

CHALLENGE OBJECTIVE:-

Create a lunar dust inspection/detection system to help in reducing dust presence and/or addressing the hazard it could anywhere from lunar surface to spacecraft environment.

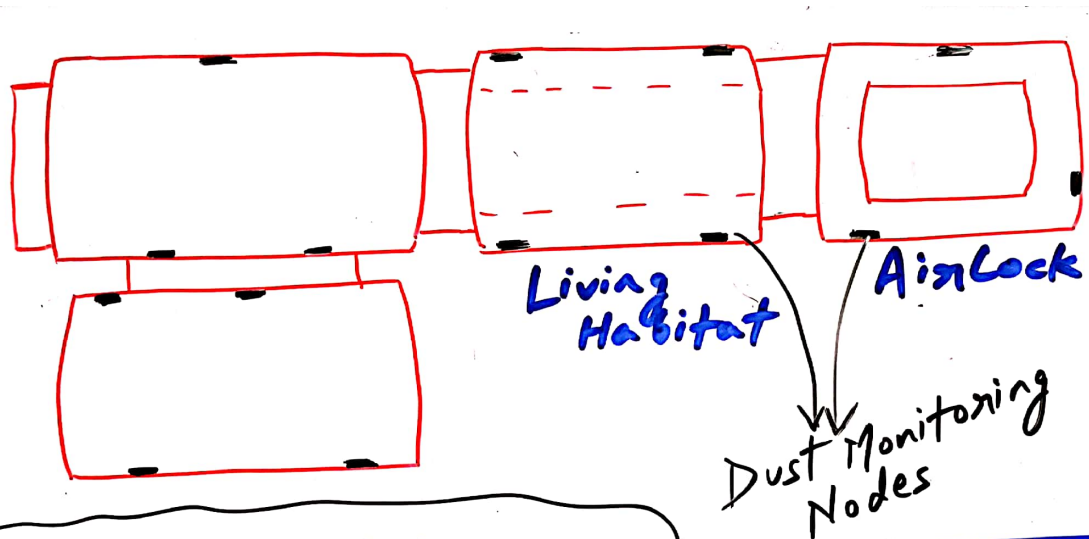
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RNC

