ESPY – A WORLD OF SENSOR DIRECTORIES -- PROJECT PHASE II

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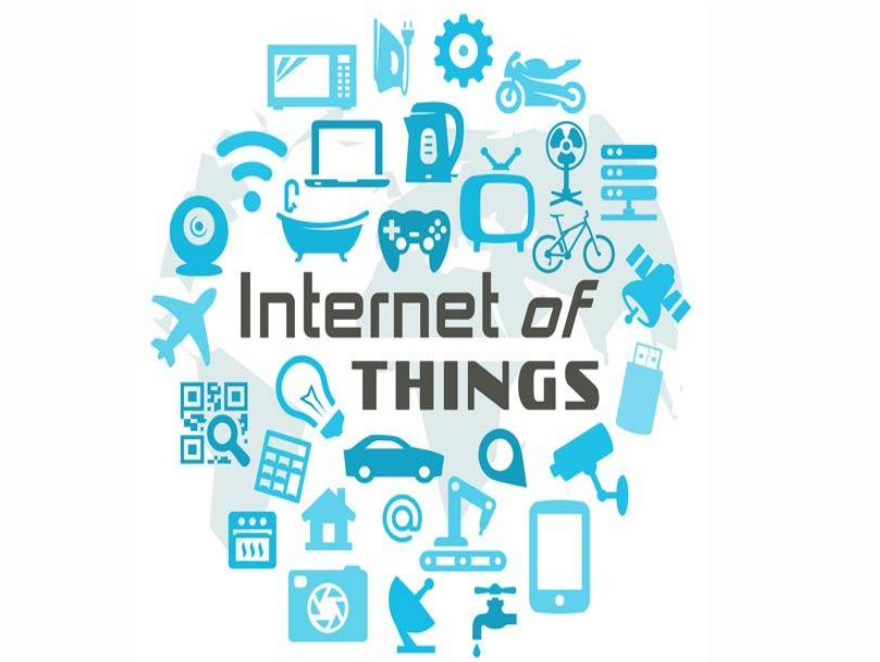
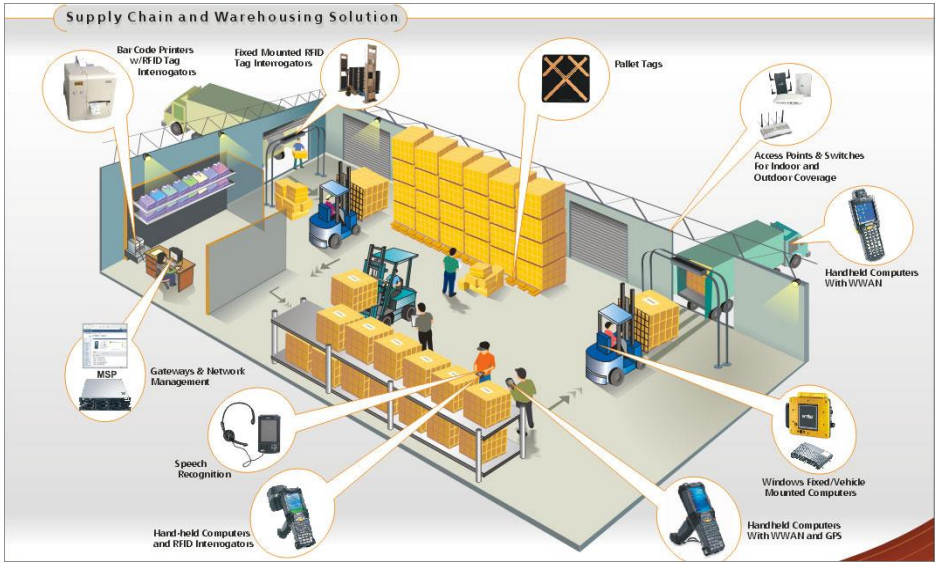


1. INTRODUCTION

- IoT – It is an ecosystem of connected physical objects that are accessible through the internet.
- Asset Management – It is a systematic process of developing, operating, maintaining, upgrading, and disposing of **assets** cost-effectively.

INTRODUCTION...

- Supply Chain Management - the **management** of the flow of goods and services, involves the movement and storage of raw materials, of work-in-process inventory, and of finished goods from point of origin to point of consumption.



