IMMERSION DATA SOLUTIONS

CCC (Cyber Competition Club)

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***Presenting**: Image Capture Pose Mode*

Intro

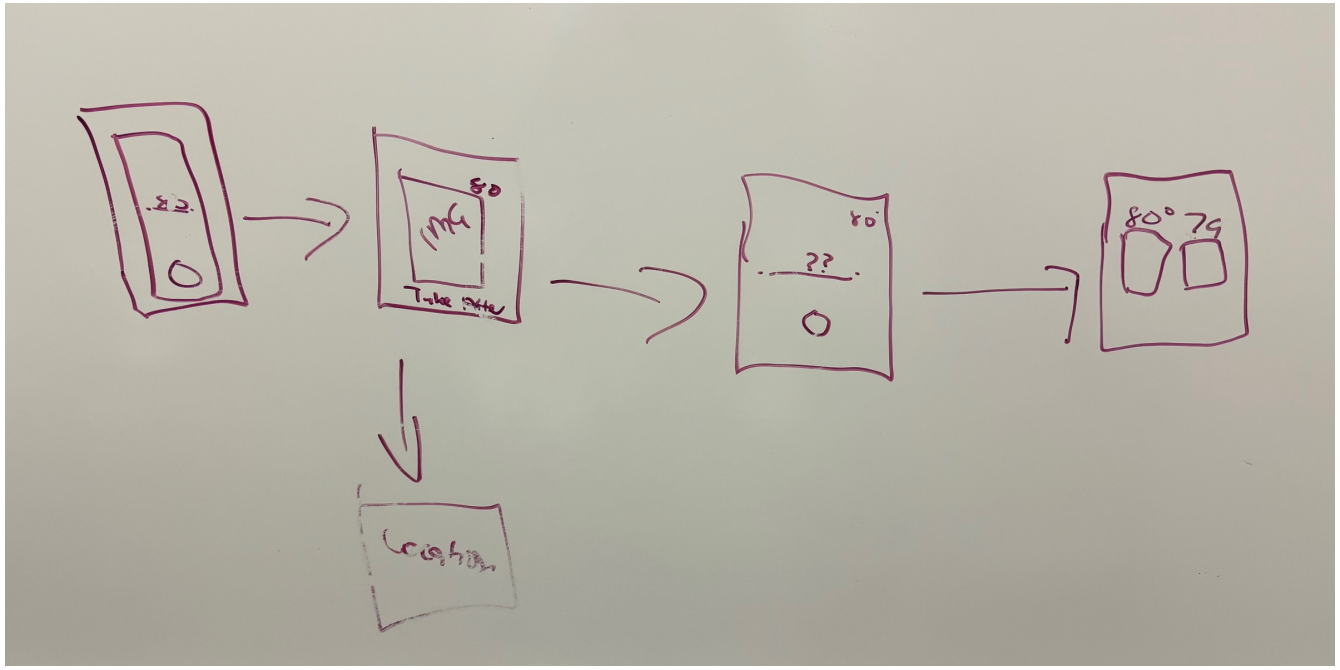
The problem:

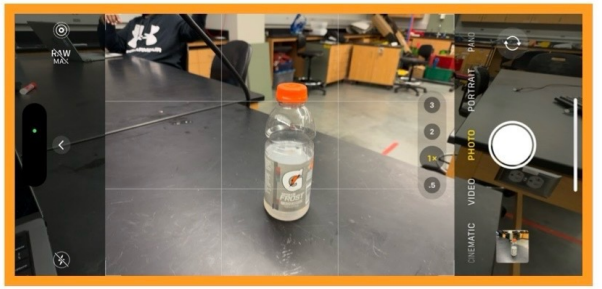
- It’s difficult for the user to take two photos from the same angle.

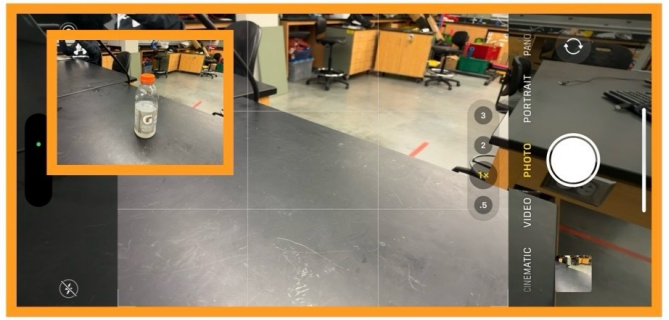
Our Solution:

- Is to create a program using the React Native framework.
- We will be able to use a smartphones camera to capture a "Before" photo.
- Then use that photo to guide the user when taking the "After" Photo.

