

Plasma Codex

Code.Innovate.Dominate

**BI DIRECTIONAL VISITOR COUNTER USING ARDUINO
UNO**



Contents

01

Introduction

02

The team

03

Applications

04

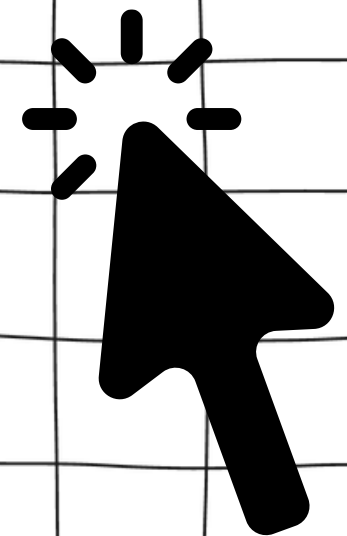
Brain Storming

05

Model Making

06

Circuit Diagram





Introduction

The idea behind a bidirectional visitor counter using Arduino is to create a device that can accurately count the number of people entering and exiting a specific area

Main area of focus

Entry DetectionExit Detection

Direction Determination



The team



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*Team leader
Designer,Analyst*



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Researcher,Developer

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Analyst, Coder

Applications

•**ENTRY DETECTION:** WHEN A PERSON ENTERS THE AREA, THE MOTION SENSOR AT THE ENTRANCE DETECTS MOVEMENT. THE PROGRAM INCREMENTS THE VISITOR COUNT.

•**EXIT DETECTION:** WHEN A PERSON EXITS THE AREA, THE MOTION SENSOR AT THE EXIT DETECTS MOVEMENT. THE PROGRAM DECREMENTS THE VISITOR COUNT.

•Retail Stores:

Customer Footfall: Track the number of customers entering and exiting a store to understand peak hours and optimize staffing.

Visual Indicator: The bulb can light up to visually indicate increased customer activity during busy periods.

•Office Spaces:

Occupancy Monitoring: Count the number of employees present in the office to optimize energy consumption (e.g., HVAC) and allocate resources.

Visual Indicator: A lit bulb can signify a high occupancy level, prompting employees to consider alternative workspaces or adjust their schedules.

•Events and Conferences:

Attendee Counting: Count the number of attendees entering and exiting event venues to assess attendance and manage resources.

Visual Indicator: A lit bulb can signify a large number of attendees, prompting event organizers to provide additional amenities or services.

•Educational Institutions:

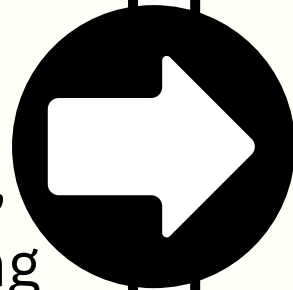
Classroom Attendance: Track the number of students entering and exiting classrooms to monitor attendance and identify absenteeism.

Visual Indicator: A lit bulb can indicate a high number of students present, helping teachers adjust their lesson plans or teaching methods.

Brainstorming

Bi-directional movement detection

- 01** Automates access control
- 02** Enhances security features,
Provides real-time monitoring
- 03** Supports multiple authentication methods
,Integrates with existing infrastructure



