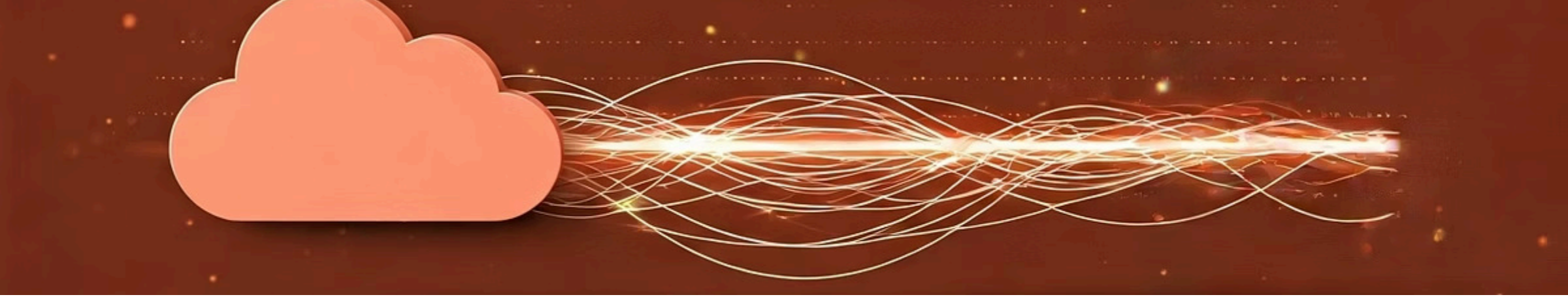
Automating Attendance Using RFID

Smart IoT-Based Attendance Monitoring

CONTENTS



Abstract: RFID Attendance

Project Purpose

Automating attendance using RFID technology.

Real-time Data

Integration with Google Sheets for instant data access.

Cloud Connectivity

ESP8266 connects the system to the cloud.

Benefits

Reduces manual errors, saves time, provides transparency.

Introduction: The Need for Automation

Traditional attendance systems often suffer from inefficiencies and inaccuracies. The need for automation and precise data recording is paramount in modern institutions and workplaces.

RFID technology offers a robust solution for identification, while cloud-based storage ensures data accessibility and security. This system is ideal for schools, colleges, and offices.

Key Objectives

Automate Recording

Streamline the attendance process.

Instant Data

Provide real-time updates to Google Sheets.

Secure Storage

Ensure data integrity and reliability.

Increase Efficiency

Reduce manual effort and paperwork.

