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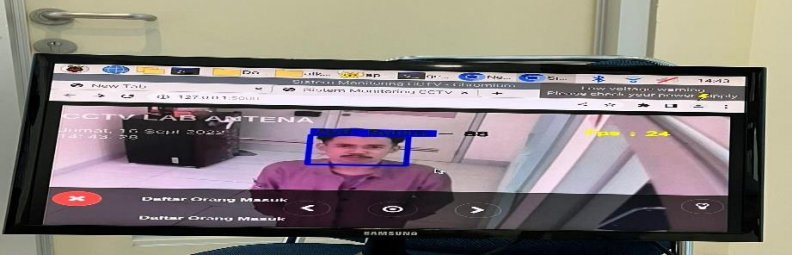


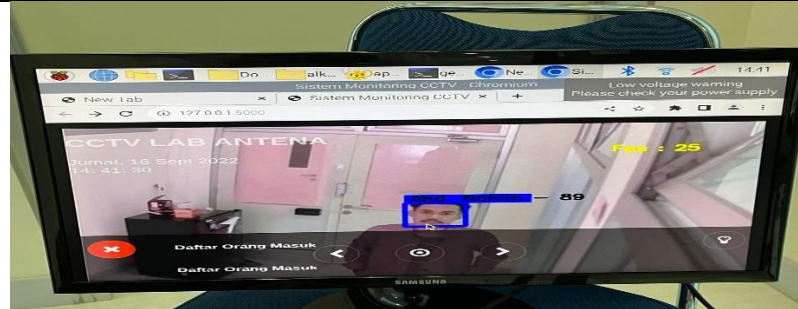
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DAFTAR LAMPIRAN

