

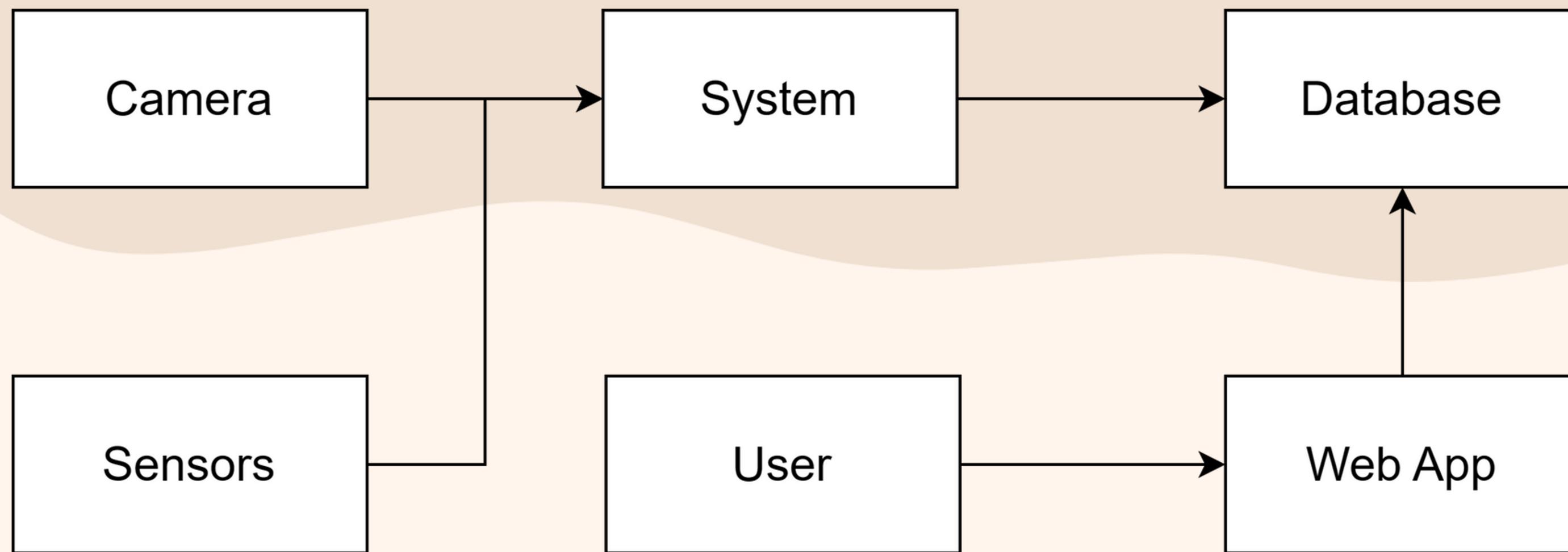
C.H.I.P The Fridge

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General Architecture