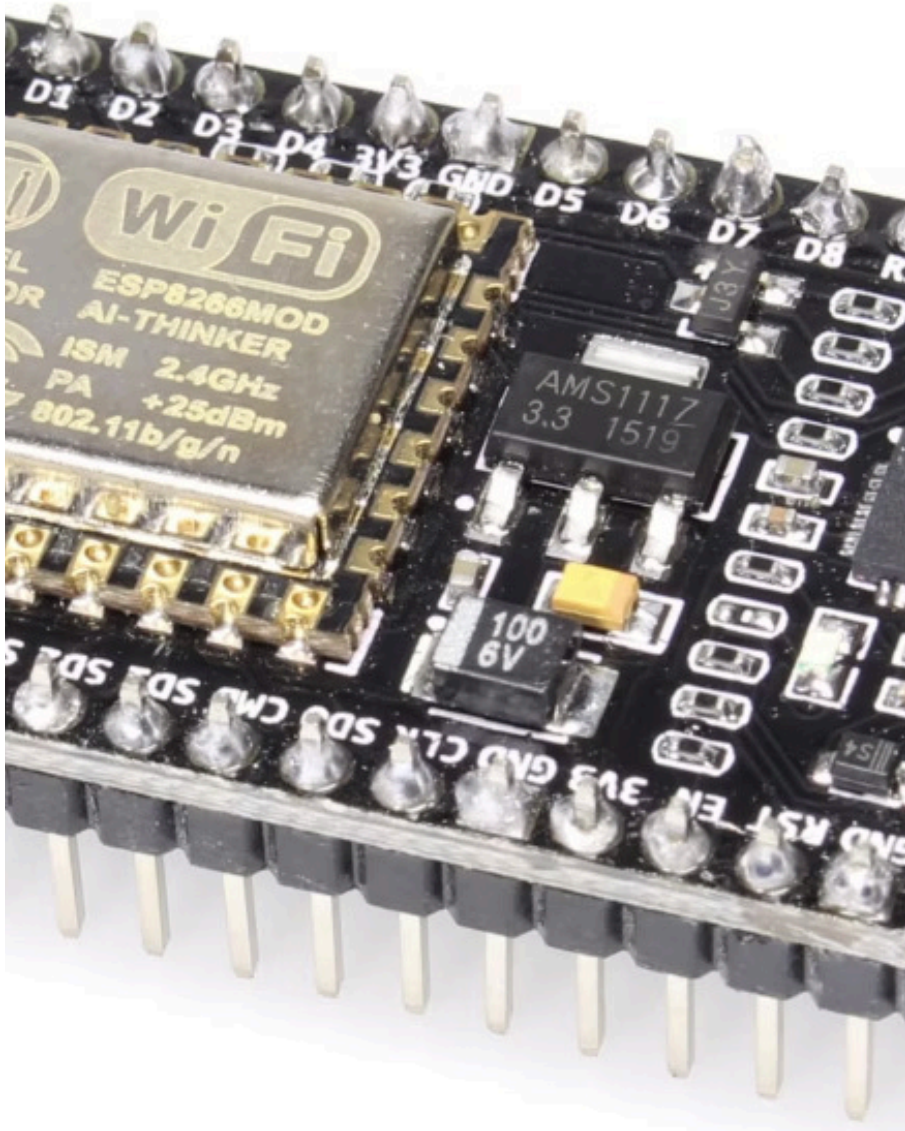
Hardware & Software Requirements

Hardware

- ESP8266 Microcontroller
- RFID Reader RC522
- RFID Tags
- Power Supply
- Breadboard & Jumper Wires
- Internet Connectivity

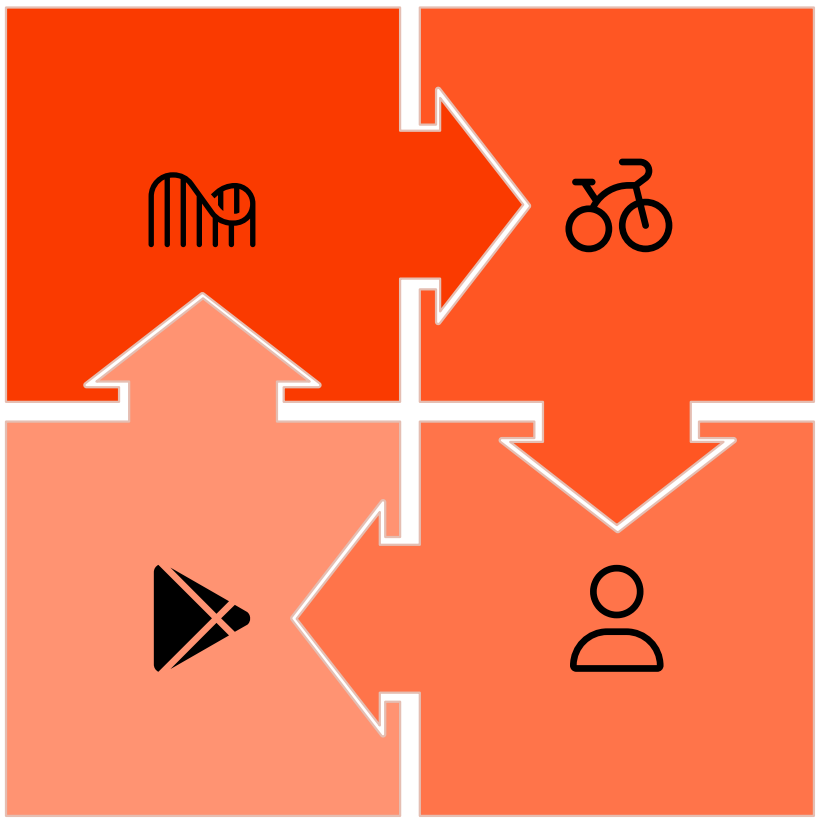
Software

- Arduino IDE
- ESP8266 Board Package
- Google Apps Script
- Google Sheets API



System Architecture

RFID Card



RFID Reader

Google Sheets

ESP8266

The system captures RFID card data, processes it via ESP8266, and uploads it to Google Sheets. User feedback is provided through an LCD and buzzer.

