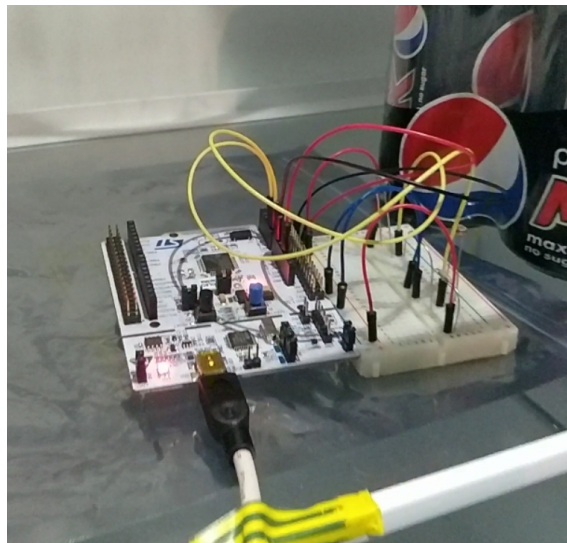


FIGURE 2. Nucleo's wiring in fridge

Results

The project works as planned, except the server is running on localhost. The reason for this is that the apache server hosting caused too much problems at the time of writing this poster.



FIGURE 3. Website

Conclusions

Things that made the project challenging were the connection of the components and inexperience of Raspberry's OS.

References

1.Raspberry Pi 4:

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4.TDK leaded NTC Thermistor

https://www.tdk-electronics.tdk.com/nf/50/db/ntc/NTC_Leaded_disks_K164.pdf

5.Flask:

<https://flask.palletsprojects.com/en/1.1.x/>

6.Stack Overflow:

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