Materials

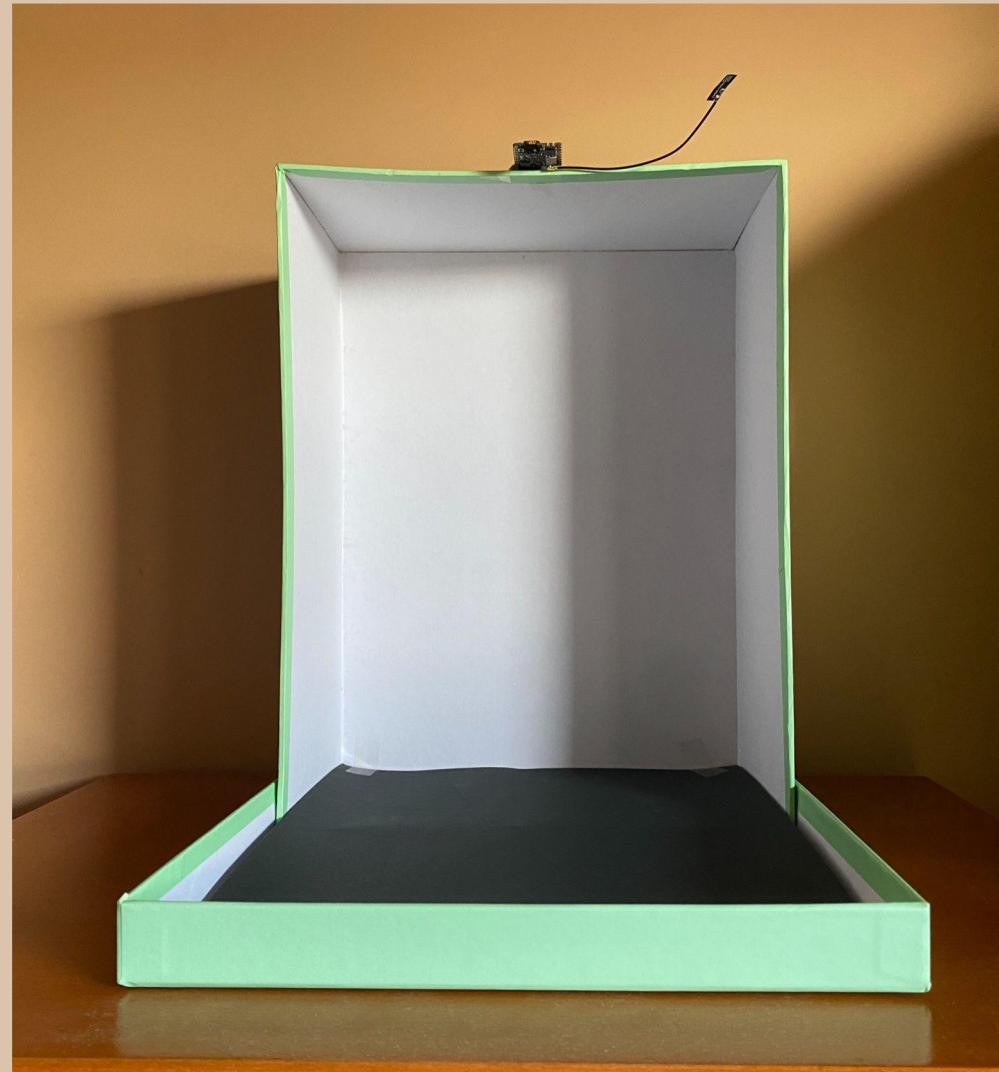
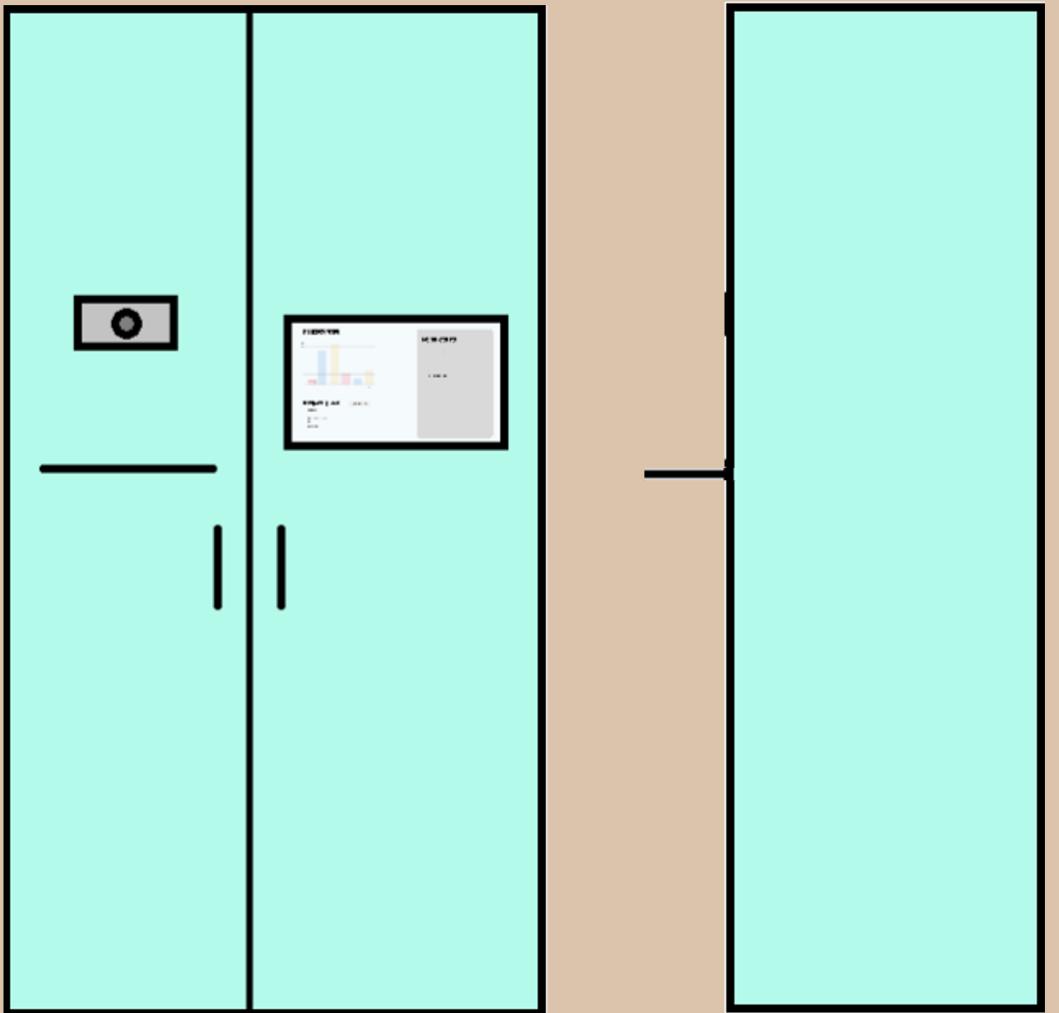
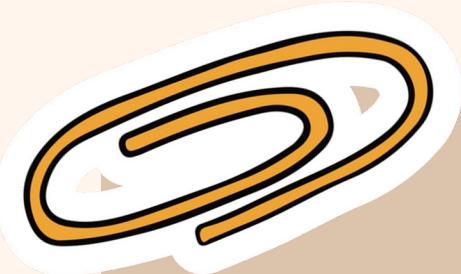
Hardware

