



SCORPION: SMART HOUSE

The Future of Smart Living

AGENDA

INTRODUCTION

Introduction of the
SCORPION Smart House

PROJECT OUTCOMES

Our final outcomes with
the SCORPION Smart House

ENGINEERING PROCESS

The process we used to
complete the project

CONCLUSIONS

A few words from the
SCORPION Team



01

02

03

04

The background of the slide features a photograph of a dense forest on a hillside, partially obscured by low-hanging mist or fog. The trees are a mix of dark evergreens and some with autumn-colored needles. Overlaid on this image are several large, solid-colored geometric shapes: a thin white vertical line on the left side, a large white triangle pointing downwards from the top center, and a large grey triangle pointing upwards from the bottom right corner.

CHAPTER 1: INTRODUCTION

ABOUT US

SCORPION is one of the UNLV Vegas STEM Lab teams led by our Mentor, Sebastian.

SCORPION thanks you for your time and has brought you the official, SCORPION Smart House.



OUR PHILOSOPHY



INNOVATION

The SCORPION Smart Home utilizes various components, like sensors and motors in order to optimize the living experience of our customers.



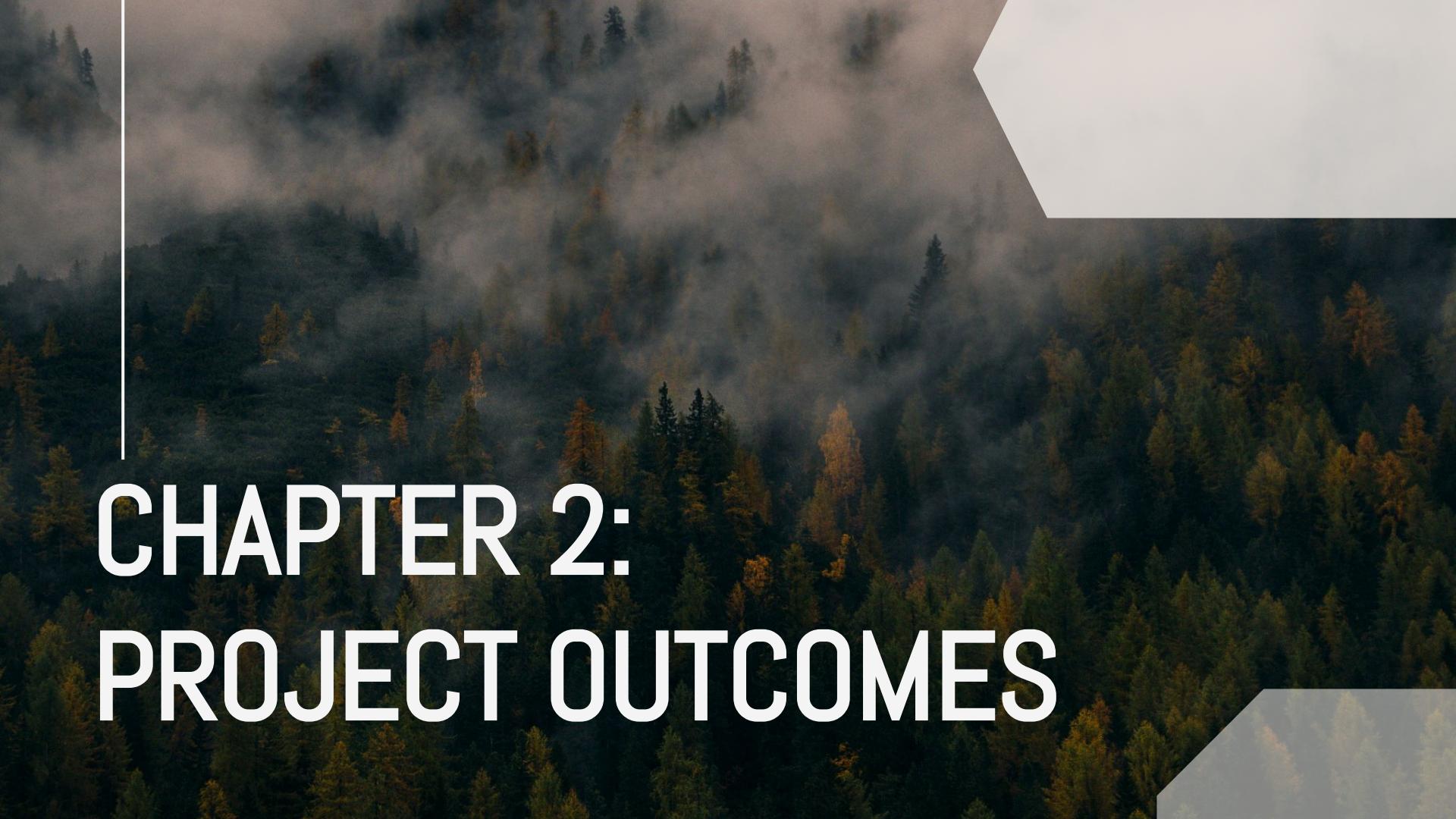
AWARENESS

The BLYNK app allows for the constant surveillance of the conditions of the house in order to allow for the optimal quality of life for customers.



TECHNOLOGY

The SCORPION Smart Home consists of servo motors, a DC motor, a photocell, motion detector, gas, steam, temperature, and soil humidity sensor.



CHAPTER 2: PROJECT OUTCOMES

FEATURES



DOOR CONTROL

