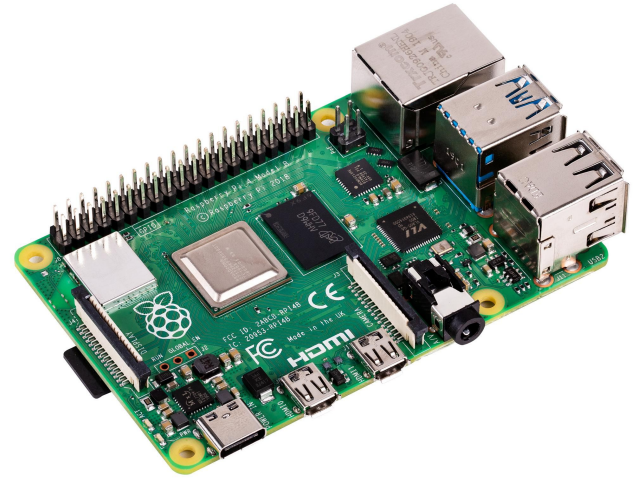


COMPONENTS

Hardware:

- Raspberry pi 4B
- Dotted PCB
- Ultrasonic sensor
- Logitech webcam
- Audio o/p device (earphones)

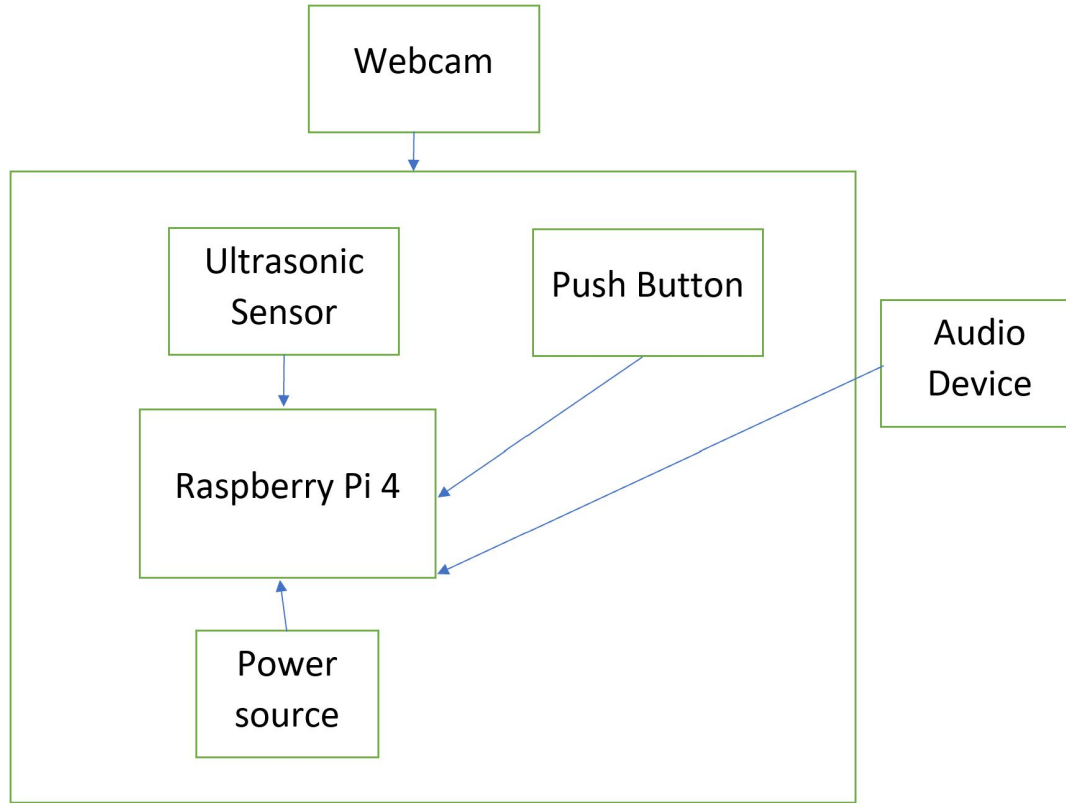


Software:

- Thonny IDE
- OpenCV
- pytesseract OCR
- Pytts
- Other python image processing libraries



