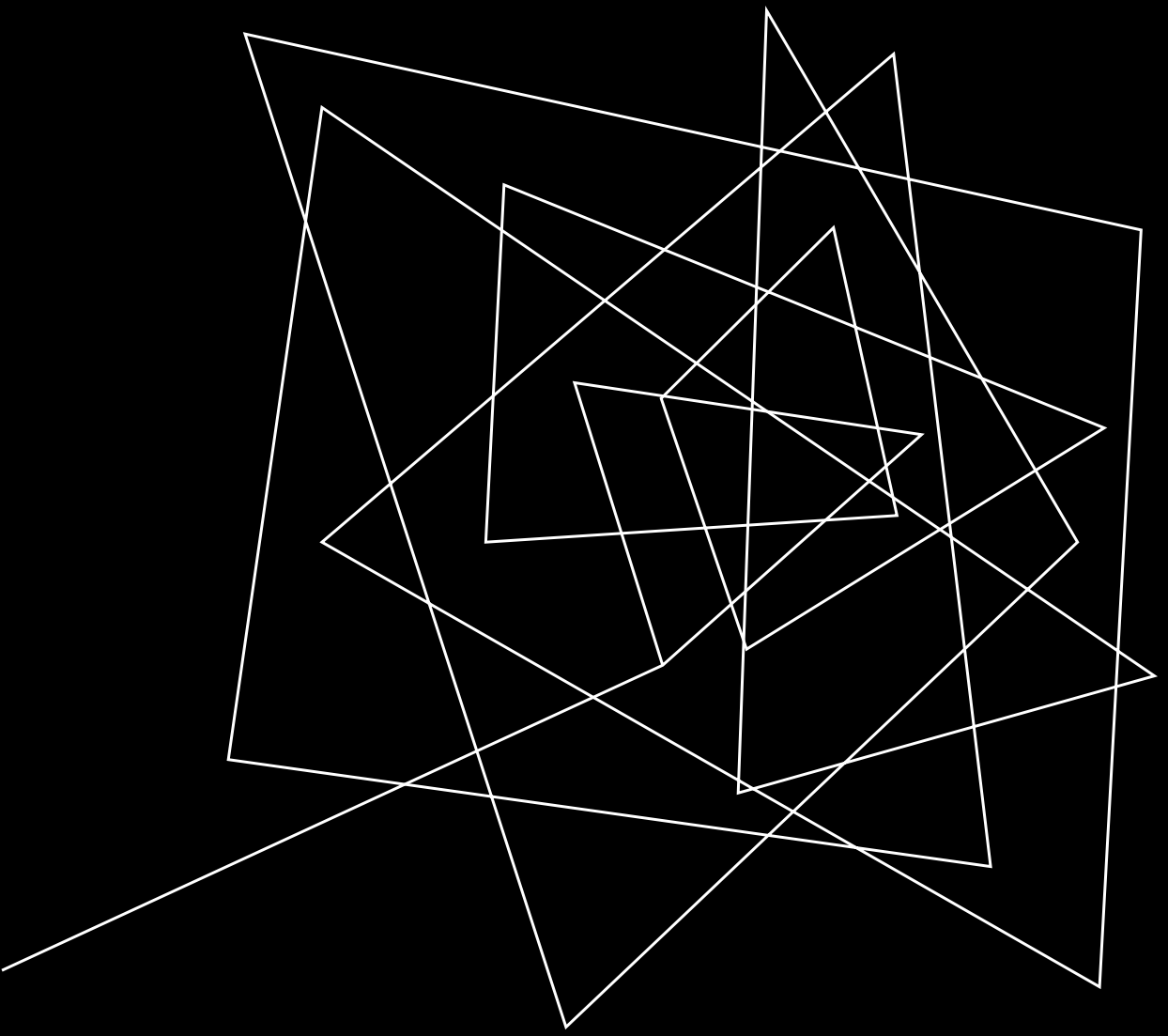
SECURITY SYSTEM THROUGH FACIAL RECOGNITION USING ARDUINO