The Smart Home doors are controlled through the usage of servo motors.



FAN MODULE

A singular DC Motor is utilized for this module. The fan possesses the ability to put out fires within 20 centimeters of it and to cool down the house.



TEMPERATURE & HUMIDITY

For the monitoring of the condition of the house and garden soil. Through temperature and humidity sensors.



LCD SCREEN

This module allows for the visualization of sensor readings and messages to be seen on said display.



SONGS & ALARM

The buzzer component is utilized to produce songs through various tones and a gas sensor just in case.



RGB PLANT LED

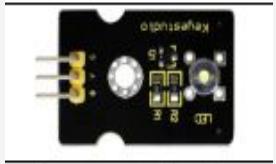
Our detection system is best in its class, allowing for different colors to detect different levels of water/humidity.
(Red = Dry
Green = Humid
Blue = Watered)

DEMONSTRATION

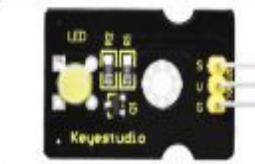
Hey, check this out!

MORE FEATURES

WHITE LED



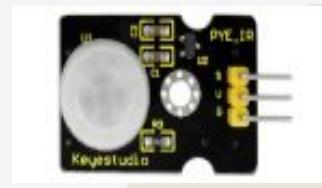
YELLOW LED



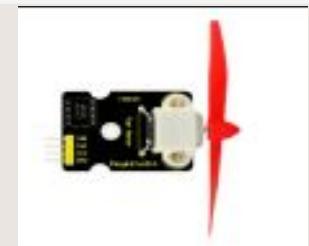
BUZZER



MOTION SENSOR



FAN



Produces a white light depending on the conditions.

Produces a yellow light depending on the conditions.

Produces varying tones depending on the commands.

Detects motion and enables a function like one of the LED's.

The fan module produces a gust of air.

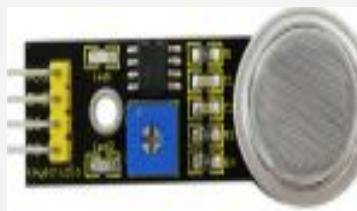
MORE FEATURES (CONT.)

BUTTON



Allows for user input to be interpreted and enabled.

GAS SENSOR



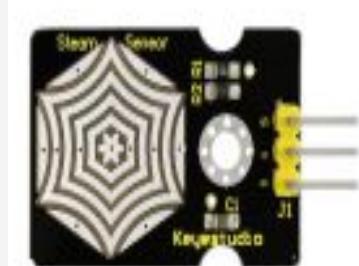
Interprets and displays gas concentration on serial monitor.

