VISVESVARAYA TECHNOLOGICAL UNIVERSITY,
BELGAUM 590014

Mobile Application Development Report on

"F and O project"

By
N JAYANTH (1BM17CS050)
SADIN SHRESTHA (1BM16CS142)
ABHISHEK M (1BM17CS005)

Under the Guidance of

Namratha M
Assistant Professor, Department of CSE
BMS College of Engineering

Mobile Application Development carried out at

Department of Computer Science and Engineering
BMS College of Engineering
(Autonomous college under VTU)
P.O. Box No.: 1908, Bull Temple Road, Bangalore-560 019
2020-2021

BMS COLLEGE OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that the mobile application development titled "F AND O PROJECT" has been carried out by N Jayanth (1BM17CS050) , Sadin Shrestha (1BM16CS142) and Abhishek M (1BM17CS005) during the academic year 2020-2021.

Signature of the guide

Namratha M

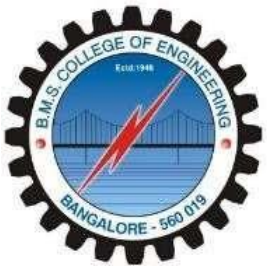
Assistant Professor

Department of Computer Science and Engineering

BMS College of Engineering, Bangalore

BMS COLLEGE OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



DECALARATION

We, N Jayanth (1BM17CS050), Sadin Shrestha (1BM16CS142) and Abhishek M (1BM17CS005) students of 5th Semester, B.E, Department of Computer Science and Engineering, BMS College of Engineering, Bangalore, hereby declare that, this mobile application development work entitled "F and O project" has been carried out by us under the guidance of
Namratha M, Assistant Professor, Department of CSE, BMS College of Engineering, Bangalore during the academic semester Sep-Jan 2021.

We also declare that to the best of our knowledge and belief, the development reported here is not from part of any other report by any other students.

Signature

N Jayanth (1BM17CS050)
Sadin Shrestha (1BM16CS142)
Abhishek M (1BM17CS005)

INTRODUCTION

F and O project provides an easy way to identify faces and objects in a real time environment. We have created an app through which users can detect faces and objects in an environment and also classify those objects into simple categories.

We used android studio as our framework and firebase ml and Mlkit library to develop this app. This app is coded in java programming language.

This application has been created to allow easy detection of objects and people and allow this information to be presented in real time to the user.

FEATURES

F and O project program has the following features:

- Camera:

This is a simple implementation which basically uses the device camera to capture an image. It has a small button at the bottom right corner which can be used to change whether the front facing camera is to be used or rear facing camera is to be used. Another button at the bottom left corner is used for capturing the image the user wants.

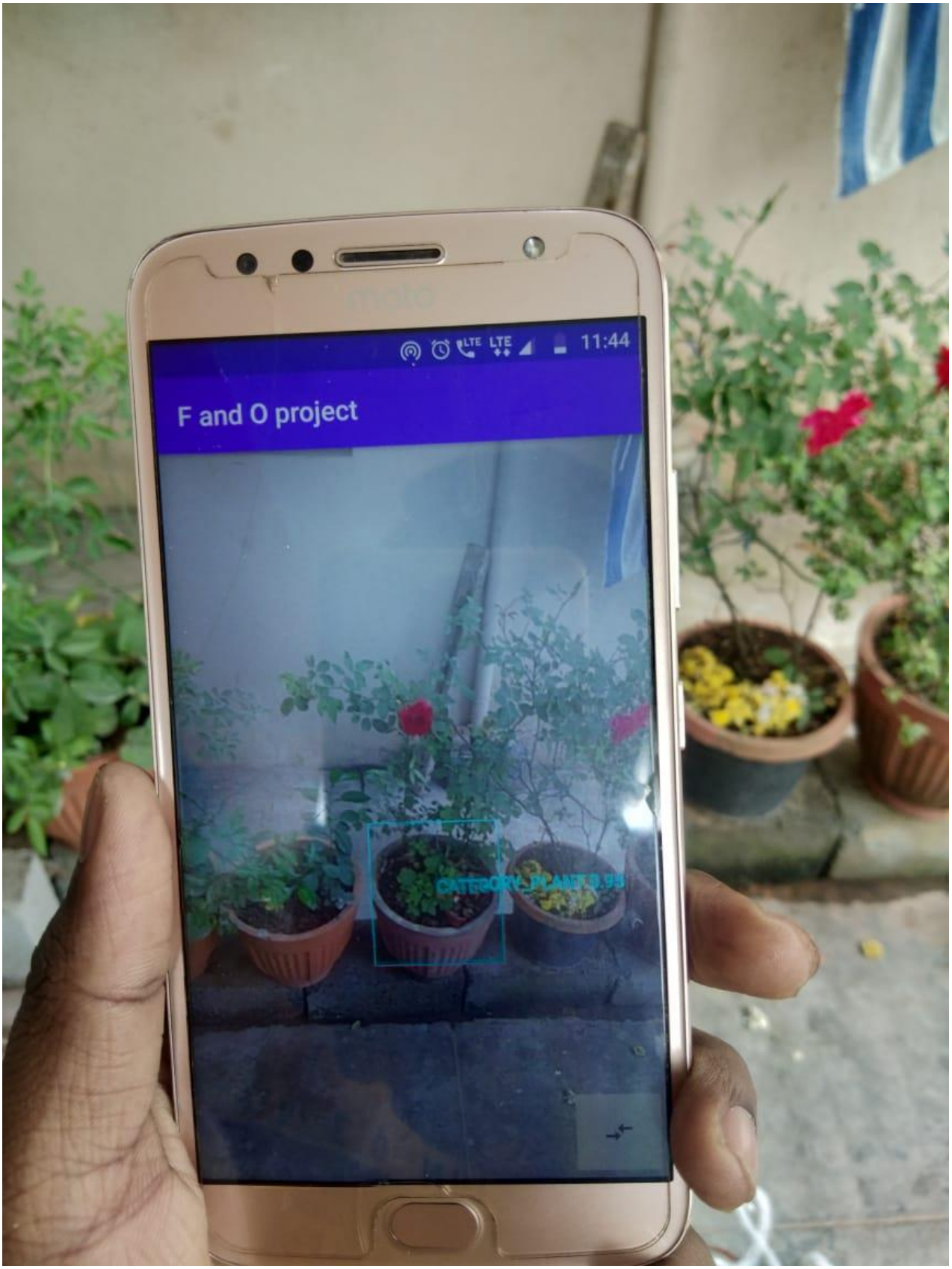
- Real time face detector:

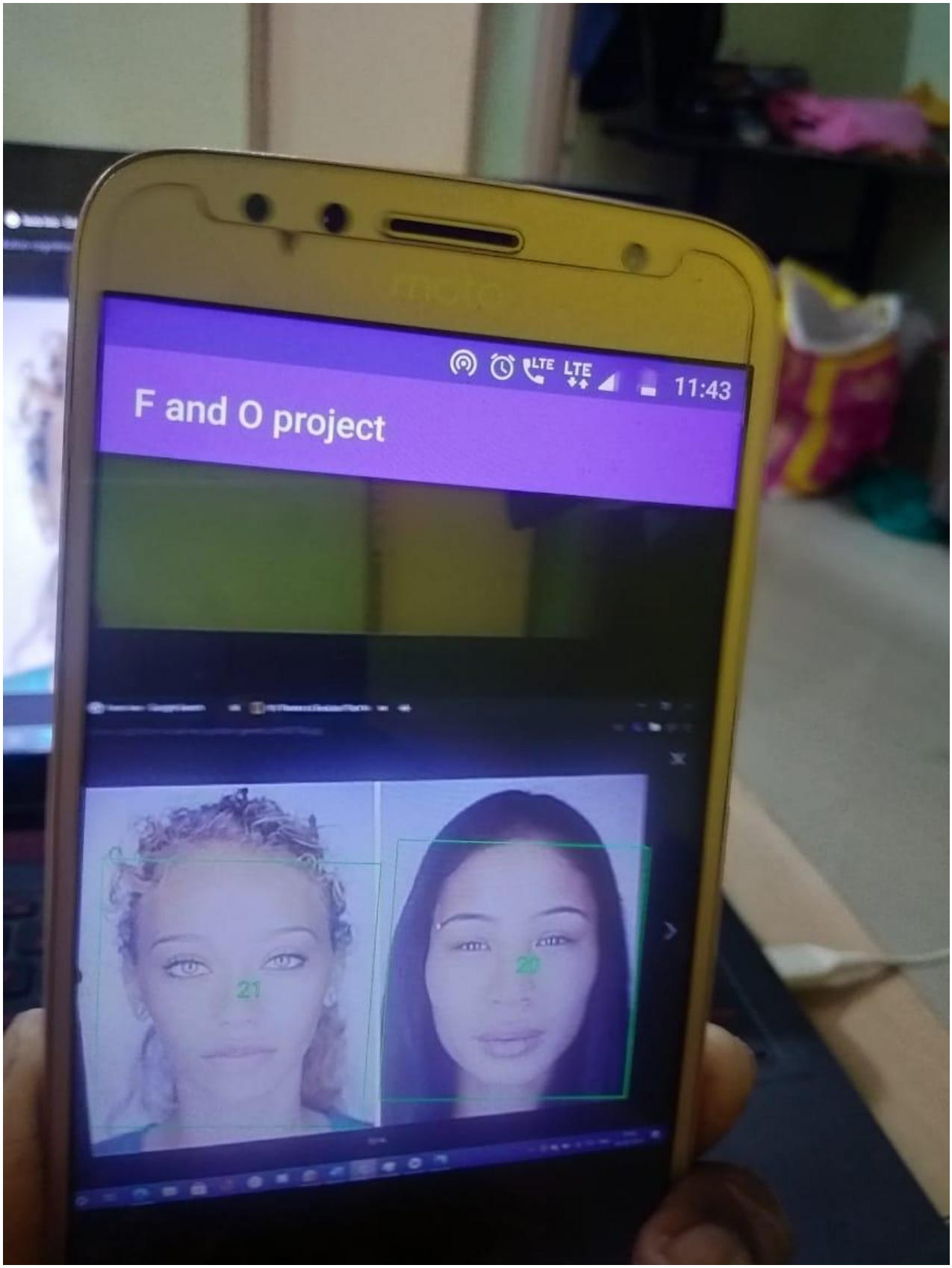
There is a button at the bottom right side which can be used to change whether the front facing camera is to be used or rear facing camera is to be used. It uses face contours to identify the faces and displays a contour or boundary lines on the outline of face in the camera view. This uses face contour mapping functions of Mlkit library.