COE-2A

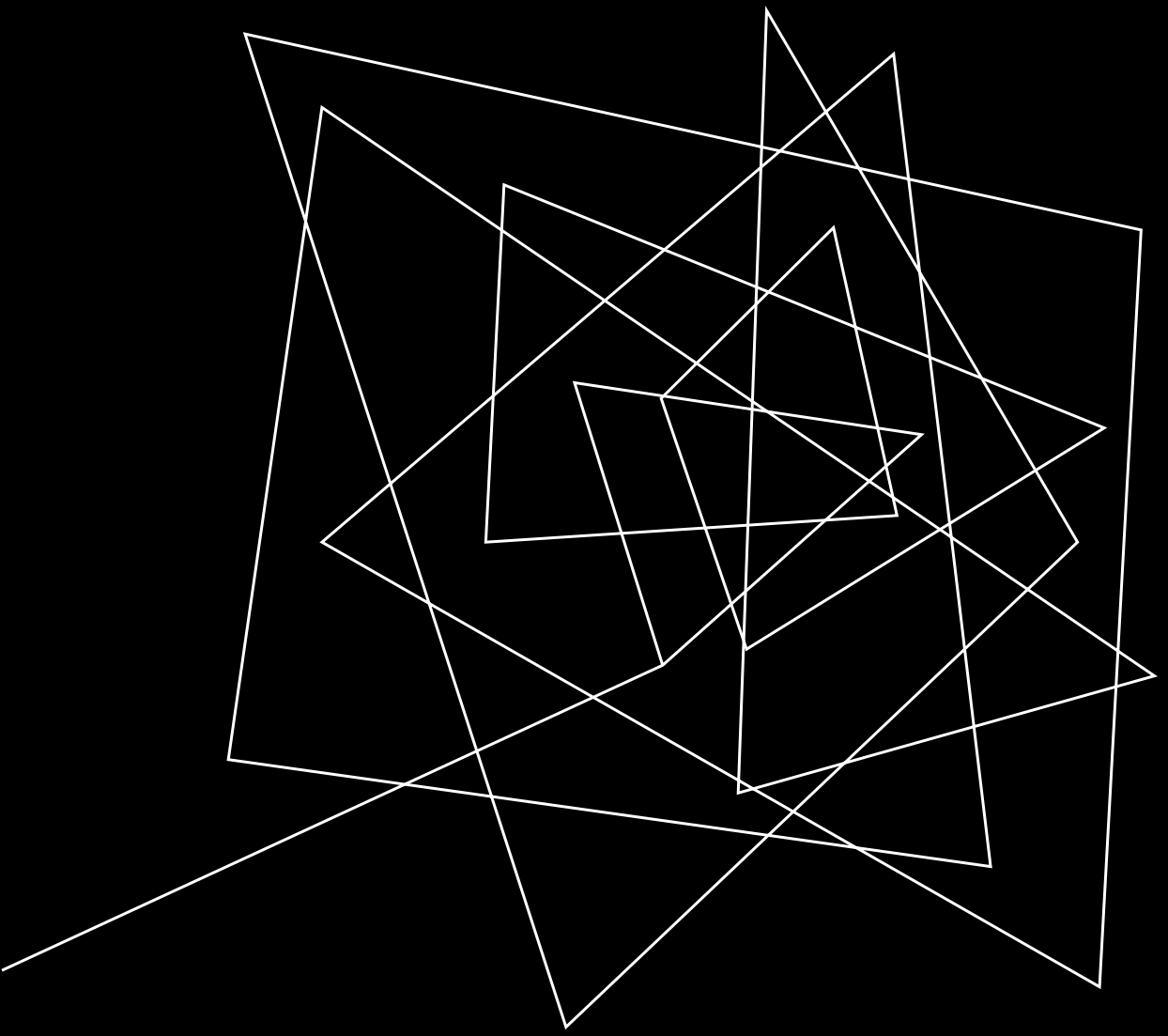
INTRODUCTION

Using face-recognition door locks, we can limit unauthorized people from accessing a room. The main benefit of having facial recognition locks, is it gives a user a hands-free access to the door, just by glancing at a camera for a second it does not need for the user to put down his/her things just to access the door.