SOIL



Takes and reads the soil humidity on the serial monitor.

STEAM SENSOR



Detects and displays the amount of humidity in the air.

PHOTOCELL

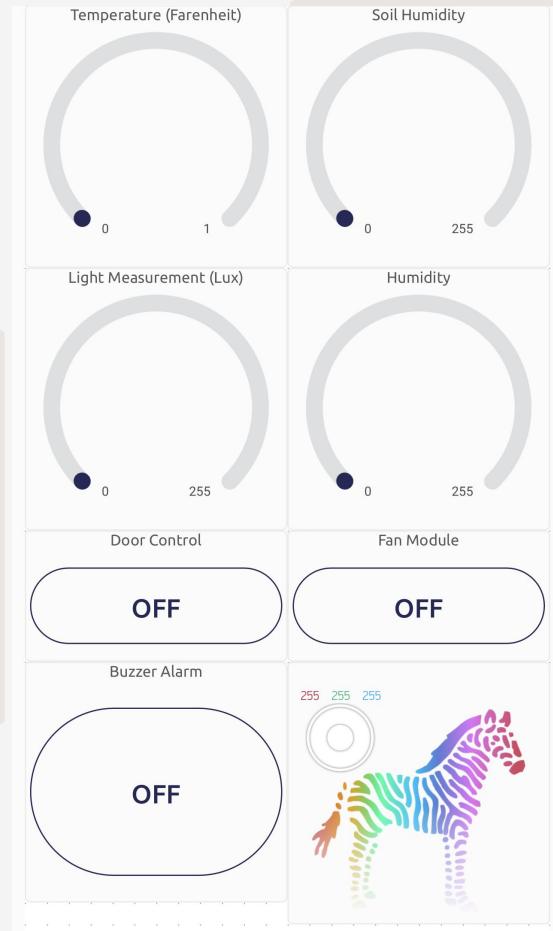


Detects light, and displays brightness.

BLYNK APP

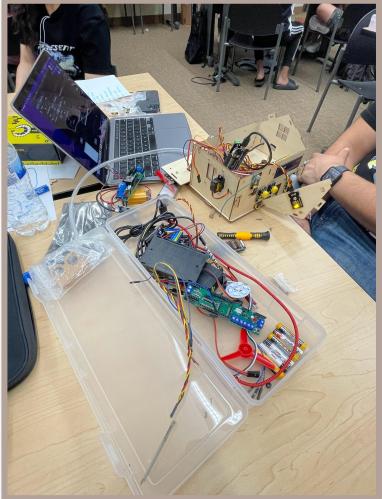


The BLYNK app allows for the constant surveillance of the conditions of the house in order to allow for the optimal quality of life for customers.

