EC4127- Embedded Systems

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Lecture 3

Introduction to Embedded Systems

Agenda

- Stand alone embedded systems
- Real time embedded systems
- Networked embedded systems
- Mobile embedded systems

Stand alone embedded systems

This system donôt require host system like a computer system, it works by itself. It takes the input from the input ports either analogy or digital and processes, computes and transfers the data and gives the resulting data through the connected device-which controls, drives or displays the associated devices. For examples stand alone embedded systems are mp3 players, digital cameras, video game consoles, microwave ovens and temperature measurement systems.

Real time embedded systems

A system called real time embedded system, which gives a required output in a particular time. These types of embedded systems follow the time deadlines for completion of a task. Real time embedded systems are classified into two types such as soft real time embedded system and hard real time embedded systems based on the time preciseness.

Networked embedded systems

Networked embedded systems are related to a network to access the resources. The connected network can be LAN, WAN or the internet. The connection can be any wired or wireless. This kind of embedded system is the fastest growing technological area in embedded system applications. The embedded web server is a type of system wherein all embedded devices are connected to a web server and accessed and controlled by a web browser. For example the LAN networked embedded system is a home security system wherein all sensors are connected and run on the protected protocol TCP/IP.

Mobile embedded systems

Mobile embedded systems are highly preferable in portable embedded devices like cell phones, mobiles, digital cameras, wireless mp3 players and personal digital assistants, etc. The basic limitation of these devices is the other resources and limitation of memory.