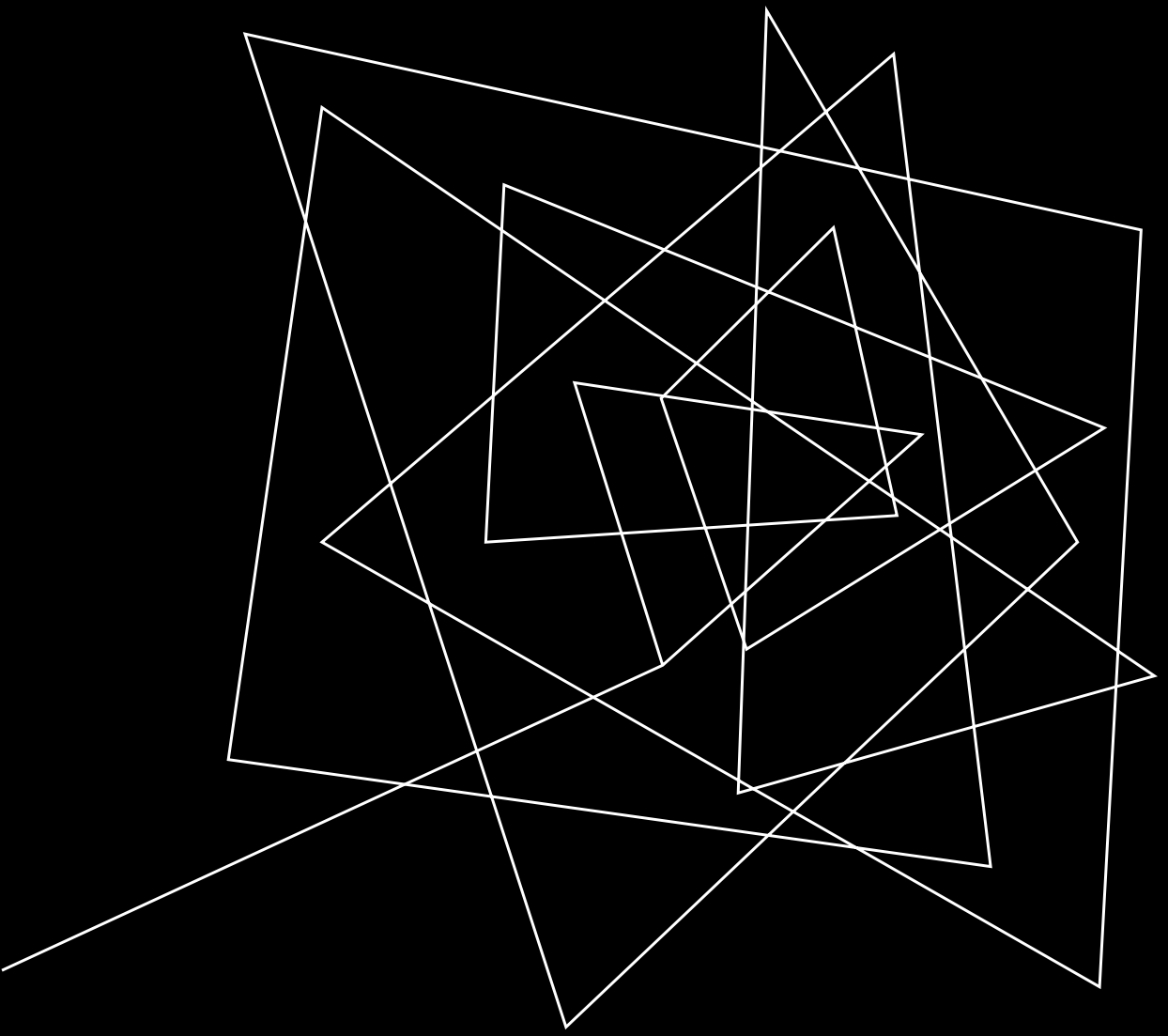
OBJECTIVES

The main objective of this project is to develop a functional security system that ensures the safety of homes by allowing the authorized person to enter with their facial feature.



