Automation System with Microcontroller Report

Batch and Team Number: Batch 2 - Team 16

College Name:

Vivekanand Education Society's Institute of Technology

Date: 22/01/2026

S. No.	Student Name	Roll #	Year of Study	Department
1	Khushh Desai	11	2nd	EXTC
2	Adi Bharat Kalra	18	2nd	EXTC
3	Ayush Singh	52	2nd	EXTC
4	-	-	-	-
5	-	-	-	-

S. No.	Faculty Name	Department

Outline

- System developed
- Components used
- Details of the system
- Automation systems proposals related to your streams

System developed

Digital Doorman: A Hands-Free Door Entry Reception System

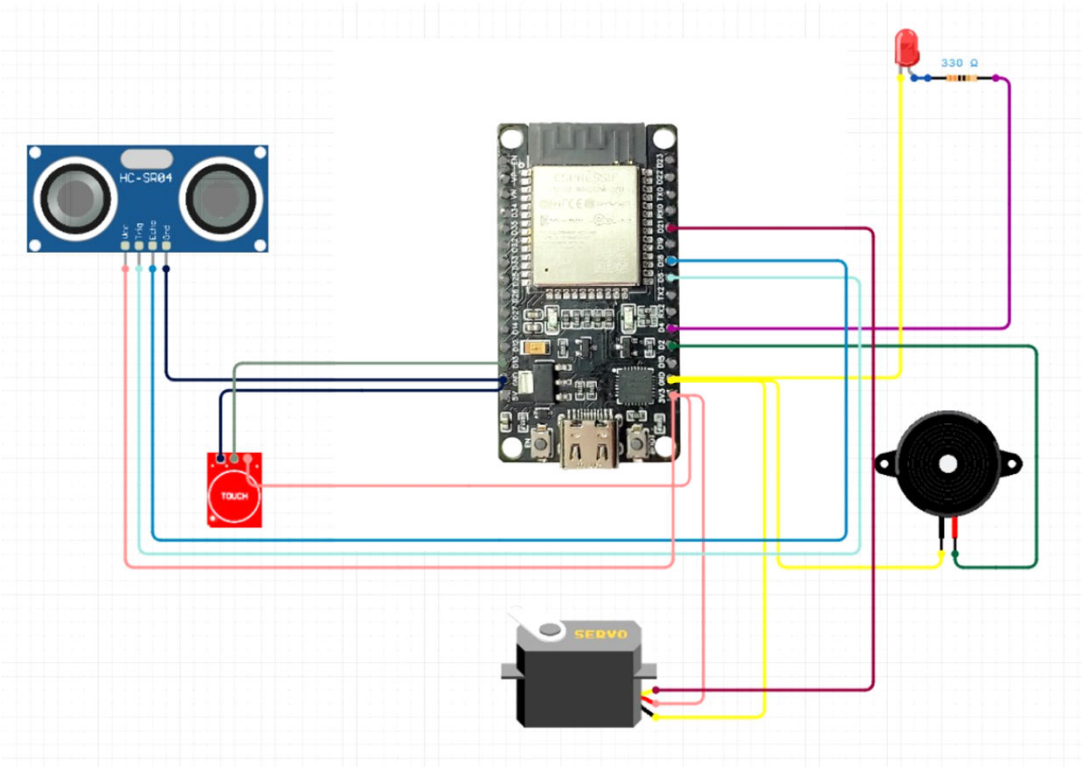
- Smart door access and monitoring system using ESP32
- Ultrasonic sensor detects nearby presence and turns on an LED
- Touch sensor functions as a doorbell and activates a buzzer
- Servo motor controls door locking and unlocking mechanism
- Mobile device gets updates when activity is detected near door and bell is rung
- Door is opened or closed wirelessly via Bluetooth using a mobile device
- Uses simple command-based bluetooth control for door operation
- Provides real-time alerts
- Suitable for smart home and security applications