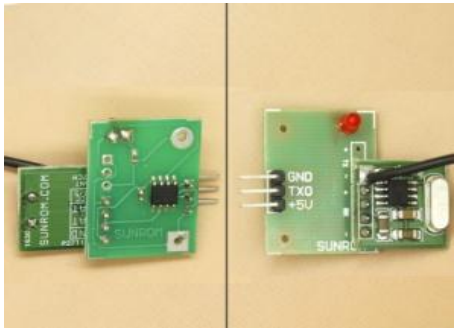
2. OBJECTIVES AND GOAL

- To creating an Intelligent Sensor Directory for IoT asset management
- Integrates different tools like

1. Web application
2. Image Classification
3. NFC/RFID tags auditing
4. AI Interface.

OBJECTIVES AND GOAL...

Different NFC/ RFID Tags are:



RF receiver for active RFID (Sunrom)-433MHz

RFID Tag (125khz) – Passive

NFC Tags

Barcodes

OBJECTIVES AND GOAL

Goal: Used to improve the difficulties faced by employers in identifying assets.

MyoWare Muscle Sensors

3. METHODOLOGY

- Sensor repository creation

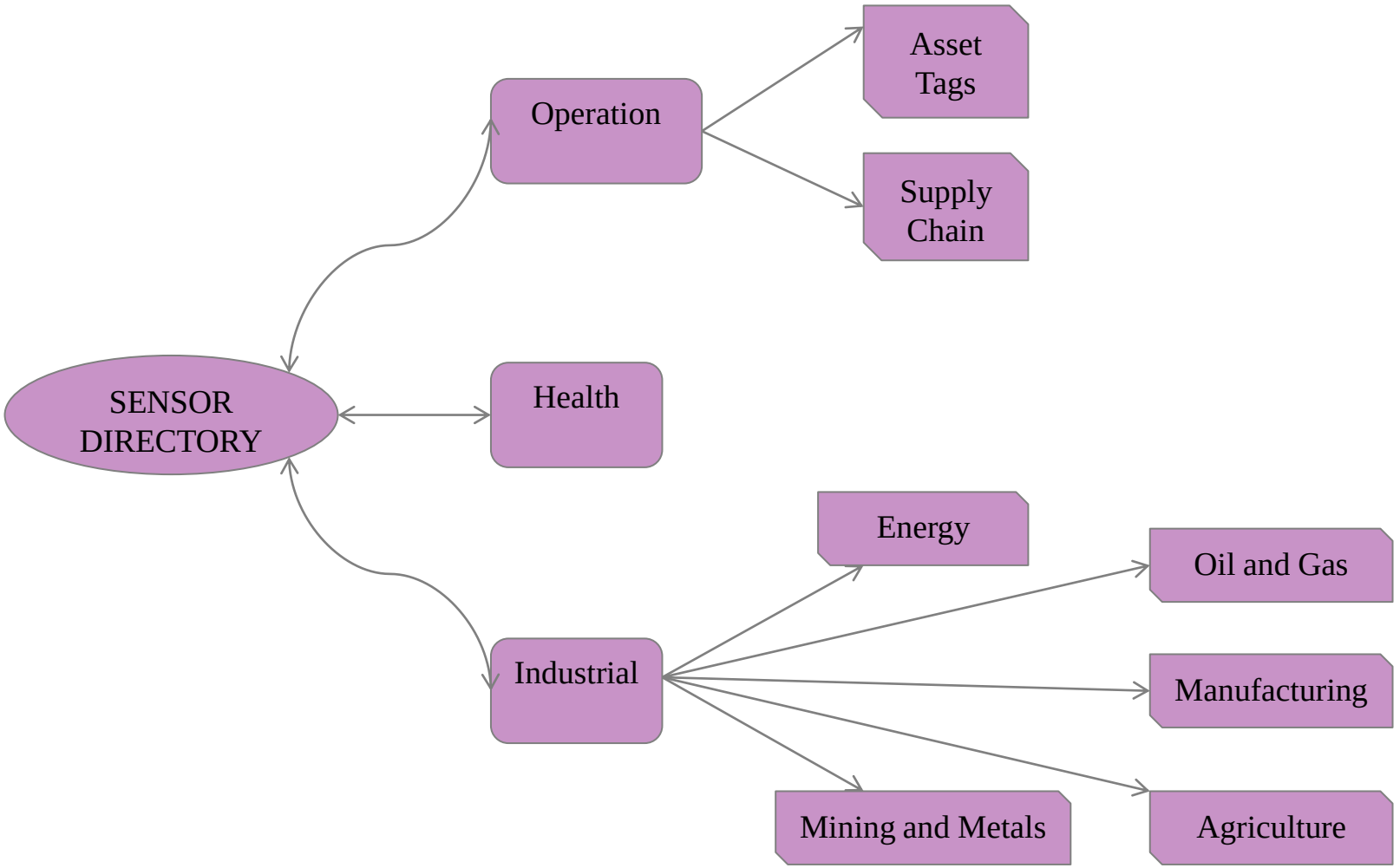
1.Collected Sensor details based on the template provided.