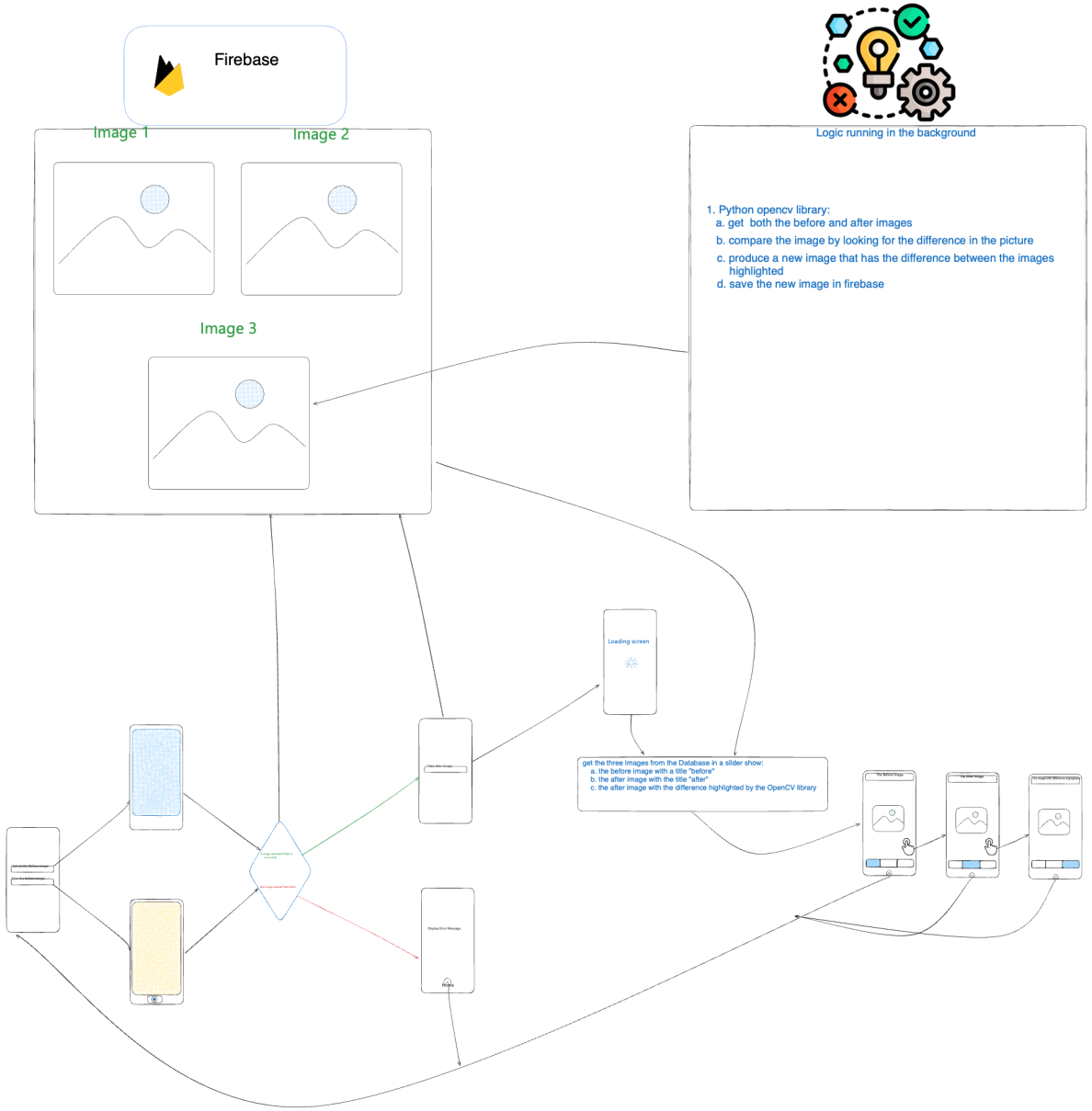
OUR SKETCH'S/IDEAS

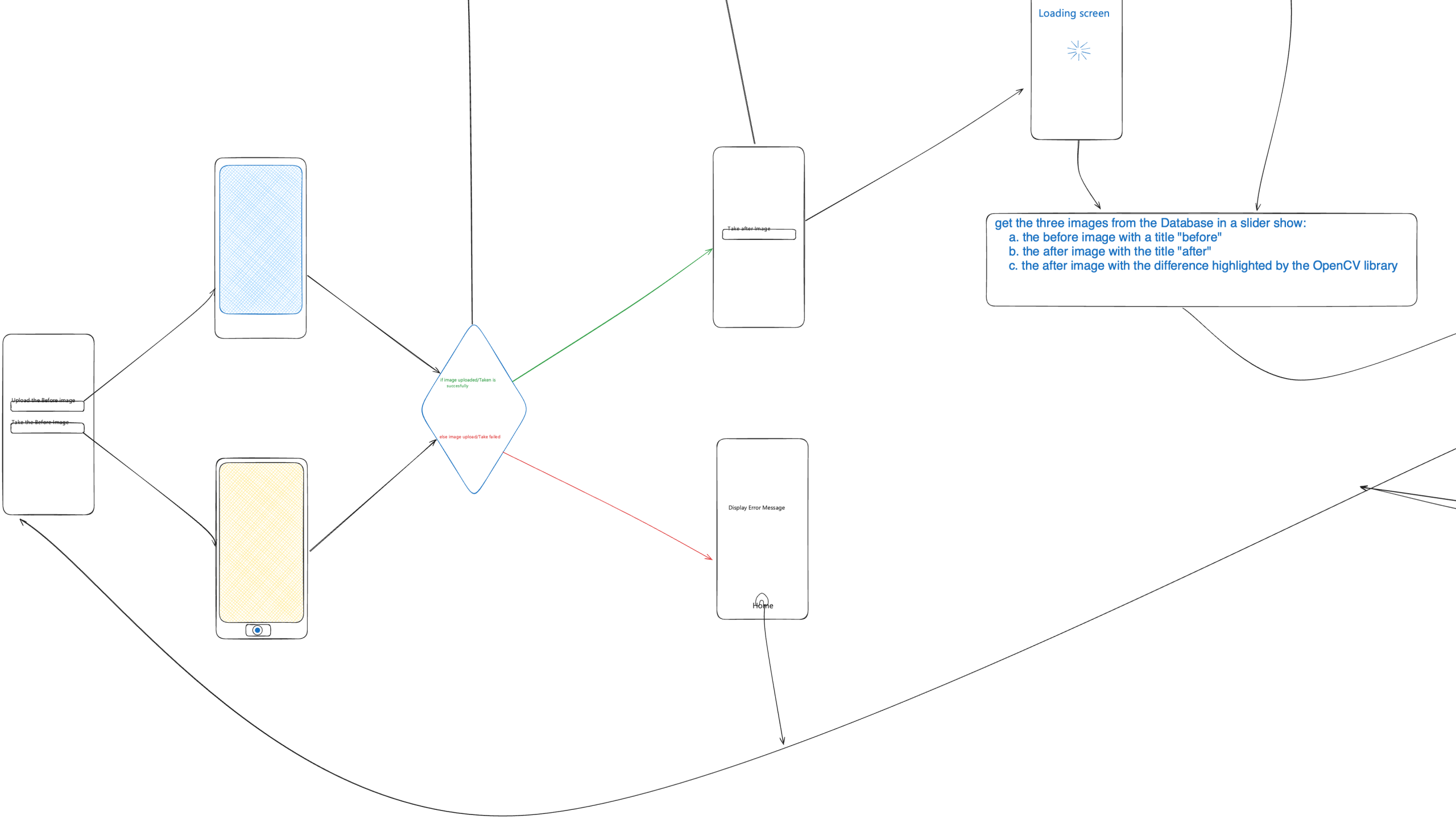






SKETCH'S/IDEAS




Loading screen
Take after image
get the three images from the Database in a slider show:
a. the before image with a title "before"
b. the after image with the title "after"
c. the after image with the difference highlighted by the OpenCV library
Upload the Before image
Take the Before Image
If image uploaded/Taken is succesfully
else image upload/Take failed
Display Error Message
Home

Firebase

Image 1

Image 2

Image 3

Logic running in the ba

1. Python opencv library:
   a. get both the before and after images
   b. compare the image by looking for the dif
   c. produce a new image that has the differe
      highlighted
   d. save the new image in firebase

