PROJECT DESIGN PHASE II

FUNCTIONAL REQUIREMENT

Date	17 October 2022
Team ID	PNT2022TMID11749
Project Name	Iot Based Safety Gadget for Child Safety Monitoring and Notification
Maximum Marks	4 Marks

IoT Platforms Require Diverse Connectivity

Probably the most familiar form of connectivity for the internet, and for IoT, is Ethernet. In addition to Ethernet, IoT devices can connect using a wide variety of other technologies. The connectivity objective is that an IoT platform support as many modes of connection — wired and wireless — as possible. Wireless options include ANT+, Bluetooth, EDGE, GPRS, IrDA, LTE, NFC, RFID, Weightless, WLAN, ZigBee, and Z-Wave.

IoT Platforms Leverage Applications

IoT software applications are emerging for businesses in virtually every industry as well as for home users. These applications provide much of the automation capabilities that make IoT solutions so valuable. These software and middleware applications help businesses drive down costs, increase efficiency, and improve regulatory compliance. To achieve these goals, an IoT platform should be compatible with applications specific to your industry.

IoT Platforms Manage a Range of Devices

The number of devices connected to IoT will soon reach anywhere from 28 billion to 50 billion, depending on who you ask. IoT sensors gather information about conditions in their vicinity, such as temperature or moisture level. IoT actuators perform specific tasks, such as turning things on or off, and recording information about its triggers and subsequent reactions. In addition, IoT wearables of various kinds, like a health-tracking bracelet, can record your health statistics and other data such as your location. In essence, the functional requirement for an IoT platform is that it has the ability to manage a heterogeneous set of devices.

IoT Platforms Generate Massive Amounts of Data

Devices that we discussed above don't just perform tasks. In most cases, they will also report on the tasks they perform. Through their connection to an IoT platform and to each other, they will transmit detailed data about their actions. Typically, there will be no need for human intervention in the process. The devices will simply send data, potentially in real-time, for storage and analysis. To give you an idea of just how much data is involved, one estimate foresees the IoT generating around 400 ZB (zettabytes) by 2018. Functionally, therefore, an IoT platform must be able to support storing massive amounts of data.

IoT Platforms Require Powerful Analytics

The vast volumes of data discussed above have the potential to provide unprecedented insights into consumer behavior and preferences. Unlocking those insights, however, requires powerful analytics tools. A key IoT platform functionality, therefore, is that it is capable of either incorporating — or offering compatibility with — analytics solutions that will translate significant amounts data into useful and actionable insights.

However, even if a platform meets those functionality requirements, there are still important non-functional requirements for an IoT platform. We will begin with security.