Our Idea

Real-Time Dust Monitoring in different parts of spacecraft

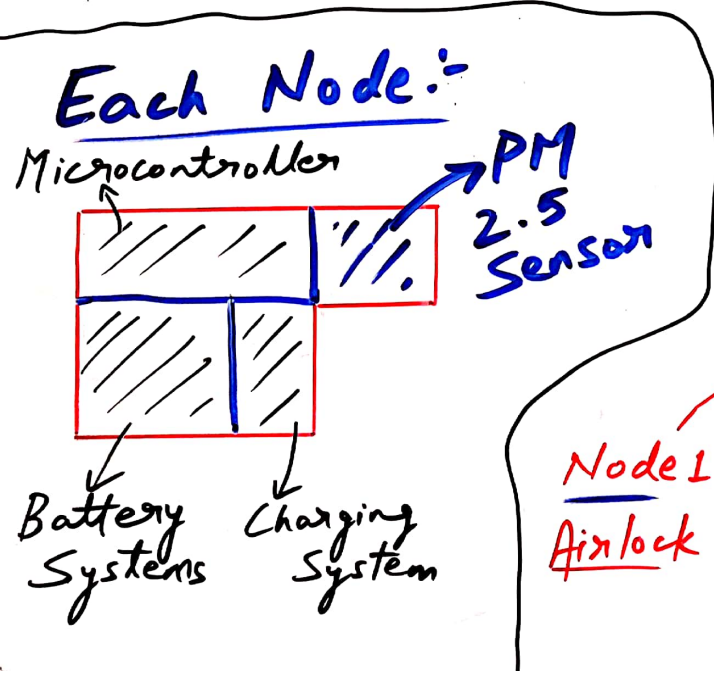
Air Filtration Masks for astronauts

Air Filtration Systems for hatches & airlocks of spacecraft



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Dust Monitoring
Nodes

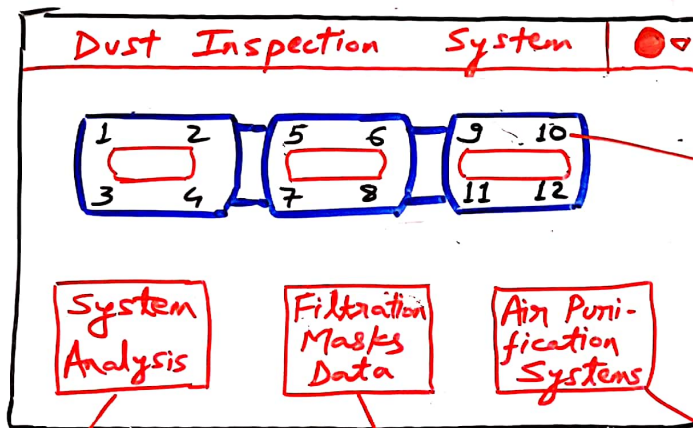


Central Server

- Node 1
Airlock
- Node 2
Habitat
- Node 3
Airlock
- Node 4
Lab
- Node 5
Comms

Real time
data
transmission

Server Interface



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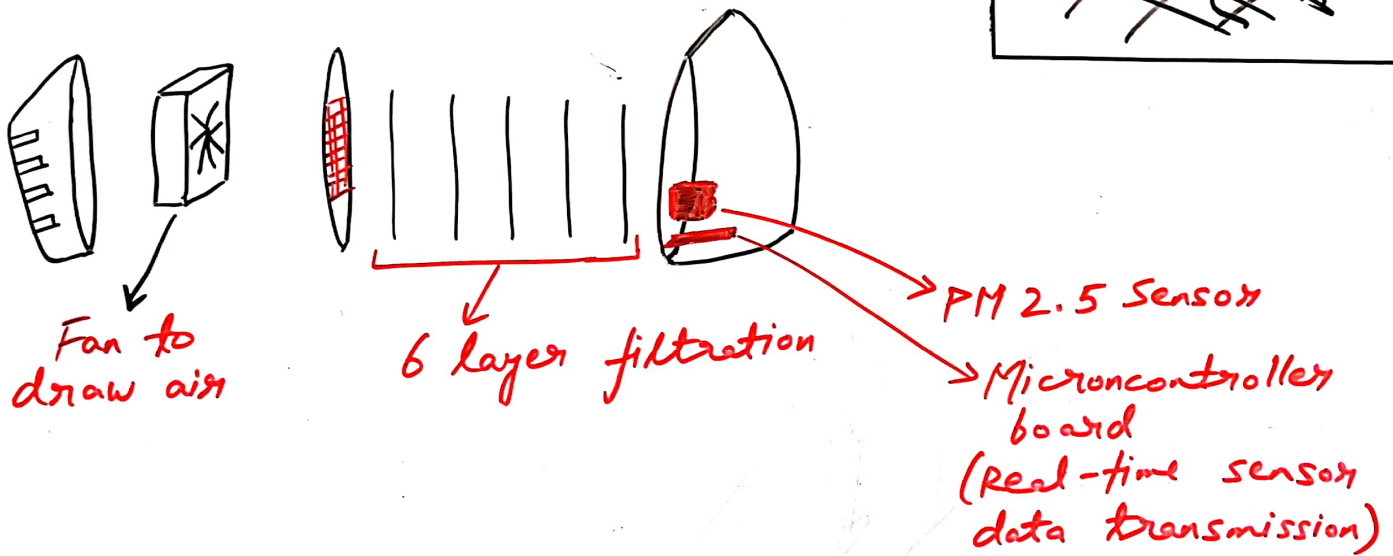
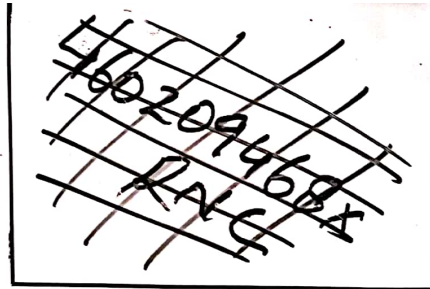
Buttons leading to pages of individual node's real-time data as well as data history.

Pages for astronauts to analyse sensor data to detect outliers/malfunctions/threats (It will be better to use outlier detection algos in backend)

Pages leading to individual astronaut masks real-time data (so that other astronauts/doctors can issue warnings & monitor breathing air quality for other astronauts)

Pages for data coming from air purification systems

Filtration Masks for astronauts



Air Filtration Systems