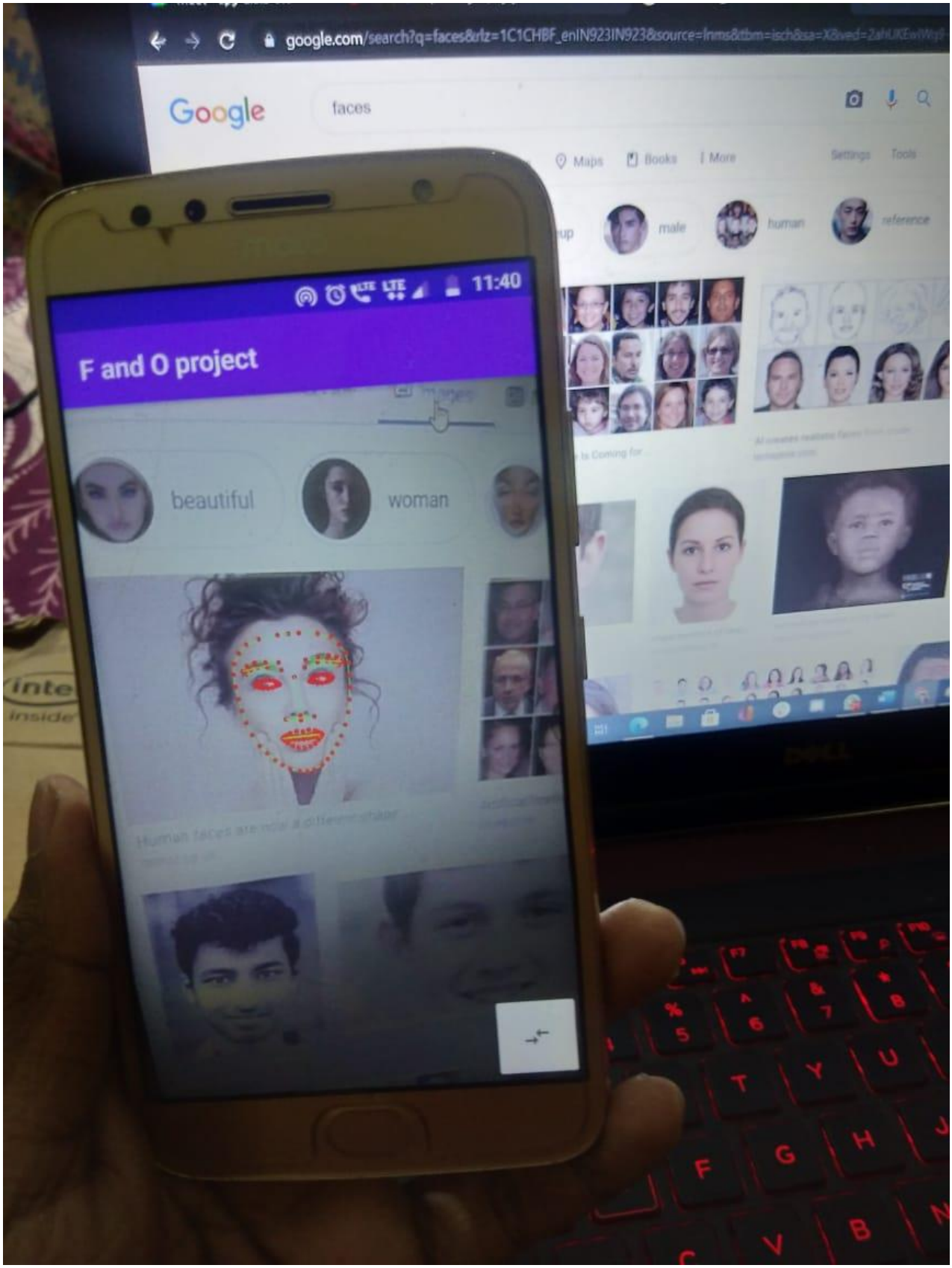
- Real time object detector:

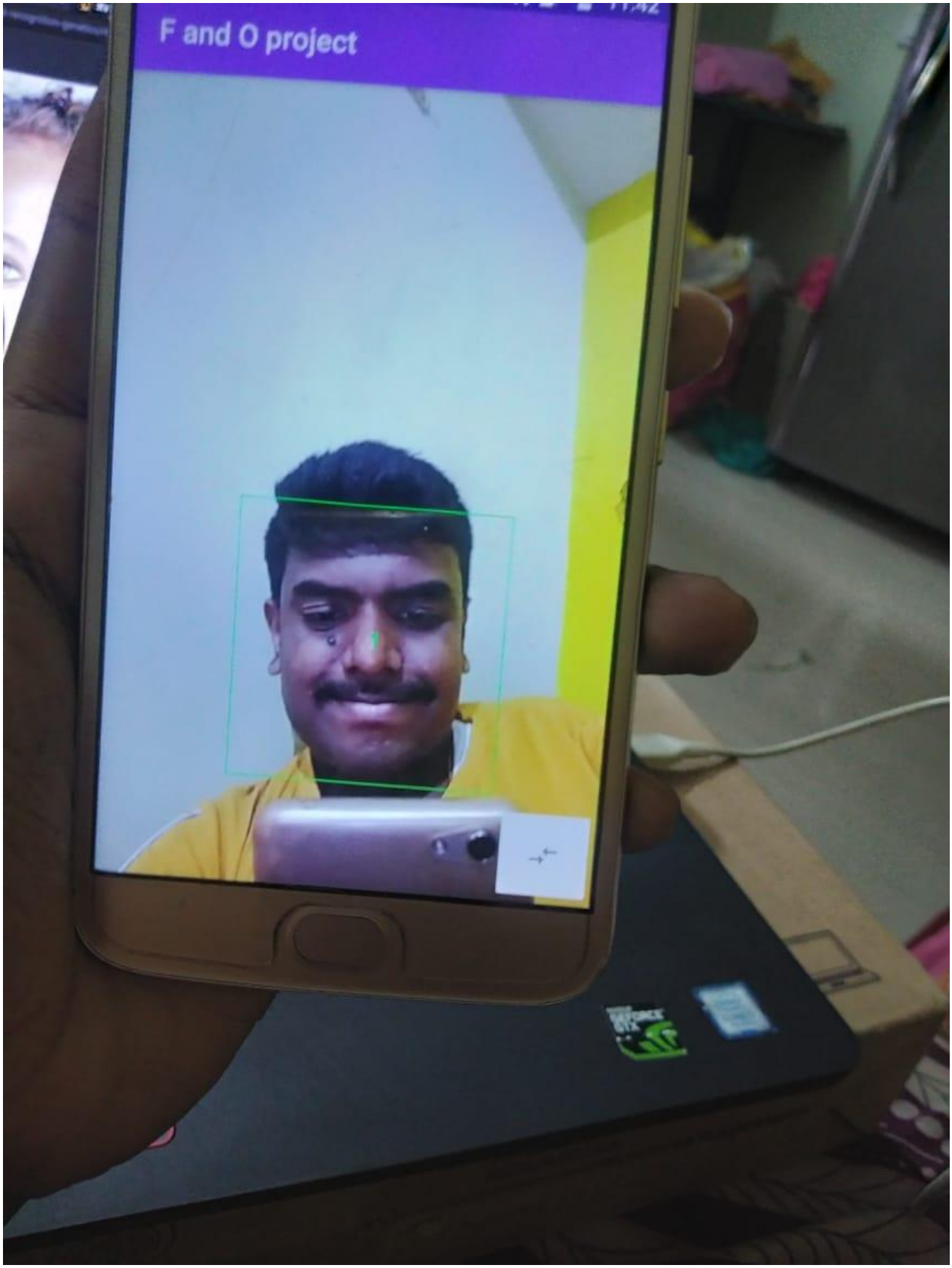
There is a button at the bottom right side which can be used to change whether the front facing camera is to be used or rear facing camera is to be used. It uses rectangular contours to identify the objects and displays a contour or boundary lines on the outline of objects in the camera view. Various labels are defined during coding time using machine learning functions of Mlkit and is run in firebase to load the object labels and the result to our application. The object is identified and matched with the labels created which is mentioned above. Thus, the object is identified.