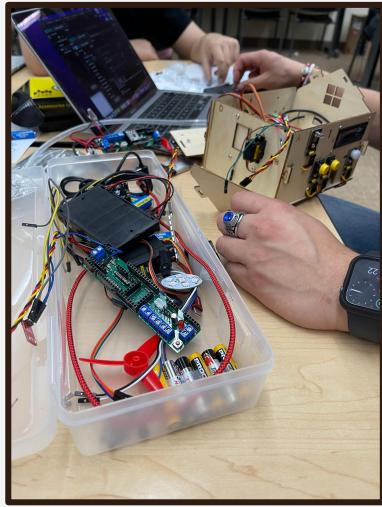


Our Prototype Blynk App Layout

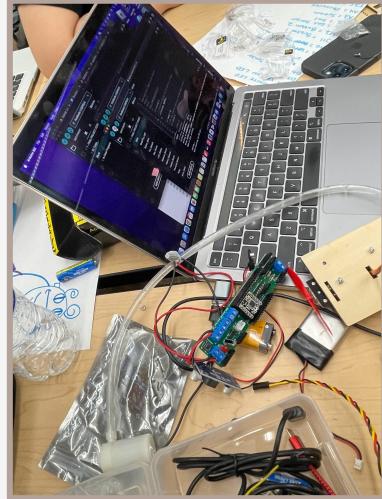
PHOTO GALLERY



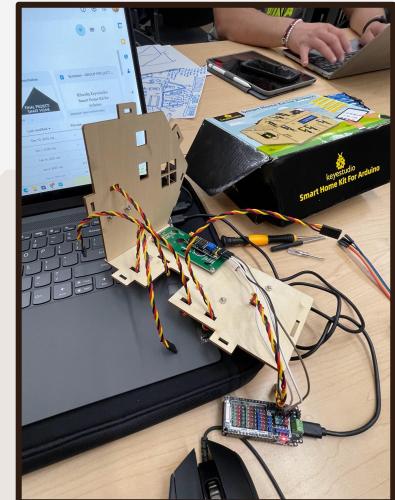
House Construction



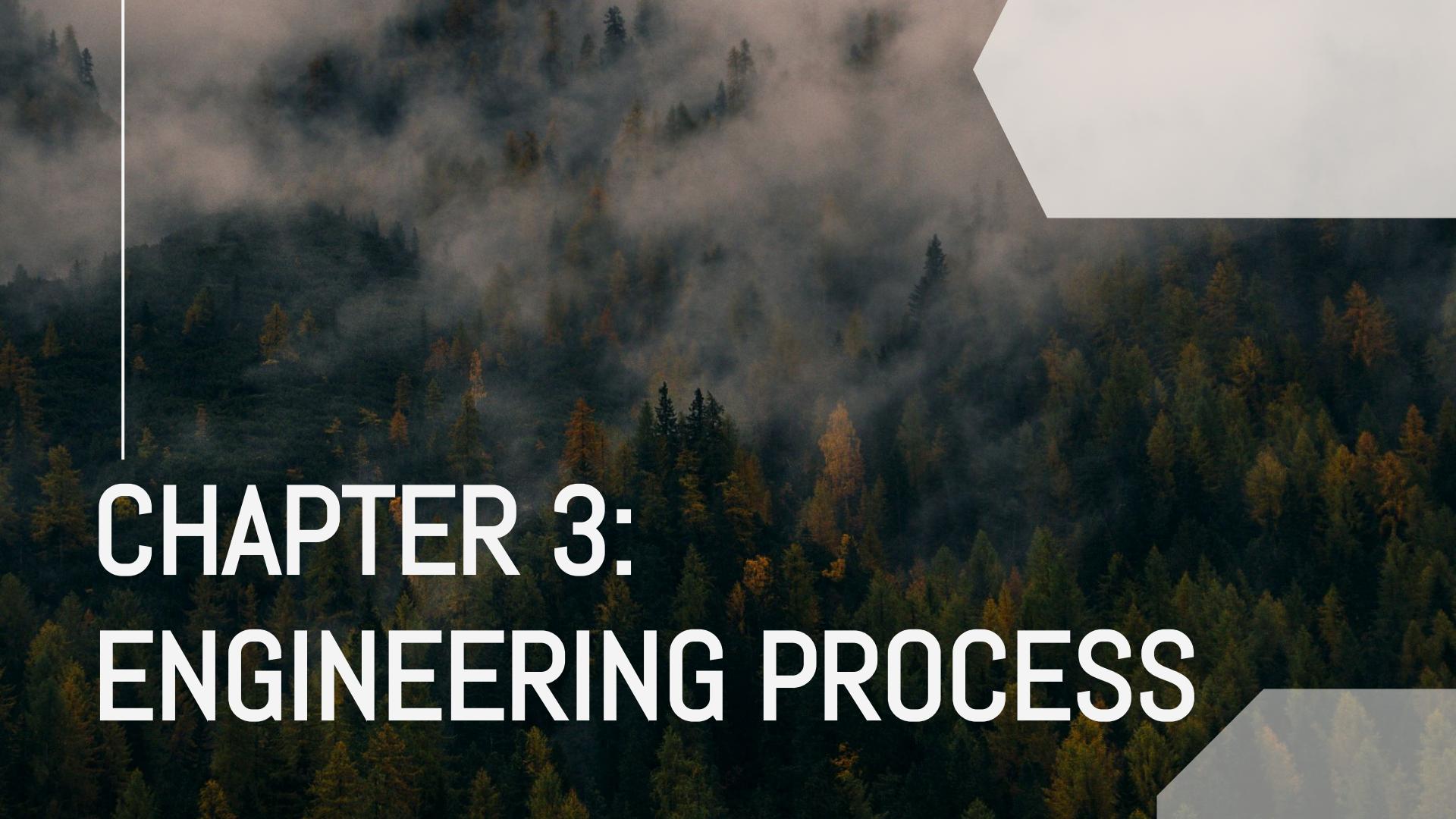
Another picture of
House Construction



Programming the
House



House building,
In progress

A photograph of a dense forest on a hillside, shrouded in thick, low-hanging fog. The trees are a mix of dark evergreens and some with yellow autumn foliage. A large white arrow graphic points from the top right towards the bottom left, partially overlapping the text.