LAMPIRAN 1

Hasil Deteksi Abd Rahim

Jarak Deteksi (cm)	Lampiran Foto
90	
120	
150	
180	

210	
240	
270	
300	
330	

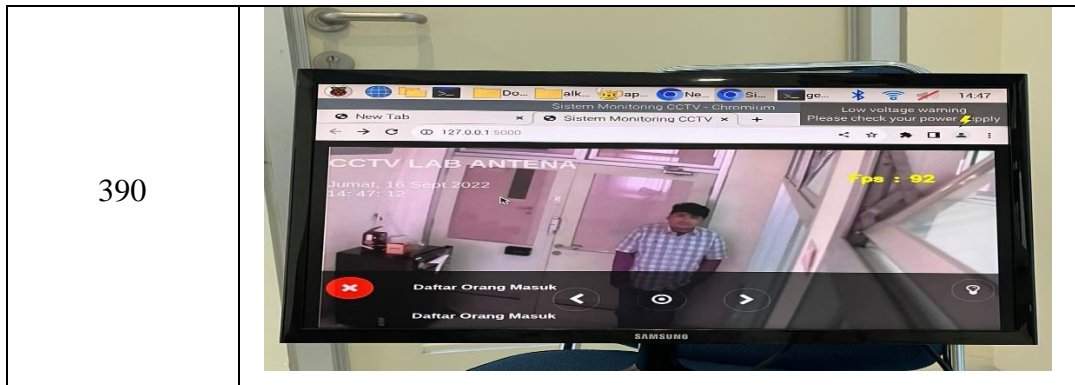
<p>360</p>	
<p>390</p>	

Lampiran 2

Hasil Deteksi Caesar William A

<p>Jarak Deteksi (cm)</p>	<p>Lampiran Foto</p>
<p>90</p>	
<p>120</p>	

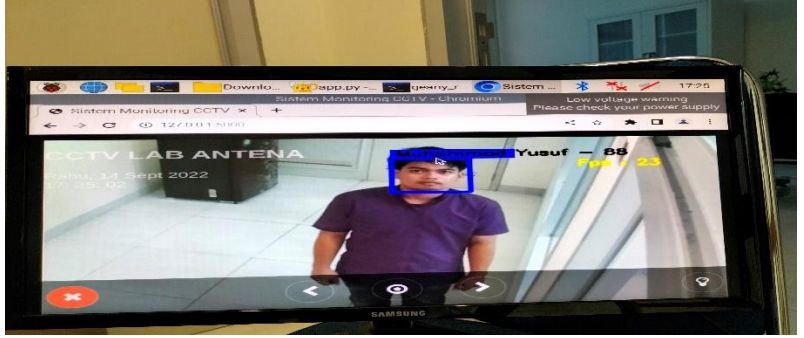
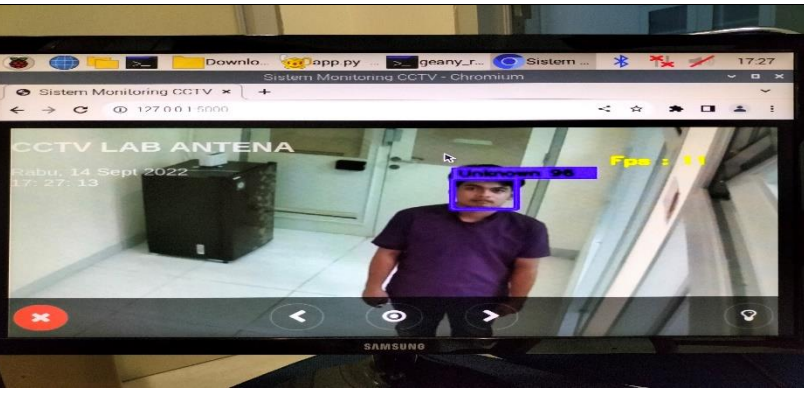
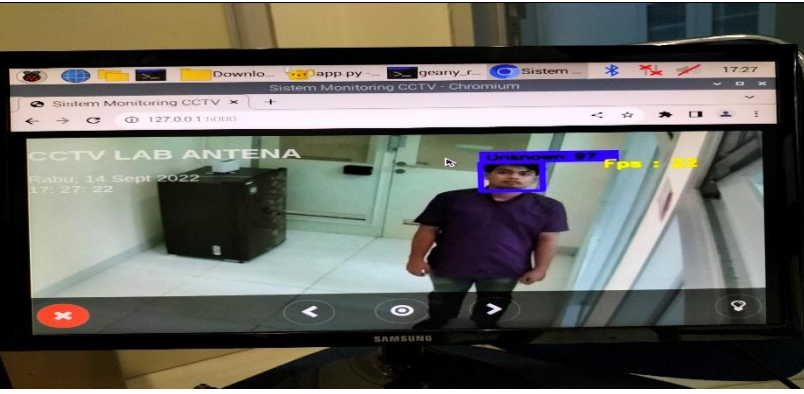
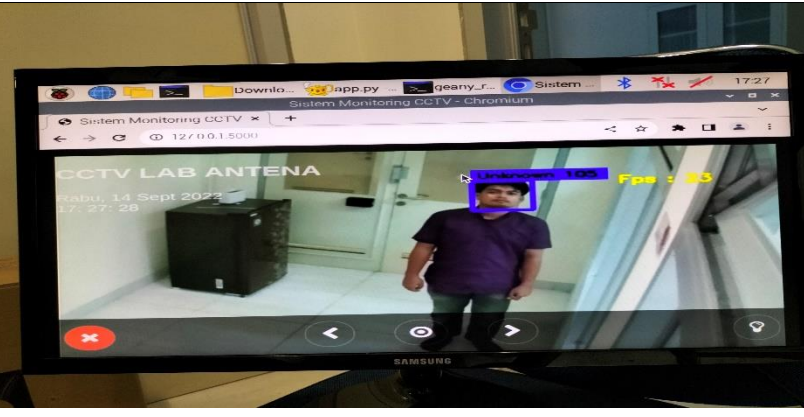
<p>150</p>	
<p>180</p>	
<p>210</p>	
<p>240</p>	<p>-</p>
<p>270</p>	<p>-</p>
<p>300</p>	<p>-</p>
<p>330</p>	
<p>360</p>	<p>-</p>