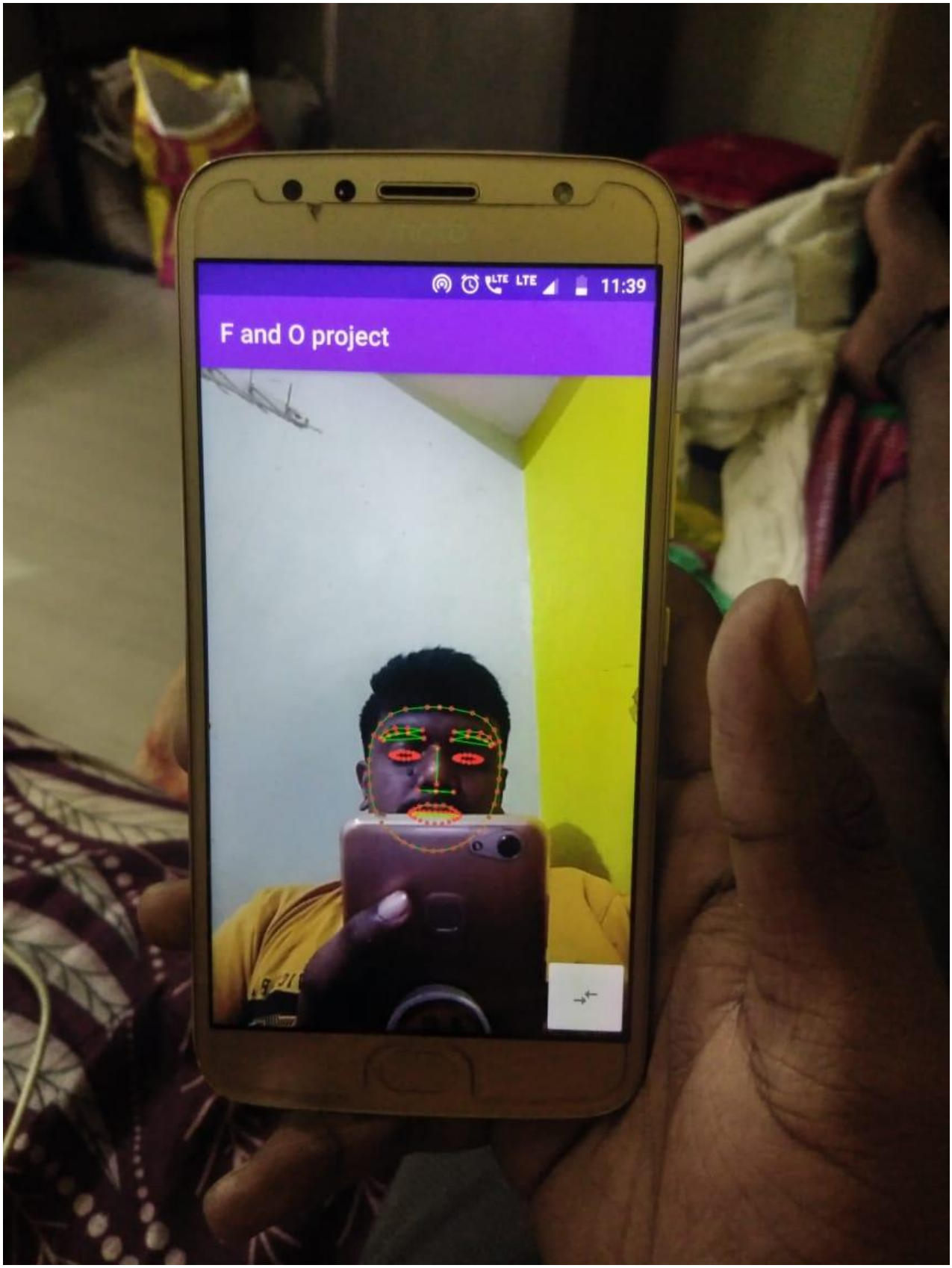
SCREENSHOTS

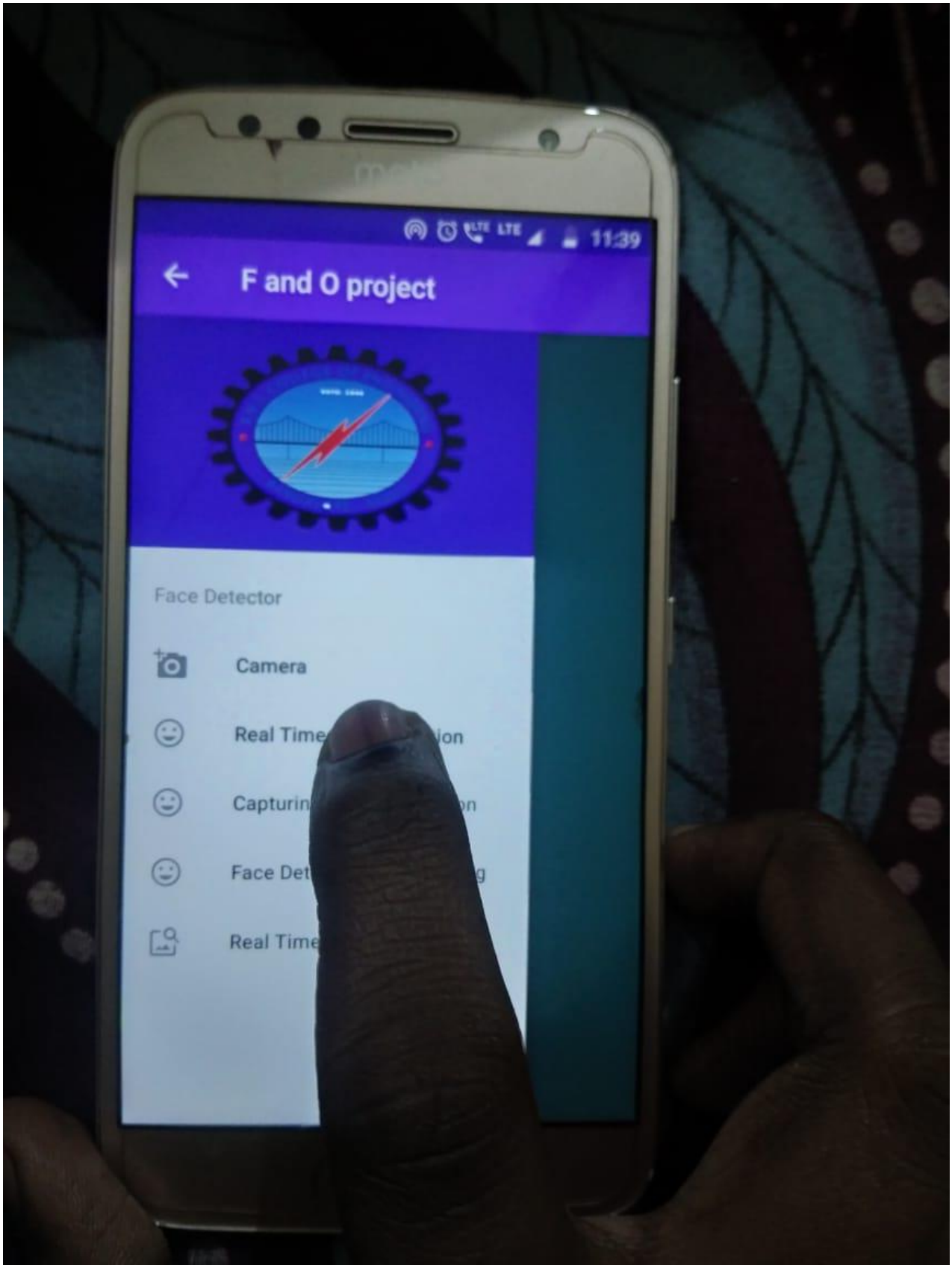

11:44
F and O project

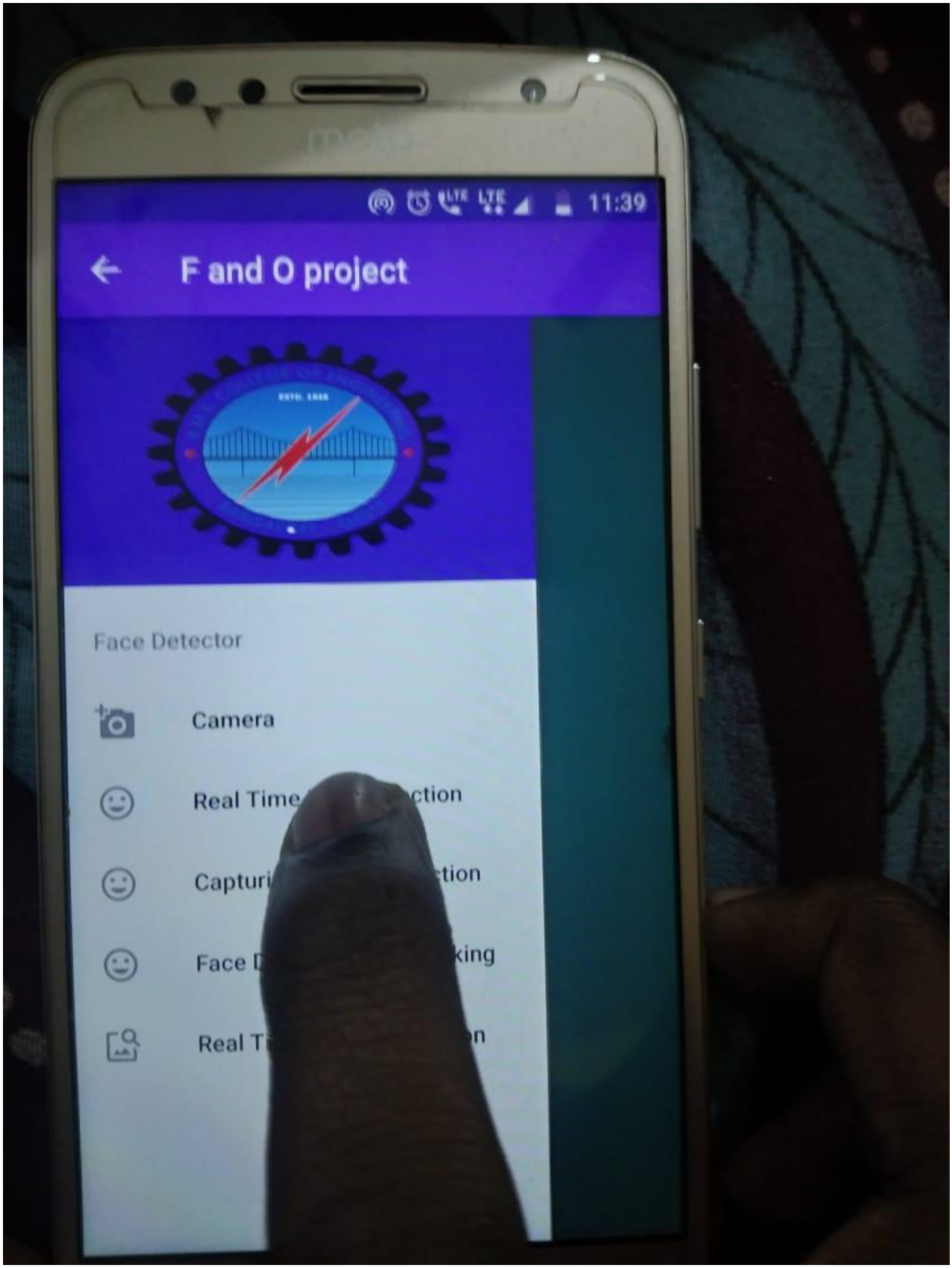