Advantages & Disadvantages

Advantages

- Real-time data
- Automated attendance
- Easy monitoring
- Cloud storage
- Reduced errors

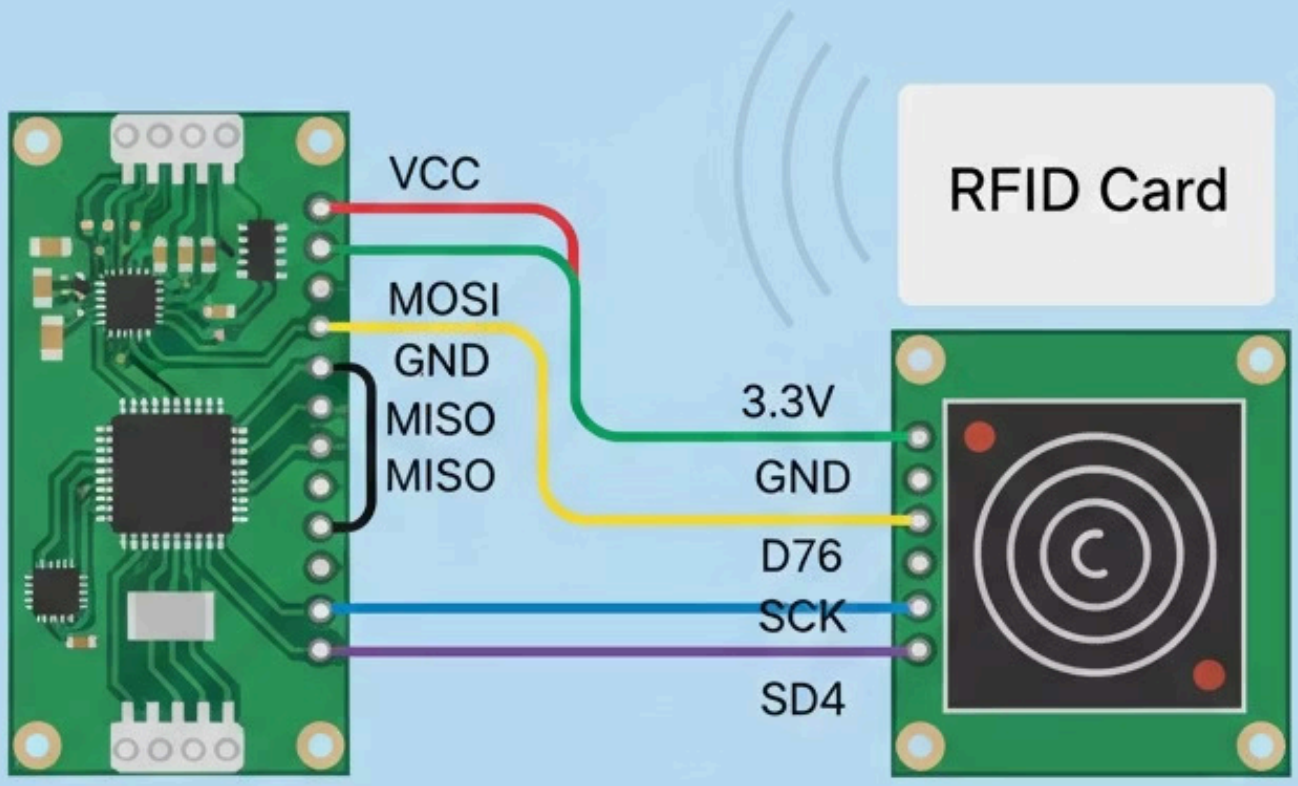
Disadvantages

- Internet dependency
- Hardware dependency
- Complex setup
- Maintenance issues
- Security concerns

