Republic of the Philippines
EULOGIO "AMANG" RODRIGUEZ
INSTITUTE OF SCIENCE AND TECHNOLOGY
Nagtahan, Sampaloc, Manila

COLLEGE OF ARTS AND SCIENCES - ITE DEPARTMENT

June 17, 2021

Group Name: **DRAF**

Group Leader:	**Bensay, Ramel**	**June 17, 2021**
Group Members:	**Teaño, Daniel**	**June 17, 2021**
	Elis, Fatima	**June 17, 2021**
	Marquez Jr., Dexter	**June 17, 2021**

Final Project in Application Development and Emerging Technologies Title:

IDentify: A Visual Information Processing thru Android Application using TensorFlow

Rationale:

Today mobile devices have powerful and influential hardware devices which like high-density cameras and high-speed internet connection. With that achievement in mobile devices, it's more advantageous to create an app with this device (Stephen Perkins and Lesley Chapel 2020).

In study of University of Tartu mentioned image processing is among rapidly growing technologies. It forms core research area within engineering and computer science disciplines too. In Visual Information Processing introduce how to construct of available

visual information. Good visual information processing means being capable to early and accurately operate and analyze what is being seen, and process it in visual memory.

In this paper, the project is focus to developed mobile version of visual information system using or powered by TensorFlow lite. This application works on real time camera and distinguish a color from others in the scene that was selected by user and the application can be relied upon by the visually impaired user to give reliable results. Depending on the image quality and the outcome of the detection is given to the person using the cell phone in image format. The higher the resolution of an image, the greater the number of pixels.

The project will use TensorFlow since it is a multipurpose machine learning framework. According to documentation of TensorFlow.org, TensorFlow can be used anywhere from training huge models across clusters in the cloud, to running models locally on an embedded system like your phone. This code lab uses TensorFlow to run an image recognition model on an Android device.

Area of investigation:

- Visual Information System

Beneficiaries:

- Students - the study will be dedicated for students so that they can have an insights when developing an app with TensorFlow.

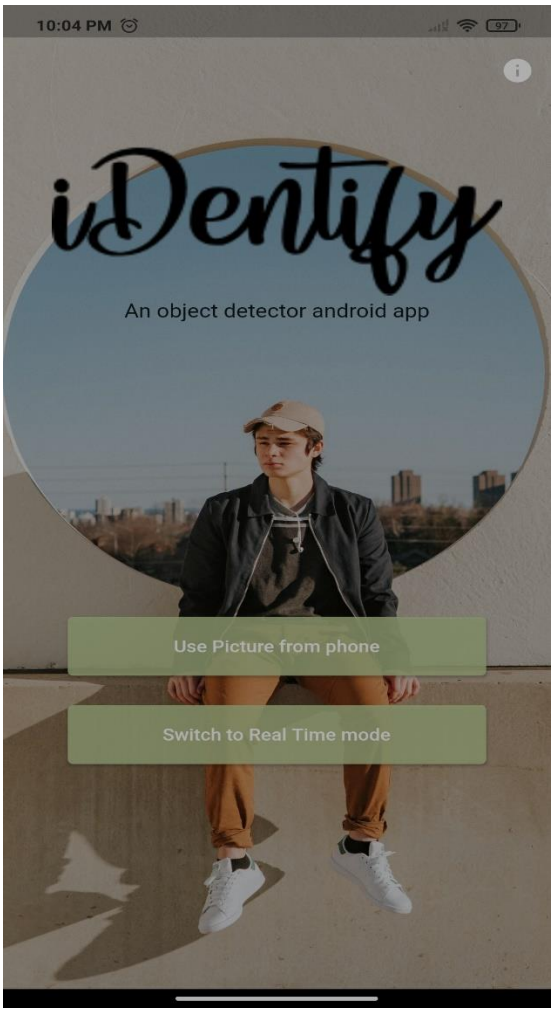
Features of the application development:

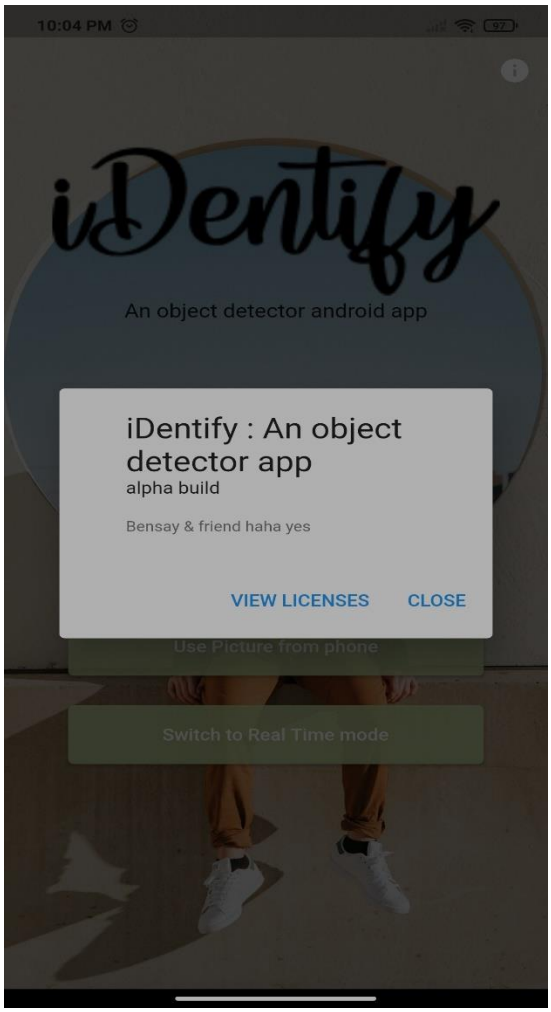
- Lightweight
- Can identify object taken with the app
- Can identify object chosen from gallery
- Detect Object Realtime in video
- Clean UI design

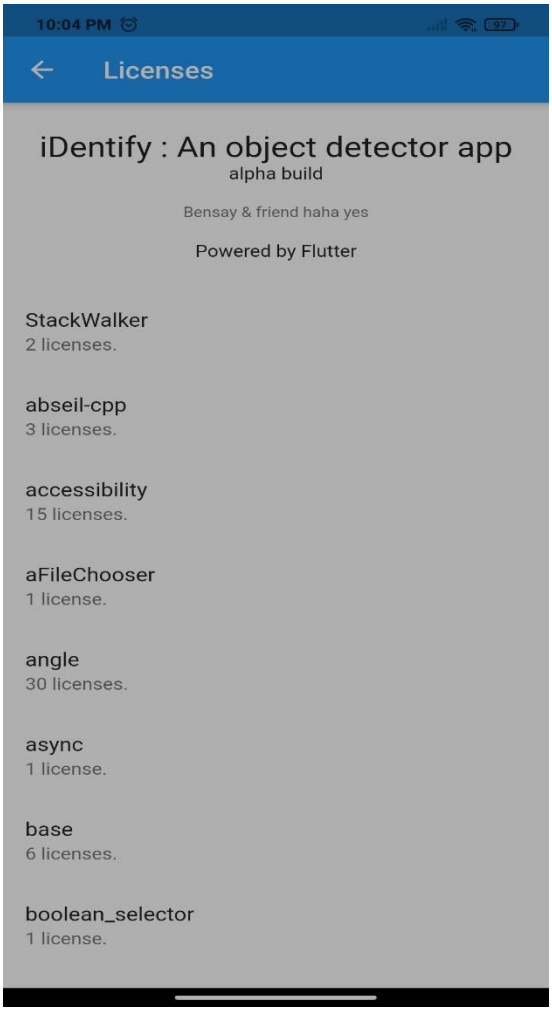
Technologies:

- TensorFlow
- Dart Language: 2.13.0-211.6. beta (beta)
- Flutter (Channel dev, 2.2.0-10.1.pre, on Linux, locale en_PH.UTF-8)
- Android toolchain - develop for Android devices (Android SDK version 29.0.2)
- flutter_plugin_android_lifecycle: 2.0.2
- image_picker: 0.8.1+3
- camera: 0.5.8+7
- tflite: 1.1.2

User's Manual:



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Licenses
iDentify : An object detector app
alpha build
Bensay & friend haha yes
Powered by Flutter
StackWalker
2 licenses.
abseil-cpp
3 licenses.
accessibility
15 licenses.
aFileChooser
1 license.
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async
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base
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boolean_selector
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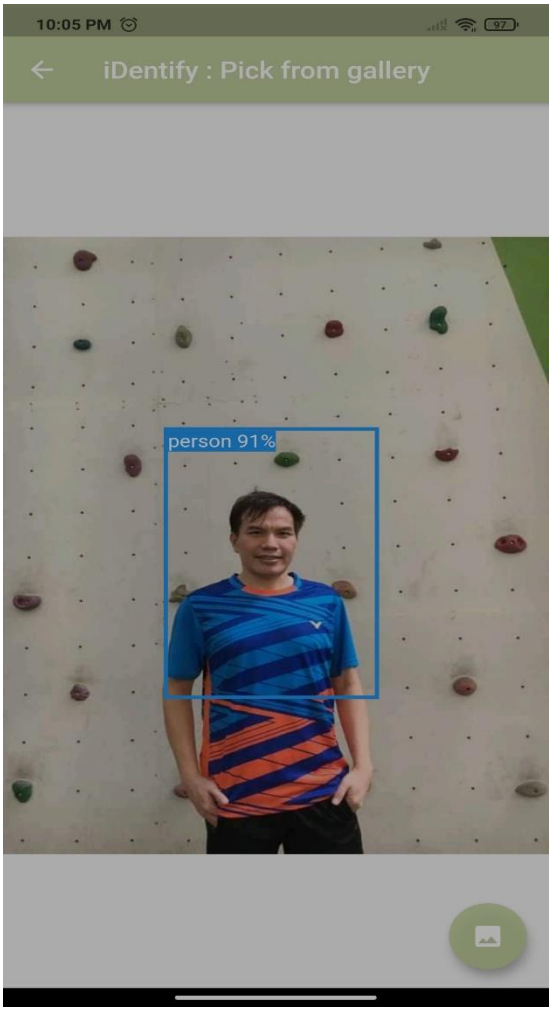
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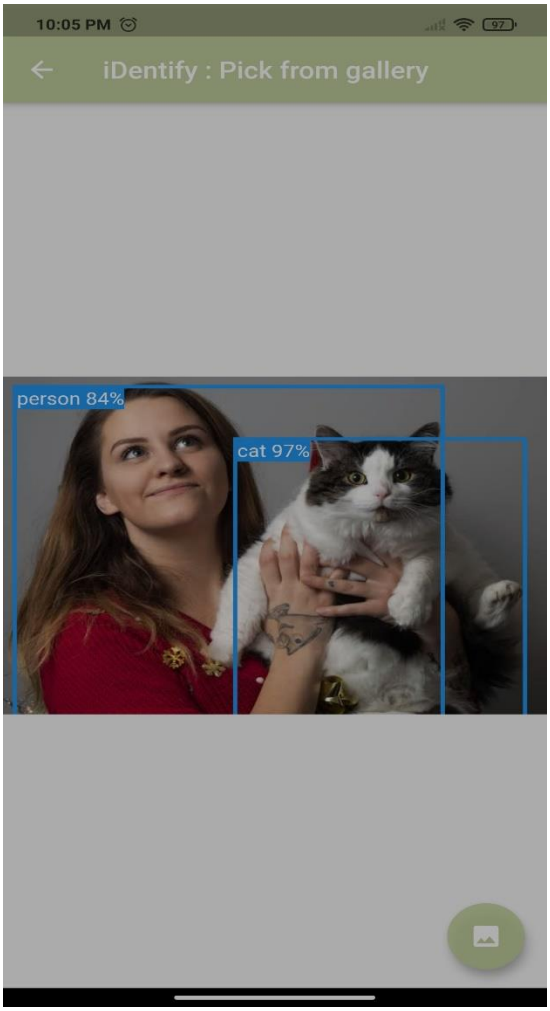
iDentify : Pick from gallery
person 91%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iDentify : Pick from gallery
