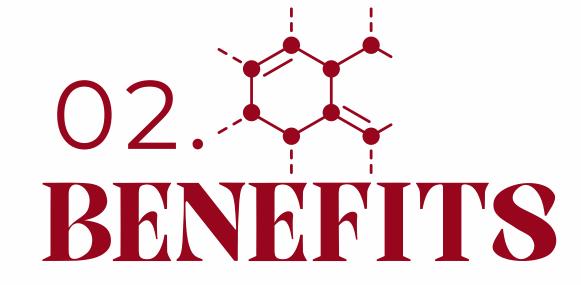


AUTOMA

I.G.S.IMESHA

DIRODUCTION

Transform your greenhouse with cutting-edge automation! Our Greenhouse Automation System optimizes plant growth, climate control, and resource management through advanced technology. By automating irrigation, lighting, and temperature regulation, it reduces waste, improves efficiency, and ensures consistent plant care. Experience smarter, more sustainable farming with AI-driven insights and future-ready upgrades. Secure, efficient, and eco-friendly – the future of greenhouse management is here!



Scalability

From single greenhouses to global or Martian operations, we grow with you.

Al Integration

Unleash next-gen AI with Ransisi, your intelligent co-pilot. From plant health to environment control, it provides smart insights and solutions—just ask!

Faster, Efficient & Smart

Minimal data flow to save bandwidth and cut costs.

Real-Time Monitoring

Constant tracking of temperature, humidity, light, and more for optimized growth.

Individual Plant Tracking

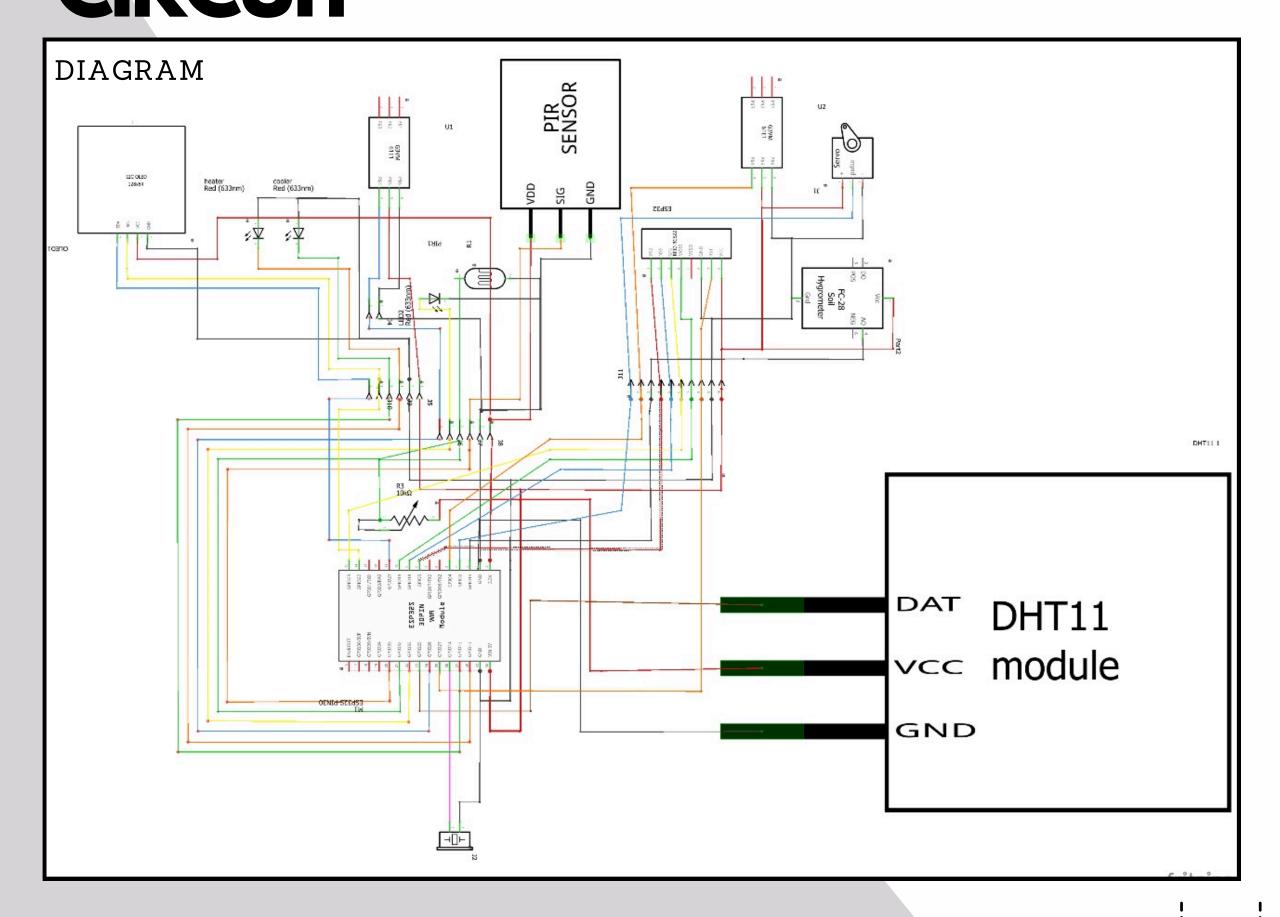
Care for every plant individually to maximize yield.

Mobile App

A mobile app for the greenhouse with user friendliness to allow users to control and have access to the greenhouse remotely. Easy-to-read reports with all data and insights, are delivered straight to your hands from the app, with just a tap of your fingers.

Top-Security

Zero tolerance for unauthorized access, keeping your data safe.



CONCLUSION

The Greenhouse Automation System revolutionizes agriculture by automating irrigation, climate control, and security, reducing labor and optimizing resources. With real-time data synchronization and mobile app control, it ensures efficient and consistent plant growth. Future improvements, like machine learning and advanced wireless features, promise greater scalability and adaptability, making it ideal for sustainable farming.

03.

Hardware Components

LDR Sensor RFID Module RIR Sensor OLED Display Relay Module Water Level Sensor

DC Fan

ESP32

Software Components

C++(Programming Language for Arduino) Flutter(Dart for mobile app)

appwrite

DIAGRAM esp32 «⟨__'\̈Ÿ.

Azure 05. REFERENCES

- Official Arduino Documentation by Arduino
- Official Arduino Libraries References by Arduino
- Official Flutter Documentation by Google • Official Firebase Documentation by Google