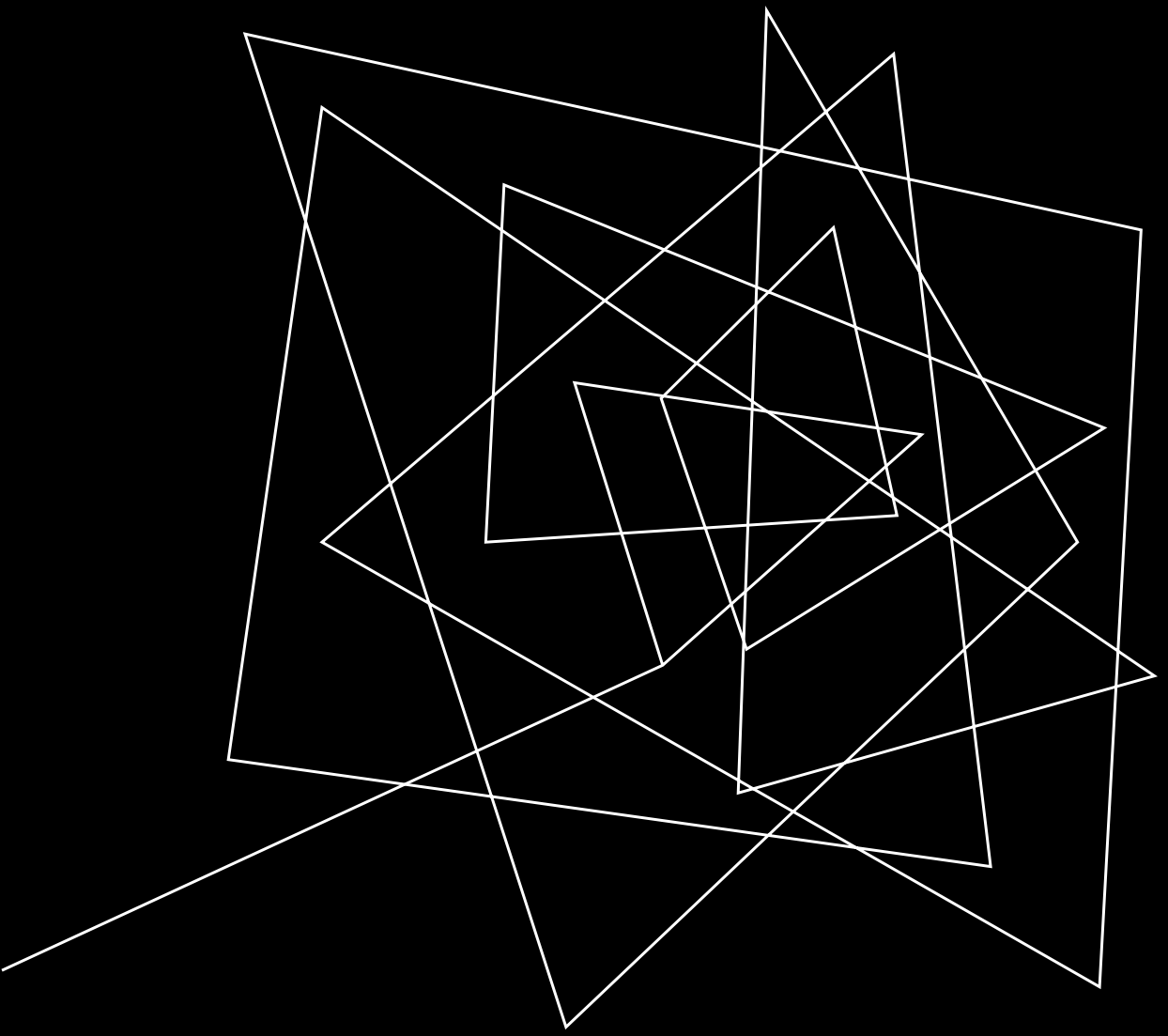
OBJECTIVES

To design and implement a security system using Arduino that incorporates facial recognition scanning technology.



OBJECTIVES

To design and develop a convenient security system for the persons with disabilities.



