



**SMART INDIA
HACKATHON
2022**

Basic Details of the Team and Problem Statement

Ministry/Organization Name/Student Innovation: Volvo

PS Code: SK1206

Problem Statement Title: Solutions to detect air quality inside the cabin and improve it

Team Name: INFUSION

Team Leader Name: C.Pavan

Institute Code (AISHE): C-16485

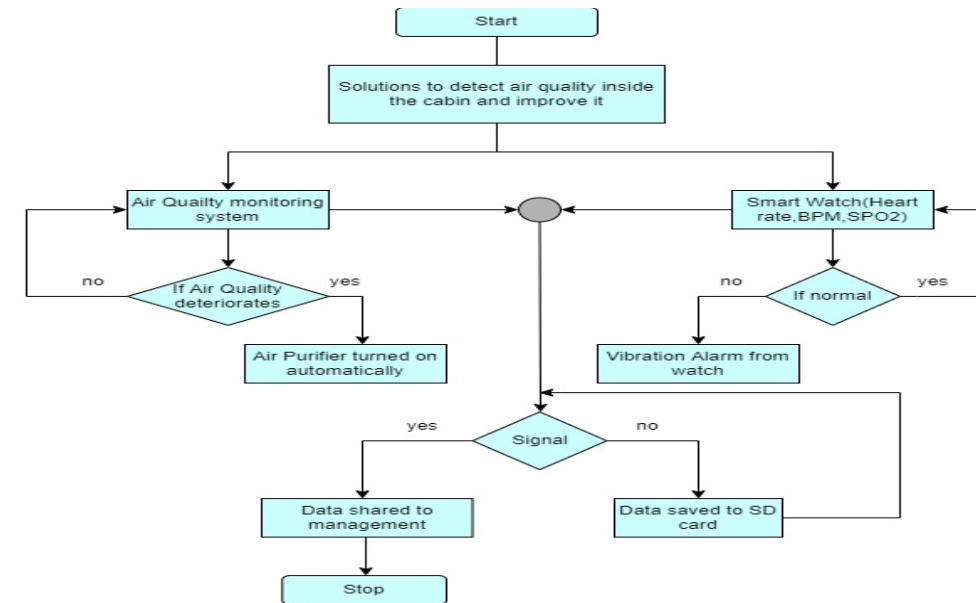
Institute Name: Prathyusha Engineering college

Theme Name: Transportation & Logistics

Idea/Approach Details

Describe your idea/Solution/Prototype here:

- **Air Quality** is detected using **MQ135** and the air quality is shown in the **LCD** Screen.
- When the air quality composition is **decreased**, the air purifier system will **turn on automatically**.
- The driver's **Heart beat rate**, **SPO2** level, **BPM** is monitored using a smart watch.
- The complete information of the setup is **stored & transferred** to the management.



Describe your Technology stack here:

- Arduino.
- Sensor- MQ135 Air Quality Sensor.
- HEPA Technology For Air Purification.
- Smart watch (Spo2, BPM, Heart Beat Rate).
- Backend-python.
- Data base-Fire base.
- Bluetooth, SIM & SD card.

Idea/Approach Details

Describe your Use Cases here

- By using this we can improve the **air quality** of the driver cabin.
- Also used to alert during any sudden **toxic gases** emissions.
- We are setting ranges in the watch ,If the heartbeat rate is **decreased** then the watch produces **vibration** with alarm that helps driver to be alert.
- The stored data is used as an evidence for **future reference**, that makes investigation easy.
- Used for **self employed** drivers to monitor their own health safety.

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Describe your Dependencies /Show stopper here

- In case of any signal interruption we are providing back up with a **SD card** that is gonna store the data and when the network is **reconnected** the complete stored data is transferred to the fleet management.

Team Member Details

Team Leader Name: C.Pavan

Branch -BE	Stream -ECE	Year -3
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Team Member 1 Name: B.Santhosh kumar

Branch - BE	Stream -ECE	Year -3
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Team Member 2 Name: B.Madhu

Branch -BE	Stream -ECE	Year -3
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Team Member 3 Name: K.Harsha vardhan

Branch -BE	Stream -ECE	Year-2
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Team Member 4 Name: M.Yasoda

Branch -BE	Stream -ECE	Year -2
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Team Member 5 Name: P.Jayapriya

Branch -B.Tech	Stream -AI&DS	Year -2
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Team Mentor 1 Name: Mr.PADMANABAN.L

Category -Academic	Expertise (AI/ML/Blockchain etc):	Domain Experience (in years):
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