ID	Name	Description	Sector/ Application	Procurement Link	Reference Link	Cost	Existing Assets	Image	Comm. Protocol	Range	Type	Remark

2. Divided the sensor list into 3 main categories.

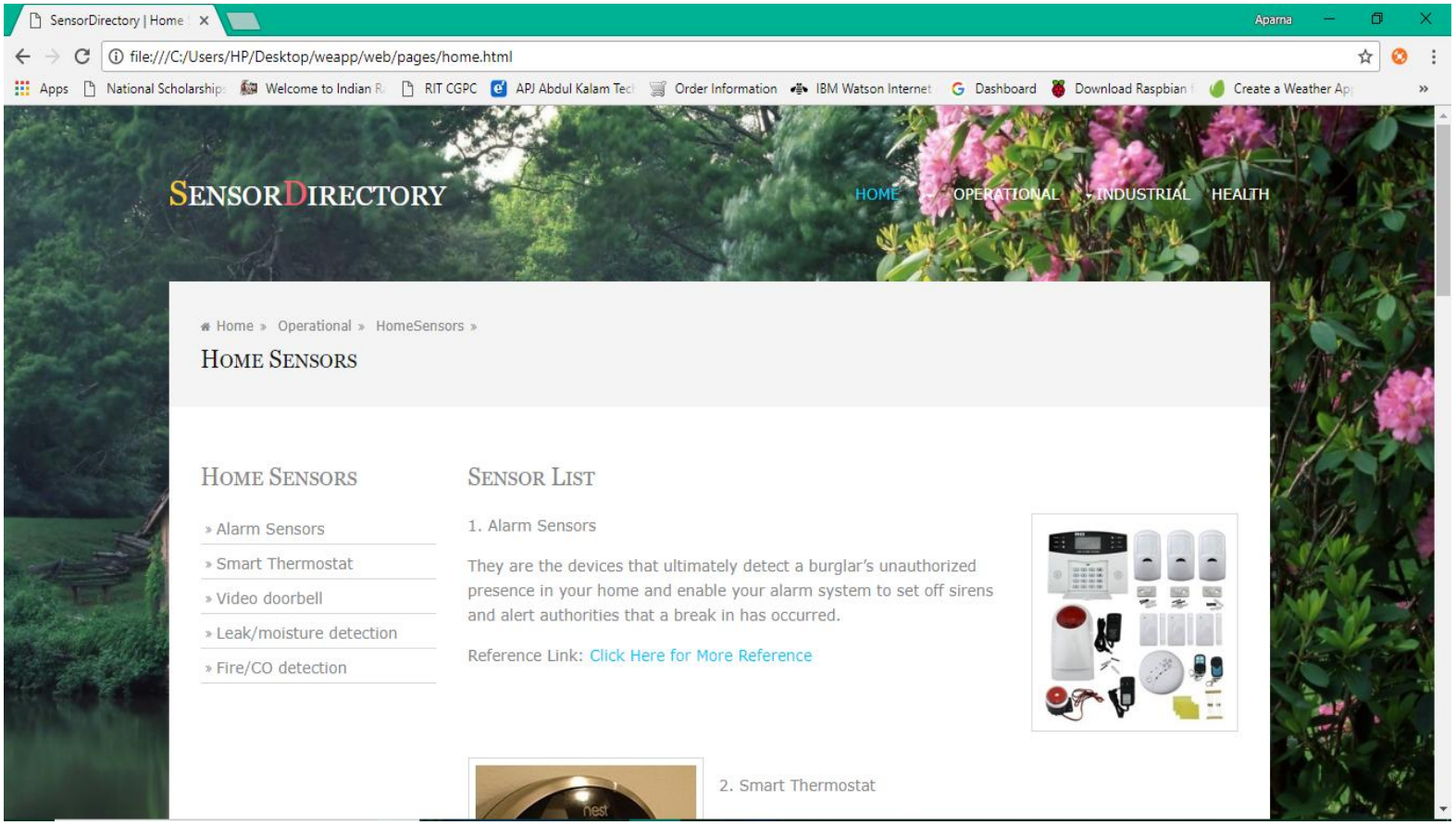
    1. Operation
    2. Health
    3. Industry