OBJECTIVES

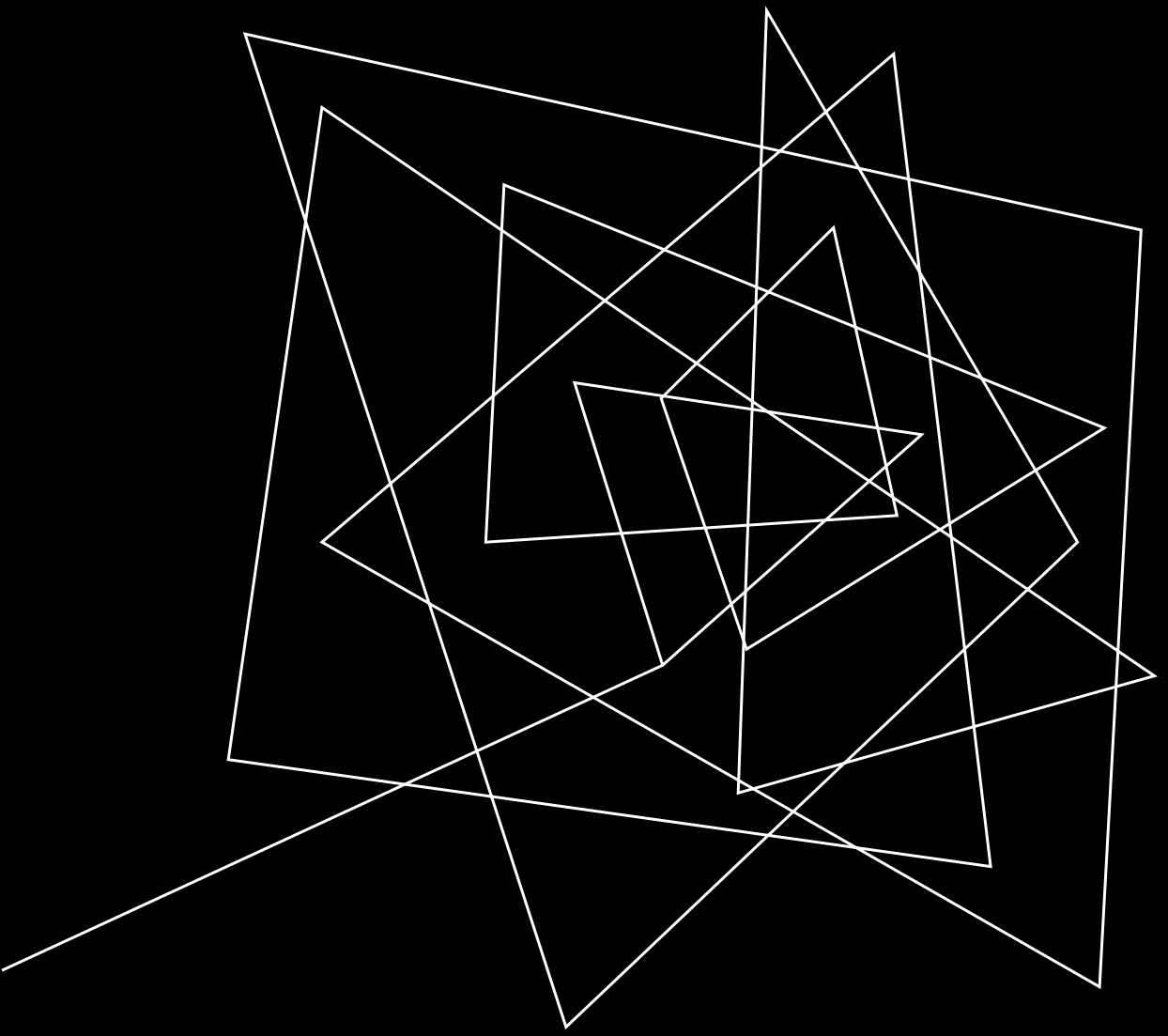
To explore the potential applications and future development of the proposed security system.

WHY DO WE NEED SECURITY LOCKS?