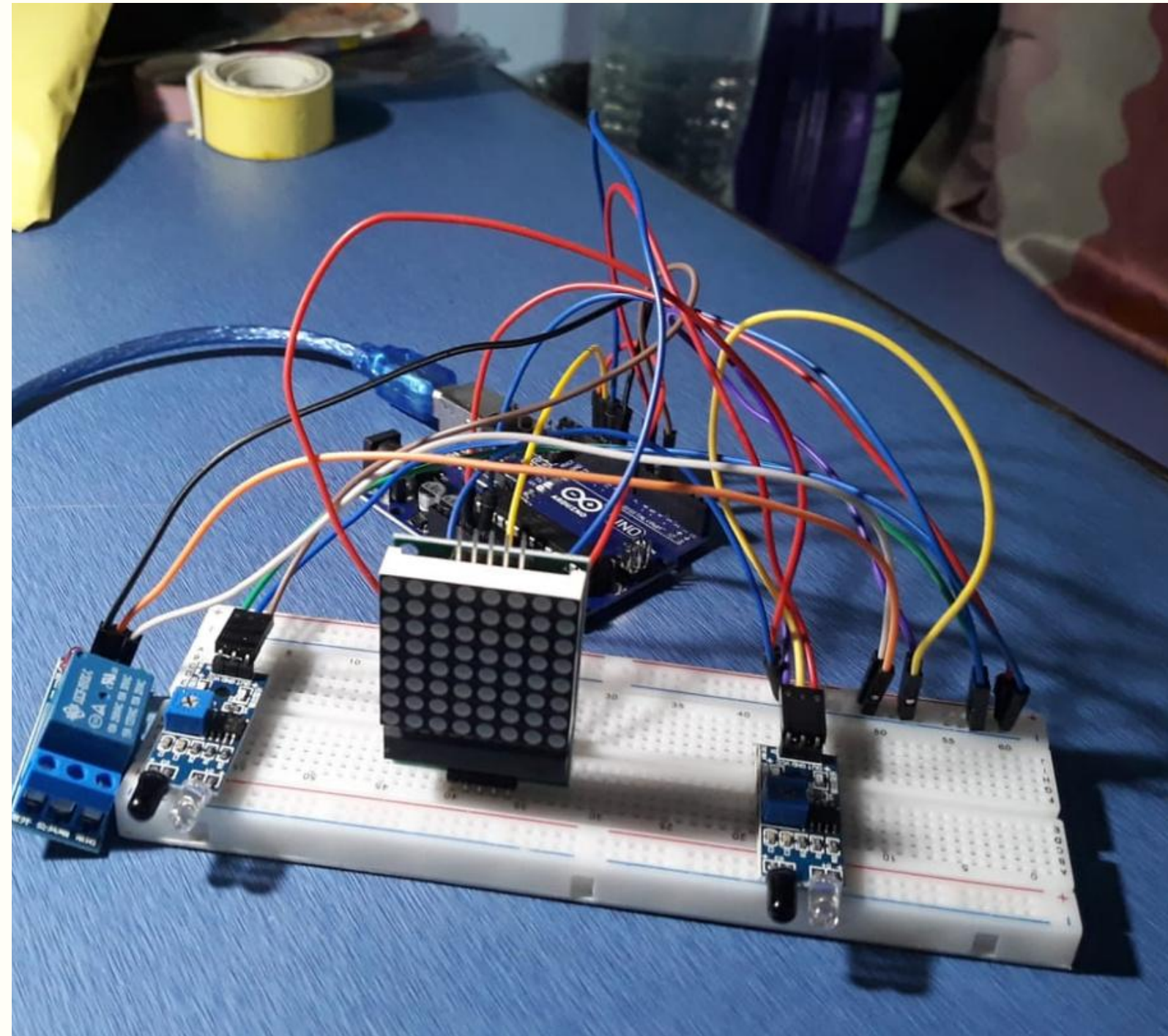
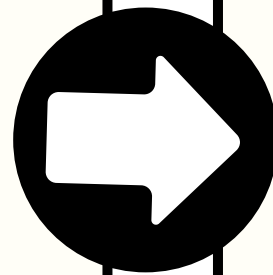
Ensuring
security
and
privacy