- Camera
- Light Sensor
- Arduino
- Monitor

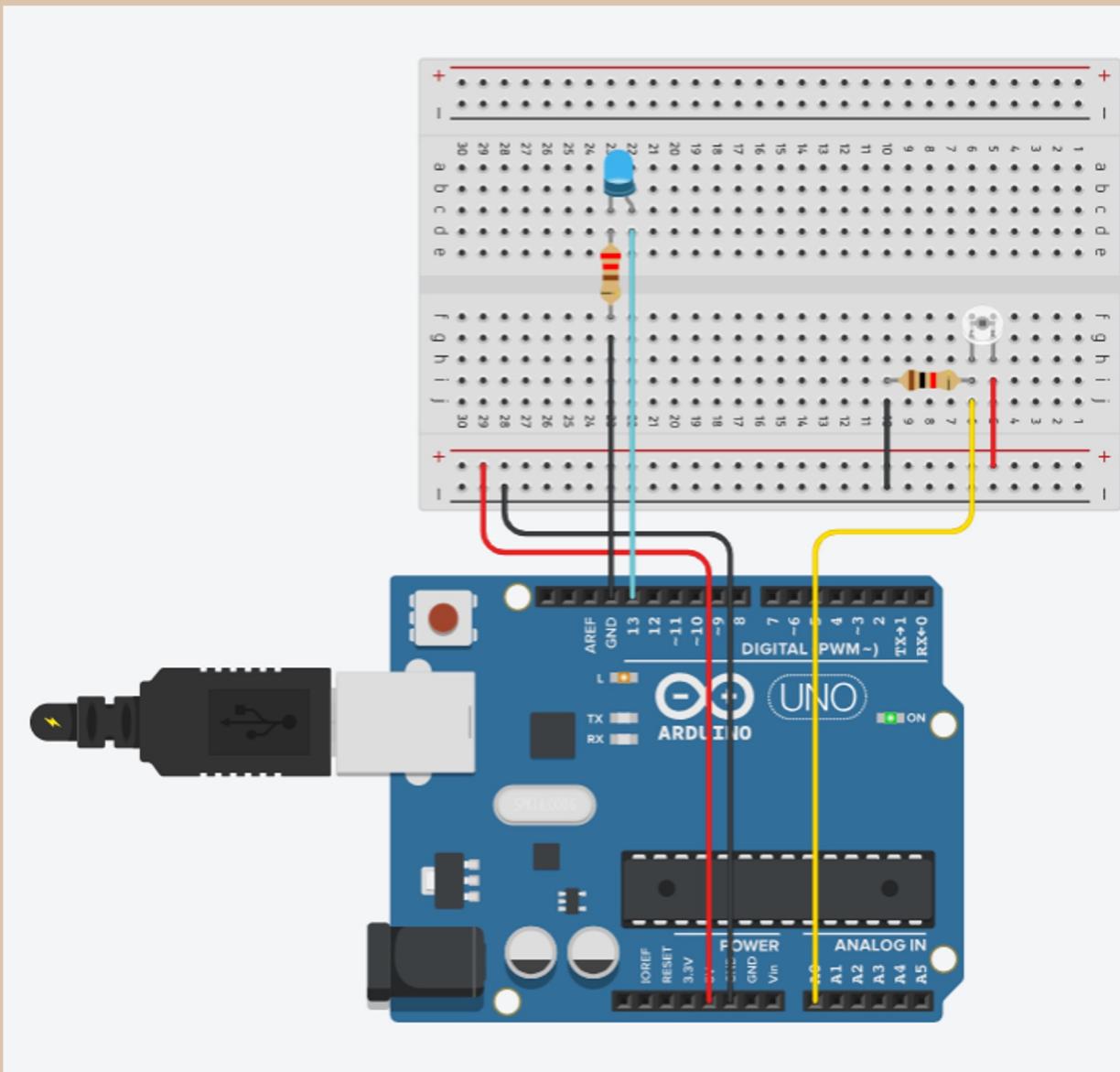
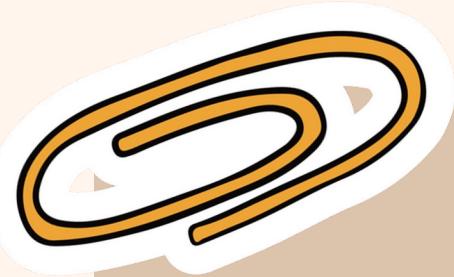
Software

