HAND GESTURE RECOGNITION

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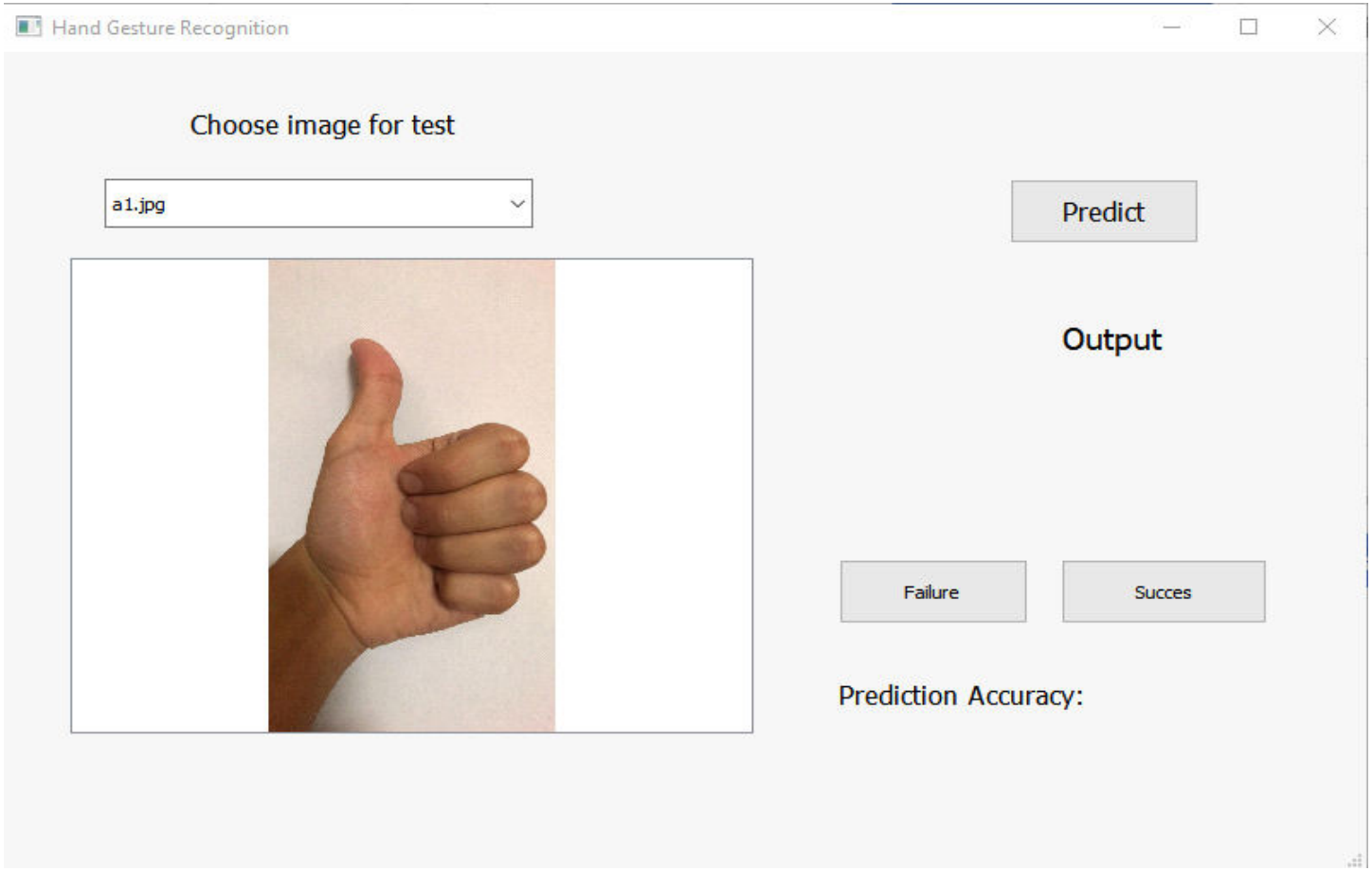
HAND GESTURE RECOGNITION



HAND GESTURE RECOGNITION

- This project is an implementation of hand gesture recognition using SVM .
- In order to facilitate the hand region extraction we assume that the gestures are performed against a uniform background, brighter than the hand region.
- Our set of images includes 22 images for every gesture.