Implementation & Results

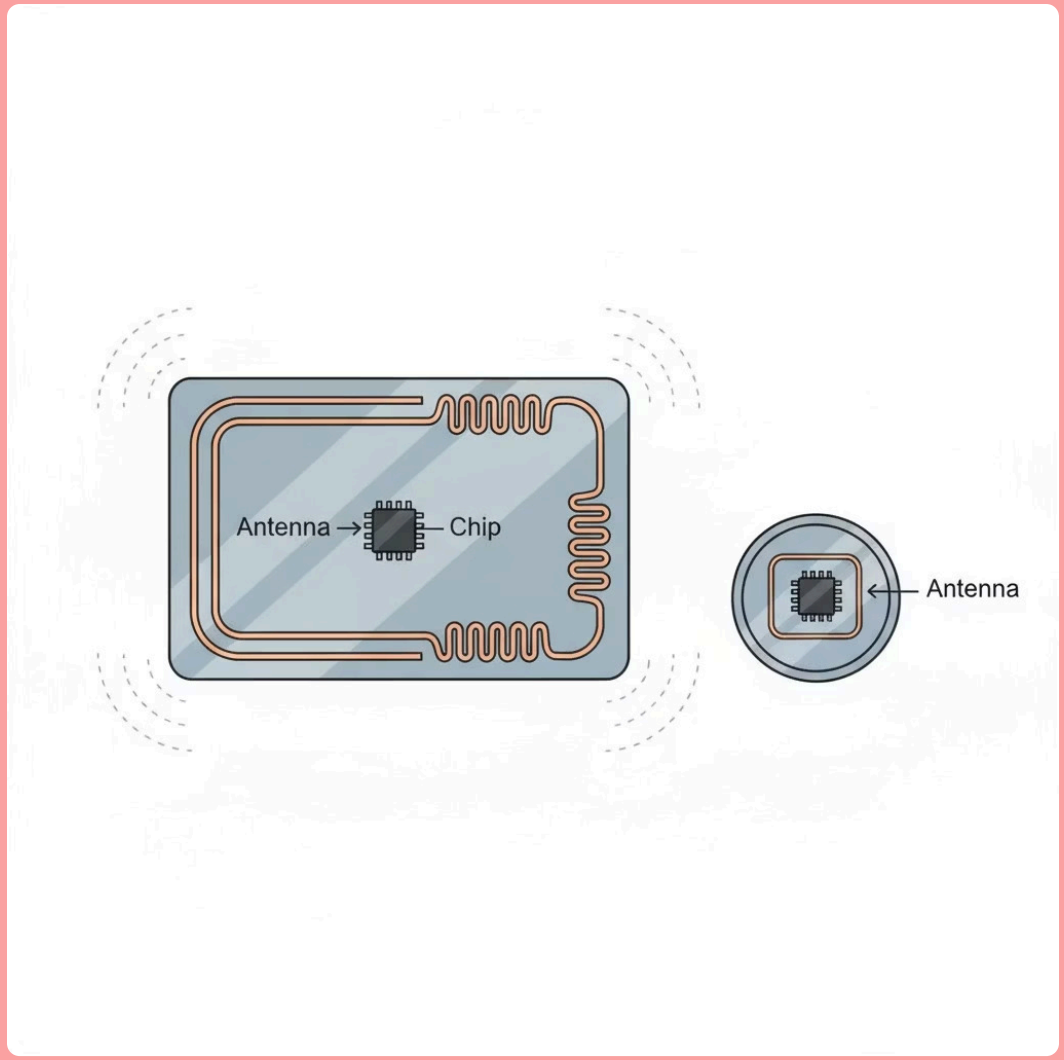
The system successfully records attendance data in Google Sheets, demonstrating real-time updates and efficient data management.

9/14/2025	11:11:10	2023PECEC391	SANJAY	ECE	CHENNAI
9/14/2025	11:12:50	2023PECEC395	RAM	ECE	PORUR
9/14/2025	11:15:10	2023PECEC392	SANDY	ECE	REDHILLS



ESP8266
Microcncrloller

MFRC522
RFID Module



Untitled spreadsheet

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	A	B	C
1	date	time	name
2	9/20/2025	17:39:42	Sanjaypriyan
3	9/20/2025	18:01:01	Rakeshraj
4	9/20/2025	18:01:17	Sanjaypriyan
5	9/20/2025	18:05:09	Rakeshraj
6	9/20/2025	18:05:19	Sanjaypriyan
7	9/20/2025	18:05:36	Rakeshraj
8	9/20/2025	18:05:45	Sanjaypriyan
9	9/20/2025	18:06:15	Rakeshraj
10	9/20/2025	18:06:23	Sanjaypriyan