METHODOLOGY...



METHODOLOGY...

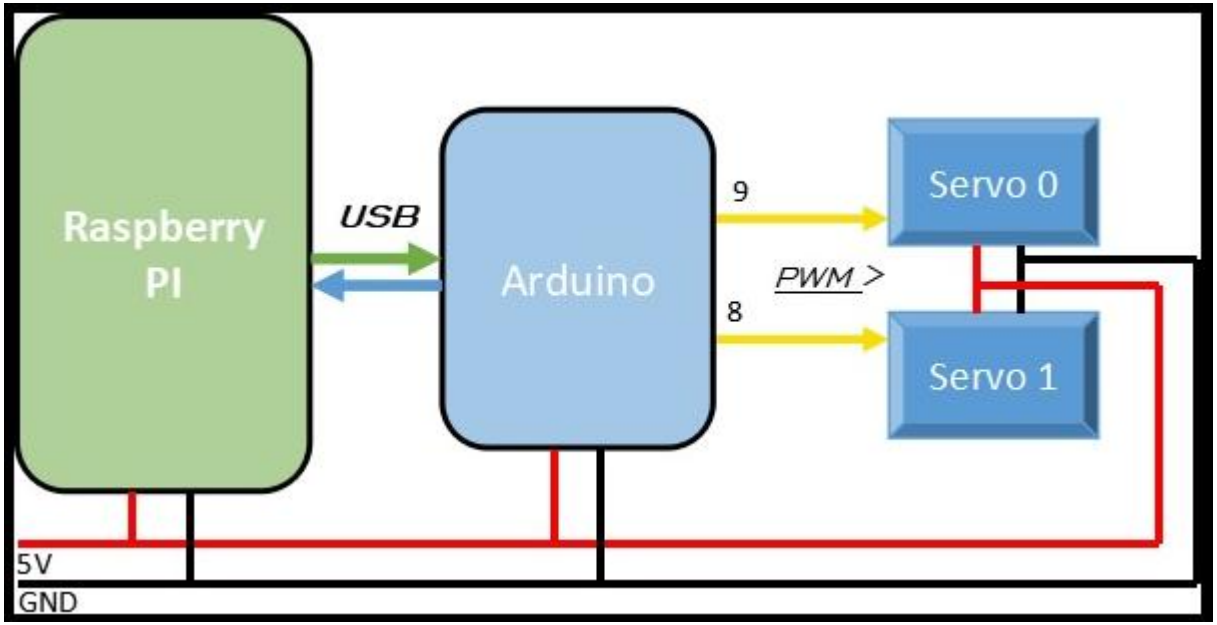
- Web Page Design



METHODOLOGY...