- RectLabel
- TensorFlow
- PyTorch
- Google Colab
- OpenMV IDE
- Arduino IDE
- Visual Studio Code

Setup Process



Setup Process



Setup Process

The screenshot shows a web application interface for managing a refrigerator's inventory and monitoring expiration dates.

Fridge Status: A bar chart showing the quantity of various items in the fridge. The y-axis represents the count from 0 to 13. The x-axis lists the items: eggs, milk, butter, cheese, and yogurt.

Item	Quantity
eggs	13
milk	10
butter	3
cheese	2
yogurt	4

Notifications: A list of items that have expired or are approaching expiration.

- ! 3 butter is expired
- ! 2 cheese is expired
- ! 4 yogurt is expired
- ! 1 milk is expired

Shopping List: A list of items to purchase.

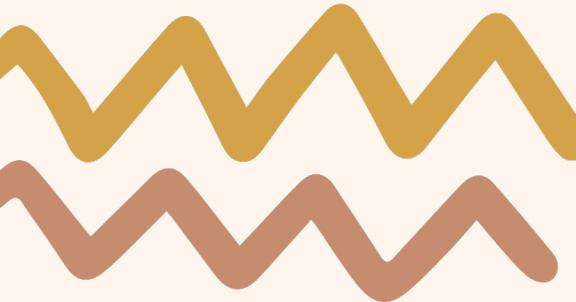
- cucumber
- lettuce
- tomato

Send by Email

Setup Process



- Connect the camera to the system and run `camera.py` code in
`/data_process/camera/_model_` folder
- Connect the Arduino to the system and run `arduino.py` code in
`/data_process` folder
- Run the web application `app.py` in `/app` folder and open
<http://127.0.0.1:5000> in the browser