Lampiran 3

Hasil Deteksi Muhammad Yusuf

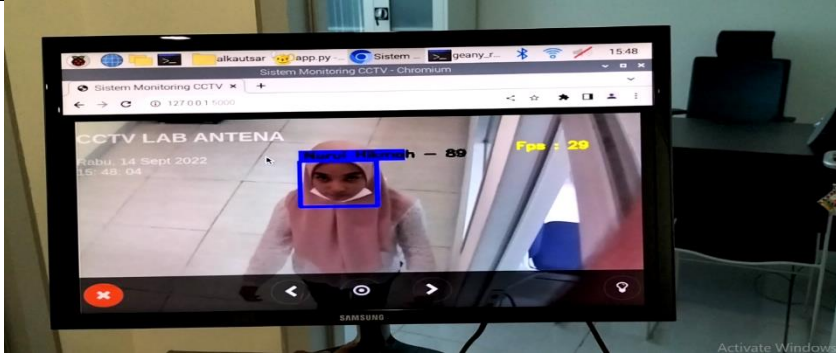
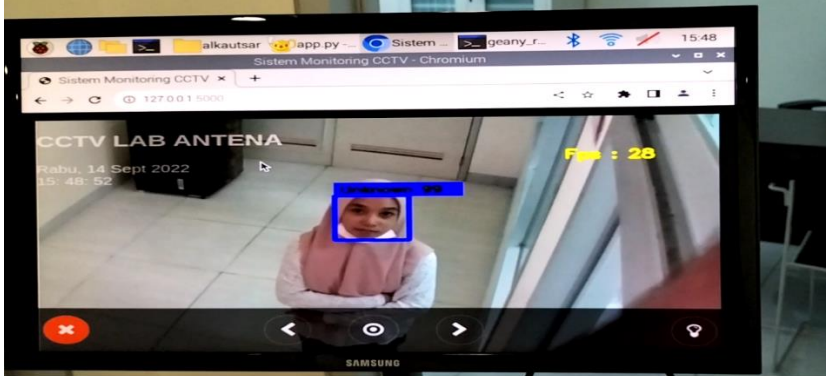
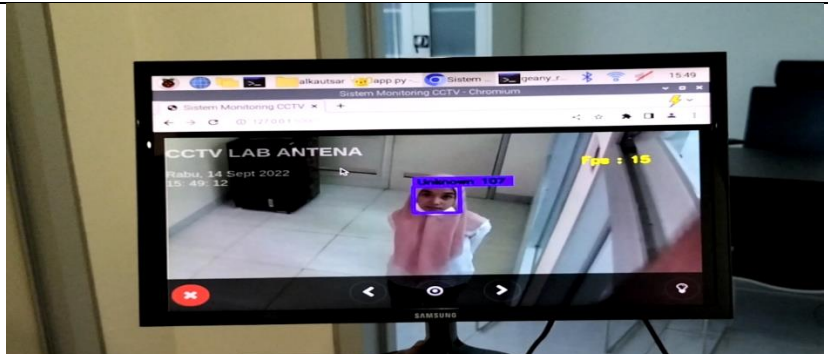
Jarak Deteksi (cm)	Lampiran Foto
90	
120	

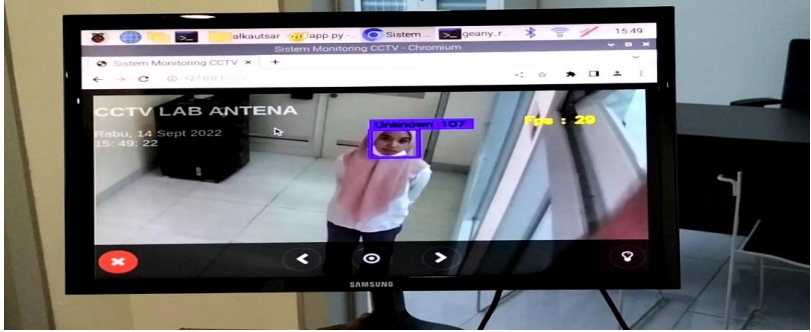

150	
180	
210	
240	
270	Tidak Terdeteksi
300	Tidak Terdeteksi
330	Tidak Terdeteksi