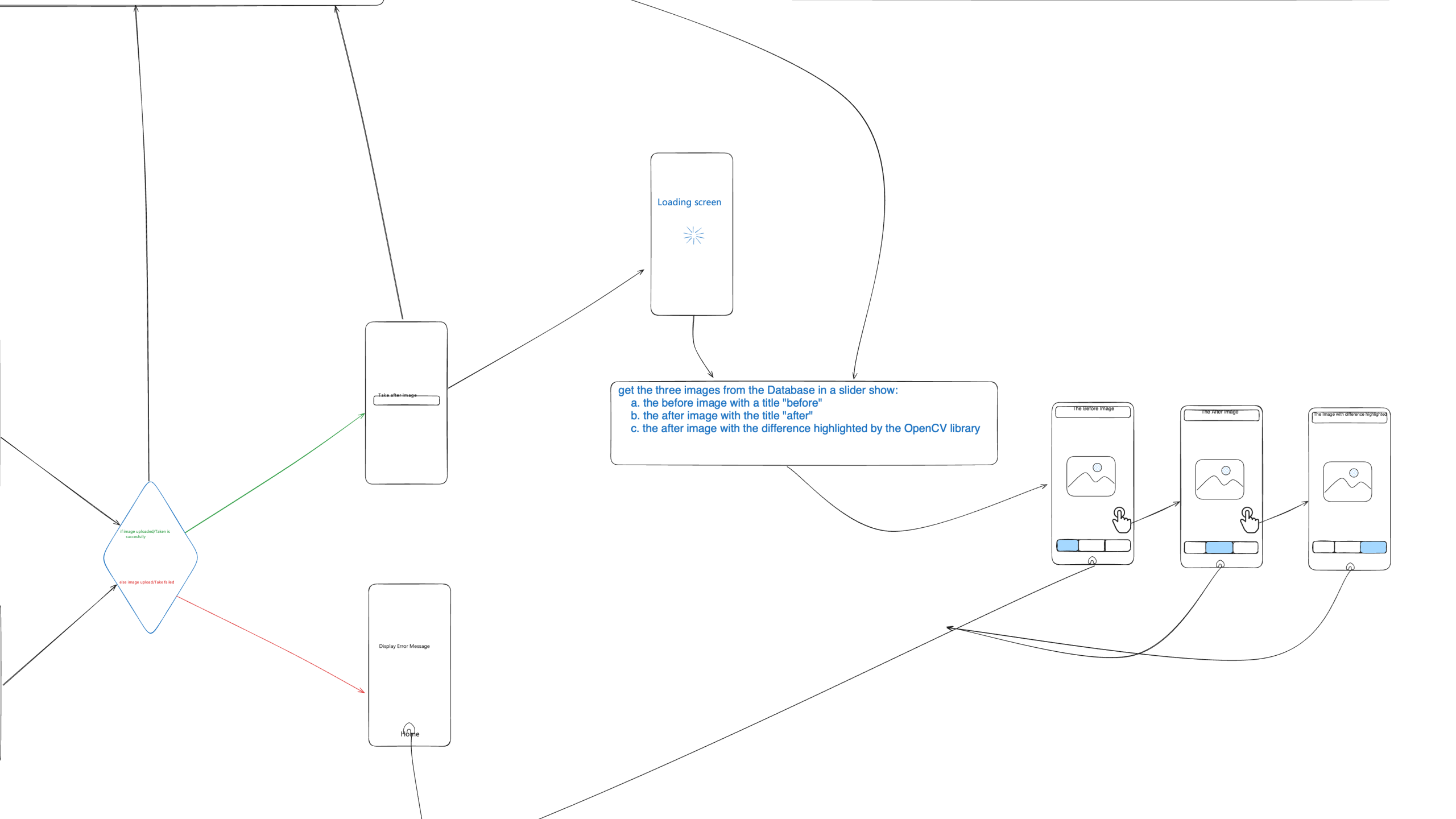
Firebase

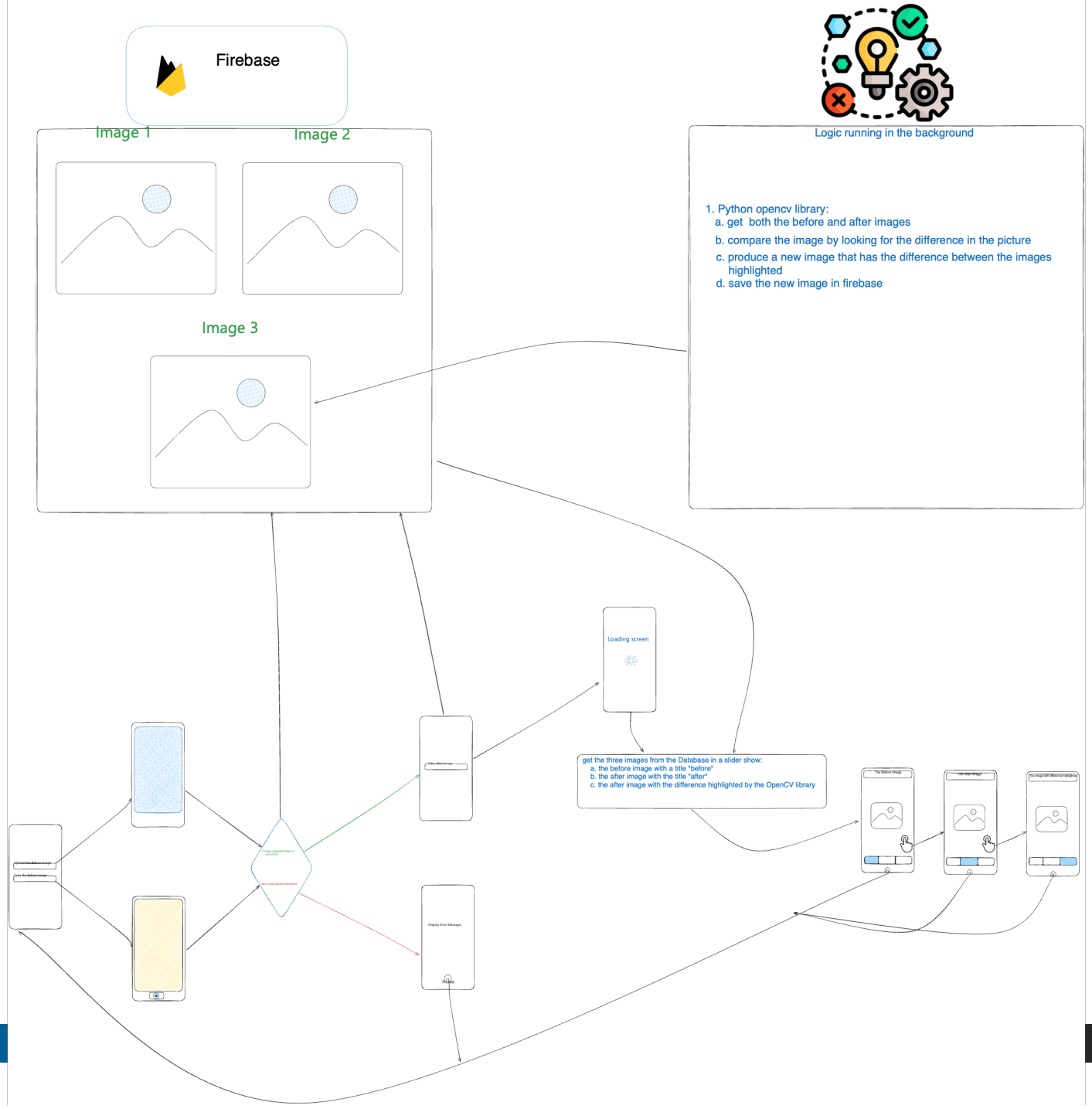
Image 2

Image 3

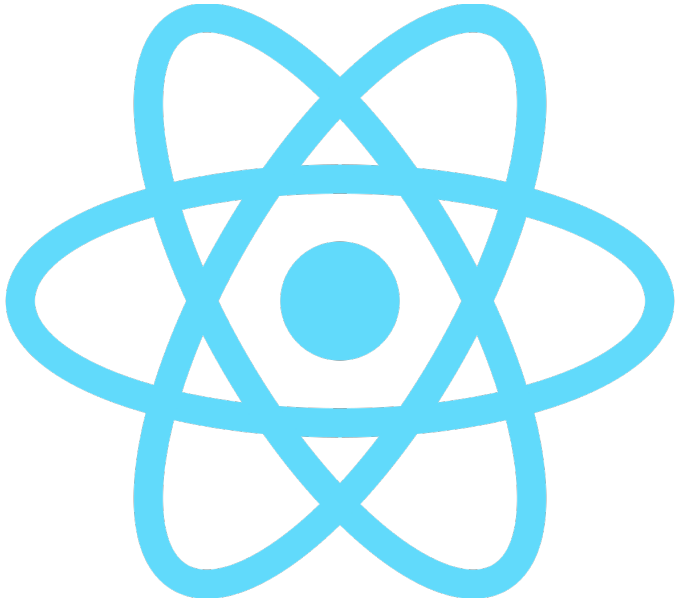
Logic running in the background

1. Python opencv library:
   a. get both the before and after images
   b. compare the image by looking for the difference in the picture
   c. produce a new image that has the difference between the images highlighted
   d. save the new image in firebase

