EDGE COMPUTING

TECHNOLOGY USED

- **Python – flask :**
  - To deploy Application server
- **AWS IoT Greengrass:**
  - To extend AWS cloud to physical Device
- **Boto3 AWS SDK:**
  - For Uploading and downloading the image to S3 Bucket
- **EC2 :**
  - For Training The Machine Learning Mode
- **S3:**
  - To store images to cloud.

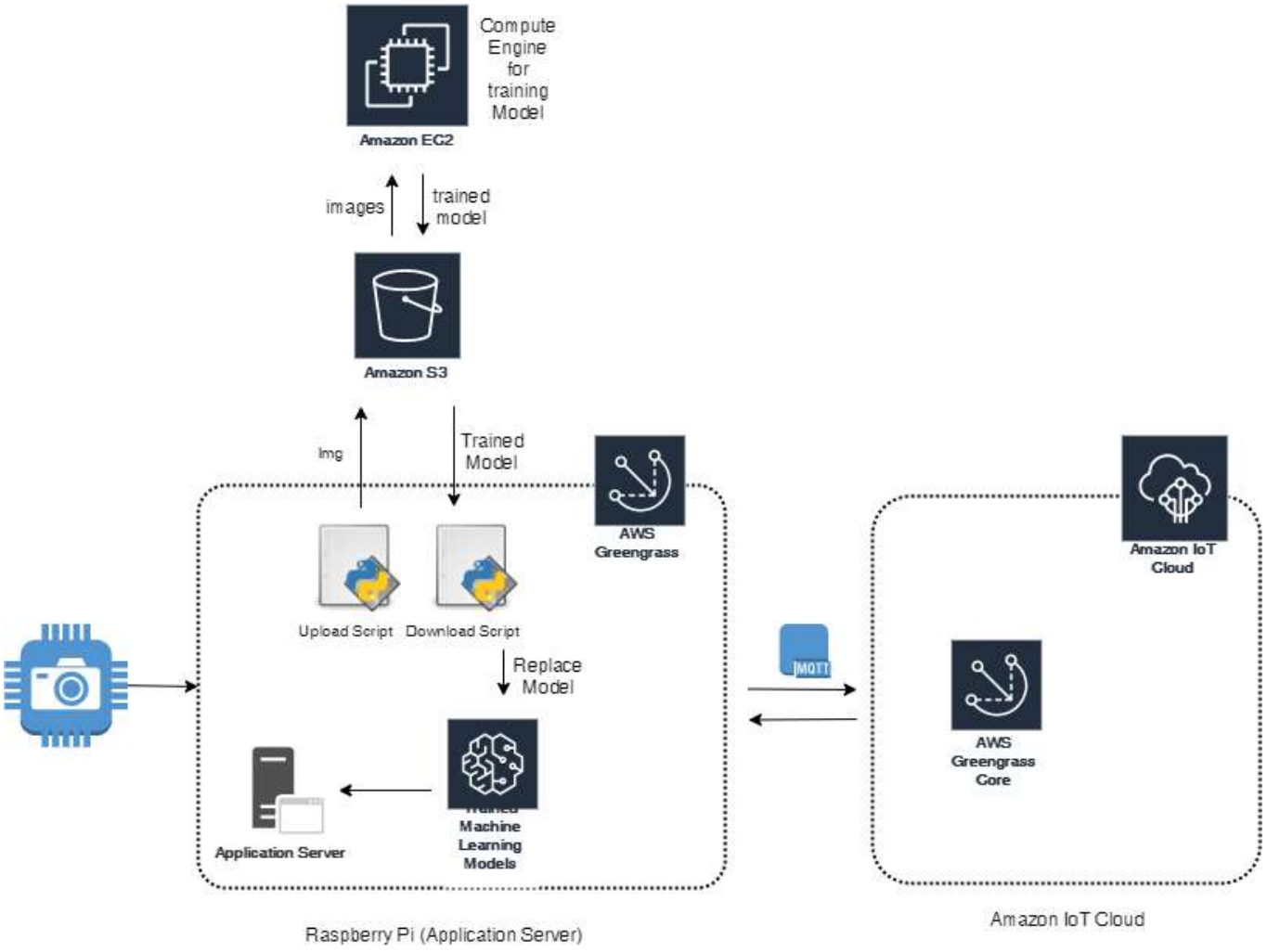
REQUIRED SOFTWARE:

- OS for Raspberry pi:
  (Raspbian Buster/ Kali Linux/ any Linux based OS)
- Web Browser:
  (For Accessing the website)