- Hardware Design

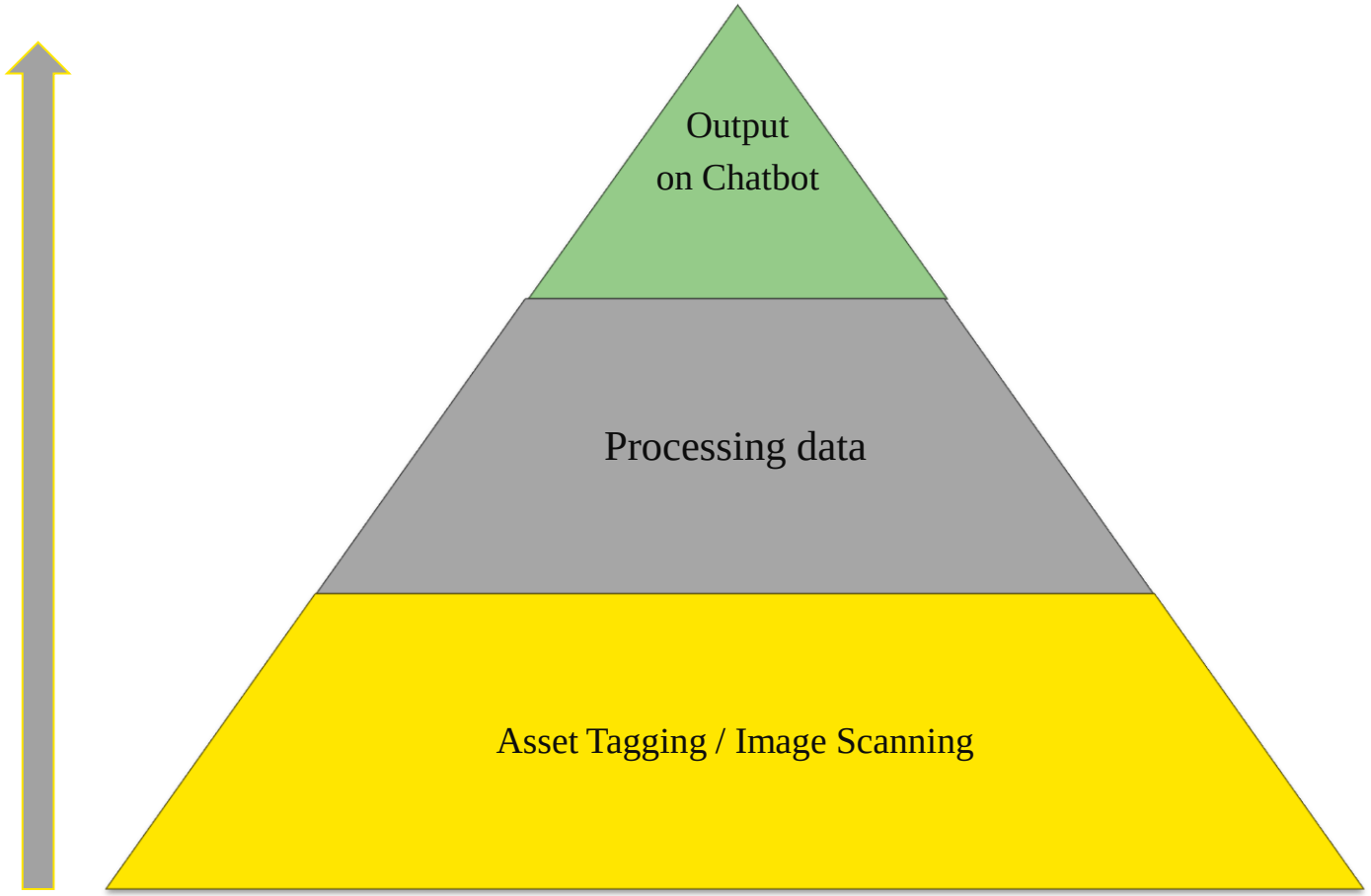
  - Raspberry Pi, Arduino, Raspberry Cam and its base setup.
  - This setup is done for image capturing and for training purpose.