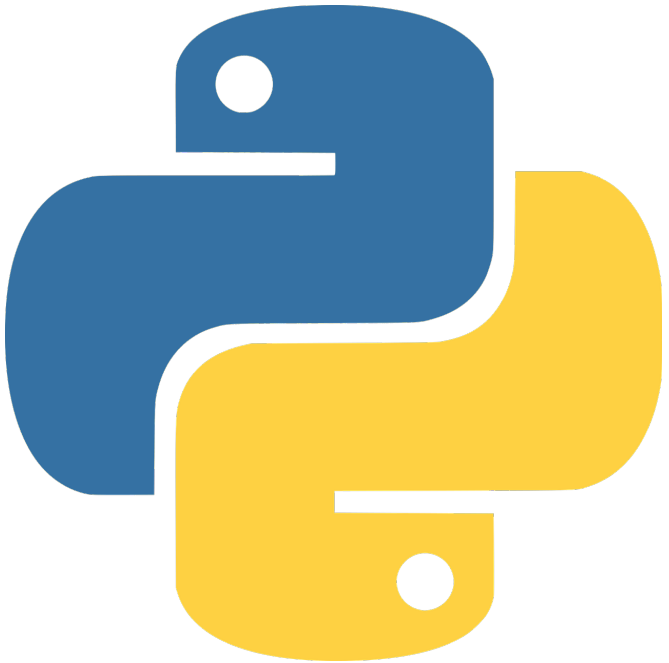

Loading screen
Take after Image
get the three images from the Database in a slider show:
a. the before image with a title "before"
b. the after image with the title "after"
c. the after image with the difference highlighted by the OpenCV library
The Before Image
The After Image
The Image with difference highlighted
if image uploaded/Taken is succesfully
else image upload/Take failed
Display Error Message
Home


Firebase
Image 1
Image 2
Image 3
Logic running in the background
1. Python opencv library:
a. get both the before and after images
b. compare the image by looking for the difference in the picture
c. produce a new image that has the difference between the images highlighted
d. save the new image in firebase
Loading screen
get the three images from the Database in a slider show:
a. the before image with a title "before"
b. the after image with the title "after"
c. the after image with the difference highlighted by the OpenCV library

