

FINAL YEAR PROJECT • B.TECH ELECTRONICS ENGINEERING

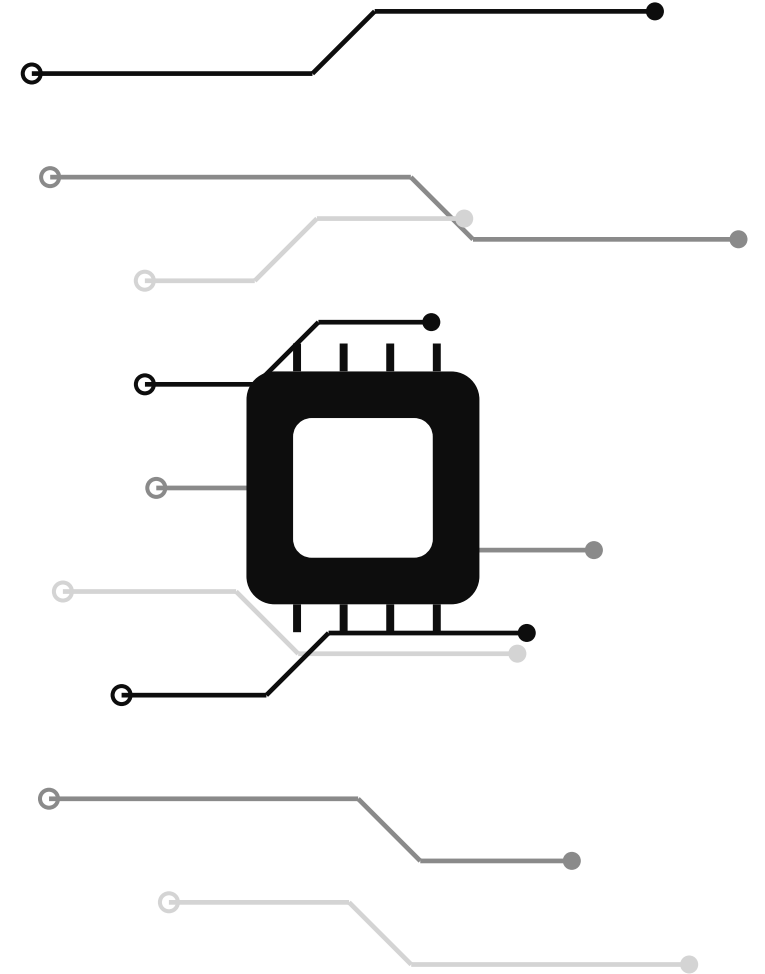
VOICE-CONTROLLED HOME AUTOMATION

Switch lights and fans with your voice

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AGENDA

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01

INTRODUCTION



**Controlling home appliances
is still handled manually in
most places – slow, error-
prone and hard to track.**

Why this project matters

INTRODUCTION

- Controlling home appliances matters to families and elderly users every day
- Current methods are manual, slow and hard to scale
- Affordable technology now makes automation practical
- This project builds voice-controlled home automation as a working prototype

CONTEXT

Most families and elderly users we surveyed still rely on paper or spreadsheets for controlling home appliances.

OBJECTIVES

- Automate the core steps of controlling home appliances
- Give families and elderly users a simple, mobile-friendly interface
- Store data securely and generate reports
- Evaluate the system against the existing process



Image

02

LITERATURE & GAP

LITERATURE SURVEY

Study	Approach	Limitation
Study A	Rule-based automation	Not adaptive
Study B	Mobile data collection	No analytics
Commercial tools	Full-featured suites	Costly and complex

Representative summaries — replace with your own citations.