4. MODULES

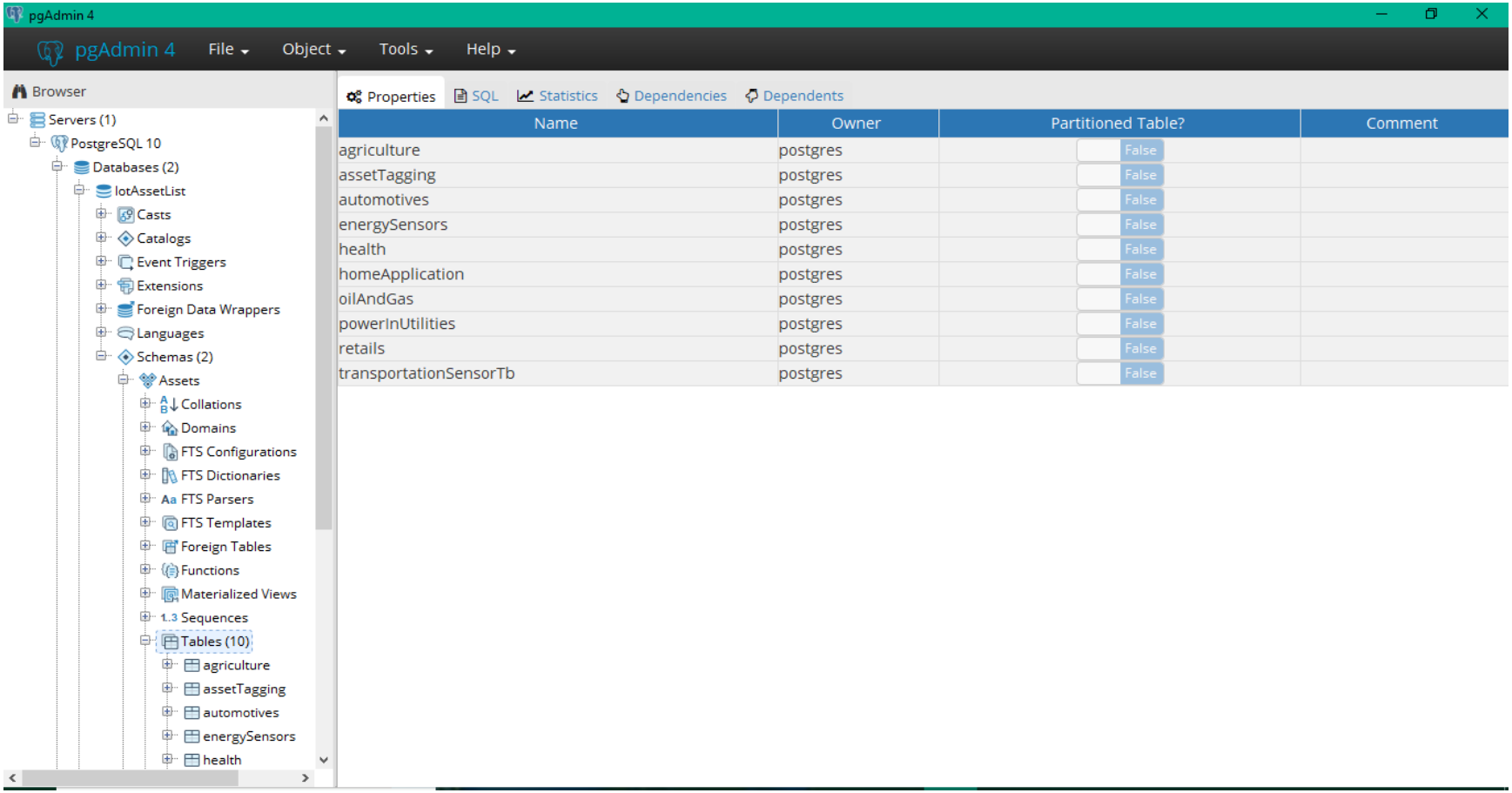
- Web Interface and Repository
- Chatbot (AI Interface)

5. WORK FLOW


Output
on Chatbot
Processing data
Asset Tagging / Image Scanning

6.WORK PROGRESS

- Created Database



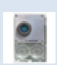
WORK PROGRESS...

