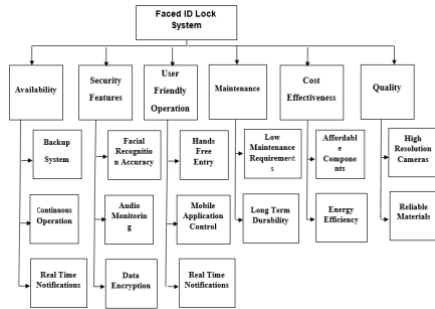# FaceID Lock

Computer and Networks Engineering Department, Umm Al-Qura University

Mohammed, Saleh, and Rafea   Dr. Bander Alshawi

## Objective Tree

Abstract

Efficient and secure access control systems are crucial for modern facilities, where traditional key-based or card-based systems present vulnerabilities and management challenges. Manual access control methods are susceptible to key duplication, card theft, and unauthorized sharing, leading to security risks and resource management issues. Therefore, there is a pressing need for a biometric-based solution that combines facial recognition with electronic door control systems..
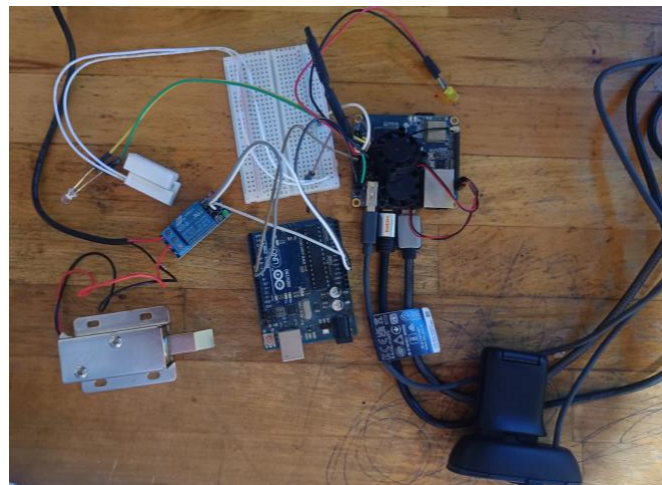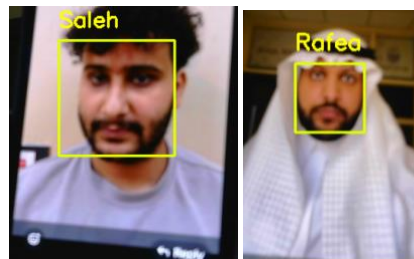
Tools
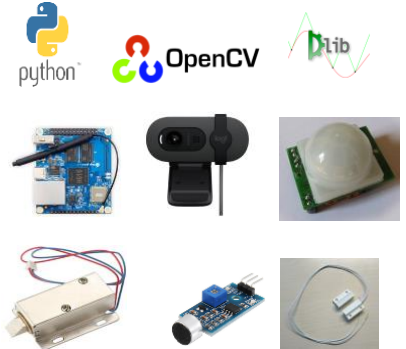
Flowchart
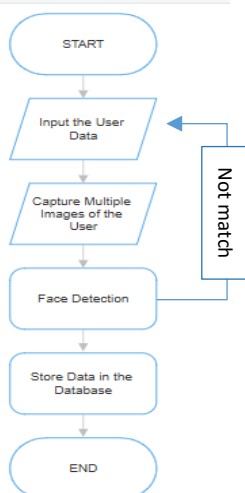
Testing Model

What Is Orange Pi?

Orange Pi is a series of single-board computers (SBCs), produced by Shenzhen Xunlong Software, that are designed for a variety of applications like the popular Raspberry Pi. These SBCs are compact, affordable, and feature-rich, making them suitable for DIY projects, development, and various computing tasks.

Results

Challenges And Difficulties

- ❖ We chose to use Orange Pi as the primary device due to its power and cost-effectiveness,
- ❖ Configuring Camera integration with Orange Pi required extensive research and adjustments.
- ❖ Implementing and optimizing the facial recognition software on Orange Pi took significant testing time to ensure accurate performance and stability.