Technologies



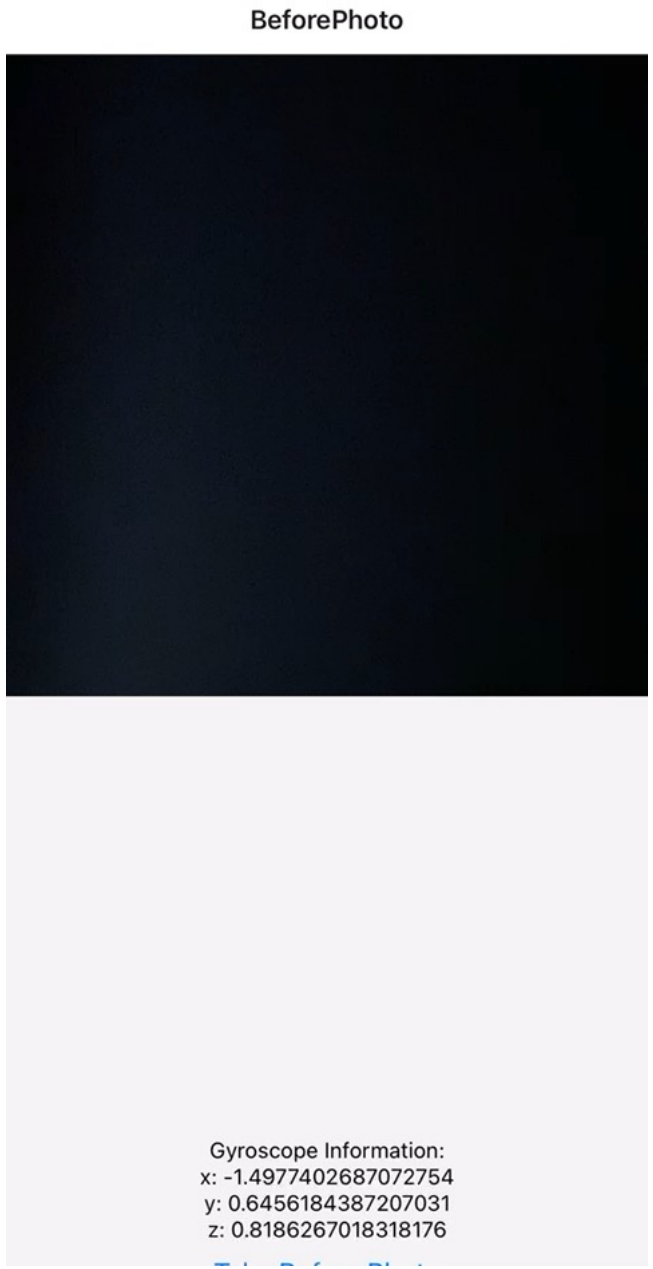
React Native

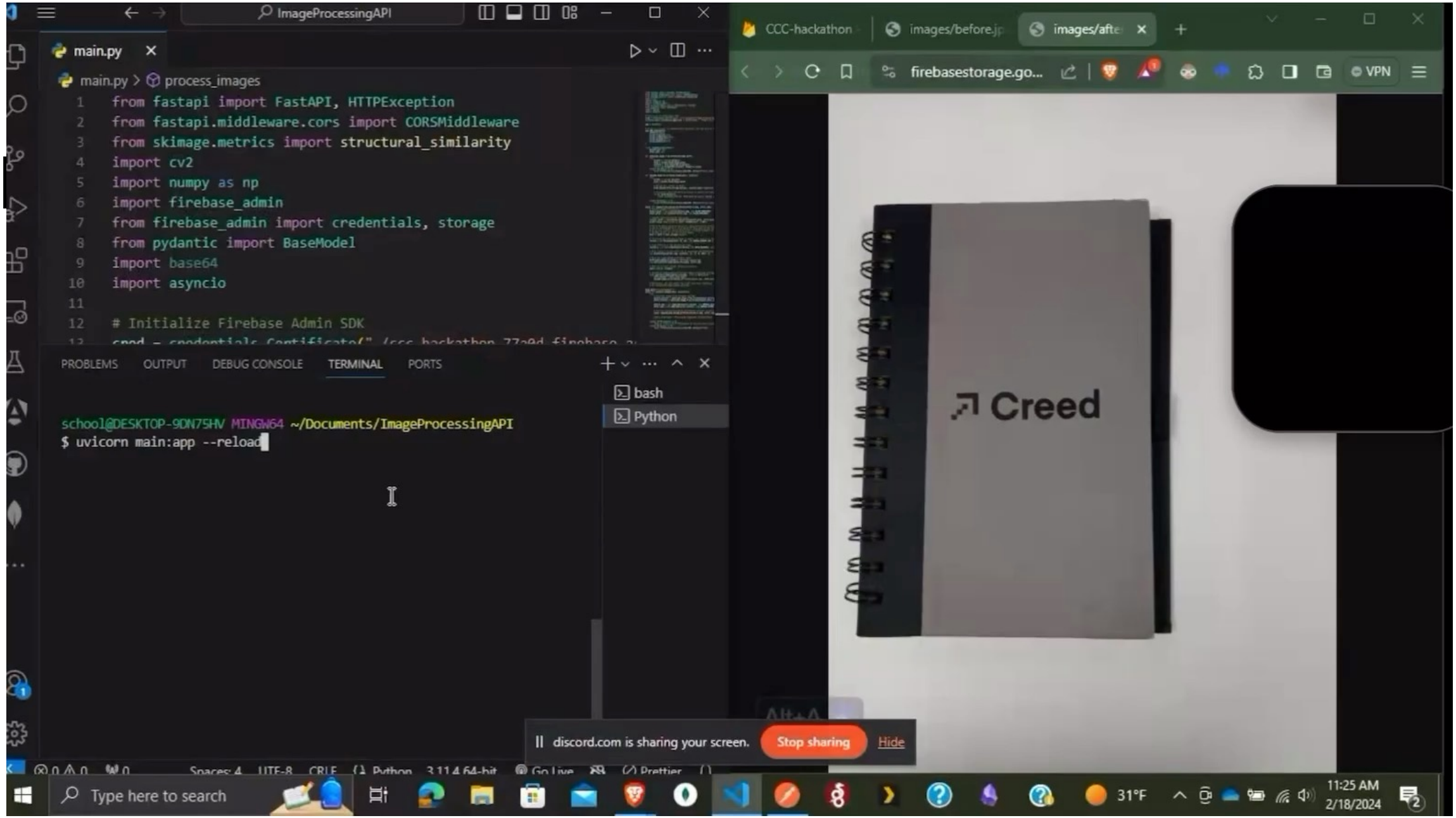


Python

Google Firebase

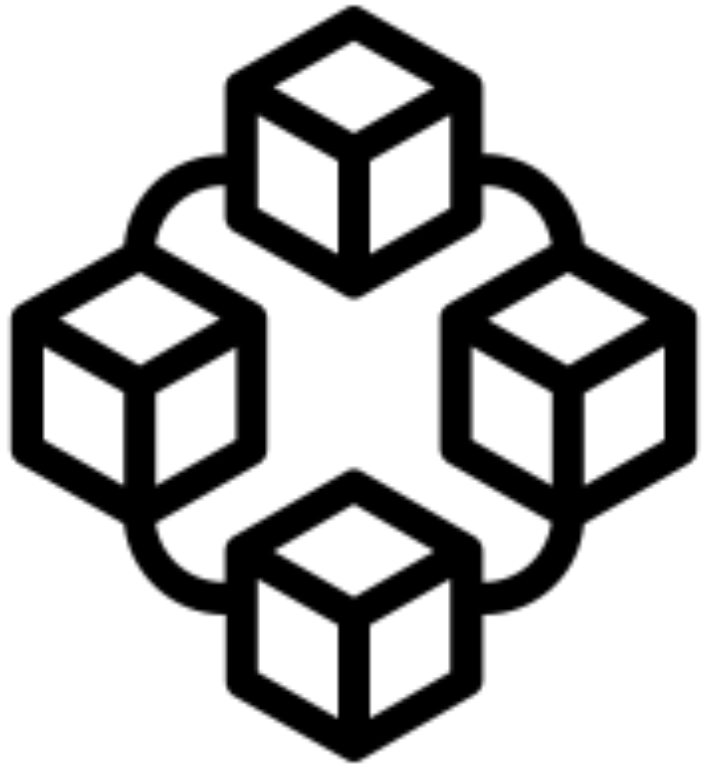
Front-End Demo




ImageProcessingAPI
main.py
main.py > process_images
from fastapi import FastAPI, HTTPException
from fastapi.middleware.cors import CORSMiddleware
from skimage.metrics import structural_similarity
import cv2
import numpy as np
import firebase_admin
from firebase_admin import credentials, storage
from pydantic import BaseModel
import base64
import asyncio
# Initialize Firebase Admin SDK
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
