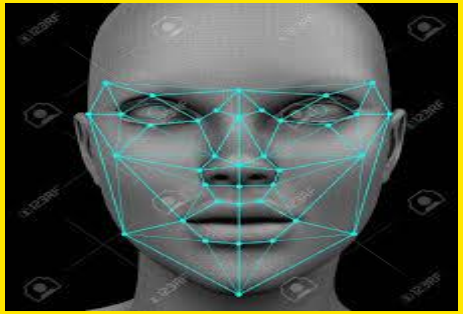
Facial Recognition solution

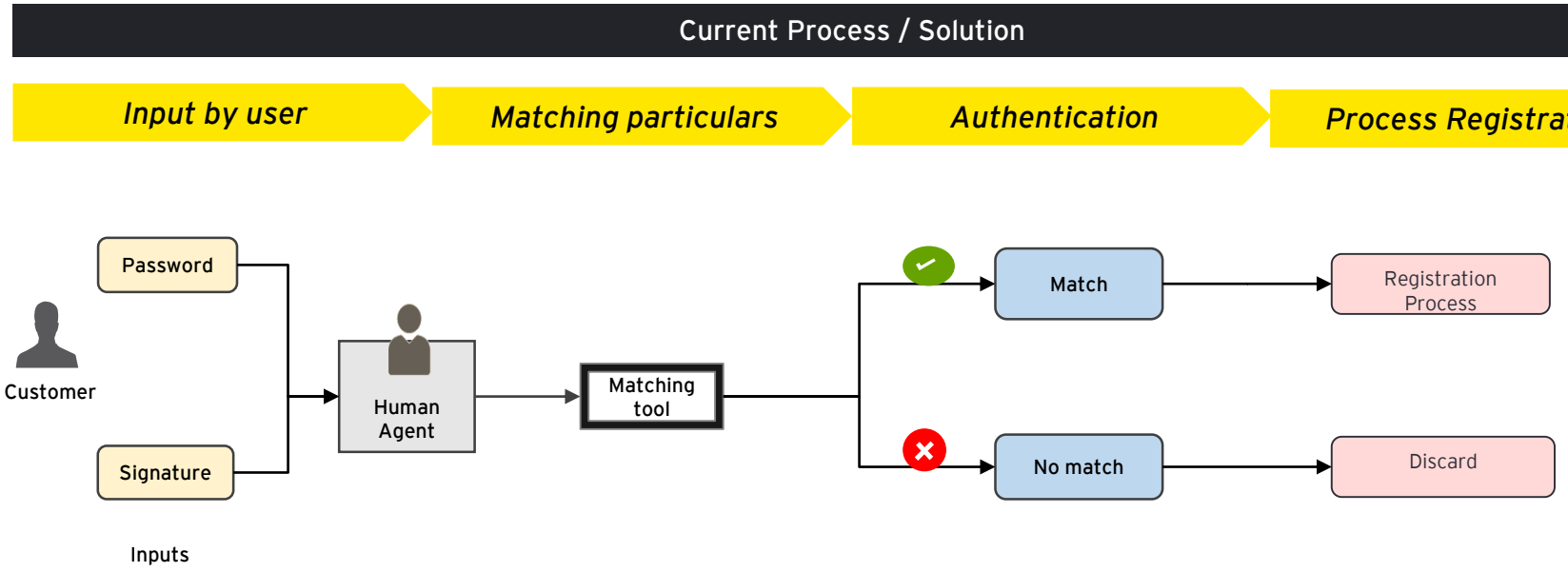
Business Case

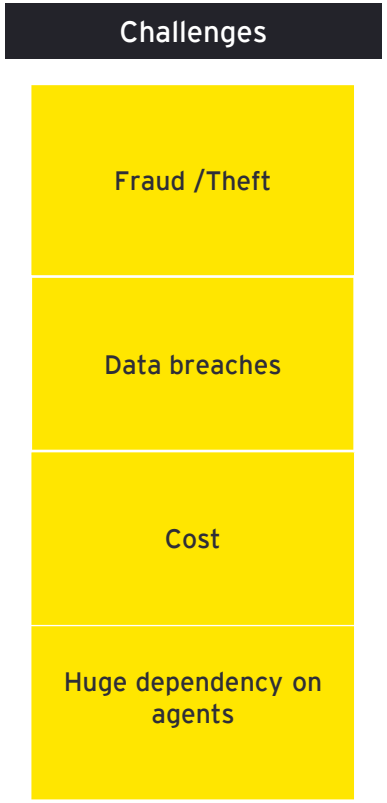


Building a better working world

Process Understanding

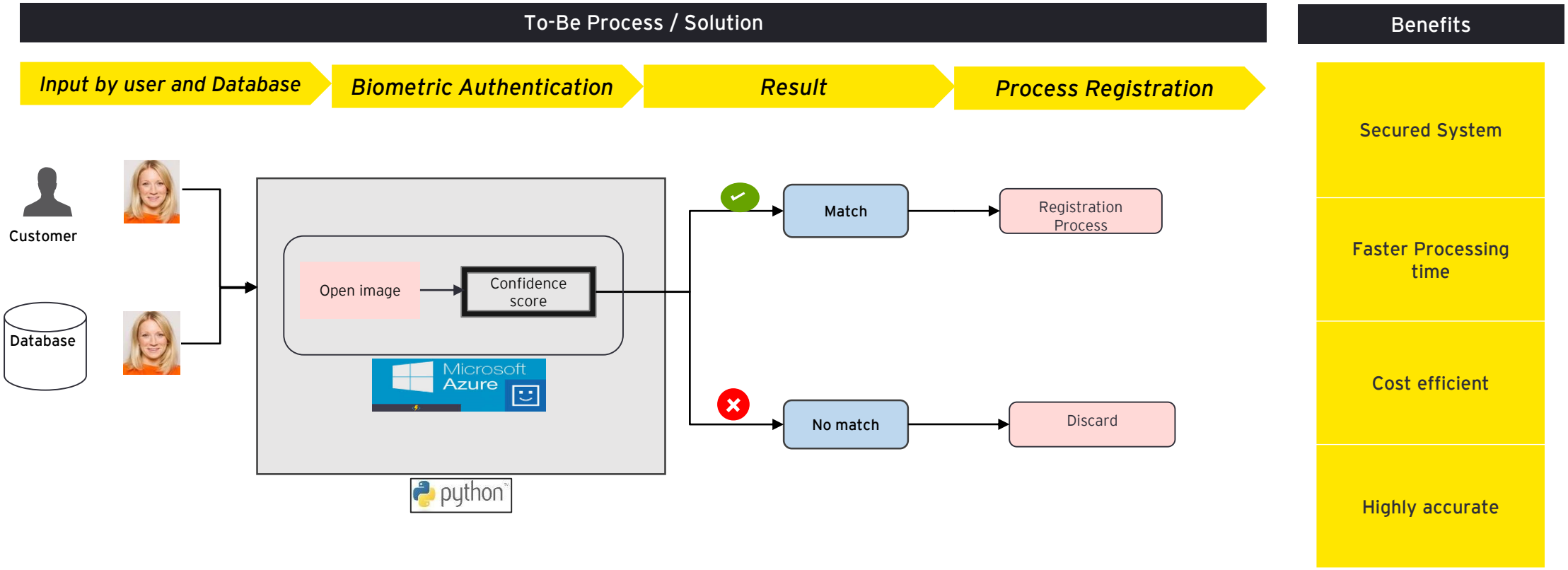
Problem Statement: Facial Biometric is used to identify and authenticate a person using a set of recognizable and verifiable data unique and specific to that person. Other biometric techniques require physical interaction by end user, hence no hygiene issues associated with it. It also provides a fair amount of rich data which can be extracted.





