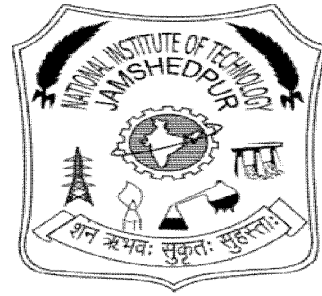


EC4127- Embedded Systems



Dr. Akhilesh Kumar
Associate Professor

Email id-akumar.ece@nitjsr.ac.in

Department of Electronics and Communication Engineering
National Institute of Technology Jamshedpur, Jharkhand, India

Lecture 2

Introduction to Embedded Systems

Agenda


- Classification of Embedded System
- Characteristics of embedded systems



Classification of Embedded System

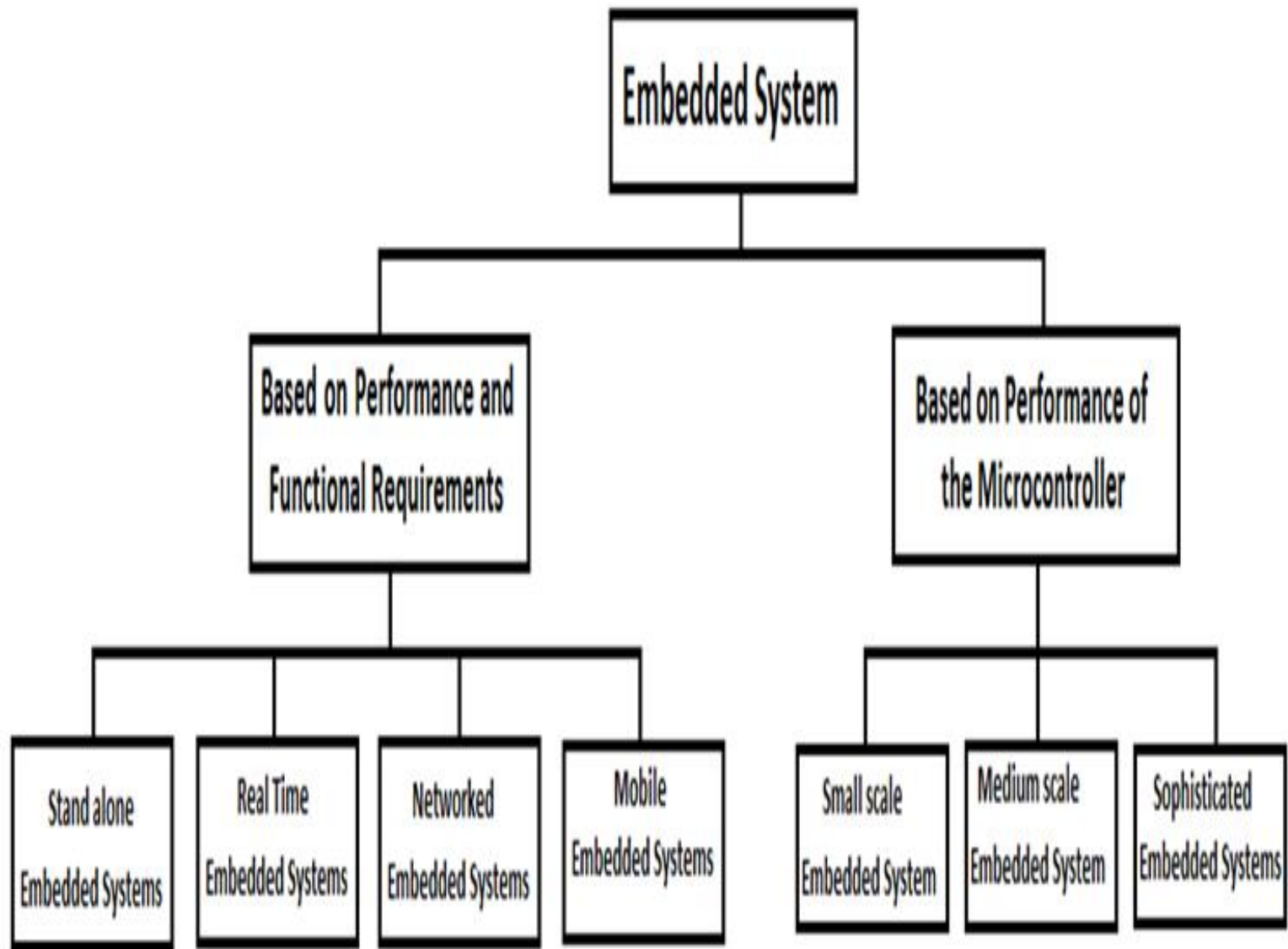
An embedded system is an electronic system that has software and is embedded in computer hardware. It is programmable or non-programmable depends on the task specification. To be concern about the characteristics of an embedded system involved its speed, size, power, reliability, accuracy and adaptability. Therefore, when the embedded system performs the operations at high speed, then it can be used for real-time applications.

To be concern about the characteristics of an embedded system we can classify it into two broad categories are as follows;



To be concern about the characteristics of an embedded system we can classify it into two broad categories are as follows;

1. Based on performance and functional requirements
2. Based on performance of the microcontroller.





Some common characteristics of embedded systems

- Single-functioned
 - Executes a single program, repeatedly
- Tightly-constrained
 - Low cost, low power, small, fast, etc.
- Reactive and real-time
 - Continually reacts to changes in the system's environment
 - Must compute certain results in real-time without delay