bash
Python
school@DESKTOP-9DN75HV MINGW64 ~/Documents/ImageProcessingAPI
$ uvicorn main:app --reload
CCC-hackathon
images/before.jp
images/afte
firebasestorage.go...
VPN
Creed
discord.com is sharing your screen.
Stop sharing
Hide
Type here to search
31°F
11:25 AM
2/18/2024

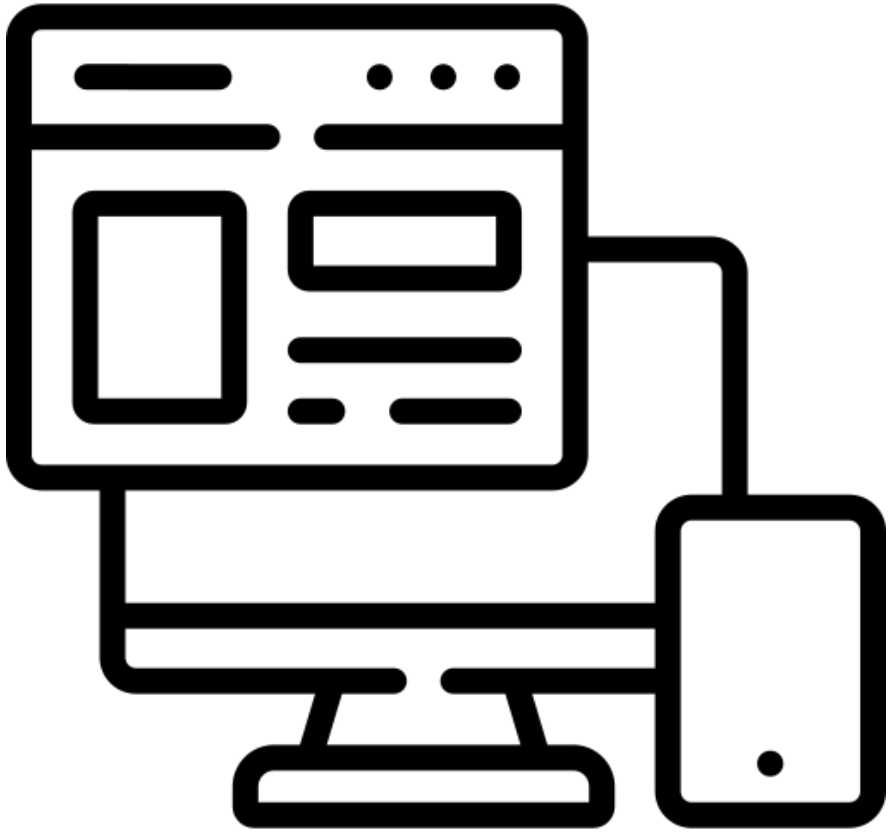
Obstacles

- **Big Problem:** Linking different technologies together.
- Depreciated libraries.
- Learning curve of using React Native for the first time.
- Time



Looking Forward

- Linking both front-end and back-end together.
- Polishing front-end to make it easy to use and understand for the end user.



QUESTIONS?