EXISTING VS PROPOSED SYSTEM

Existing system

- Manual records
- Slow turnaround
- No reports

vs

Proposed system

- Automated workflow
- Real-time dashboard
- One-click reports

03

PROPOSED SYSTEM

SYSTEM ARCHITECTURE

1

Input

Data captured from users or sensors

2

Process

Core logic validates and analyses

3

Store

Secure database and backups

4

Output

Dashboard, alerts and reports

TECHNOLOGY STACK



ESP8266

Wi-Fi relay board



**Voice assistant
API**

Speech commands



Node-RED

Automation flows



Mobile app

Manual control

04

IMPLEMENTATION

PROJECT TIMELINE



IMPLEMENTATION SNAPSHOTS



Image 1

Main dashboard

Overview of live data



Image 2

Data entry

Simple forms with validation

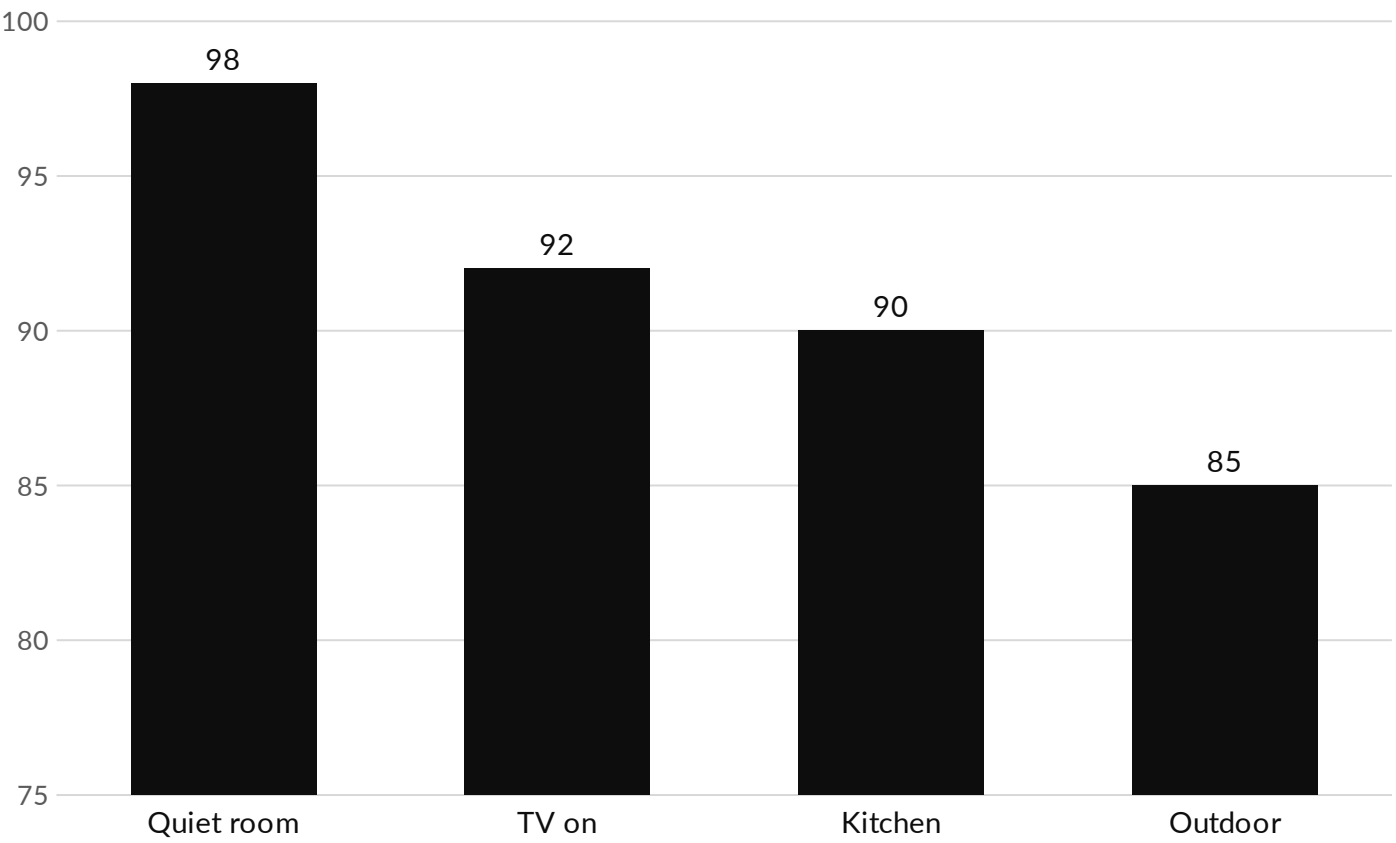


Image 3

Reports

Exportable summaries

RESULTS



Sample data for illustration — replace with your own figures.

95%
commands recognised

The prototype improved steadily over the evaluation period (sample data).

KEY OUTCOMES

95%

commands recognised

100%

records digitised

< 1 s

average response

Figures from our test setup (sample data).

CONCLUSION

- Voice-Controlled Home Automation meets its main objectives
- Automation saves time and reduces errors for families and elderly users
- The design is simple to extend and maintain



Image

REFERENCES

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- [2] B. Author and C. Author, Book Title, 2nd ed. Publisher, 2022.
- [3] D. Author, “Conference paper title,” in Proc. Conference, 2024.
- [4] Official documentation of the tools used (accessed 2025).



THANK YOU

Questions and suggestions are welcome.