HARDWARE USED:

- **Raspberry pi 3B+ (with Raspbian OS):**
  - It works as a Edge Server. Also the Application server is installed in this device.
- **Camera module for Raspberry pi.**
  - For Capturing images.
- **Router with internet Connectivity.**

HIGH LEVEL ARCHITECTURE DIAGRAM



SOLUTION APPROACH:

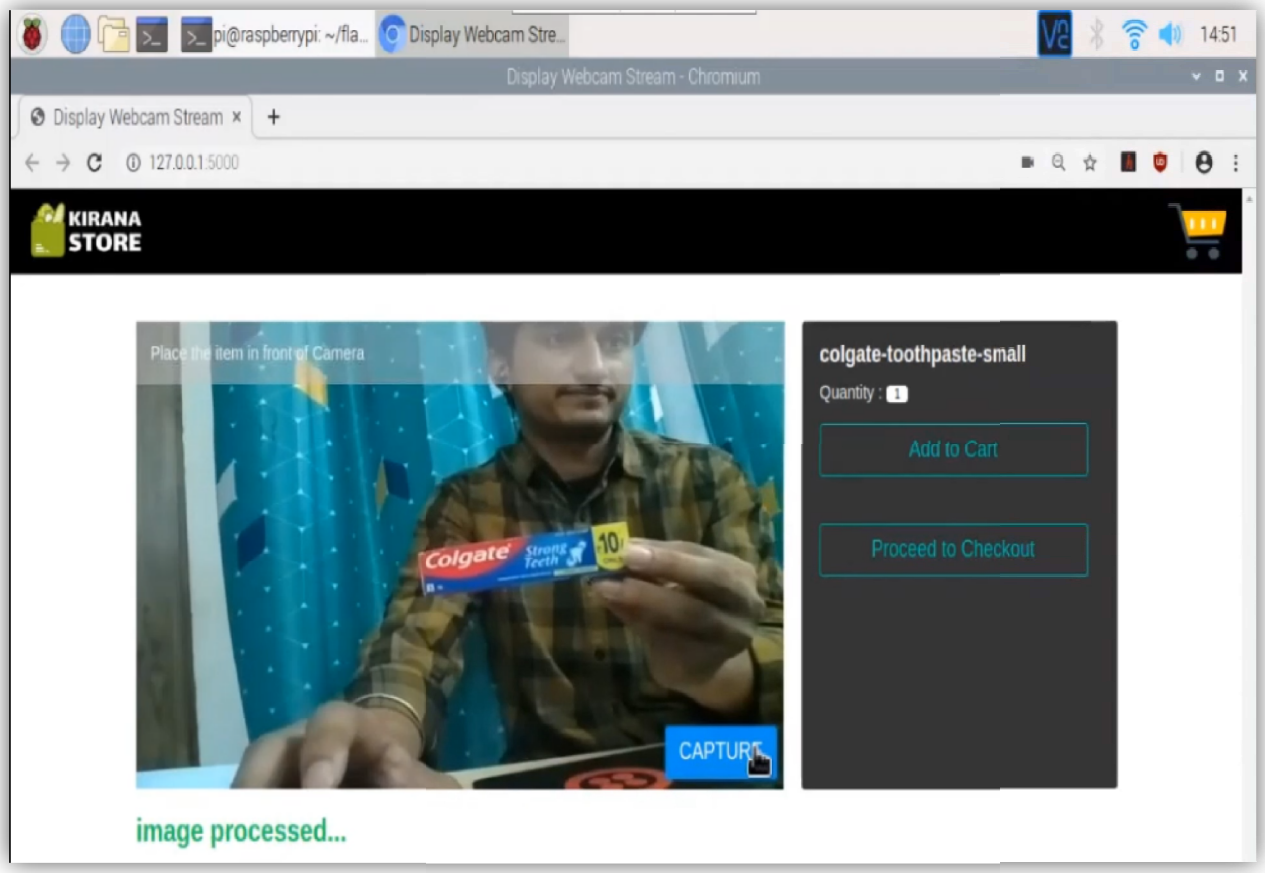
customer have to place his items in front of the camera and will have to interact with the screen. When a customer presses any capture button the camera will capture the image and will send the image to the application server which is stored locally in the raspberry pi.