➢ Sensor Directory On Excel

A2 | fx | IoT ASSET LIST

IoT ASSET LIST

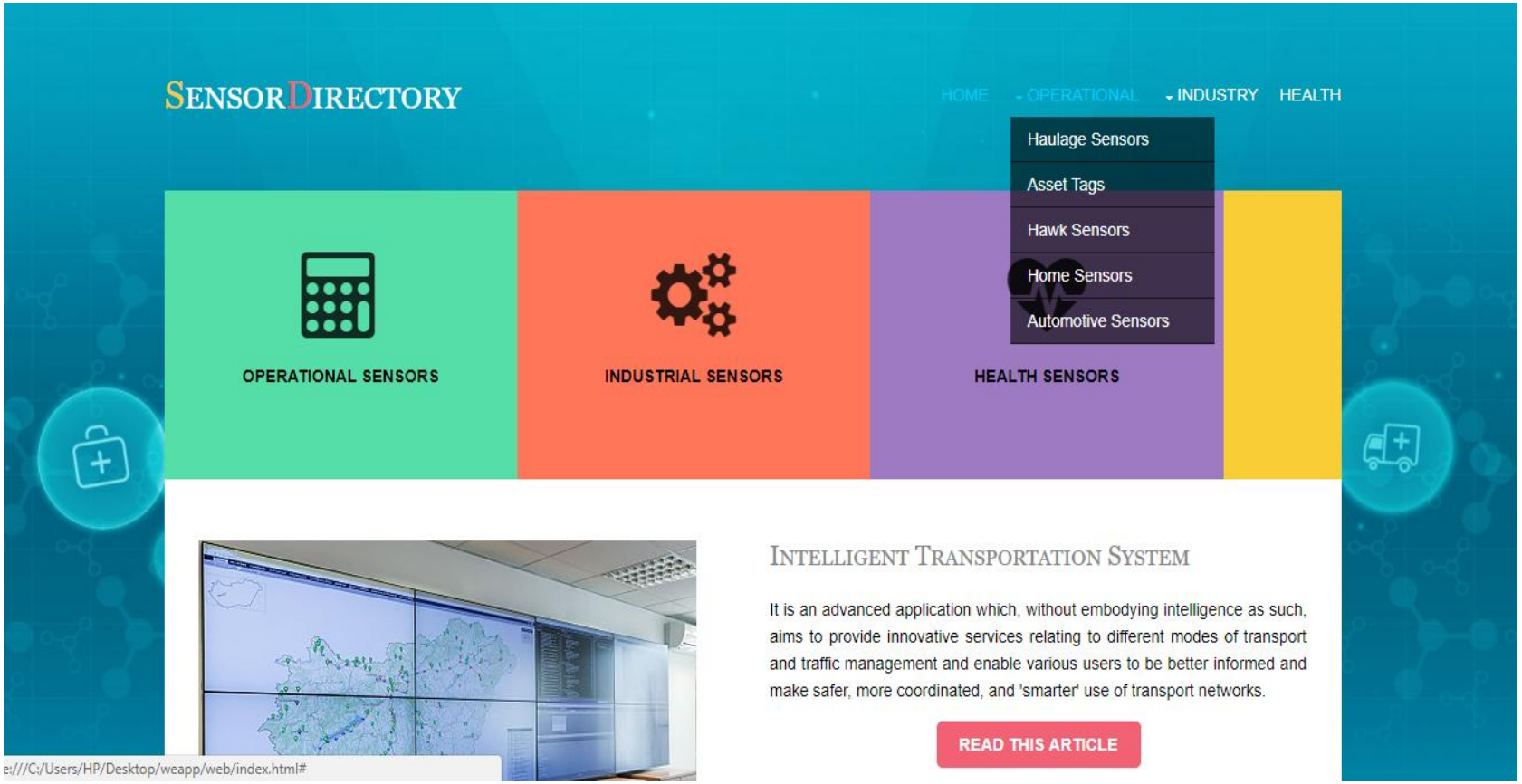
1. OPERATIONAL SENSORS LIST
1.1. Transportation
1.2. Asset tagging
1.3. Retails
1.4. Home applications
1.5. Automatives

1.1 Transportation												
ID	Name	Description	Sector/Applications	Procurement Link	Reference Link	Approx. Cost	Existing Assets	Image of existing /planned for procurement	Communication Protocol/ Interface	Range/Standard	Type	Remarks
1	Lidar	Used in many areas of ITS, providing valuable and unique sensing capabilities to various systems and new applications, improving transportation systems on a global scale.	Traffic signal monitoring and control, Automated speed measurement, Automated tolling, Vehicle profiling and classification, Smart parking occupancy sensing.	https://store.leddartech.com/	[illegible]	USD $299.00	No		NA	0 to 100 meters (325 ft.)		
2	Magnetic Sensors	Senses change in earth's magnetic field when vehicle enters the sensor zone because vehicle's chassis has ferrous materials which produce the change	Better parking spot, Traffic Control, Accident avoidance	[illegible]	[illegible]	₹ 45.00	No		NA	1 kHz to 100 kHz.		
3	Piezoelectric Sensors	Change in voltage can be used to detect and count vehicles.	medical, aerospace, nuclear instrumentation	[illegible]	[illegible]	Rs 33	No		NA	5 or 10 Hz		
4	Radar Sensors	Detecting distant objects and determining their position and speed of movement.	Driverless Vehicle	[illegible]	[illegible]	Rs. 195.00	No		NA	24 GHz		