Untitled spreadsheet

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	A	B	C	D	E	F	G
1	DATE	TIME	ROLL	NAME	DEPARTMENT	YEAR	ADDRESS
2	9/14/2025	11:11:10	2023PECEC391	SANJAY	ECE	III	CHENNAI
3	9/14/2025	11:12:50	2023PECEC395	RAM	ECE	III	PORUR
4	9/14/2026	11:15:10	2023PECEC392	SANDY	ECE	III	REDHILLS
5	9/14/2027	11:18:22	2023PECEC393	KUMAR	ECE	III	CHENNAI
6	9/14/2028	11:20:49	2023PECEC394	HARISH	ECE	III	CHENNAI
7	9/14/2025	11:21:33	2023PECEC397	SARAN	ECE	III	CHENNAI
8	9/14/2025	11:22:25	2023PECEC396	HARI	ECE	III	REDHILLS
9	9/14/2025	11:24:55	2023PECEC381	SHYAM	ECE	III	CHENNAI
10	9/14/2025	11:25:10	2023PECEC371	SANKAR	ECE	III	CHENNAI
11	9/14/2025	11:27:40	2023PECEC396	PRIYA	ECE	III	CHENNAI
12	9/14/2025	11:28:11	2023PECEC311	DIVYA	ECE	III	CHENNAI
13	9/14/2025	11:31:15	2023PECEC388	MEERA	ECE	III	CHENNAI