CHAPTER 3: ENGINEERING PROCESS



"Our future success is directly proportional to our ability to understand, adopt, and integrate new technology to our work."

—SUKANT RATNAKAR

ENGINEERING PROCESS

01

BRAINSTORMING

The team went through several iterations and design ideas, until it was made into what it was today.

02

DESIGNING

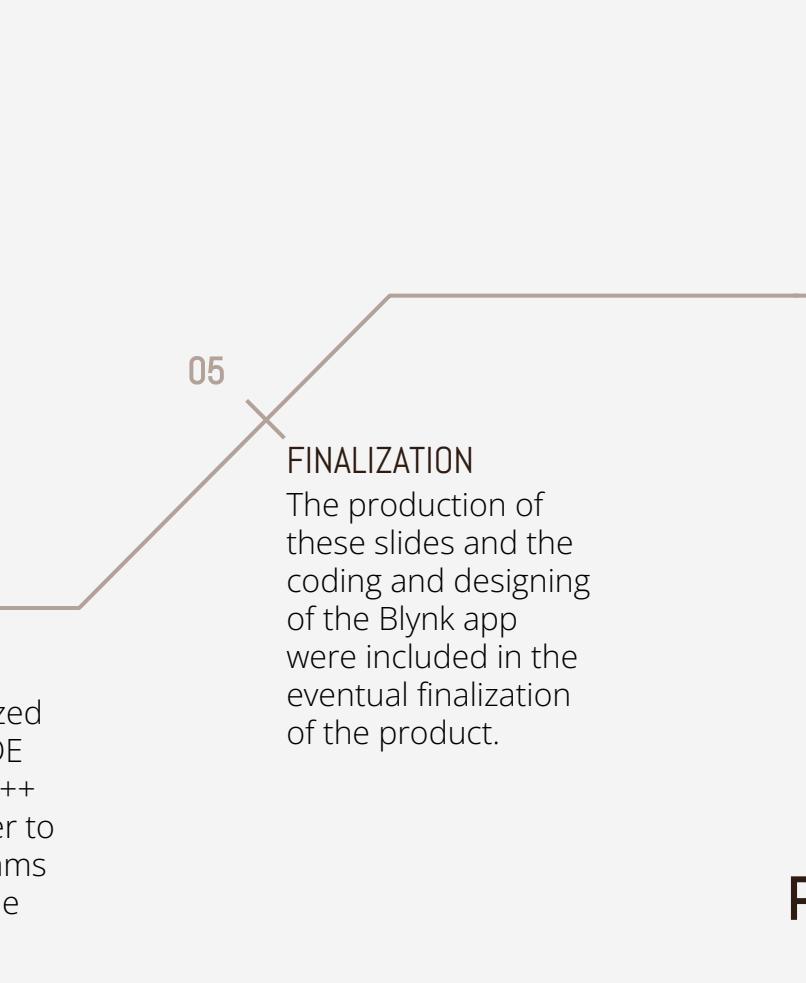
Designing the background with several layers of paint, and legos, until we had a nice design.