Biometric Approach

Biometrics is one of the rapidly growing fields in the information technology sector with face recognition. The facial recognition software utilizes facial data to accurately authenticate the user. This makes a trusted form of authentication, a user-friendly method that will identity fraud and security breaches.

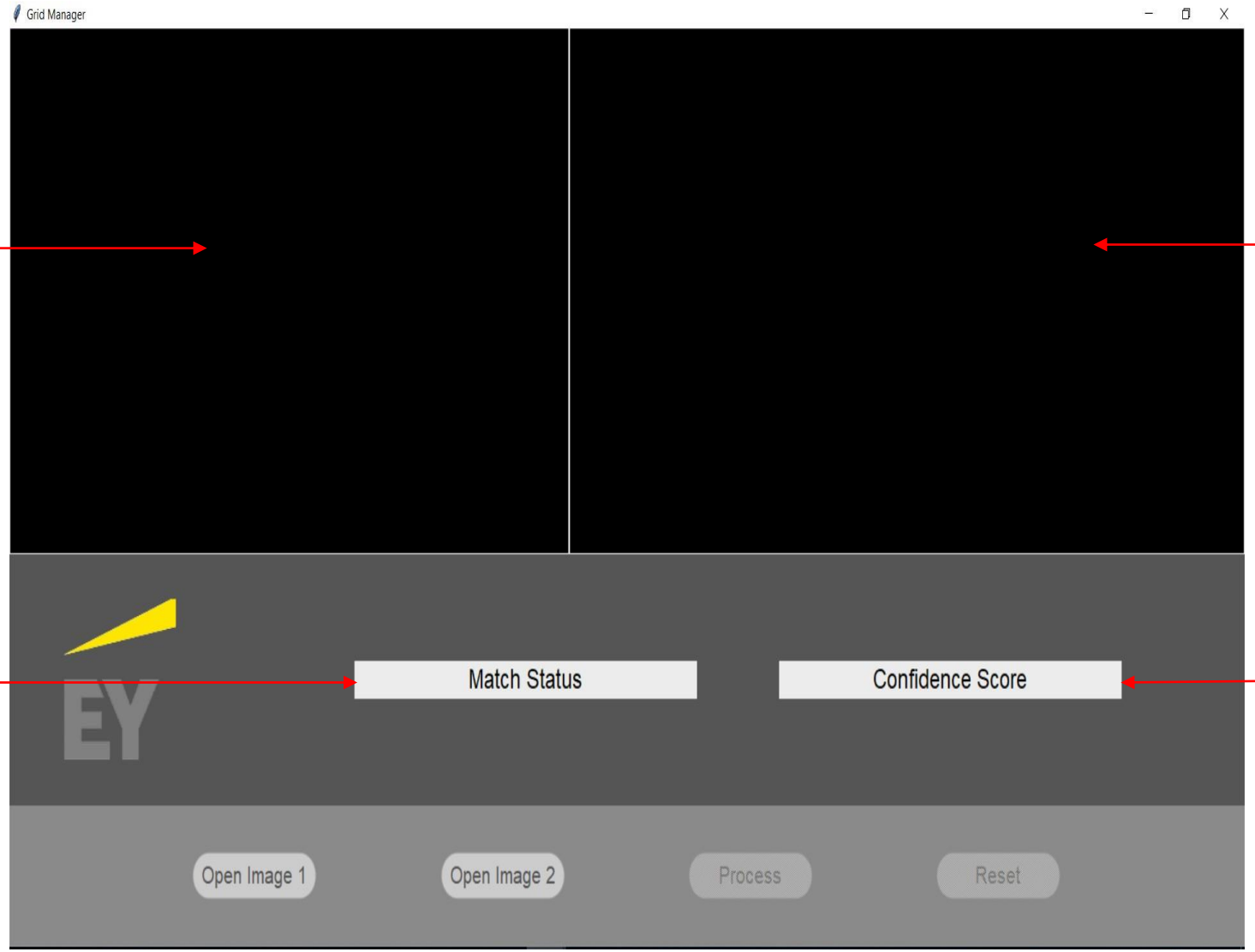


Validations:

NCC CRITERION	BASE VALUE
Minimum Resolution	200 x 200
Minimum distance between pupils	64
Image Compression	JPEG or JPEG2000, maximum ratio 25:1
Maximum head tilt	15° front to back, side to side, and rotation
Eye Image	- No excessive eyeglass reflection (it's really better for the quality check to have no glasses) - Both eyes visible
Image	Too Dark Check (<5% of TB)
Image	Background colour check
Image	Multiple face restriction

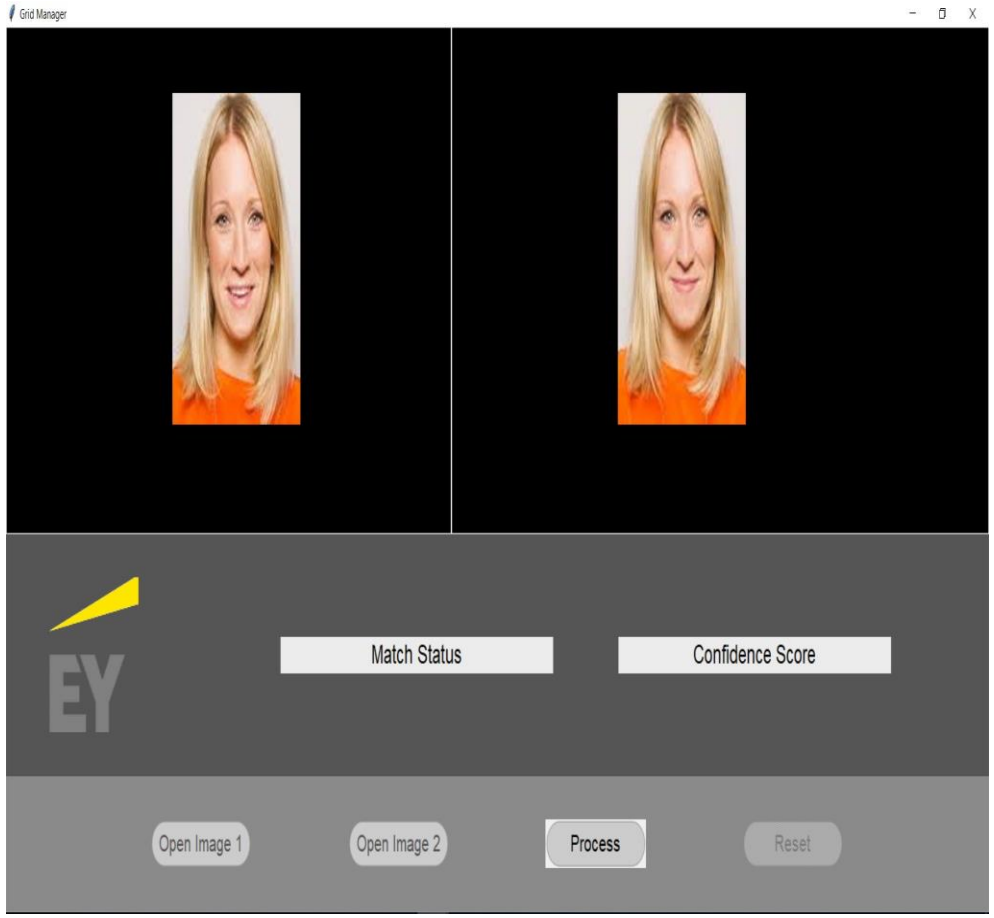
Running In scope Not feasible

User Interface: Face Verification



User Interface: Face Verification

Images open



Verification Result

Technology requirements

Tools required

1. Python 3.6

Python packages

1. PIL
2. pandas
3. Requests
4. Json
5. Tkinter
6. OpenCv