SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)
COIMBATORE-35
Accredited by NBA-AICTE and Accredited by NAAC – UGC with A+ + Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

19EEE305 / EMBEDDED SYSTEMS
III YEAR / VI SEMESTER

UNIT-I: INTRODUCTION TO EMBEDDED SYSTEMS

INTRODUCTION – EMBEDDED SYSTEM

What we Study?

UNIT I - INTRODUCTION TO EMBEDDED SYSTEMS

- Introduction to Embedded Systems
- The Build process for embedded systems
- Structural units in Embedded processor
- Selection of processor
- Selection of Memory devices

What is an Embedded System Is???

```
SOFTWARE PROGRAM

#include <16f876a.h>
#use delay (clock=20000000)
#byte PORTB=6
main()
{
set_tris_b(0);
portb=255;        /decimal
delay_ms(1000);
portb=0x55;       /hexadecimal
delay_ms(1000);
portb=0b10101010; /binary
delay_ms(500);
}
```

03.01.09

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System

A system is a way of working, organizing or doing one or many tasks, which are performed in a system according to a fixed plan, program or set or rules

What is an Embedded System?

An embedded system is a system that has embedded software in a computer harborre. The system is dedicated for either an application(s) or specify: part of an application or product or a component of a large system

Eg.:

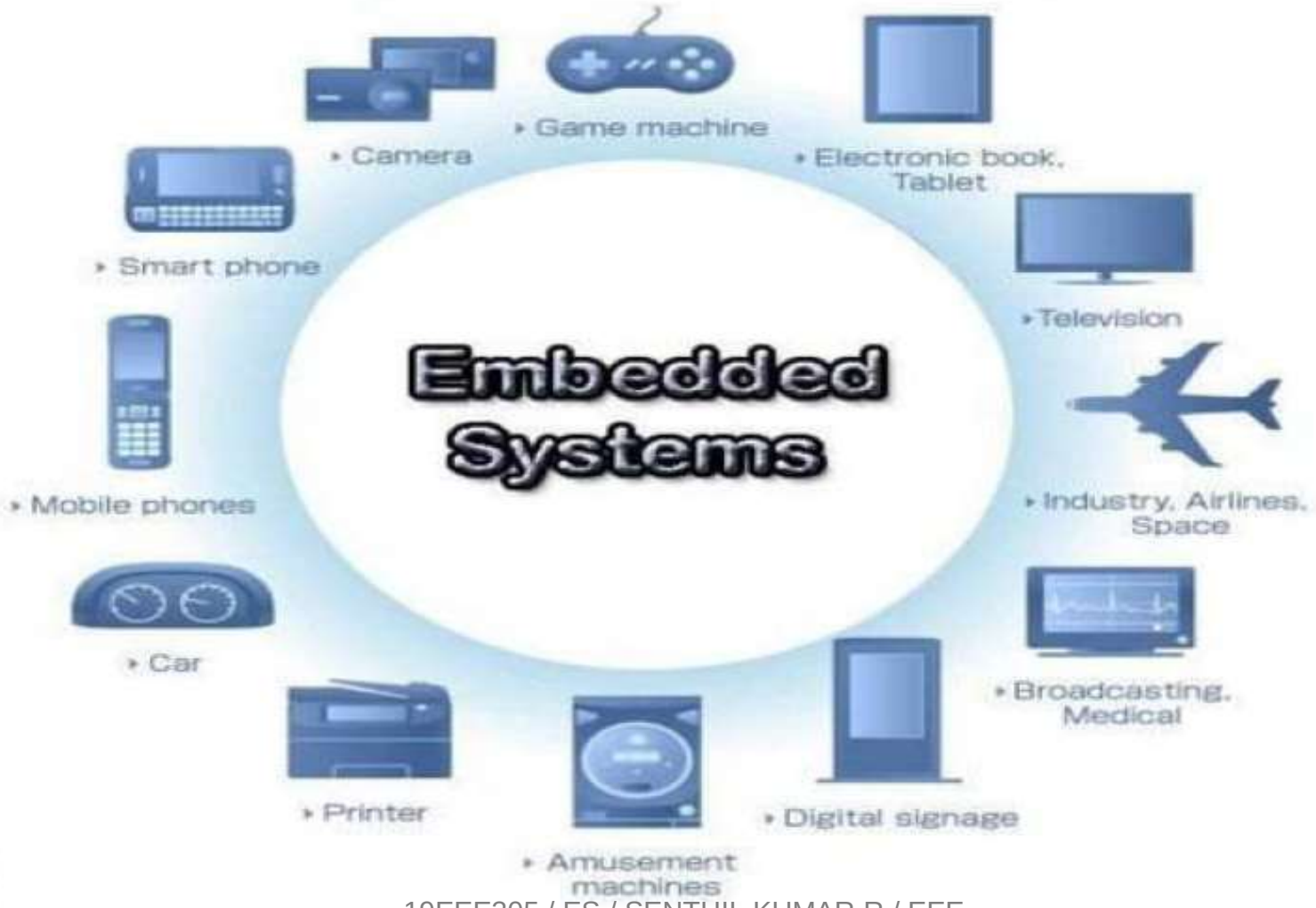
Washing machine

Cooking machine

Automative chocolate vending machines

Multitasking toys

Examples Embedded System



INTRODUCTION TO EMBEDDED SYSTEMS

- DMA
- Memory management methods
- Timer and Counting devices
- Watchdog Timer
- Real Time Clock
- In circuit emulator
- Target Hardware Debugging