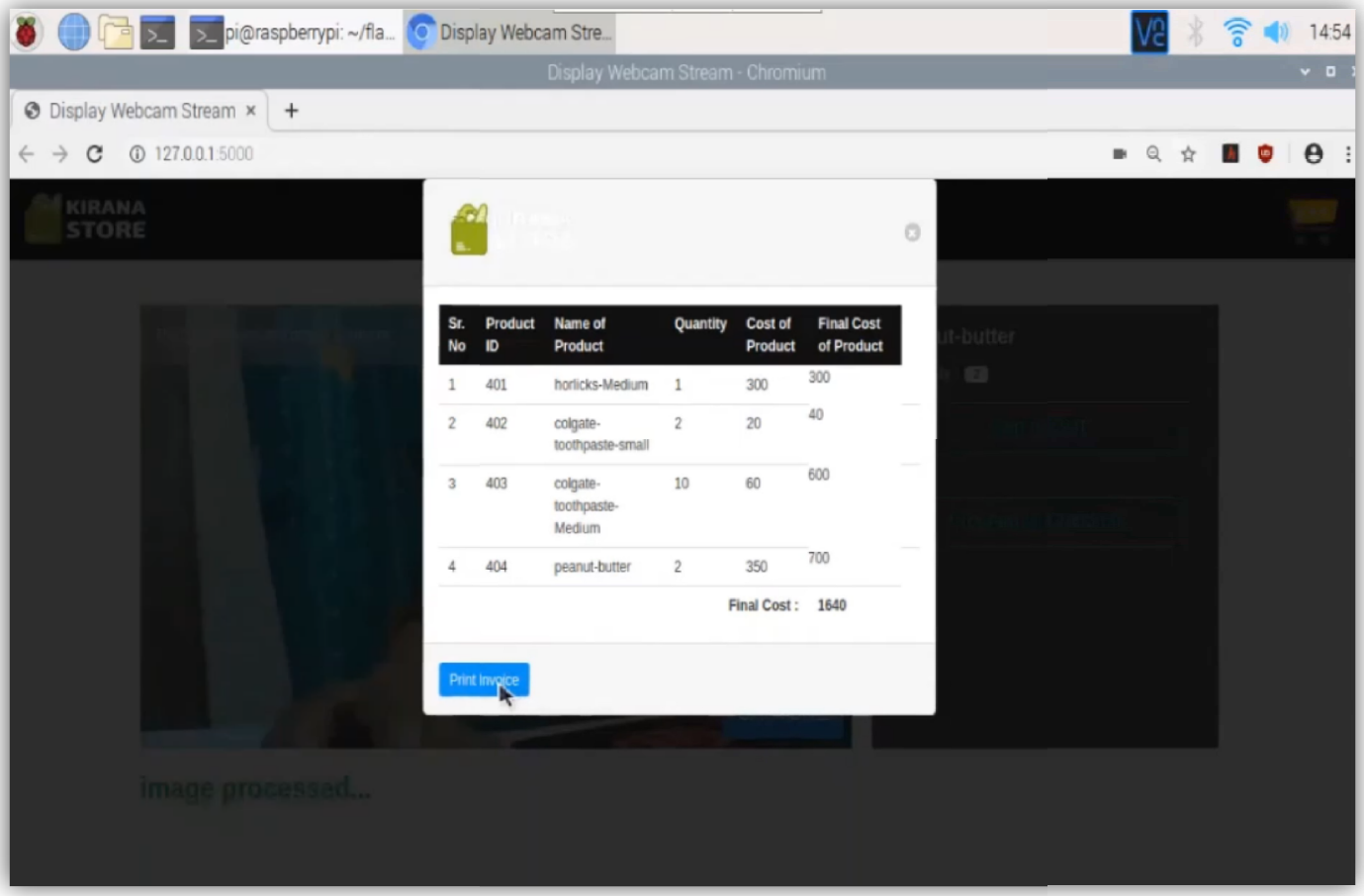
The application server will inference the image with the trained model and it will classify the image. The customer will have the option to increase the quantity of the product also the customer has to press add to cart button to add the product to his cart.

IMPORTANT LINKS

Github Link: https://github.com/avinashkr1612/Inframind-2019
YoutubeVideo Link: https://youtu.be/FgNlTVUSaSI

SOLUTION TEMPLATE:




Display Webcam Stream - Chromium
Display Webcam Stream
127.0.0.1:5000
KIRANA STORE
Sr. No
Product ID
Name of Product
Quantity
Cost of Product
Final Cost of Product
1 401 horlicks-Medium 1 300 300
2 402 colgate-toothpaste-small 2 20 40
3 403 colgate-toothpaste-Medium 10 60 600
4 404 peanut-butter 2 350 700
Final Cost : 1640
Print Invoice
image processed...