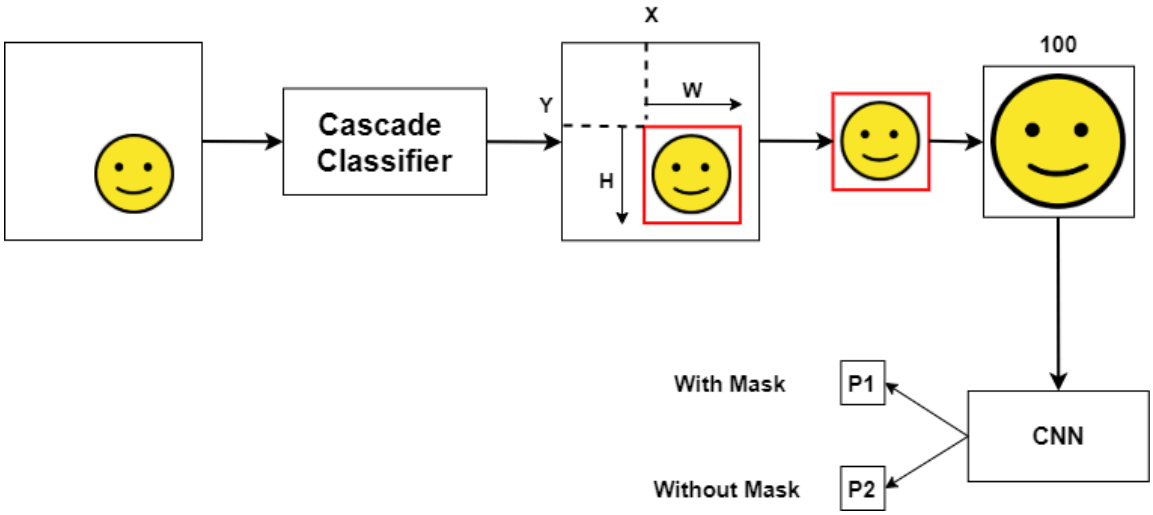
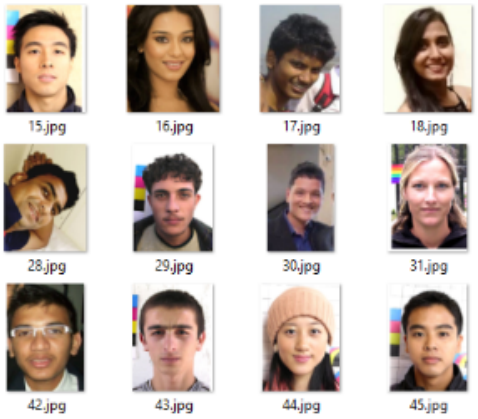
Project Overview

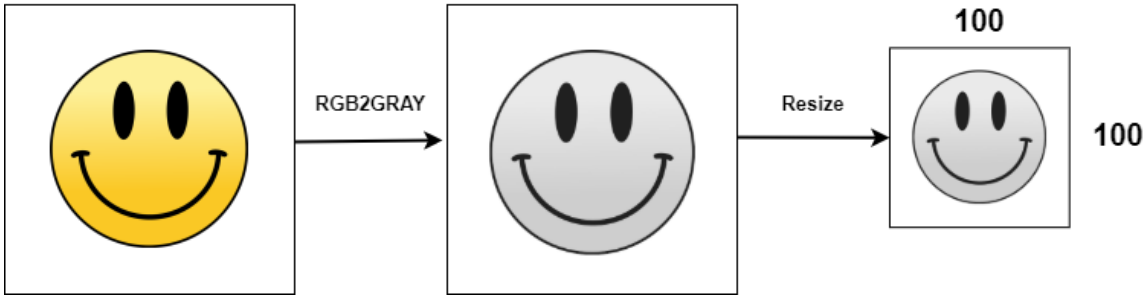


The Dataset

The dataset consisted of 1376 images, 690 face images with masks and 686 without masks. The original dataset is prepared by Prajna Bhandary and available at Github



Data Preprocessing



In [13]:
```
import cv2,os

data_path='dataset'
categories=os.listdir(data_path)
labels=[i for i in range(len(categories))]

label_dict=dict(zip(categories,labels))

print(label_dict)
print(categories)
print(labels)
```

```
{'with mask': 0, 'without mask': 1}
['with mask', 'without mask']
[0, 1]
```

In [14]:
```
img_size=100
data=[]
target=[]


for category in categories:
    folder_path=os.path.join(data_path,category)
    img_names=os.listdir(folder_path)

    for img_name in img_names:
        img_path=os.path.join(folder_path,img_name)
        img=cv2.imread(img_path)

        try:
            gray=cv2.cvtColor(img,cv2.COLOR_BGR2GRAY)
            #Coverting the image into gray scale
            resized=cv2.resize(gray,(img_size,img_size))
            #resizing the gray scale into 100x100, since we need a fixed com
            data.append(resized)
            target.append(label_dict[category])
            #appending the image and the label(categorized) into the list (d

        except Exception as e:
            print('Exception:',e)
            #if any exception rasied, the exception will be printed here. An
```

In [15]:
```
import numpy as np

data=np.array(data)/255.0
data=np.reshape(data,(data.shape[0],img_size,img_size,1))
```

```
target=np.array(target)

from keras.utils import np_utils

new_target=np_utils.to_categorical(target)
```

In [12]:
```
np.save('data',data)
np.save('target',new_target)
```