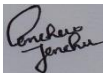
MES COLLEGE OF ENGINEERING, KUTTIPPURAM
DEPARTMENT OF COMPUTER APPLICATIONS
20MCA246 – MAIN PROJECT

PRO FORMA FOR THE APPROVAL OF THE FOURTH SEMESTER MAIN PROJECT

(Note: All entries of the pro forma for approval should be filled up with appropriate and complete information. Incomplete Pro forma of approval in any respect will be rejected.)

Main Project Proposal No : _____ *(Filled by the Department)*	Academic Year : 2021- 22 Year of Admission : 2020

1. Title of the Project : Cartoonify
2. Name of the Guide : Mr. Balachandran K P
3. Student Details (in BLOCK LETTERS)

Name	Register Number	Signature
PANCHAMI.P.M	MES20MCA-2038	

Date: 16/04/2022

Approval Status : Approved / Not Approved

Signature of Committee Members

Comments of the Guide Dated Signature

Initial Submission :

First Review :

Second Review :

Comments of the Project Coordinator Dated Signature

Initial Submission:

First Review

Second Review

Final Comments :

Dated Signature of HOD

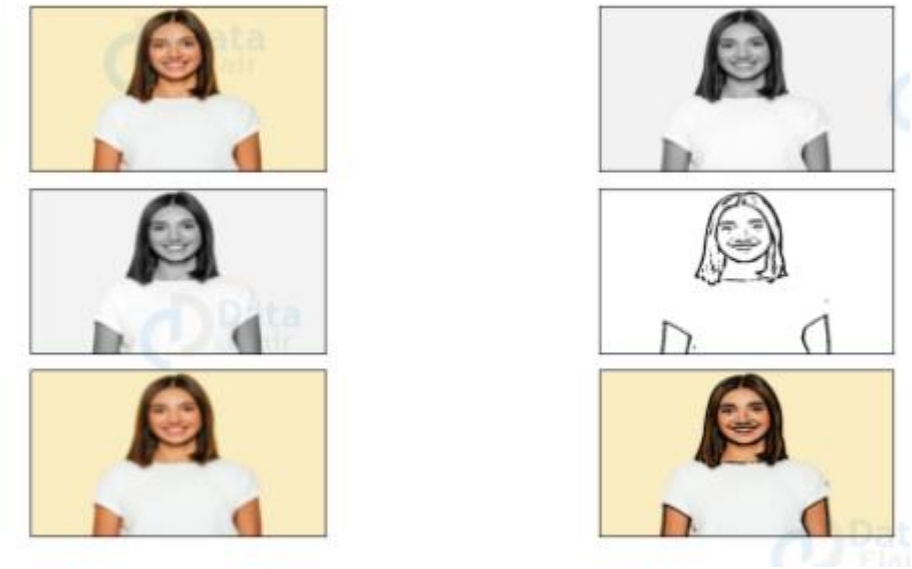
Cartoonify

Panchami.P.M

Introduction: Almost all people are left with very precious and unforgettable memories of our childhood. So today let's head towards giving our pictures some cartoonic effects. In this project I am going to develop an application that can convert an image to its cartoon image. Thus, I am going to build a python application that will transform an image into its cartoon using OpenCV. To convert an image to a cartoon, multiple transformations are done. Firstly, an image is converted to a Grayscale image. Then, the Grayscale image is smoothened, and try to extract the edges in the image. Finally, form a colour image and mask it with edges. This creates a beautiful cartoon image with edges and lightened colour of the original image.

Objectives: As you might know, sketching or creating a cartoon doesn't always need to be done manually. Nowadays, many apps can turn your photos into cartoons. But what if I tell you, that you can create your own effect with few lines of code? This app will be useful for any age. This app can instantly turn your pictures into cartoons. This project will help me to get acquainted with more machine learning libraries in Python.

Problem Definition: I am going to build an application like this:



- CV2: Imported to use OpenCV for image processing
- easygui: Imported to open a file box. It allows us to select any file from our system.
- Numpy: Images are stored and processed as numbers. These are taken as arrays. We use NumPy to deal with arrays.
- Imageio: Used to read the file which is chosen by file box using a path.
- Matplotlib: This library is used for visualization and plotting. Thus, it is imported to form the plot of images.
- OS: For OS interaction. Here, to read the path and save images to that path.

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Basic functionalities:

1. Importing the required modules
2. Building a File Box to choose a particular file
3. Transforming an image to grayscale
4. Smoothening a grayscale image
5. Retrieving the edges of an image
6. Preparing a Mask Image
7. Giving a Cartoon Effect
8. Plotting all the transitions together
9. Functionally of save or download button

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Hardware Requirements

- Input Device : Mouse, Keyboard
- Output Device : Monitor
- Memory : 4 Gb Ram(Minimum)
- Processor : Intel core i3 or above

Software Requirements

- Operating System : Windows 8 /10for Better Performance
- Front End : Python
- Software Used : Pycharm