360	Tidak Terdeteksi
390	Tidak Terdeteksi

Lampiran 4

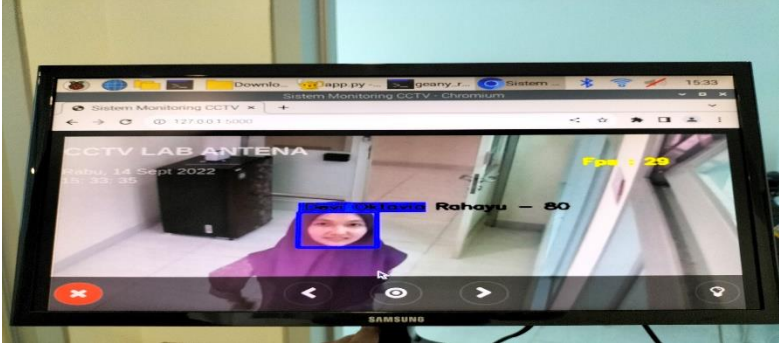
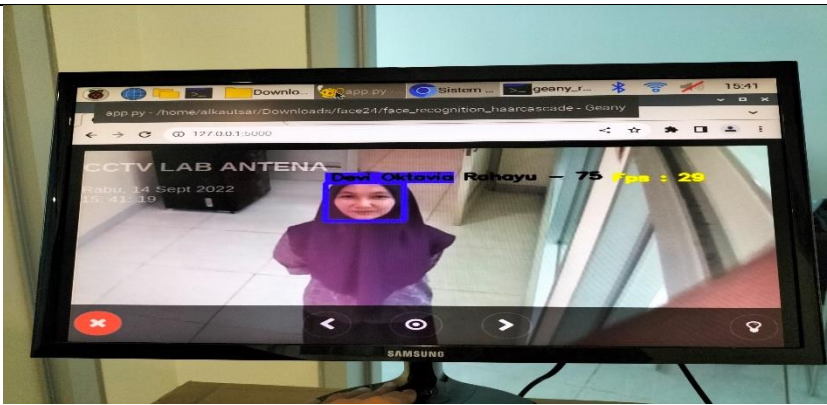

Hasil Deteksi Nurul Hikmah

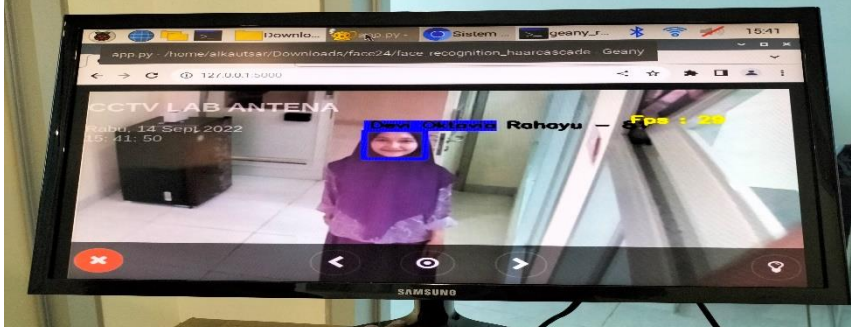
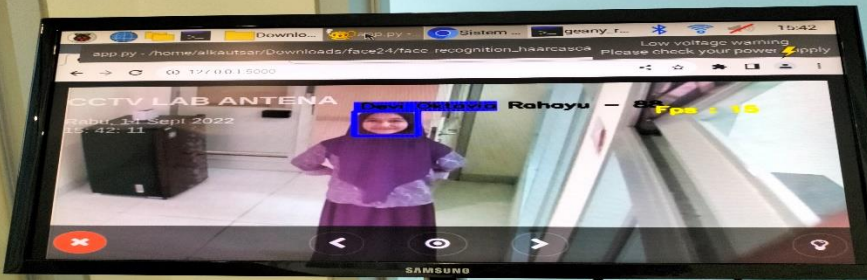


Jarak Deteksi (cm)	Lampiran Foto
90	
120	
150	

180	
210	
240	Setelah 210cm, Sudah Tidak Terdeteksi
270	Setelah 210cm, Sudah Tidak Terdeteksi
300	Setelah 210cm, Sudah Tidak Terdeteksi
330	Setelah 210cm, Sudah Tidak Terdeteksi
360	Setelah 210cm, Sudah Tidak Terdeteksi
390	Setelah 210cm, Sudah Tidak Terdeteksi

Lampiran 5

Hasil Deteksi Devi Oktavia Rahayu

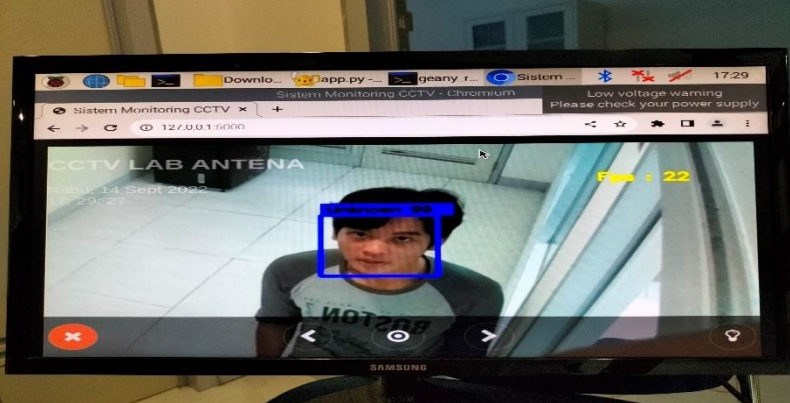
Jarak Deteksi (cm)	Lampiran Foto
90	
120	
150	