14	9/14/2025	11:33:19	2023PECEC378	KAVYA	ECE	III	CHENNAI
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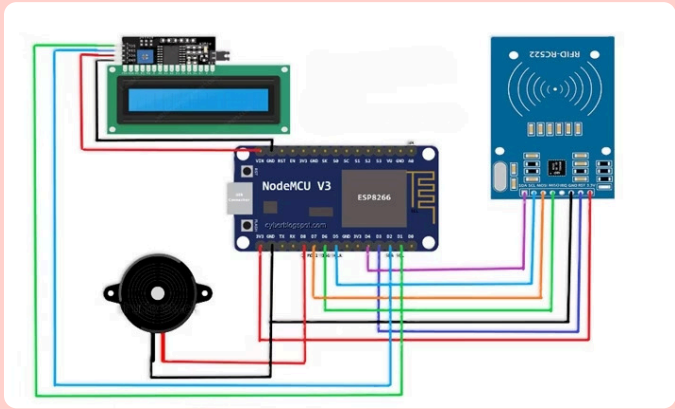
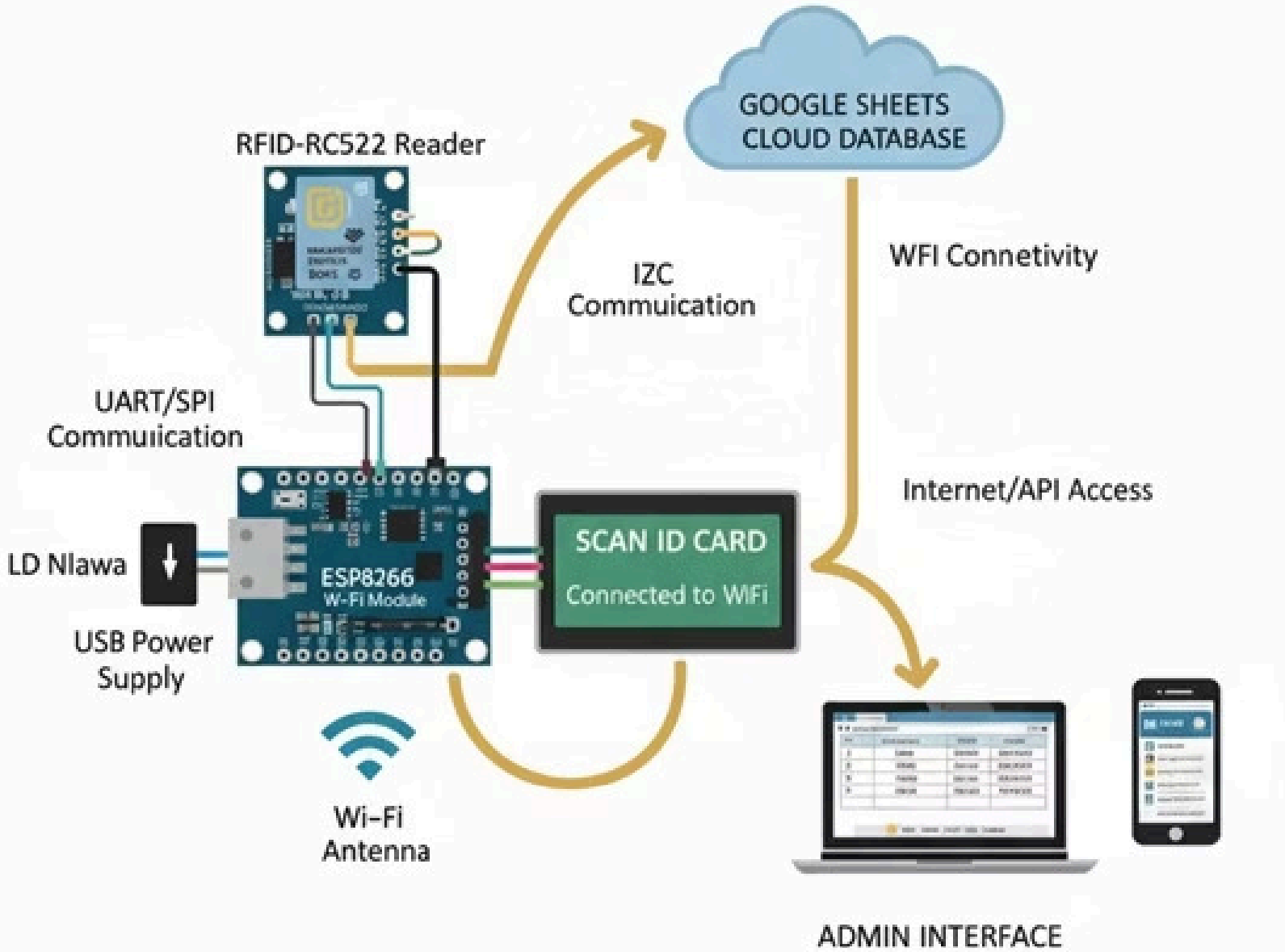
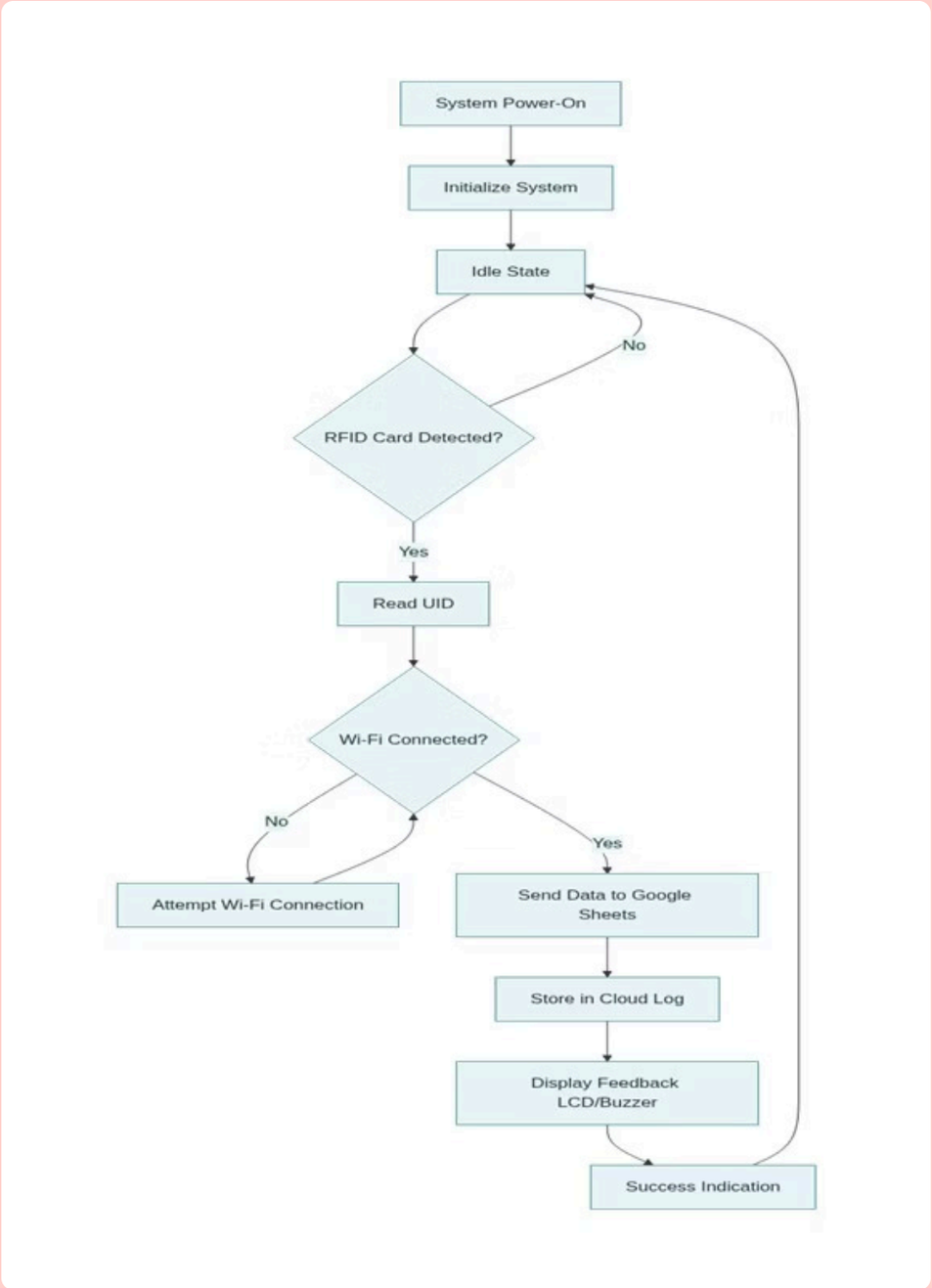
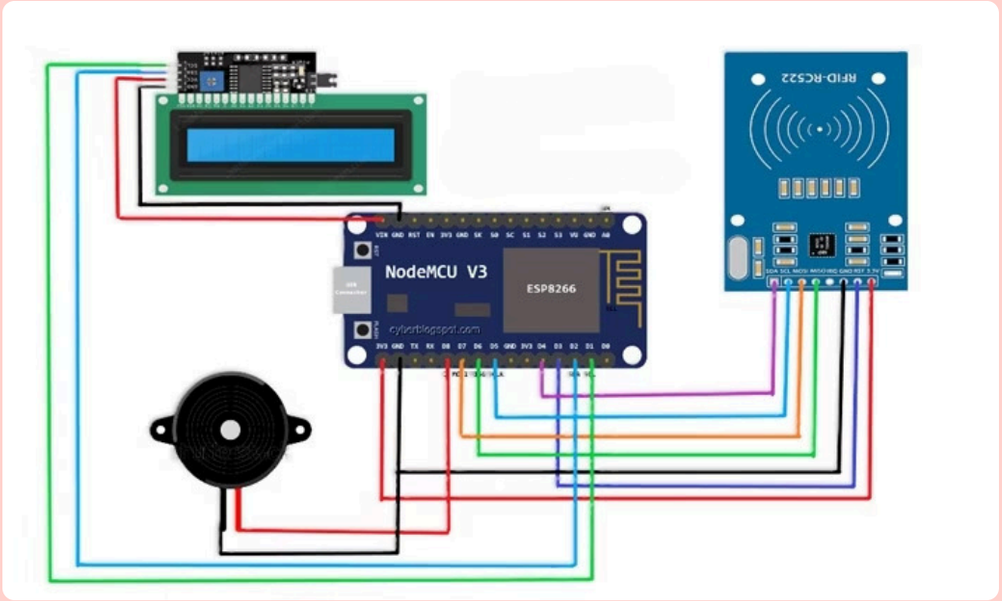
16							
17							









Presented by:

Thank You

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