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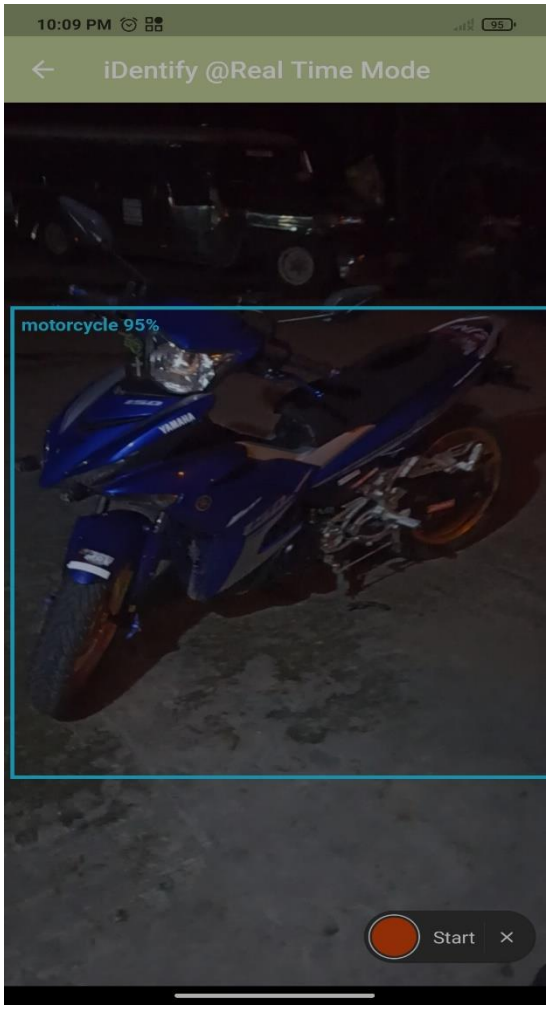
cat 97%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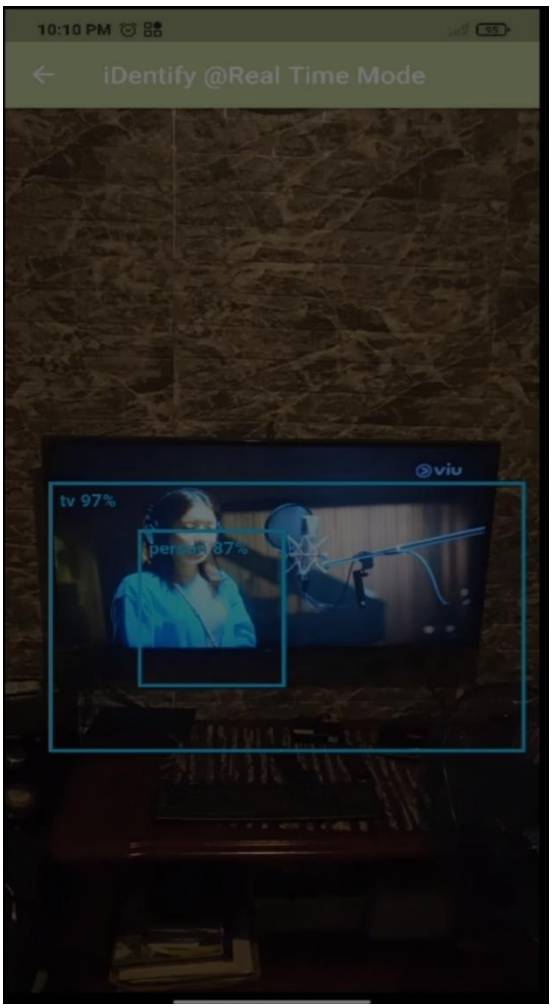
Start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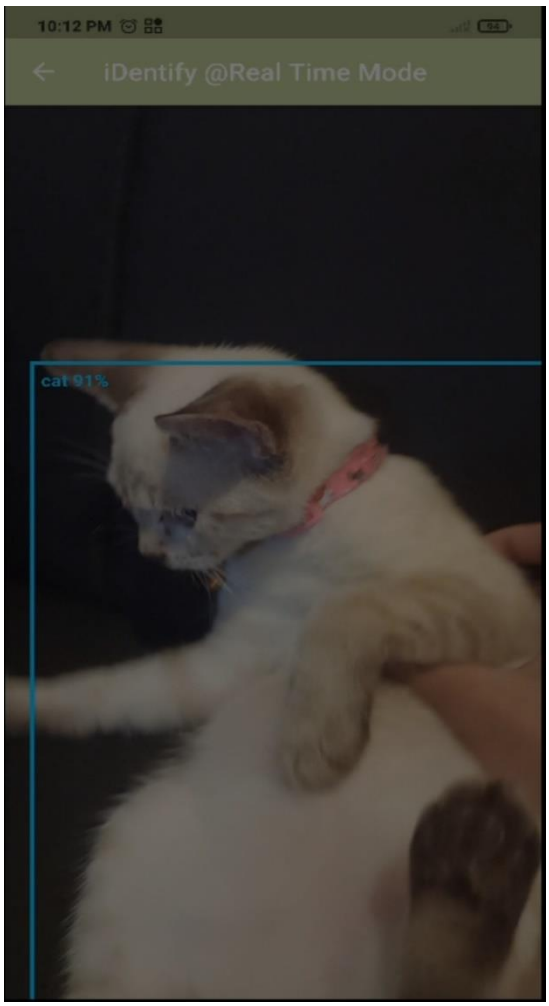
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iDentify @Real Time Mode
cat 91%

Approved by: <Signature/Date>

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Jefferson A. Costales, MIT, IBM-CDA, MCTS, ZCE, OCE, NC3, CLSYB
APDEV Professor

References:
https://study.com/academy/lesson/mobile-devices-examples-impact-trends.html
https://sisu.ut.ee/imageprocessing/book/1
https://www.tensorflow.org/