Balancing
cost
and
functionality

Integrating
with existing
infrastructure

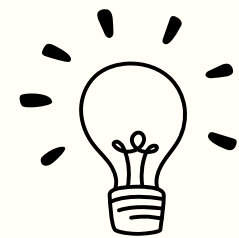
Overcoming
technical
complexities

Model Making

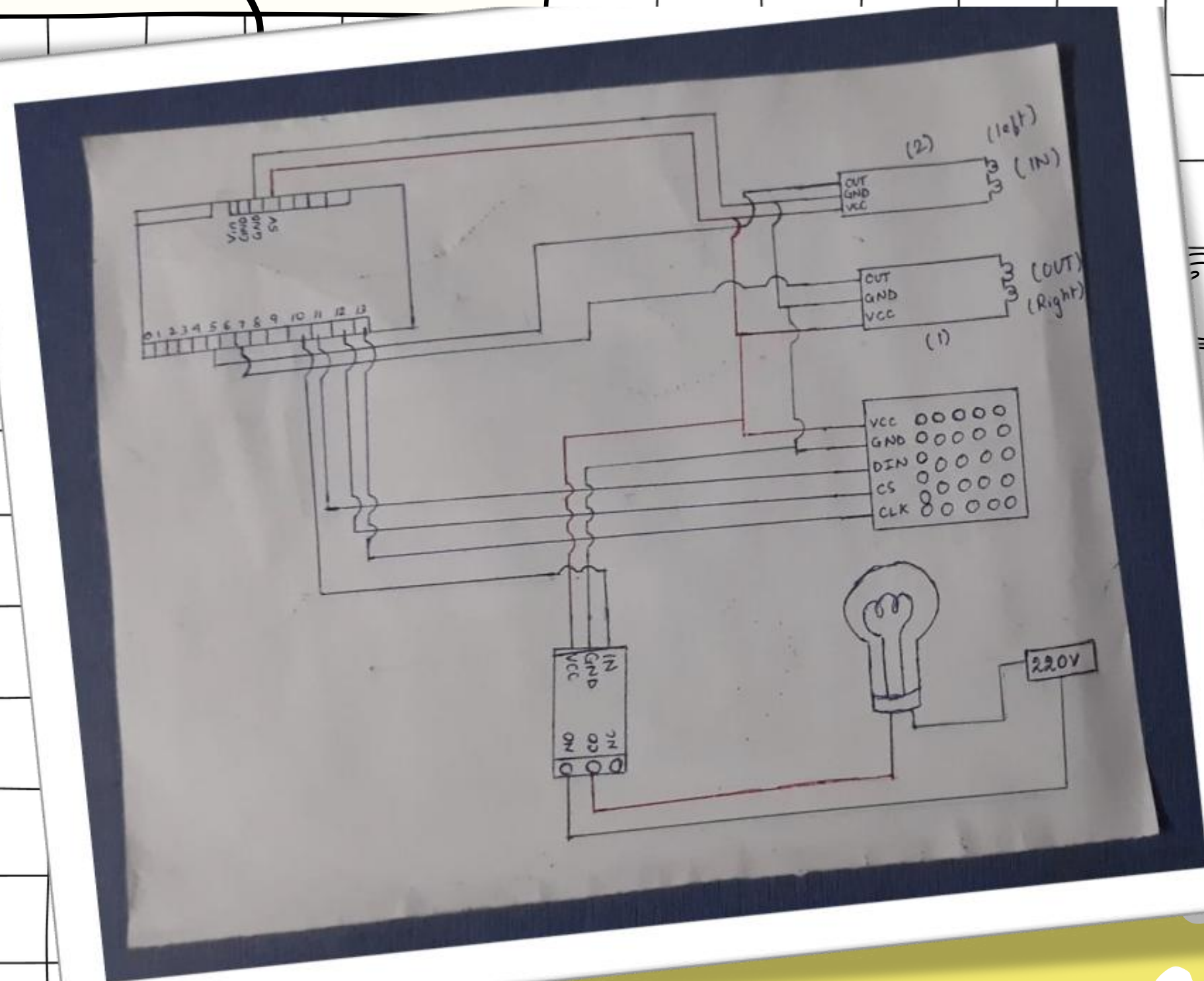


Circuit Diagram

Components



1. Arduino Board (e.g., Arduino Uno)
2. IR Sensors (2) for bi-directional detection
3. Counter Display (7-segment or LCD)
4. Relay Module (for gate control)
5. Power Supply (5V or 12V)
6. Breadboard and Jumper Wires





Thank you

Team PLASMA CODEx



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