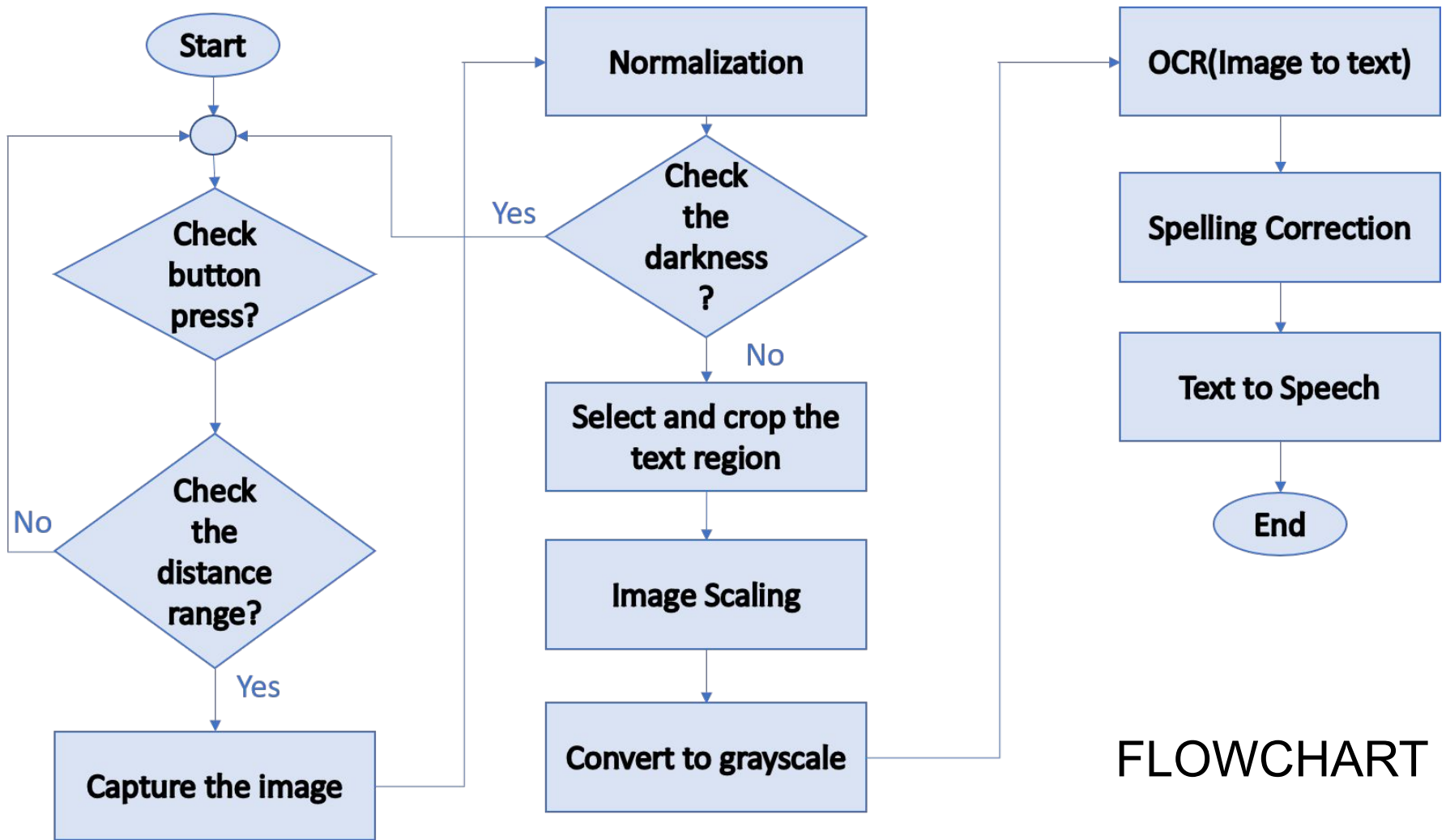
BLOCK DIAGRAM



Dotted PCB

METHODOLOGY

- Connect components to the Pi
- Required python libraries were installed
- Push button setup - sensor is activated
- Capture and process images to acquire text
- Convert text to speech
- Acquire speech output
- Compact device formulation was done



FLOWCHART

RESULTS

Before you can begin to determine what the composition of a particular paragraph will be, you must first decide on an argument and a working thesis statement for your paper. What is the most important idea that you are trying to convey to your reader? The information in each paragraph must be related to that idea. In other words, your paragraphs should remind your reader that there is a recurrent relationship between your thesis and the information in each paragraph. A working thesis functions like a seed from which your paper, and your ideas, will grow. The

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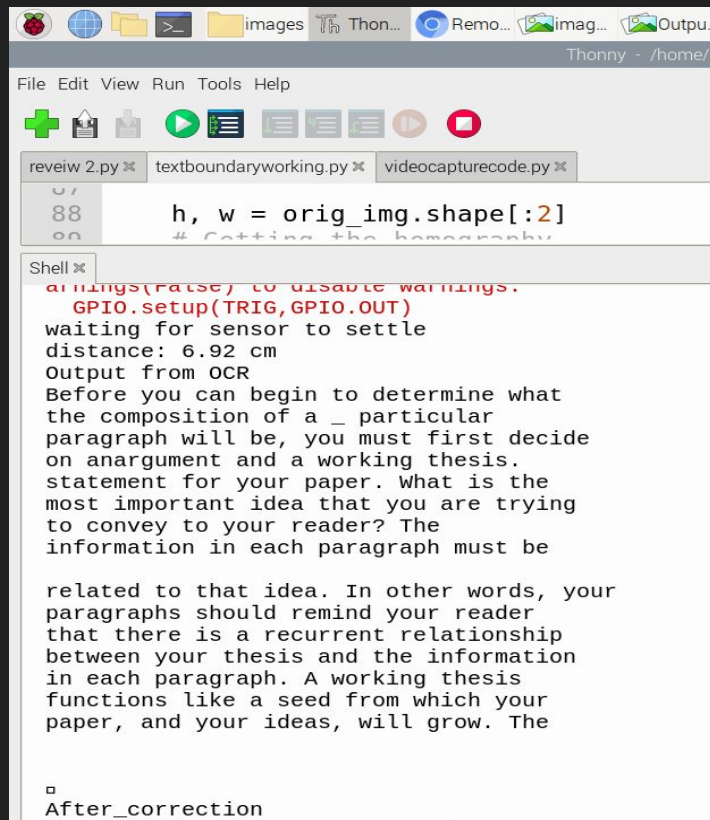
Input captured and its result after normalization