Security locks are an essential part of any conversation about home security. For centuries, humans use locks to protect our homes from intruders or other unauthorized personnel. In a 2018 poll by the Social Weather Stations (SWS), 1.8 percent of families, or 431,000, were victims of burglary. The survey also revealed that 55% of Filipino people were fearful of intrusion and burglary. This project will help decrease the rate of burglary cases and other crimes. Last August 2022, burglary with attempted rape and homicide happened in barangay Cayambanan, Urdaneta City, Pangasinan.

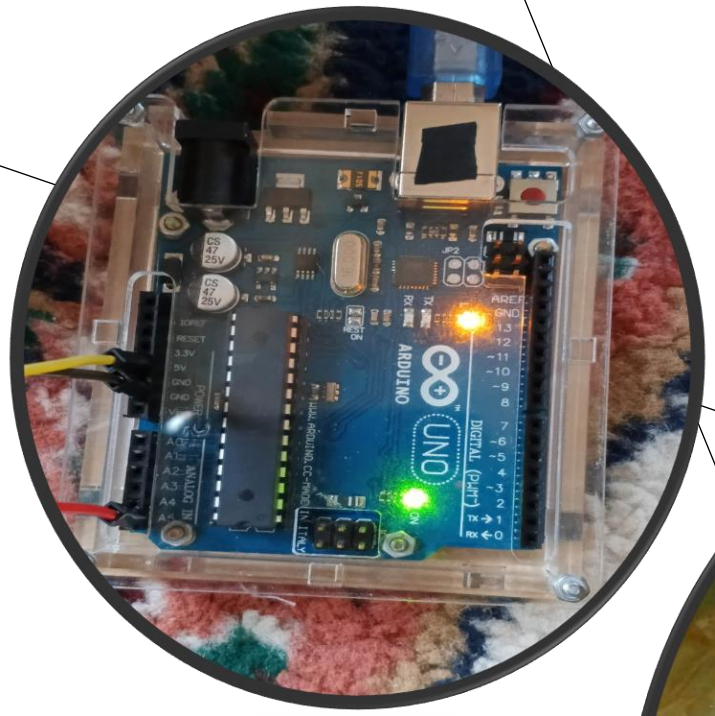
WHY ARE WE USING FACIAL RECOGNITION?

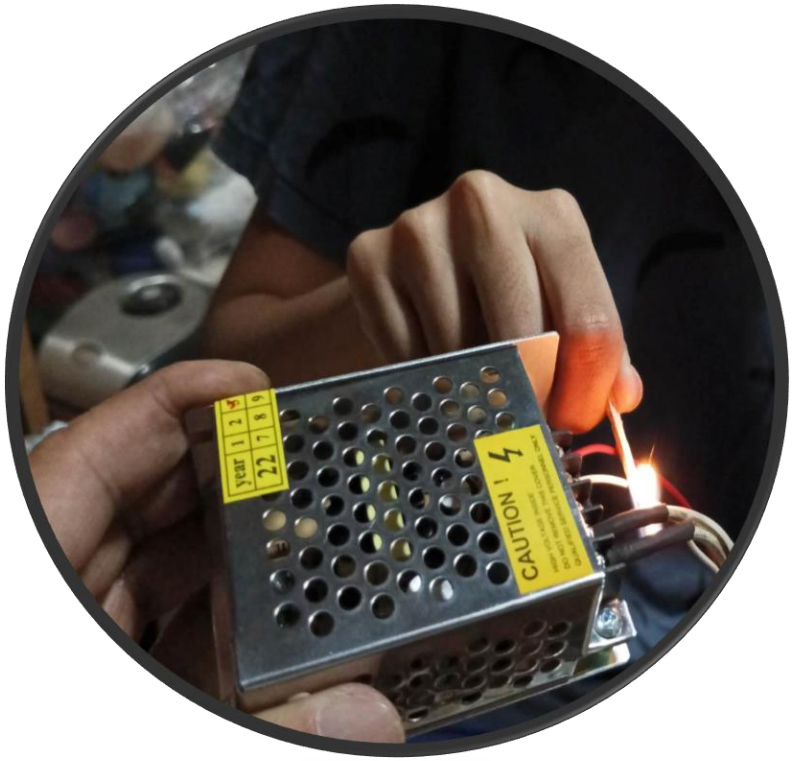
An important benefit of deploying facial recognition is that it offers a frictionless user experience, a valued feature during COVID-19 times, and a convenient approach for Persons with Disabilities.