Components

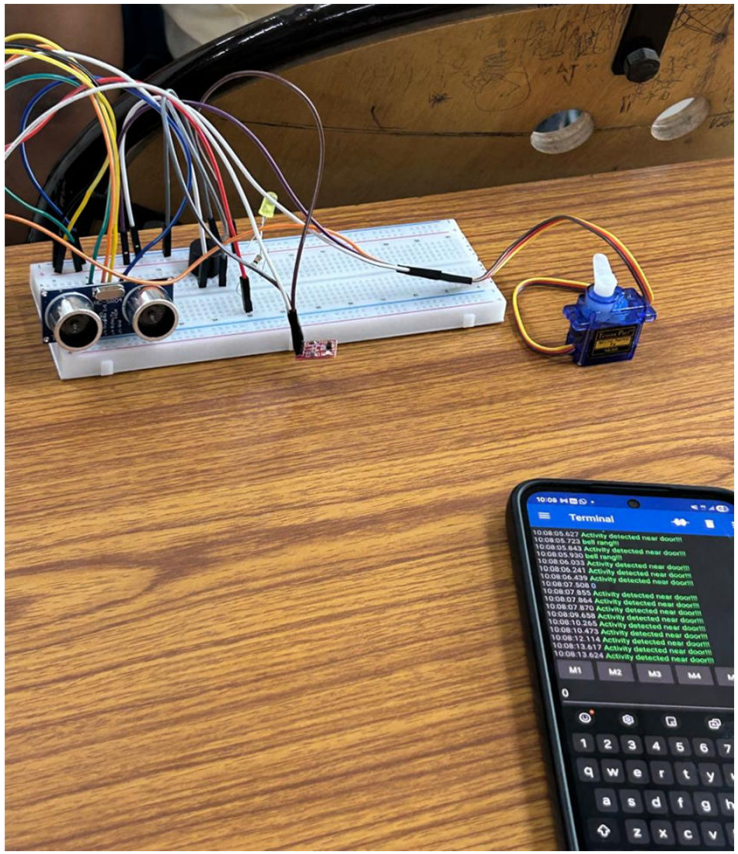
- Breadboard
- ESP32 DEV board & micro usb connector
- Ultrasonic sensor
- Touch sensor
- Servo motor
- Buzzer
- LED
- 330 Ohm resistor
- Jumper cables

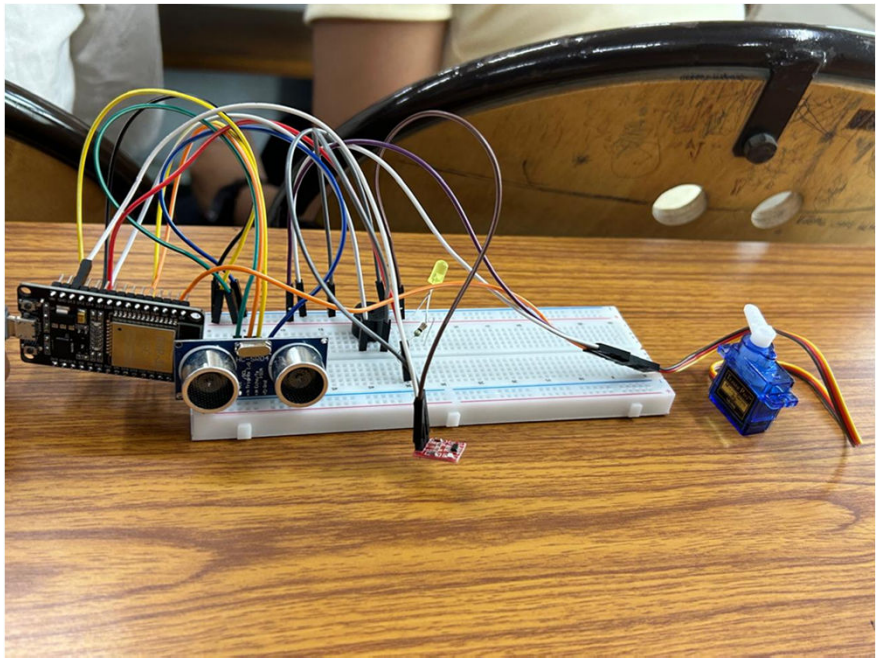
Details of the system

Circuit Schematics-



Details of the system





Details of the system

Automation Systems Proposal

1. Smart home door security system
2. Smart gates and parking entry system
3. Hotel room access control
4. Restricted area monitoring System(labs, server rooms)
5. Elderly care/ Disability care entry system
6. Animals feeders for wild animals in a zoo
7. Multi Level car parking