Good [morning],   
We are Group 03 , and today we are here to answer a simple but powerful question:  
**Can IoT revolutionize health monitoring for asthmatic patients?**  
Let us walk you through a smart, low-cost system we've developed — one that detects cough, monitors vital signs, and alerts caregivers instantly.

**🎤 Slide 2: Problem Statement**

**Script:**  
Respiratory diseases, especially asthma, affect hundreds of millions worldwide.  
But regular checkups are not always possible — especially for the elderly or people living in remote areas.  
Coughing is often the first sign of distress, but it's overlooked.  
What if we could detect these signs early — automatically and remotely?

**🎤 Slide 3: Our Solution**

**Script:**  
Here’s our answer:  
A smart IoT-based device that continuously monitors vital signs like **heart rate, SpO₂, temperature, humidity**, and even **air quality**.  
It detects **coughs** using sound and motion sensors, and instantly sends alerts via the cloud.  
This enables early intervention and peace of mind for patients and their families.

**🎤 Slide 4: System Architecture**

**Script:**  
Here’s how it works:  
At the heart is the **ESP32 microcontroller**, connected to multiple sensors —

* A **sound sensor** and **tilt sensor** work together to detect cough
* A **MAX30105** sensor tracks heart rate and SpO₂
* **AHT10** measures temperature and humidity
* An **air quality sensor** monitors harmful gases  
  All data is processed by the ESP32 and uploaded to **Firebase** in real time, making it accessible from anywhere.

**🎤 Slide 5: Key Features**

**Script:**  
Some of the key features of our system include:  
✅ Real-time **cough detection** and pattern analysis  
✅ Continuous **heart rate** and **oxygen monitoring**  
✅ Environmental sensing of **temperature, humidity, and air quality**  
✅ **Cloud alerts** and remote access through Firebase  
✅ **Buzzer alerts** for dangerous or frequent cough events

**🎤 Slide 6: Market Opportunity**

**Script:**  
The global market for remote health monitoring is booming.  
Post-COVID, people are more conscious about respiratory health.  
Our system is a great fit for:

* **Hospitals** and **elderly care centers**
* **Home health care**
* Even the **fitness and wellness market**  
  We’re entering a market that’s both growing and in real need of innovation.

**🎤 Slide 7: Competitive Advantage**

**Script:**  
Here’s what makes our solution unique:  
We combine multiple sensors into one portable, affordable device.  
Unlike existing tools, we include **cough detection logic**, not just vitals.  
Data is cloud-based, which means it’s accessible anytime, from anywhere.  
And most importantly — our system is designed to be **low-cost and easy to use.**

**🎤 Slide 8 : Business Model**

**Script:**  
We plan to generate revenue through:

* **Selling the device** directly to hospitals and consumers
* Offering a **subscription model** for cloud-based alert services
* Providing **analytics dashboards** for clinics and hospitals
* And eventually, **partnering with healthcare organizations** to expand reach and impact

**🎤 Slide 9: Conclusion**

**Script:**  
So, can smarter monitoring lead to safer, healthier lives for asthmatic patients?  
We believe it can.

Our IoT-based system offers real-time, intelligent monitoring that can detect early signs like cough frequency, abnormal oxygen levels, or poor air quality.  
It bridges the gap between technology and care.

We’re not just building a device — **we’re building peace of mind.**  
Thank you.