

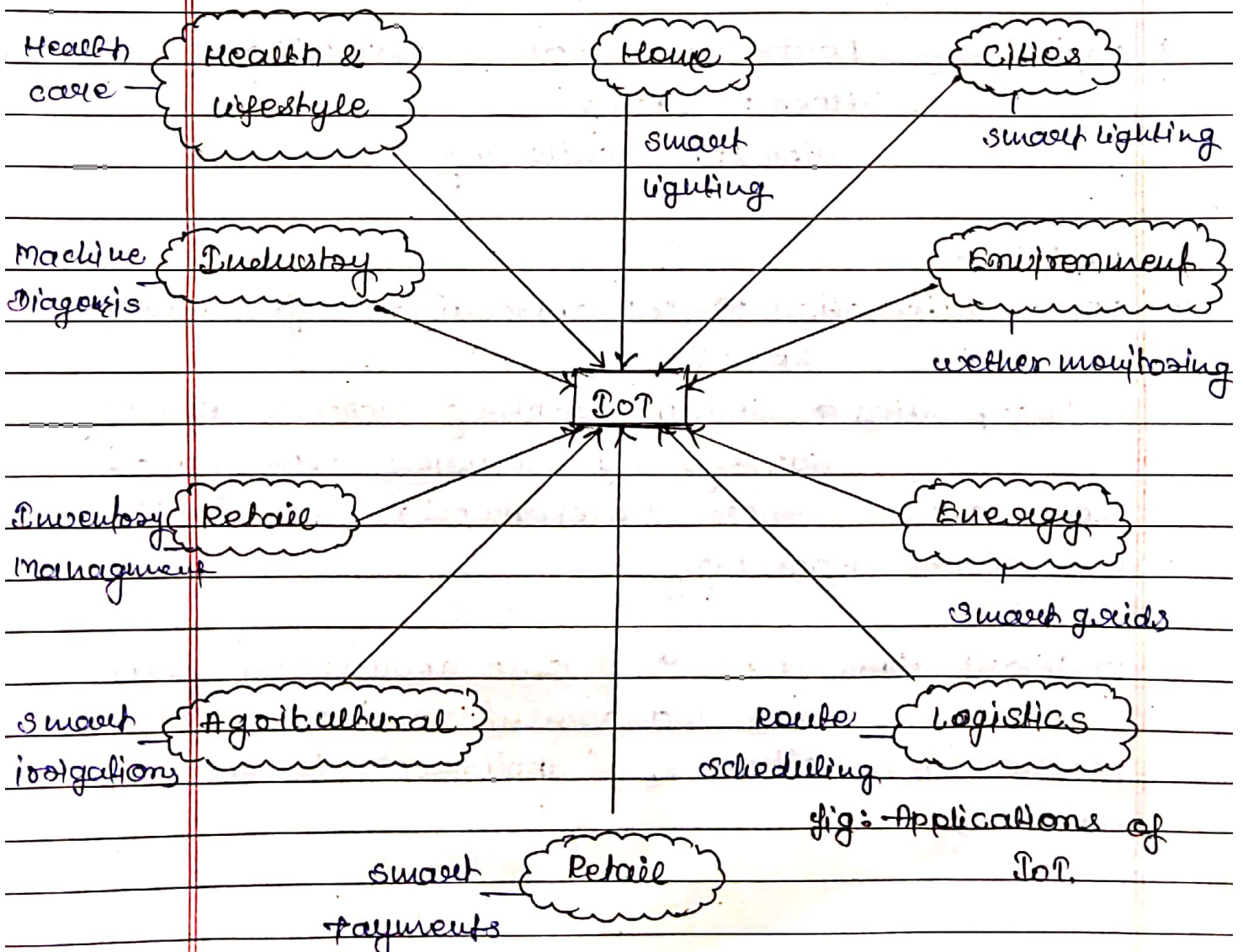
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IoT

Assignment - 03

Q. What do you mean by domain specific IoT and what are the main domain specific applications that are currently being used in real-time scenarios?

Ans. When we use IoT in specific domain such as Home, cities, environmental, energy systems, retail known as domain specific IoT.



\* Home automation - Smart appliances  
Instruction Detection  
Smoke/gas detector.

\* Environment - Weather monitoring  
Air pollution monitoring  
River floods Detection

\* Energy - Smart grids  
Renewable Energy Systems  
Teleonomastics

\* Logistics - Route Generation & scheduling  
Fleet tracking  
Shipment monitoring

Q. Explain -

(a) Home automation  $\Rightarrow$  IoT applications for smart homes -

(i) Smart cities  $\Rightarrow$  Smart lighting achieve energy savings by sensing the human movements & their environments & controlling the lights accordingly.

(ii) Smart Appliances  $\Rightarrow$  Smart appliances make the management easier & provides status information of appliances to the users remotely.



(b) Logistics  $\Rightarrow$  i) Fleet tracking  $\Rightarrow$  Vehicle fleet tracking systems use GPS technology to track the locations of the vehicles in real time.

ii) Shipment monitoring  $\Rightarrow$  Shipment monitoring solutions for transportation system allow monitoring the conditions inside containers.

(c) Agriculture  $\Rightarrow$  IoT application for smart agriculture -

i) Smart irrigations  $\Rightarrow$  Smart irrigation system can improve crop yields while saving water.

ii) Green-house control  $\Rightarrow$  It controls temperature, humidity, soil, moisture, light & carbon-dioxide level that are monitored by sensors.

(d) Health & lifestyles  $\Rightarrow$  IoT applications in smart health & lifestyle -

i) Health & fitness monitoring  $\Rightarrow$  Wearable IoT devices allow to continuous monitoring of physiological parameters such as blood pressure.

ii) Wearable Electronics  $\Rightarrow$  Wearable electronics

such as wearable gadgets (smart watch, smart glasses, wristbands, etc) provide various functions & features to assist us in our daily activities.

(e) Energy → IoT applications for smart energy systems →

i) Smart grid → Technology provides predictive information & recommendation to utilize, their customers on how best to manage power.

ii) Renewable energy systems → Due to the variability in the output from renewable energy sources