MATERIALS USED

Quantity	Materials	Cost
1 piece	Plywood	Php 0
1 piece	Arduino Uno	Php. 0
1 piece	Camera	Php 0
1 piece	Solenoid Lock	Php 250
1 piece	DC 12V Power Supply	Php 145
40 pieces	Jumper Wires	Php 90
1 piece	Arduino Casing	Php 45
Total		**Php 530**


ARDUINO
UNO


CAUTION

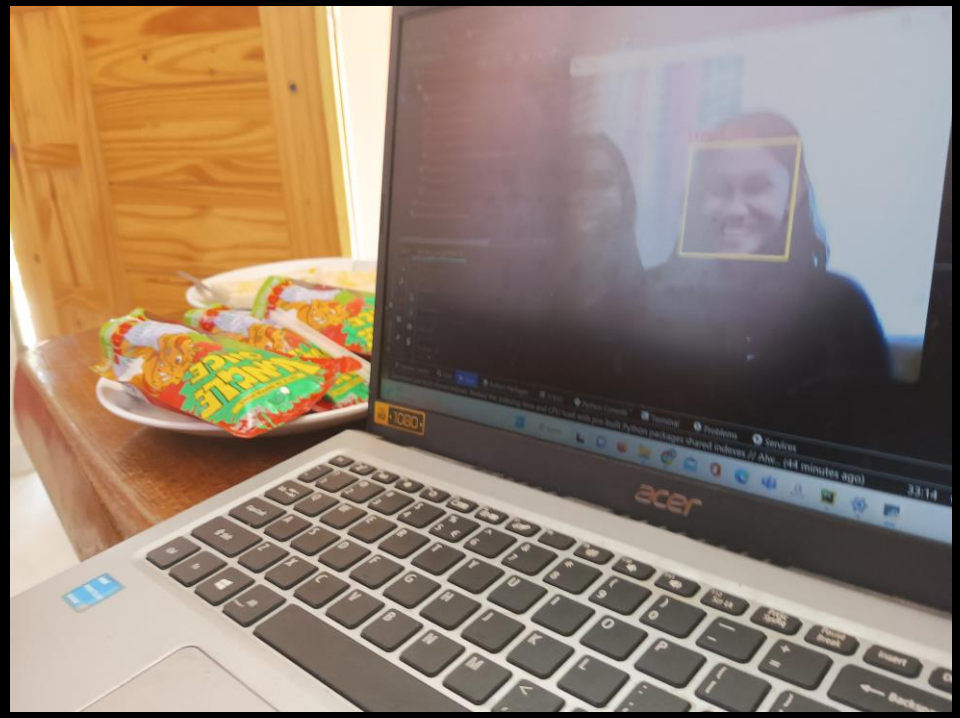
PROBLEMS ENCOUNTERED

