

## Slide 1: Title Slide

### The Pet Robot

Good afternoon, we are Group 24, and today, we're excited to introduce our project, the Pet Robot! This is an interactive robotic pet designed to provide companionship and entertainment without the responsibilities of a real pet.

Throughout this presentation, we will discuss:

Why do we decide to implement?

What was required to build the robot?

What our robot does?

How our robot looks like?

How are the components connected technically?

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## Slide 2: Introduction

Many people love pets but cannot have one due to allergies or space limitations. Our Arduino Pet Robot solves this problem by **replicating** real pet behaviors, responding to touch, and movement. It's fun, low-maintenance, and customizable!

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## Slide 3: How It Works

Now, let's see how our pet robot functions. It is controlled via Bluetooth, and the control panel has modes like manual mode, obstacle avoid mode, and user follow mode. It uses an ultrasonic sensor to detect obstacles and move accordingly, and IR sensors to follow the user. Servo motors allow it to tilt the head from side to side and wag the tail. A touch sensor makes it wag the tail when pressed, and a smoke sensor detects smoke and notifies the user with a buzzer sound. It even has an LDR module to detect brightness levels, and using LEDs, it will dim according to these levels, which makes it feel more lifelike!

### Demonstration (If applicable)

Now, let's see the robot in action! [Live demo or pre-recorded video]. As you can see, it moves on its own, reacts to touch, follows the user, avoids obstacles, and also responds to user inputs in manual mode. Additionally, it can tilt its head, wag its tail, and react to environmental changes like light levels and smoke detection!

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#### **Slide 4: 3D Model (Show a 3D design image or animation)**

Here's a 3D model of our robot. The design includes a lightweight frame, wheels for movement, and space for electronic components such as sensors and motors. It's created using TinkerCAD.

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#### **Slide 5: Bill of Materials (BOM) (Show a table with components)**

"To build this robot, we used essential components like an Arduino Uno, ultrasonic sensor, servo motors, IR sensors, touch sensors, smoke sensor, buzzer, LDR module, Bluetooth module, and LEDs. The body is made from cardboard, and the base is plastic, making it lightweight and durable. The total cost for this project was 19,250 rupees.

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#### **Slide 6: Circuit Diagram (Show circuit diagram image)**

Here's the circuit diagram. The Arduino board acts as the brain, processing inputs from the sensors and controlling the motors. The power supply ensures smooth operation, and all components are connected using wires and resistors.

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#### **Slide 8: Conclusion**

In summary, our Arduino Pet Robot is a smart, interactive, and customizable pet alternative. In the future, we can add features like voice recognition and AI learning.

Thank you!