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Text boundary Region and its gray-scaled image

Text extracted from OCR and Text after NLP



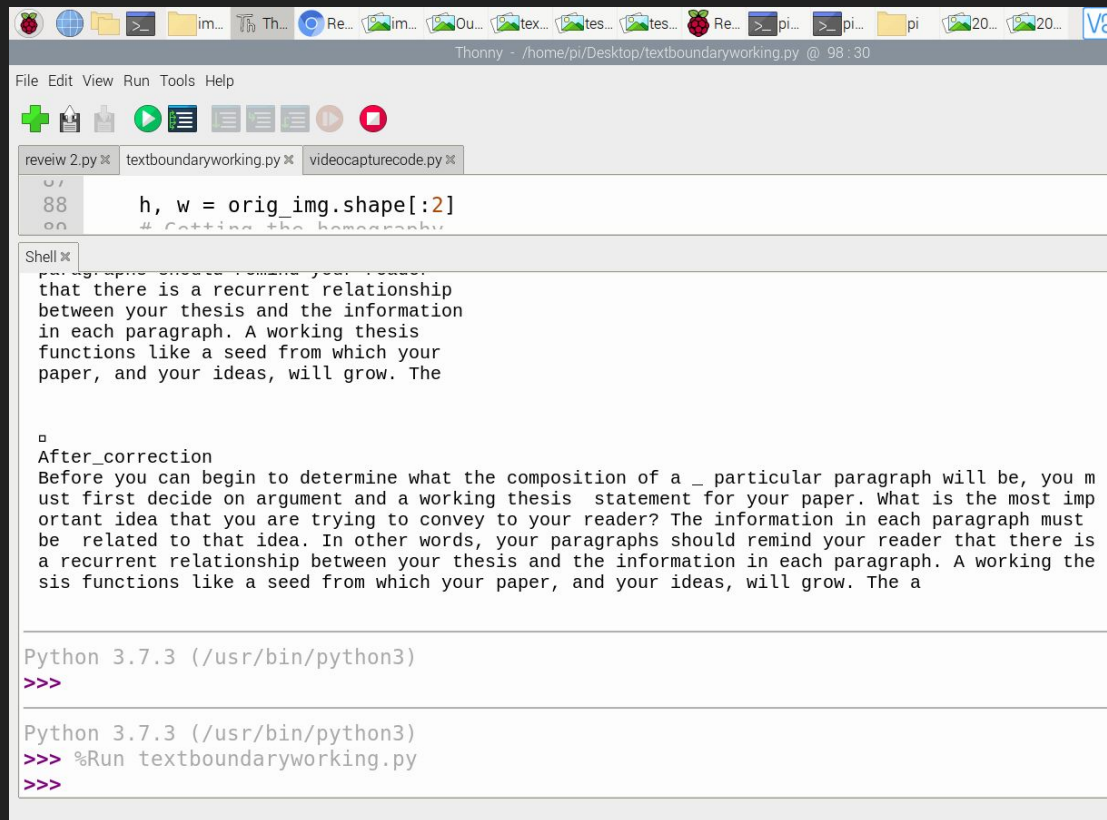
The screenshot shows the Thonny IDE interface. The top toolbar includes icons for file operations, running, and debugging. The file explorer shows three open files: `reveiw 2.py`, `textboundaryworking.py`, and `videocapturecode.py`. The main editor displays the following Python code:

```
88 h, w = orig_img.shape[:2]
89 # Getting the homography
```

The Shell window shows the output of the program:

```
warnings(False) to disable warnings.
GPIO.setup(TRIG, GPIO.OUT)
waiting for sensor to settle
distance: 6.92 cm
Output from OCR
Before you can begin to determine what
the composition of a _ particular
paragraph will be, you must first decide
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At the bottom, the `After_correction` section is partially visible.



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Below this, the `After_correction` section is visible:

```
After_correction
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```

At the bottom, the Python 3.7.3 shell is shown with the following commands:

```
Python 3.7.3 (/usr/bin/python3)
>>>
Python 3.7.3 (/usr/bin/python3)
>>> %Run textboundaryworking.py
>>>
```