LACK OF KNOWLEDGE

FINGERPRINT SCANNER IDEA WAS DISCARDED

FACIAL RECOGNIZER FALSE POSITIVES

DOCUMENTATION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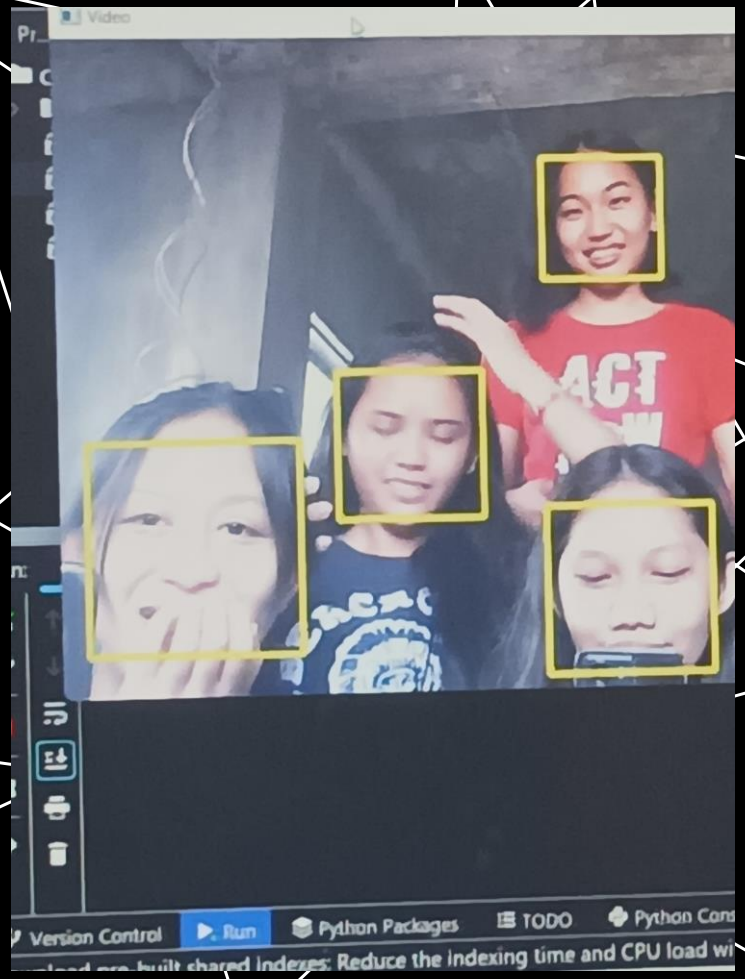
Video
Version Control
Run
Python Packages
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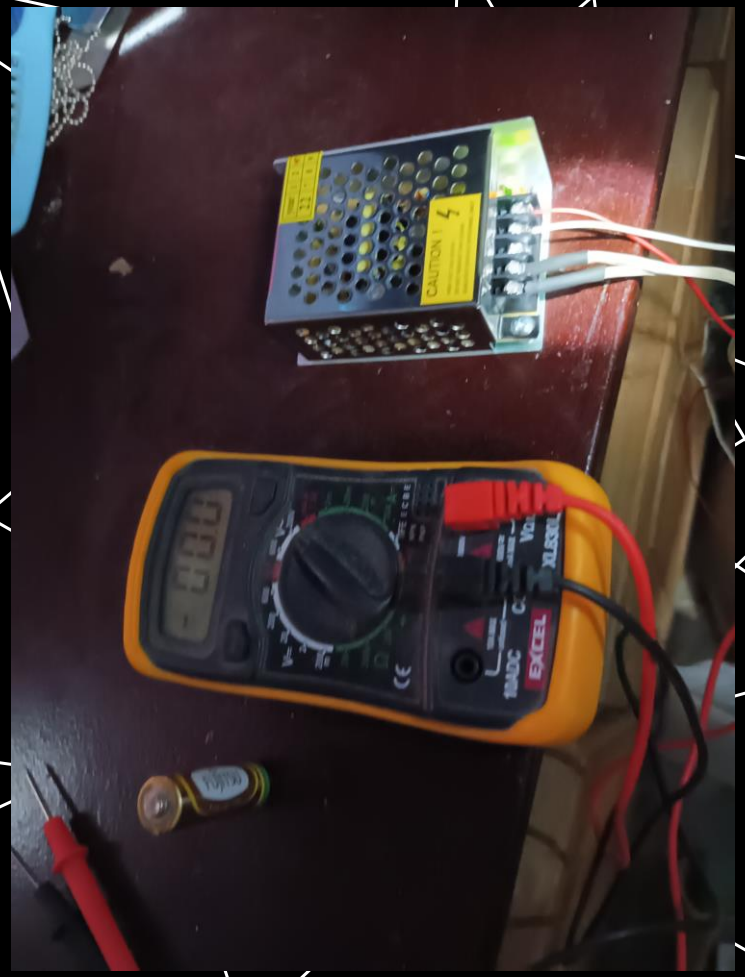
CAUTION
EXCEL