

Report on Internship Program

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Topic Name :- CELLULAR INTERNET OF THINGS

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CELLULAR IoT

- ⑩ Cellular IoT is a way of connecting physical things like sensors to internet by having them piggyback on same mobile network as smartphones.
- ⑩ Cellular IoT provides an alternative to low power wide area networks.
- ⑩ Cellular network capable of facilitating massive flows of data are now widespread around the globe.

TWO KEY FORMS OF CELLULAR IoT

Virtually all current Cellular IoT application use one of two technologies :
LTE-M and NB-IoT

- ⑩ LTE-M :-Long Term Evolution for Machine is a type of low power wide area network radio technology standard developed by 3GPP to enable wide range of cellular devices and services. It has comparatively higher data rate, mobility and voice over network but it requires more bandwidth.
- ⑩ NB-IoT :-Narrowband IoT is great for areas without good LTE coverage or when you only need to transfer small amount of information.

For example – when using soil sensor for smart agriculture or an energy usage monitor in smart city.

NB- IoT uses only a narrow band of total bandwidth cell tower project.

BENIFITS OF CELLULAR IoT

- ⑩ Low device cost.
- ⑩ Extended coverage.
- ⑩ Long battery Life.
- ⑩ Capacity to connect 40 devices per household.
- ⑩ Latency less than 10 second.

APPLICATIONS

- ⑩ Building and home automation
- ⑩ Medical and Healthcare systems

- ⑩ Media
- ⑩ Environmental monitoring
- ⑩ Energy management
- ⑩ Transportation
- ⑩ Better quality of life elderly.

CRITICISM and CONTROVERSIES OF CIoT

Scholars and social observers and pessimists have doubt about the premises of ubiquitous computing revolution, in the areas as :-

- ⑩ Privacy
- ⑩ Security
- ⑩ Autonomy and Control
- ⑩ Social Control
- ⑩ Political Manipulation
- ⑩ Influences human moral decision making.

The Future of IoT

- ⑩ World sensor networks
- ⑩ Home automation and domotics
- ⑩ Daily life (traffic monitoring, shopping,etc.)
- ⑩ Tracking and Shipping of goods
- ⑩ Health
- ⑩ Unpredictable developments...