EY

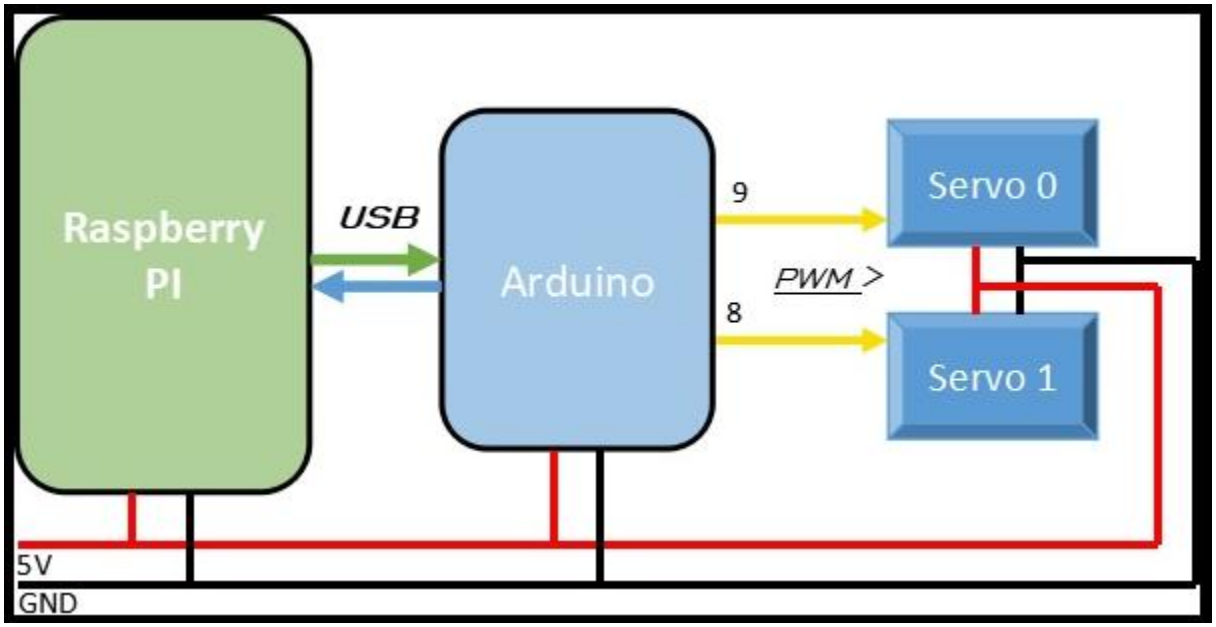
WORK PROGRESS...

- Web Interface Created.



WORK PROGRESS...

- Hardware Setup.



8. PROJECT SCHEDULE

Date	Activity	Status
30-11-2017 to 12-12-2017	Research Work On IoT	Completed
13-12-2017 to 15-12-2017	Developing application on Thingworx	Completed
18-12-2017 to 20-12-2017	Research on node js and developing web application using it.	Completed
21-12-2017 to 30-12-2017	Task work	Completed
2-01-2018 to 10-01-2018	Android Development Task	Completed
11-01-2018	Topic Finalization	Completed
12-01-2018 to 19-01-2018	Sensor Repository Creation on Excel	Completed
30-01-2018 to 02-02-2018	Sensor Database	Completed
03-02-2018 – 28-02-2018	Web Application and Hardware Setup	Work on progress
30-03-2018	Project Completed	Ongoing

9. CONCLUSION

- Created a repository on excel sheet as well as on Postgresql DB.
- Created web page
- Data entry and Hardware setup is in progress.
- AI Interface not yet started.


many thanks!
thanks a lot!
thank you!