CRESTA

VOICE - CONTROLLED SMART HOME AUTOMATION SYSTEM

by -

Varshini (RBCI2108) - IOT

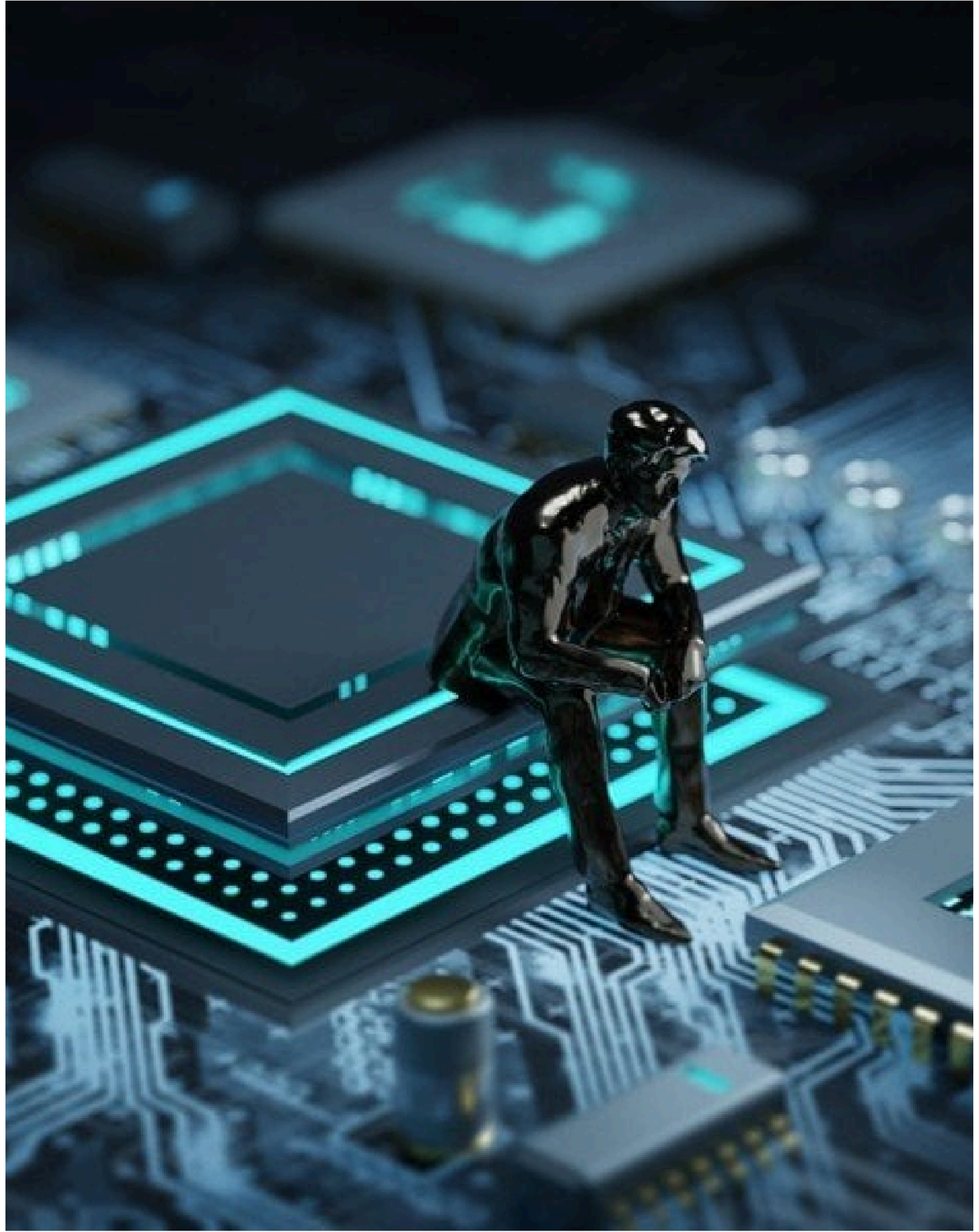
DEPARTMENT OF COMPUTER APPLICATION

UNIVERSITY OF MYSORE

2023-2024

INTRODUCTION

The advancement of technology has significantly transformed modern living,making home automation a key area of interest. This project focuses on developinga voice-controlled home automation system using Arduino and Bluetoothtechnology, aiming to provide an affordable and efficient solution for controllinghousehold devices .



SCOPE OF WORK

Detailed documentation and user manuals will be prepared. The scope also encompasses exploring potential future enhancements, including multi-device control, advanced voice recognition, and sensor integration to further improve the system's efficiency and user experience.

VOICE-CONTROLLED DEVICES

The scope includes selecting and integrating essential hardware components such as the Arduino board, Bluetooth module, relay module, and an Android device running the "AMR Voice" app.