11:43
F and O project
21
20

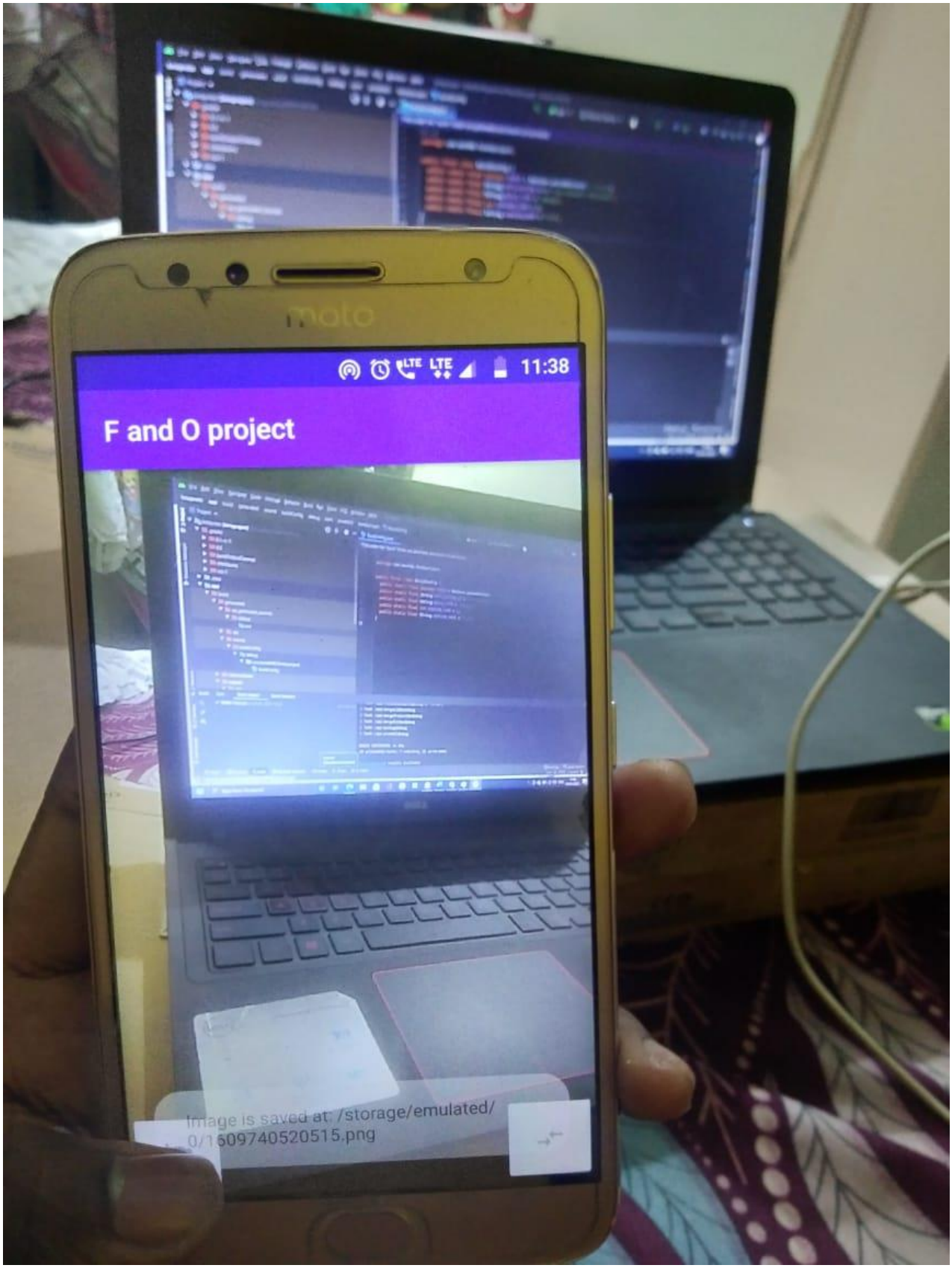

google.com/search?q=faces&rlz=1C1CHBF_enIN923IN923&source=lnms&tbm=isch&sa=X&ved=2ahUKEwiWq
Google
faces
Maps
Books
More
Settings
Tools
male
human
reference
11:40
F and O project
beautiful
woman