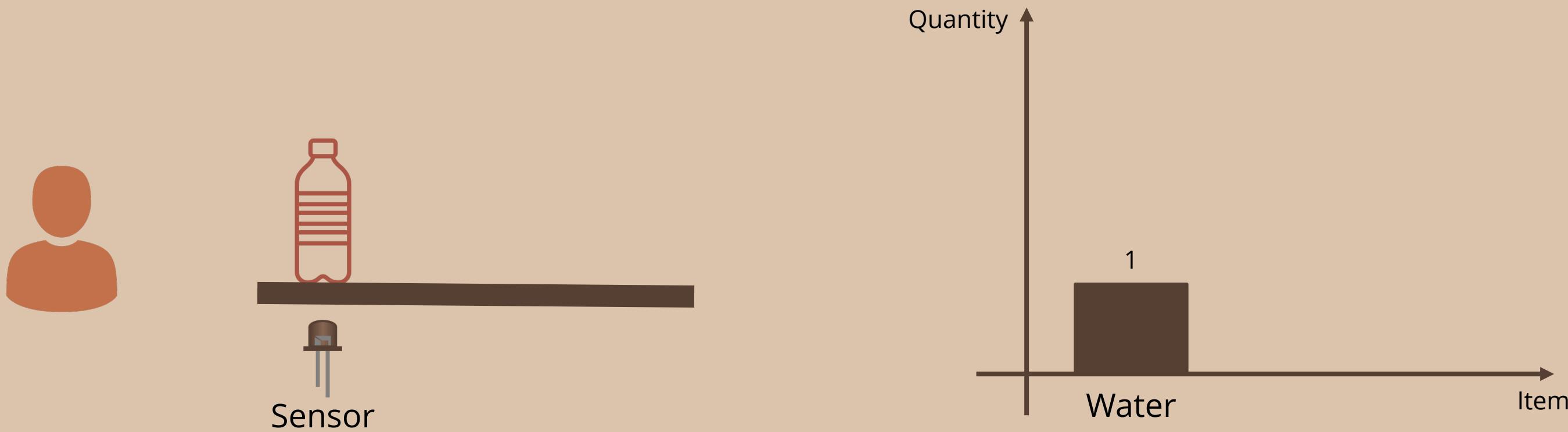
Operation Process



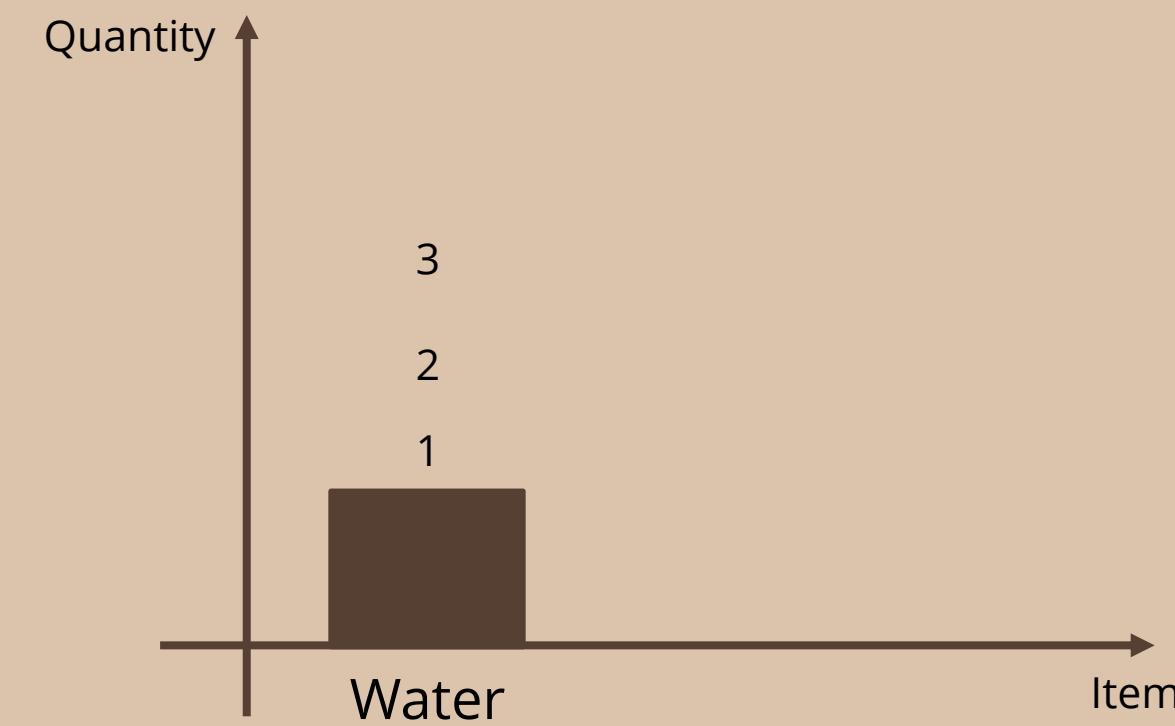
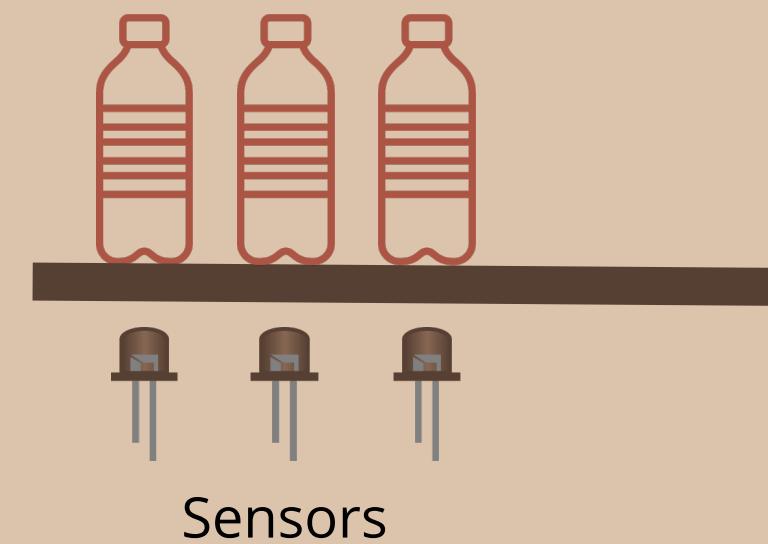
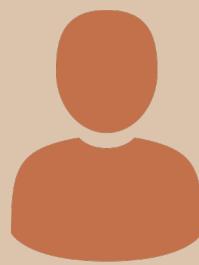
Camera