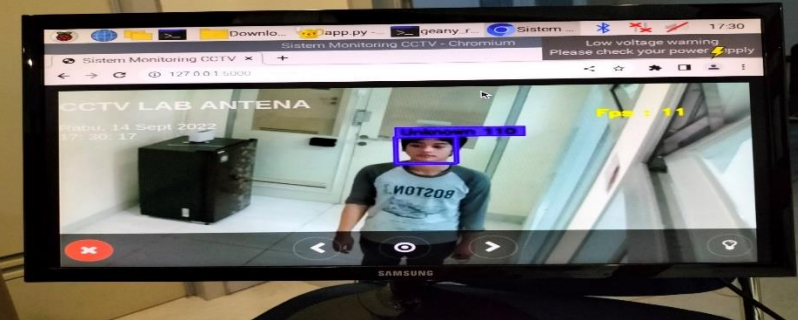
180	
210	
240	
270	

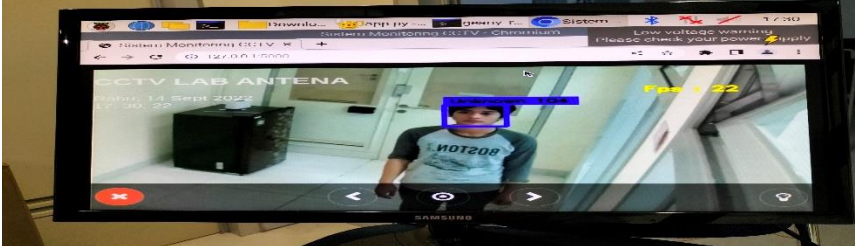

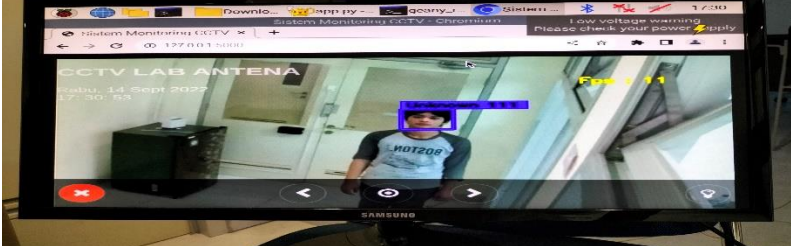
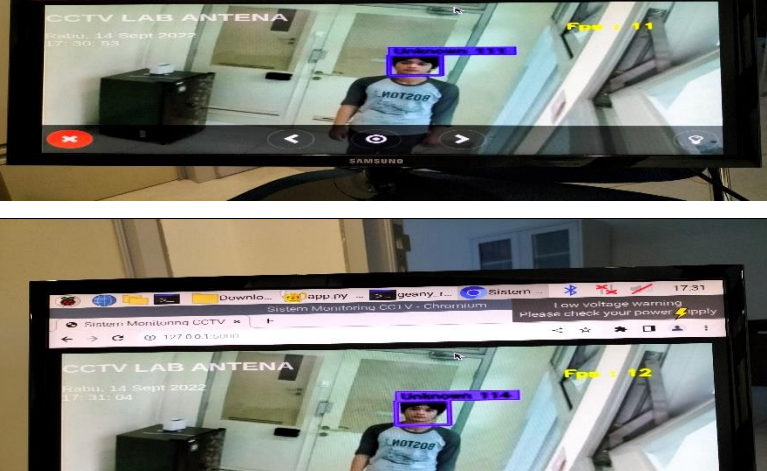
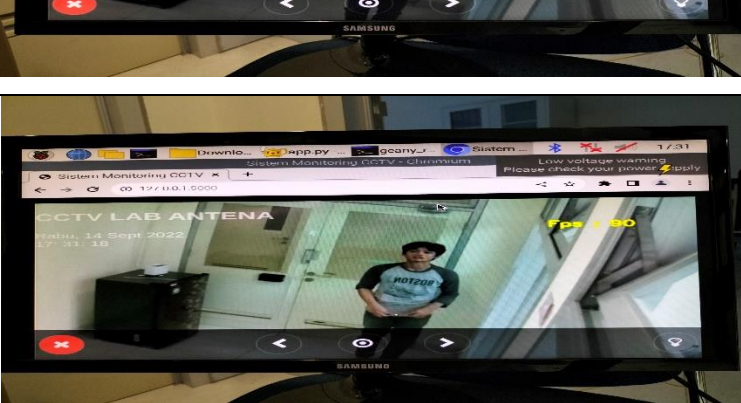
300	
330	Setelah 300cm, Sudah Tidak Terdeteksi
360	Setelah 300cm, Sudah Tidak Terdeteksi
390	Setelah 300cm, Sudah Tidak Terdeteksi

