

# IT249 – Software Group Project-II

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## Synopsis

In today’s digital world, when the storages have become more handy, people click too many pictures and when they want certain pictures it becomes difficult to find those images. By using deep learning we can solve this problem as it can be used to classify the images based on the faces present in a given image. In this program unsupervised learning is implemented to make the clusters of the identical faces. The data extracted is stored in .pickle file which will act as the trained model. At the end of the program completion we will get the different folder containing identical faces. The purpose of the app is to cluster the photos having similar faces so that the user gets the photos in a organized way and his tedious task of searching photos from a large album becomes easy. To make this user-friendly, the program is attached with GUI which is created using Kivy and KivyMD frameworks in Python language. The reason we chose Kivy and KivyMD over other frameworks available for creating GUI in python is the app created using Kivy gets fitted according to the window size i.e it can work on device of any resolution and it provides option for Material Design which is the most used design type used nowadays and is supported in Android devices from Android Lollipop onwards. Using kivy support, we can create android apps in python for machine learning.

**AIM**: The clustering of images is done using machine Learning. The model is trained using unsupervised learning and to support python in app development, Kivy framework is used create a interactive UI.

## Objective

The main objectives are 2, they are:

1. Provide Google Photos like facility without Internet.
2. To support python in android app development.

## Platform

### Hardware Requirement

Processor: Intel I3 8th generation processor of 3.0GHZ or higher RAM: Minimum 8 GB primary memory

Hard disk: Minimum 40 GB hard disk space

Compact Disk drive/Inbuilt Hard-disk

A keyboard and a mouse

### Software Requirement

Operating System: Any Operating System

Language: Python, Kivy

Libraries used: dlib,opencv,cmake,imutils,scikit-learn

## Functionality

Using this app, one can cluster the images based on the facial features.

## Limitations

It needs higher processing power to perform the task.