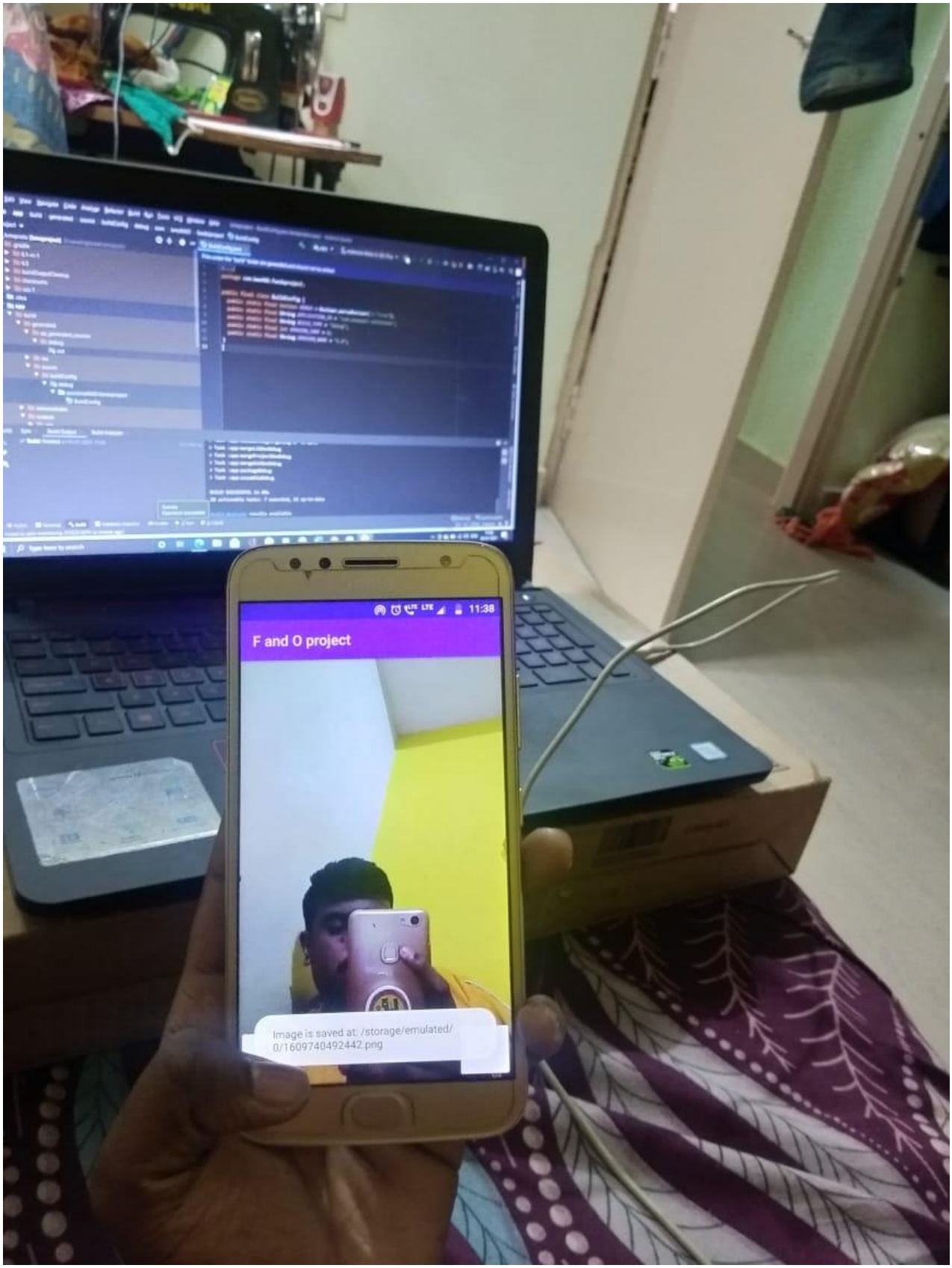

F and O project

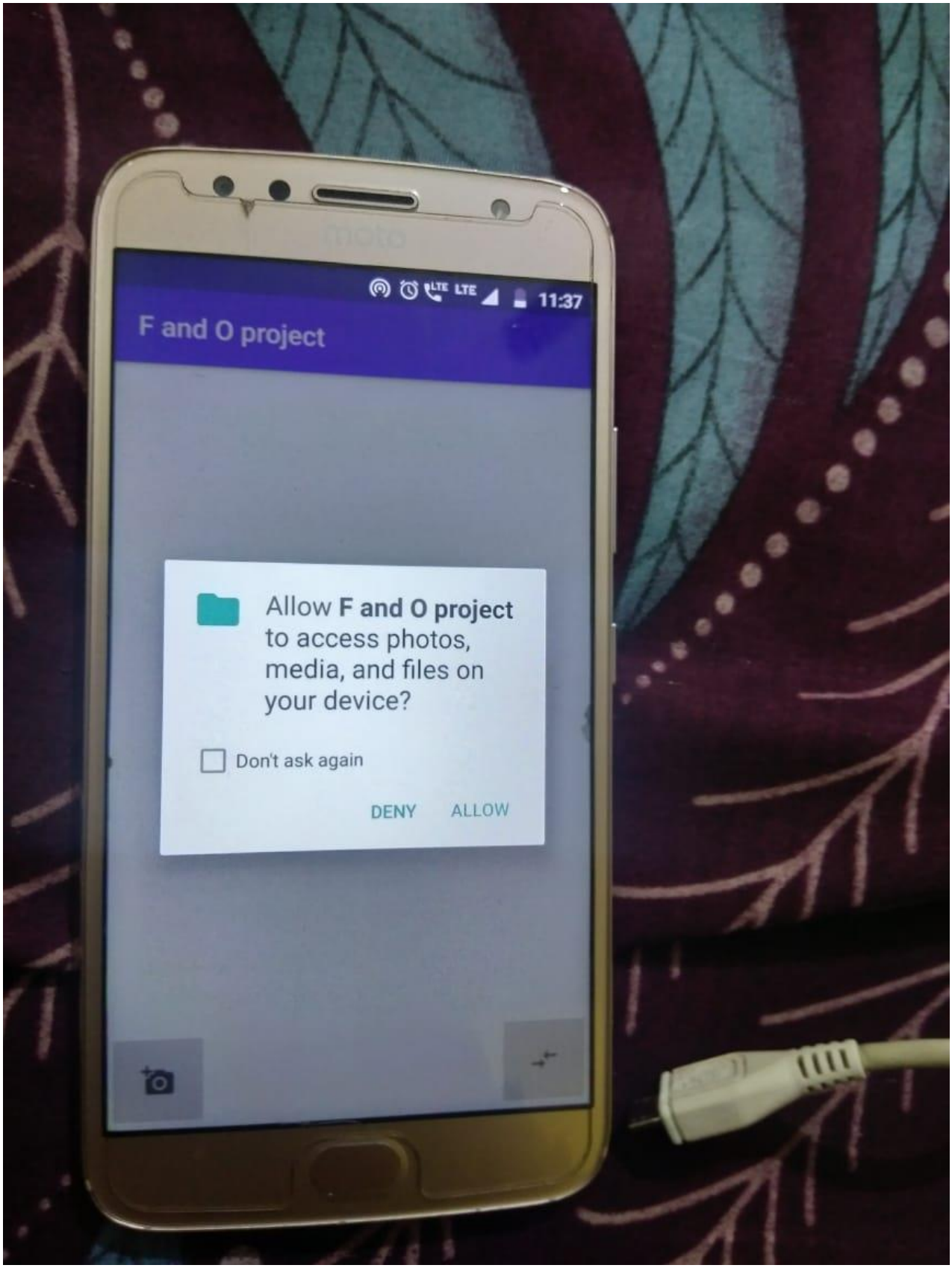

11:39
F and O project

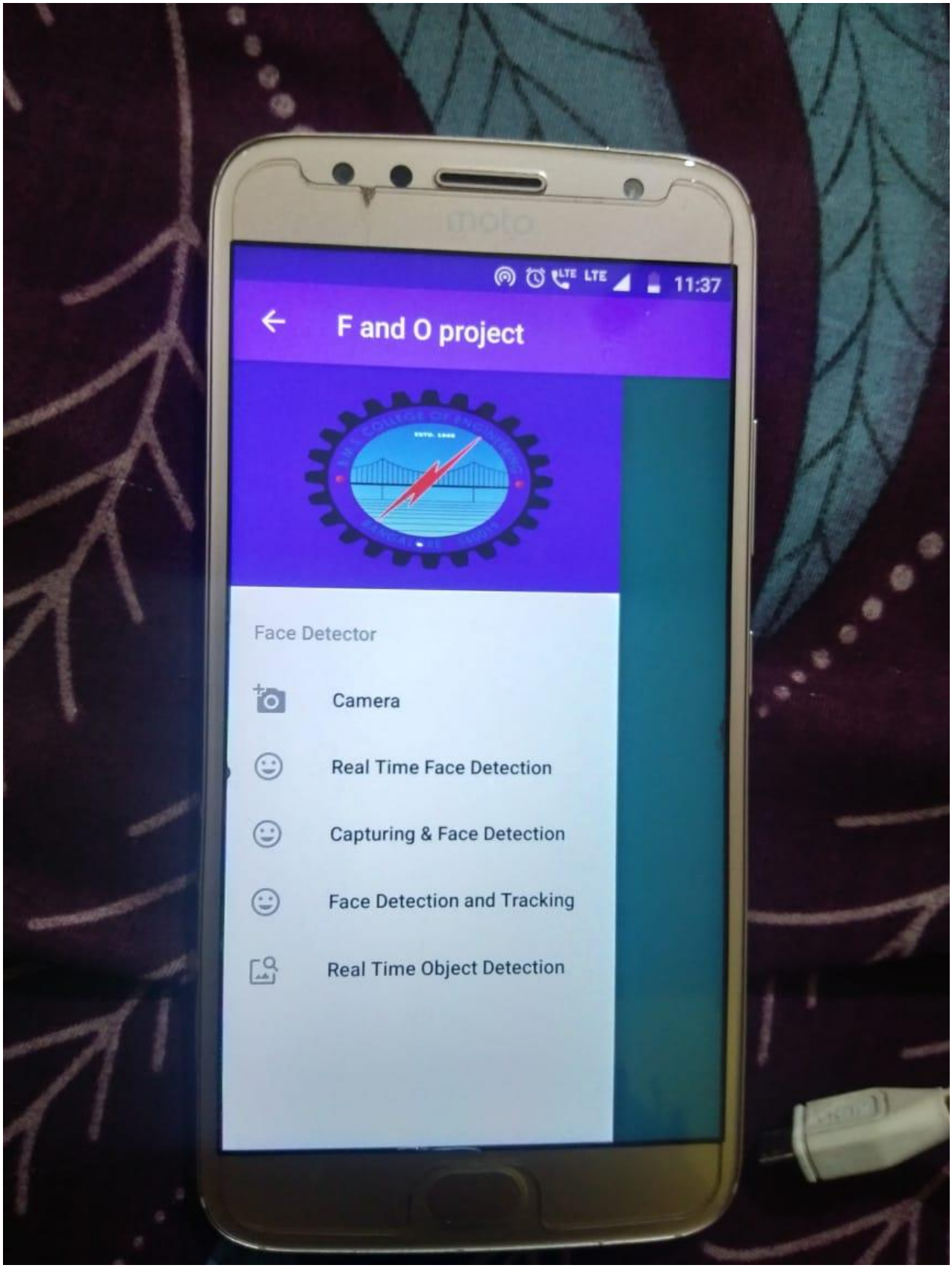

11:39
F and O project
Face Detector
Camera
Real Time
Capturin
Face Det
Real Time


11:39
F and O project
Face Detector
Camera


11:38
F and O project
Image is saved at: /storage/emulated/
0/1609740520515.png


11:38
F and O project
Image is saved at: /storage/emulated/
0/1609740492442.png


11:37
F and O project
Allow F and O project to access photos, media, and files on your device?
Don't ask again
DENY
ALLOW


11:37
F and O project
Face Detector
Camera
Real Time Face Detection
Capturing & Face Detection
Face Detection and Tracking
Real Time Object Detection

CONCLUSION

We have presently created a face and object detection app. This app will be improved with classifiers added to the app to classify the people and objects using Mlkit library and Firebase.

We also wish to add an audio notifier to read out the label of the person or object identified so that it can be used by blind people to identify people.

This app can be further developed to be used as face classifier which then could be used for face authentication. Hence enhancing the security of your phone. This is just a basic version with a simple and a user-friendly interface and we will be working on it to improve it and releasing newer versions.