VALUE ADDITIONS

- Functional comparison

1. voice assistant vs bluetooth
2. smart hubs vs arduino
3. cloud sevices vs local processing

- Cost & accessibility

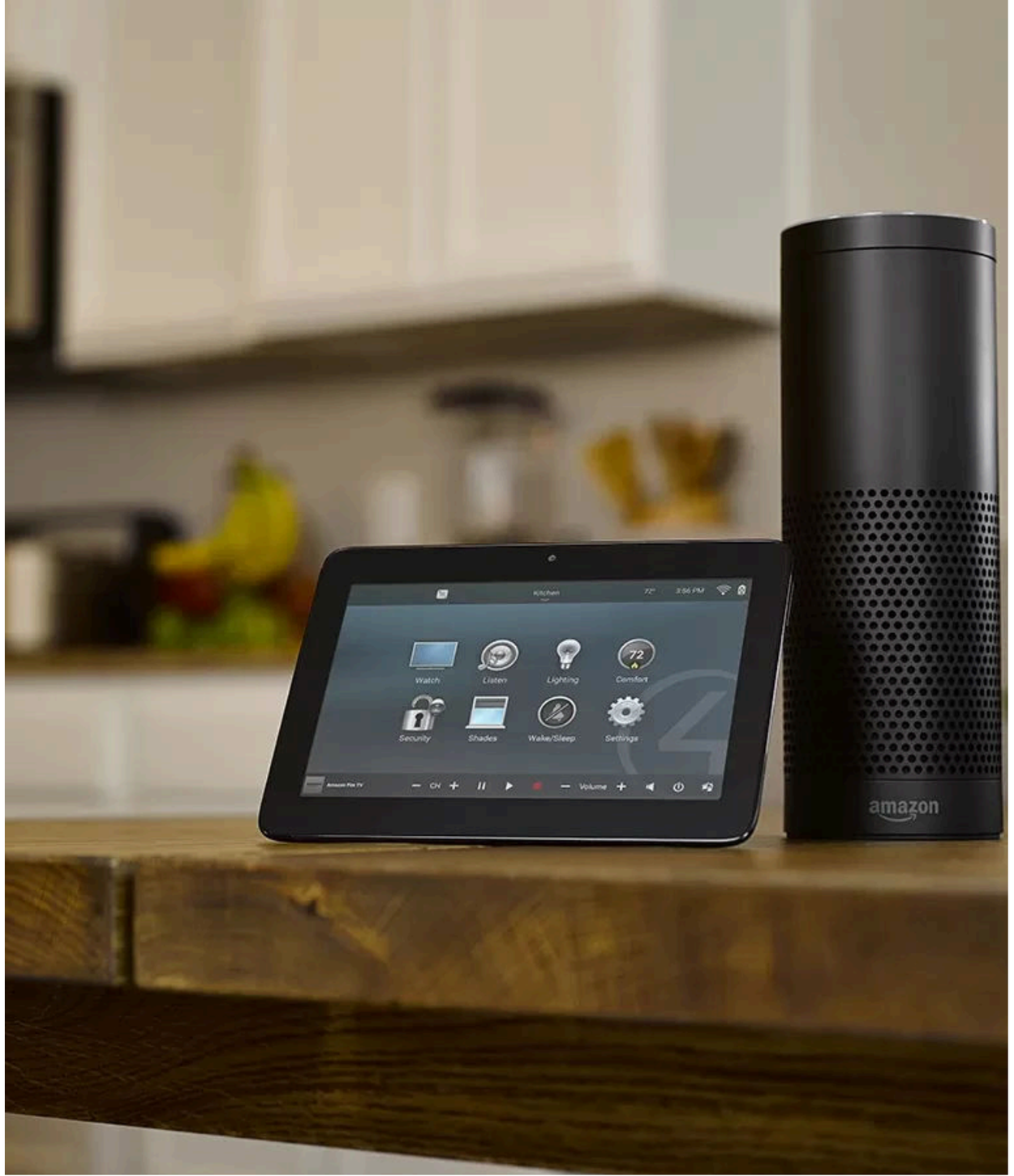
1. high cost vs affordability
2. complex setup vs simplicity

- Privacy & security

1. cloud dependency vs local control
2. internet requirement vs offline capability

- Customization & scalability

1. advanced features vs basic functionality
2. multi-device integration vs single device control



REAL WORLD FUNCTIONALITIES

1. Lighting Control
2. Appliance Control
3. Home Security
4. Elderly and Disabled Assistance
5. Entertainment Systems
6. Smart Kitchens
7. HVAC Control
8. Garden and Outdoor Lighting
9. Energy Management
10. Home Automation Hubs
11. Office Automation
12. Hospital and Healthcare
13. Hotel Room Control
14. Retail and Commercial Spaces
15. Educational Institutions

FUTURE POSSIBILITIES

While the current system provides essential functionality, future improvements could include multi-device control, advanced voice commands, sensor integration, custom mobile app development, and the incorporation of machine learning for improved performance.

- multi-device control
- advanced voice command
- sensor integration
- mobile app development
- machine learning

CONCLUSION

The voice-controlled home automation system developed in this project successfully meets its objectives of providing a cost-effective, user-friendly, and efficient solution for managing household devices. The system demonstrates significant potential for further enhancements, including multi-device control, advanced voice commands, and integration with additional sensors and smart devices.

Thanks!