PREPROCESSING STAGE

- The acquired data come from different sources(people). So, they need to be standardized. Preprocessing is used to conduct steps that reduce the complexity and increase the accuracy of the applied algorithm. What we applied on this project is:
- -*image resizing* (all the picture must be the same size)
- -*convert color images to grayscale*(to reduce the computation complexity)
- -*binarizing the images*(for partitioning the image into a foreground and background)
- -*morphological opening/closing*(to smooth the image)

PREDICTION STAGE

- A ***feature*** is any characteristic of an image, or any region within it, that can be measured. Objects with common features may be grouped into classes, where the combination of features may be considered a ***pattern***.
- Object recognition may be understood to be the assignment of classes to objects based on their respective patterns. The program that does this assignment is called a ***classifier.***

```
labels { label_palm, label_like, label_pumn, label_peace };
```

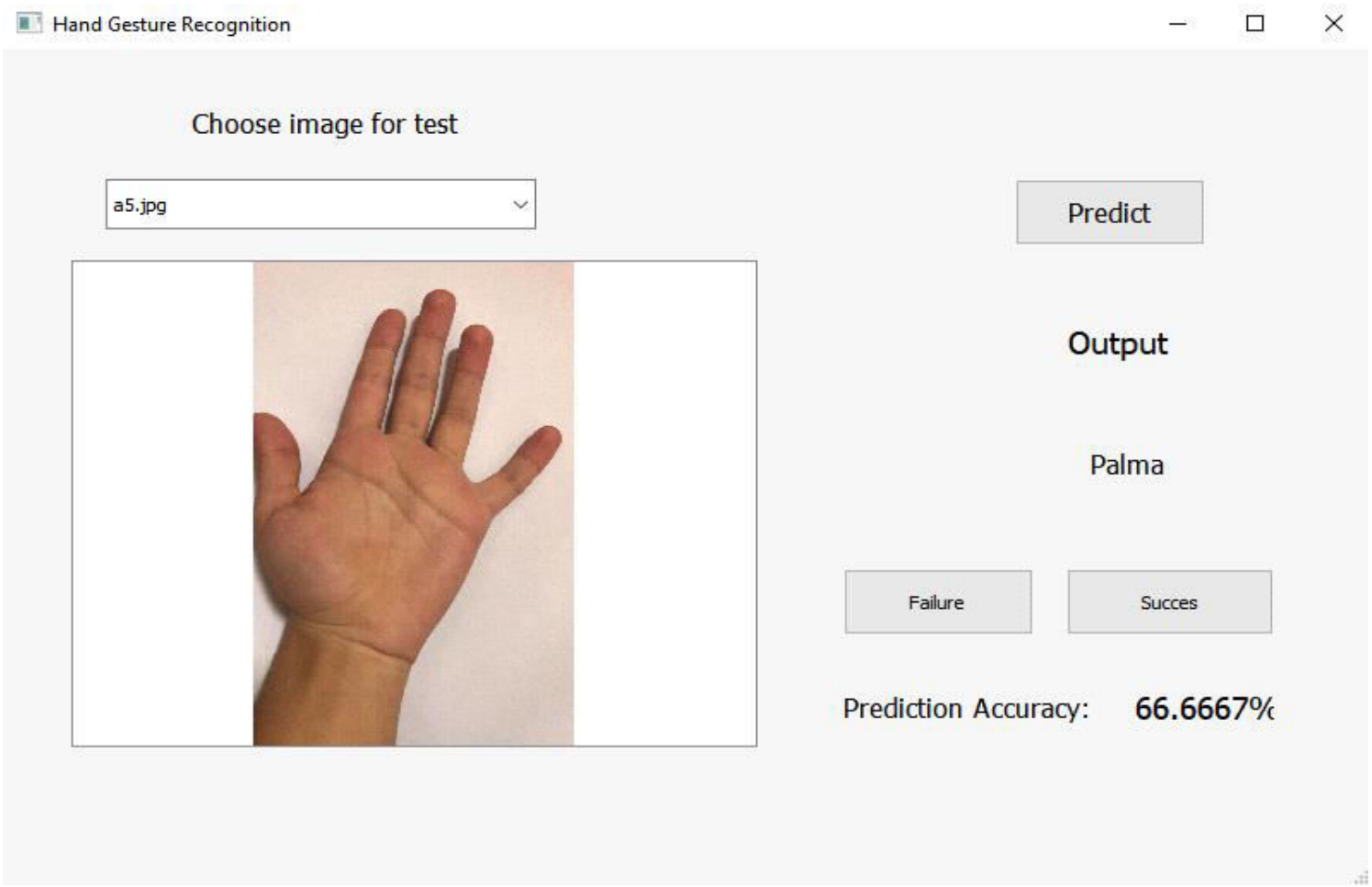
GESTURES TYPES

- We used 4 kind of gestures*: like*(img.A), *fist*(img.B), *palm*(img.C), *peace*(img.D).

A. B. C. D.




ACCURACY


Hand Gesture Recognition
Choose image for test
a5.jpg
Predict
Output
Palma
Failure
Succes
Prediction Accuracy:
66.6667%