Operation Process



Operation Process



Operation Process

The screenshot shows a web browser window with a title bar reading "127.0.0.1:5000". The main content area is titled "Fridge Status" and displays a bar chart with the following data:

Item	Quantity
milk	10
eggs	12
butter	3
cheese	2
yogurt	4

Below the chart is a section titled "Notifications" containing the following list:

- ! 3 butter is expired
- ! 2 cheese is expired
- ! 4 yogurt is expired
- ! 1 milk is expired

At the bottom left, there is a "Shopping List" section with the following items:

- cucumber
- lettuce
- tomato

A "Send by Email" button is located next to the shopping list.

Operation Process

The screenshot shows a web browser window with a title bar reading "127.0.0.1:5000". The main content area is titled "Fridge Status" and displays a bar chart with the following data:

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- ! 3 butter is expired
- ! 2 cheese is expired
- ! 4 yogurt is expired
- ! 1 milk is expired

At the bottom left, there is a "Shopping List" section with the following items:

- cucumber
- lettuce
- tomato

A blue button labeled "Send by Email" is located next to the shopping list.

Operation Process

Fridge Status

Item	Quantity
milk	10
eggs	12
butter	3
cheese	2
yogurt	4

Shopping list sent successfully!

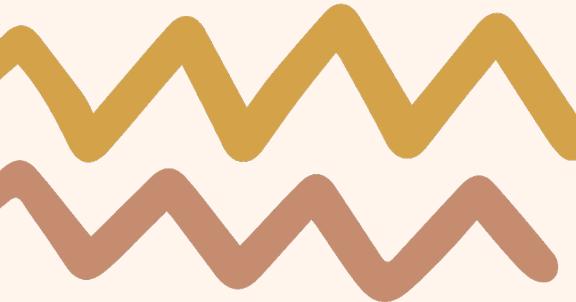
Notifications

- ! 3 butter is expired
- ! 2 cheese is expired
- ! 4 yogurt is expired
- ! 1 milk is expired

Shopping List

Send by Email

- cucumber
- lettuce
- tomato



Operation Process



Shopping List ➤

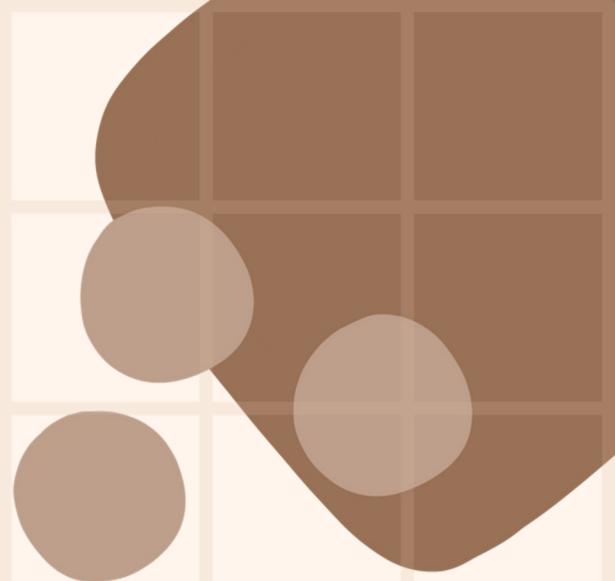


chipthefridge@gmail.com

to me ▾

- cucumber
- lettuce
- tomato
- water

Demonstration



THANK YOU
SO MUCH!