Lampiran 6

Hasil Deteksi Muh. Al Kautsar Hasril

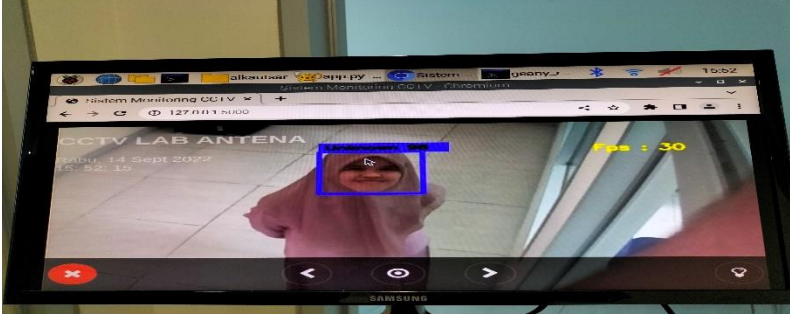

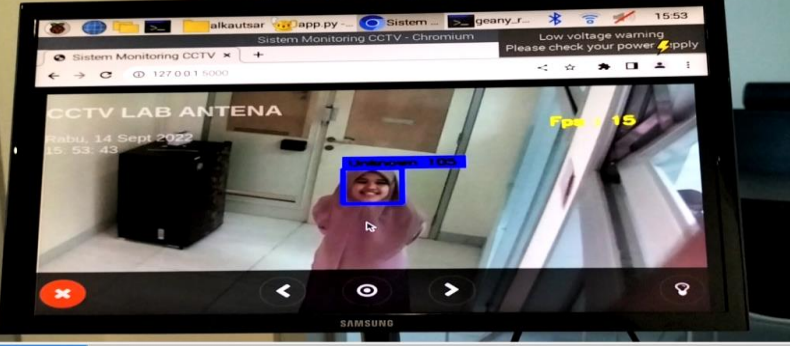

Jarak Deteksi (cm)	Lampiran Foto
90	


120	 <p>A Samsung monitor displays a CCTV feed from a browser. The browser address bar shows '127.0.0.1:5000'. The video player interface includes a red close button, navigation arrows, and a lightbulb icon. The video content shows a person in a 'NOT208' t-shirt with a blue bounding box around their face. The FPS is 11. The text 'CCTV LAB ANTENA' and 'Rabu, 14 Sept 2022 17:29:36' is visible.</p>
150	 <p>A Samsung monitor displays a CCTV feed from a browser. The browser address bar shows '127.0.0.1:5000'. The video player interface includes a red close button, navigation arrows, and a lightbulb icon. The video content shows a person in a 'NOT208' t-shirt with a blue bounding box around their face. The FPS is 12. The text 'CCTV LAB ANTENA' and 'Rabu, 14 Sept 2022 17:29:51' is visible.</p>
180	 <p>A Samsung monitor displays a CCTV feed from a browser. The browser address bar shows '127.0.0.1:5000'. The video player interface includes a red close button, navigation arrows, and a lightbulb icon. The video content shows a person in a 'NOT208' t-shirt with a blue bounding box around their face. The FPS is 21. The text 'CCTV LAB ANTENA' and 'Rabu, 14 Sept 2022 17:30:06' is visible.</p>
210	 <p>A Samsung monitor displays a CCTV feed from a browser. The browser address bar shows '127.0.0.1:5000'. The video player interface includes a red close button, navigation arrows, and a lightbulb icon. The video content shows a person in a 'NOT208' t-shirt with a blue bounding box around their face. The FPS is 11. The text 'CCTV LAB ANTENA' and 'Rabu, 14 Sept 2022 17:30:17' is visible.</p>