03

IMPLEMENTATION

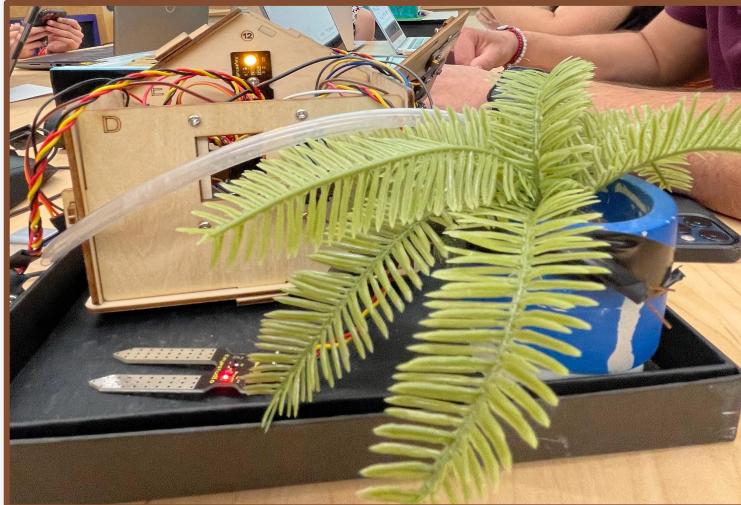
The team utilized the ESP32, the Arduino IDE and C++ coding in order to implement our ideas into the house.

FINISHED
PRODUCT



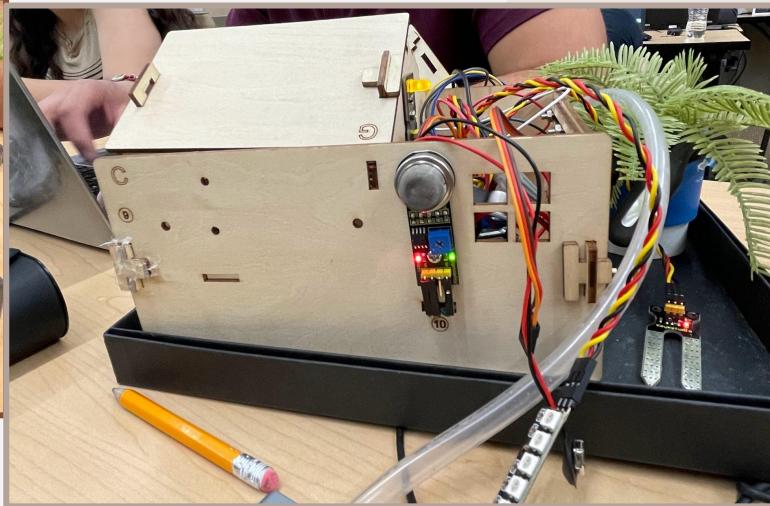
**ENGINEERING
PROCESS (CONT.)**

PHOTO GALLERY



Front View of the Smart Home Unit

Side View of the Smart Home
(Gas Sensor in Display)



The background of the slide features a photograph of a dense forest on a hillside, partially obscured by low-hanging mist or fog. A large, solid white arrow shape points diagonally upwards from the bottom right towards the top left, partially overlapping the text area.

CHAPTER 4: CONCLUSIONS

OUR TEAM

SEBASTIAN Y.



The Leader/Cool Member

AMANDA T.



Designer & Scribe

ROMA W.



Decorator/Designer

TONY B.



Presentation Maker

ADDITIONAL THANKS TO/GROUP (CONT.)

MICHU Z.



helped out on the slide show



DYLAN V.



Programmer/
Presentation Maker

THANKS

Does anyone have any questions?

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<https://tinyurl.com/scorpionproject>