Components in Embedded System

General Computing System Components

- MlCroprocessor
- Large memory
- Input Units
- Out put Units
- Networking Units
- An Operating System

Classification of Embedded System

i. **Small Scale Embedded Systems**

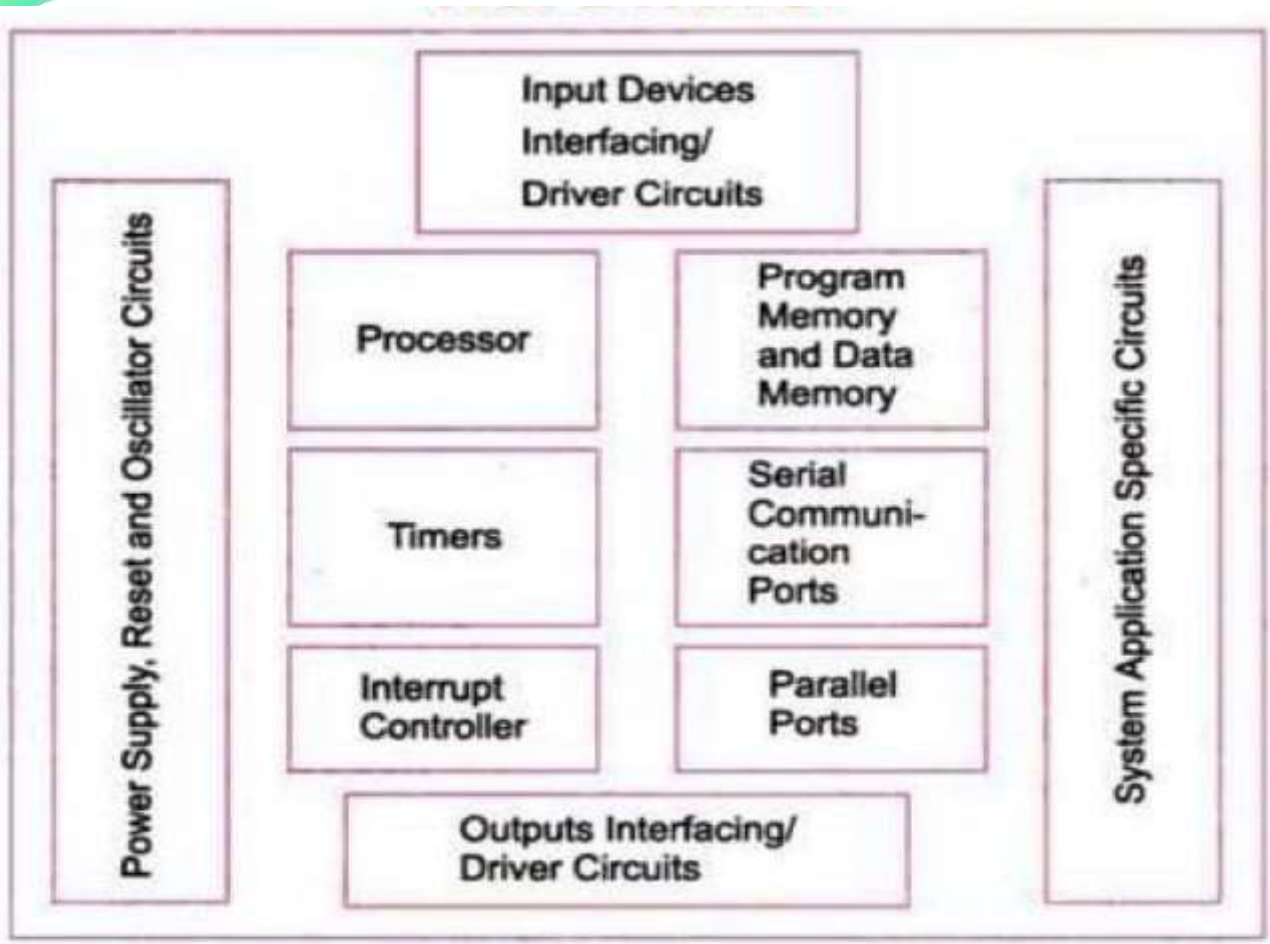
ii. **Medium Scale Embedded Systems**

iii. **Sophisticated Embedded Systems**

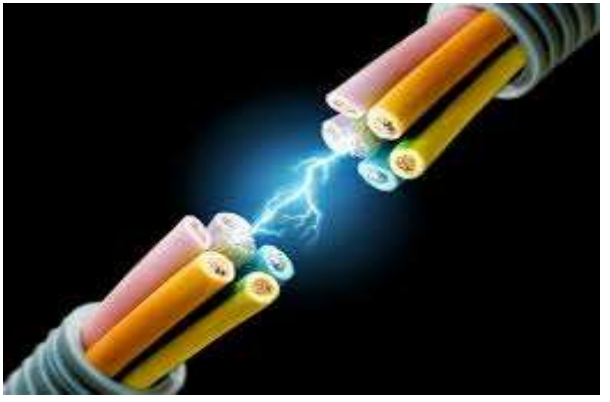
Embedded System Components

- *It embeds Hardware* similar to *a computer*
- *Software usually embeds in the ROM, flash memory or media card*
- *It embeds a Real Time Operation System (RTOS)*

Embedded System Components



RECAP….



…THANK YOU