240	
270	
300	
330	
360	
390	Setelah 390cm, Sudah Tidak Terdeteksi

Lampiran 7


Hasil Deteksi Sri Wahyuni

Jarak Deteksi (cm)	Lampiran Foto
90	
120	
150	
180	


210	
240	Setelah 210cm, Sudah Tidak Terdeteksi
270	Setelah 210cm, Sudah Tidak Terdeteksi
300	Setelah 210cm, Sudah Tidak Terdeteksi
330	Setelah 210cm, Sudah Tidak Terdeteksi
360	Setelah 210cm, Sudah Tidak Terdeteksi
390	Setelah 210cm, Sudah Tidak Terdeteksi

Lampiran 8

Hasil Deteksi Astri Prastika

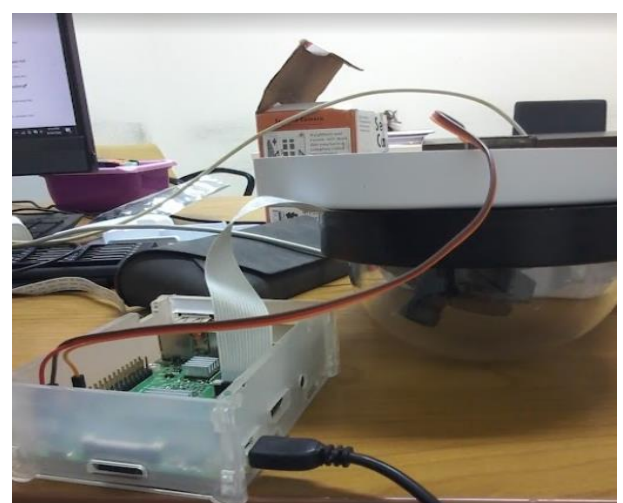
Jarak Deteksi (cm)	Lampiran Foto
90	

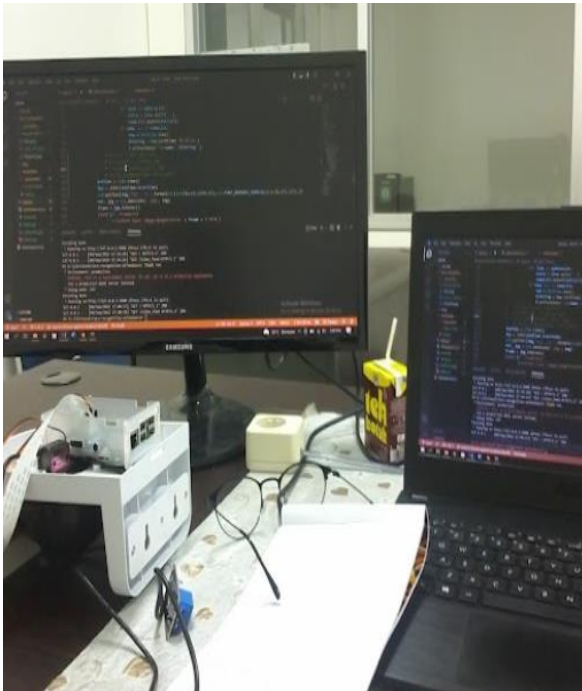
120	
150	
180	
210	

<p>240</p>	
<p>270</p>	
<p>300</p>	<p>Setelah 270cm, Sudah Tidak Terdeteksi</p>
<p>330</p>	<p>Setelah 270cm, Sudah Tidak Terdeteksi</p>
<p>360</p>	<p>Setelah 270cm, Sudah Tidak Terdeteksi</p>
<p>390</p>	<p>Setelah 270cm, Sudah Tidak Terdeteksi</p>

