

SMART DOOR

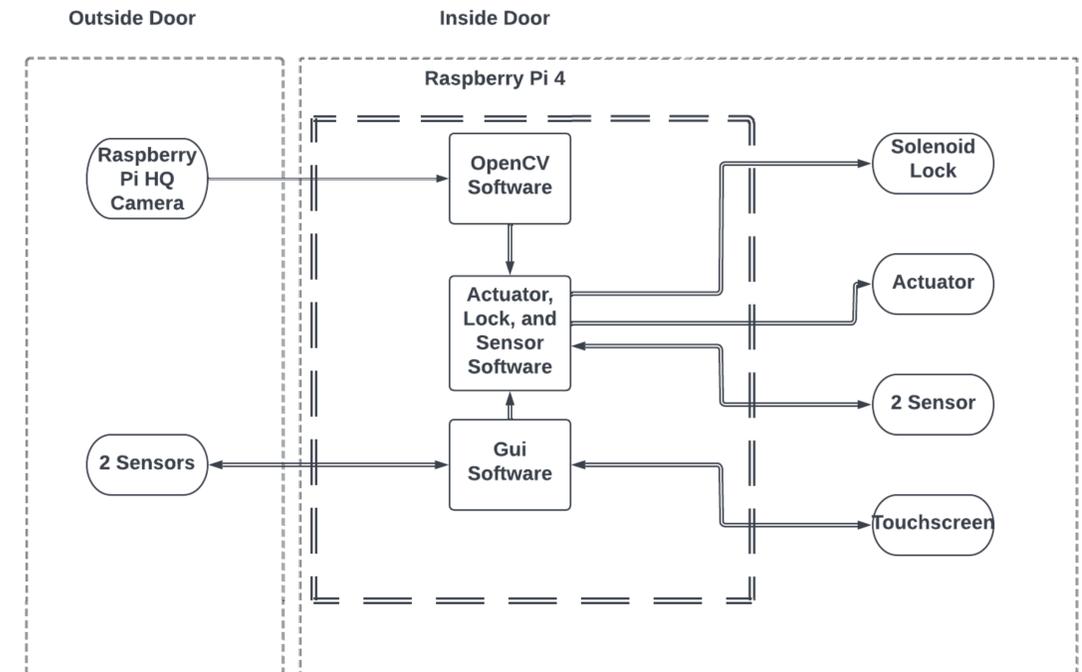
Project

The evolution of doors technology has not progressed. With all the Intuitive technology in the 21 century, every home has the potential to have a door that is secure, convenient, and smart.

Smart Door provides the following:

- Using face recognition for selective door accessibility.
- Opens automatically with no physical interaction.
- User-friendly interface with multiple accessibility options.

System



Methods

The Major components used for Smart Door include:

- Single Board Computer (SBC) – Raspberry Pi 4
 - Used for screen interface
 - Image storage
 - Component control
- Camera – Raspberry Pi HQ Camera
 - Face detection
- Motor – Linear Actuator
 - Automatic operation
- Sensor – Ultrasonic Sensor
 - Safety features
- Lock – Solenoid Lock
- Face recognition Algorithm – OpenCV

Conclusion

- Smart Door was able to function successfully.
- Face detection software works but need improvement for further distance detection.
- A system that disables Smart Door with less energy consumption needs to be Constructed
- Smart Door can motivate developers to design a door system with better technology.