Lampiran 9

Proses Pengerjaan dan Perakitan Tugas Akhir





Lampiran 10 Code Program

Code Program *Face Recognition*

```
import cv2, sys, numpy, os,time
from datetime import datetime, date
import numpy as np
import telepot
from flask import Flask, render_template, Response
```

```
app = Flask(__name__)
@app.route('/')
def index():
    return render_template('index.html')
```

```
f = open("Attendance.csv", "w")
f.truncate()
f.close()
with open('Attendance.csv', 'r+') as f:
    date = date.today()
    f.writelines(f'{date}')
    f.writelines(f'\nName,Time')
```

```

# Get the folders containing the training data
for (subdirs, dirs, files) in os.walk(image_dir):

    # Loop through each folder named after the subject in the photos
    for subdir in dirs:
        names[id] = subdir

        subjectpath = os.path.join(image_dir, subdir)

        # Loop through each photo in the folder
        for filename in os.listdir(subjectpath):

            # Skip non-image formats
            f_name, f_extension = os.path.splitext(filename)
            if(f_extension.lower() not in
               ['.png', '.jpg', '.jpeg', '.gif', '.pgm']):
                print("Skipping "+filename+", wrong file type")
                continue
            path = subjectpath + '/' + filename
            label = id

            # Add to training data
            images.append(cv2.imread(path, 0))
            labels.append(int(label))
            id += 1
(im_width, im_height) = (120, 102)

# Create a Numpy array from the two lists above
(images, labels) = [numpy.array(lis) for lis in [images, labels]]
model = cv2.face.LBPHFaceRecognizer_create()
model.train(images, labels)
haar_cascade = cv2.CascadeClassifier(classifier)

def process():
    webcam = cv2.VideoCapture(0) # 0 to use webcam
    while True:
        # Loop until the camera is working
        rval = False
        while(not rval):
            # Put the image from the webcam into 'frame'
            (rval, frame) = webcam.read()

```

```

if(not rval):
    print("Failed to open webcam. Trying again...")
startTime = time.time()
# Flip the image (optional)
frame=cv2.flip(frame,1) # 0 = horizontal ,1 = vertical , -1 = both

# Convert to grayscale
gray = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)

# Resize to speed up detection (optimal, change size above)
mini = cv2.resize(gray, (int(gray.shape[1] / size), int(gray.shape[0] /
size)))

# Detect faces and loop through each one
faces = haar_cascade.detectMultiScale(mini)
for i in range(len(faces)):
    face_i = faces[i]

    # Coordinates of face after scaling back by size
    (x, y, w, h) = [v * size for v in face_i]
    face = gray[y:y + h, x:x + w]
    face_resize = cv2.resize(face, (im_width, im_height))
    start =(x, y)
    end =(x + w, y + h)
    # Try to recognize the face
    prediction = model.predict(face_resize)
    cv2.rectangle(frame,start , end, (255, 0, 0), 3) # creating a bounding
box for detected face
    cv2.rectangle(frame, (start[0],start[1]-20), (start[0]+120,start[1]), (255,
0, 0), -3) # creating rectangle on the upper part of bounding box
    #for i in prediction[1]
    if prediction[1]<90 : # note: 0 is the perfect match the higher the
value the lower the accuracy
        cv2.putText(frame,'%s - %.0f' %
(names[prediction[0]],prediction[1]),(x+5, y-5),
cv2.FONT_HERSHEY_SIMPLEX,0.6,(0, 0, 0),thickness=2)
        print('%s - %.0f' % (names[prediction[0]],prediction[1]))
        with open('Attendance.csv', 'r+') as f:
            myDataList = f.readlines()
            nameList = []
            for line in myDataList:
                entry = line.split(',')

```

Lampiran 11

Tabel Rancangan Anggaran Biaya Tugas Akhir

No	Nama Barang	Satuan	Harga
1	Raspberry Pi 3 Model B+	1	975.000
2	Night Vision Camera 5MP 3.6mm 1080p Raspberry Pi 3 Model B B+ Kamera	1	204.300
3	40PCS Jumper Cable Kabel 30CM Male To Male Dupoint - Male -Female	2	19.000
4	Tower Pro Micro Servo MG90S MG90 MG-90 MG-90S Metal Gear Servo	1	30.000
5	Kabel Flexibel 20 Pin 25cm AWM 20624 HLS Searah 20 pins 250mm	1	31.000
6	Original USA 3M - Double Tape 3M - Lem 3M Bening - Super Kuat Lengket	1	54.000
7	Bracket Dome Camera (Plastic) CCTV	1	31.000
8	Casing Raspberry Pi 3 Model B+ Case With Fan Cooling Kipas Pendingin	1	94.000
9	Kabel 13 Meter	1	65.000
10	Staker	1	10.000
11	Terminal	1	10.000
Total			1,523.300