

SSM INSTITUTE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ECE

ONEDAY SEMINAR

EMBEDDED SYSTEMS IN INDUSTRY AUTOMATION

DATE: 13/06/2021



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Department of ECE

CIRCULAR

05.06.2021

One day workshop on “Embedded Systems in Industry Automation” is scheduled to be conducted on 13.06.2021. This seminar makes the students familiar with the basic concepts and terminology of the embedded systems design flow and provides basic knowledge and job opportunity in embedded automotive. Henceforth, students are requested to attend this workshop and get benefitted.

Resource Person:

Mr.N.Gopinath
Assistant Manager
India Nippon Electricals Ltd
Hosur.

VP Gokul

Faculty Coordinators

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Mr.V.P.Gokulan, AP/ECE

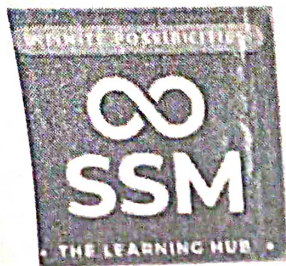
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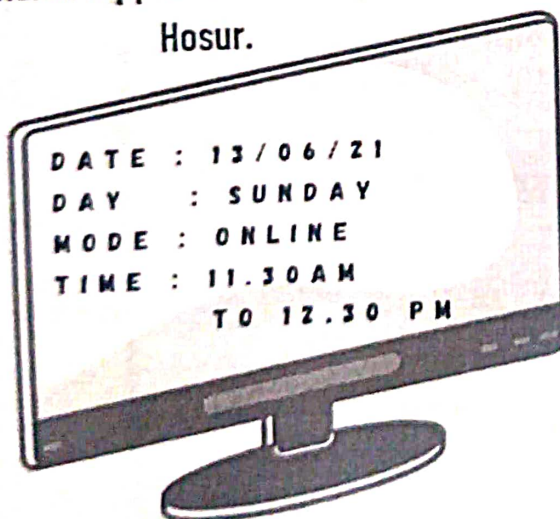


One day seminar on "Embedded Systems in Industry Automation".

RESOURCE PERSON

Mr.N.GOPINATH

Assistant Manager,
Indian Nippon Electricals Ltd,
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Faculty coordinators

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Principal

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EMBEDDED SYSTEMS IN INDUSTRY AUTOMATION

IN DISCUSSING INLY EMBEDDED SYSTEMS:

REAL TIME EMBEDDED SYSTEMS:

- Real time embedded systems
- Real time systems where a fixed time period after which these embedded systems produce a desired output is called real time.
- It works with very strict timing constraints that need to be followed for better performance and guaranteed output.
- It can be divided into hard real time and soft real time systems. In hard real time systems, the output is required at a given time irrespective of the system's load.

The real time embedded systems are divided into two types:

- Hard real time embedded systems:**
In hard real time systems, the output is required at a fixed time irrespective of the system's load. If the output is not produced at the required time, the system is considered to be failed.
- Soft real time embedded systems:**
In soft real time systems, the output is required at a fixed time, but it can be delayed for a short period without affecting the system's performance.

TOPICS TO BE DISCUSSED

- Introduction of embedded systems
- Classification of embedded systems
- Block diagram of embedded systems
- Components of embedded systems
- Applications of embedded systems
- Future of embedded systems

STAND ALONE EMBEDDED SYSTEMS:

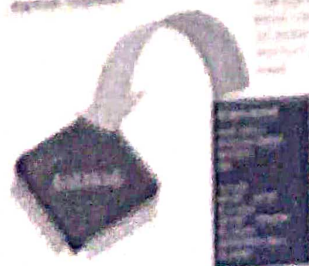
- Stand alone embedded systems are those systems which are used to perform a specific task and are not connected to any other system.
- It can be divided into two types:
 - Microcontroller based
 - Microprocessor based

INTRODUCTION OF EMBEDDED SYSTEMS

- An embedded system is a computer system that is designed to perform a specific task and is not intended to be a general purpose computer.
- It can be divided into two types:
 - Microcontroller based
 - Microprocessor based
- Microcontroller based systems are those systems which are used to perform a specific task and are not connected to any other system.
- Microprocessor based systems are those systems which are used to perform a specific task and are connected to other systems.

EMBEDDED SYSTEM

It is a computer system that is designed to perform a specific task and is not intended to be a general purpose computer.



MEDIUM SCALE EMBEDDED SYSTEMS:

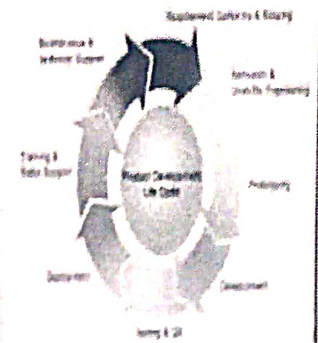
- Medium scale embedded systems are those systems which are used to perform a specific task and are connected to other systems.
- It can be divided into two types:
 - Microcontroller based
 - Microprocessor based
- Microcontroller based systems are those systems which are used to perform a specific task and are not connected to any other system.
- Microprocessor based systems are those systems which are used to perform a specific task and are connected to other systems.

CIRCUITS USED IN APPLICATIONS

- When the embedded system is design there are several hardware components that can be used for design purposes.
- The selection of the circuit is completely dependent on the application used for the embedded systems.
- For example, in temperature sensor applications there is a requirement of temperature sensors for measuring the temperature

PRODUCT DEVELOPMENT LIFE CYCLE

- The product development life cycle is the set of commonly standard stages in the life of commercial products.
- Step 1 Requirement Gathering
- Step 2 Analysis for feasibility
- Step 3 Prototyping
- Step 4 Development
- Step 5 Testing & Quality analysis
- Step 6 Deployment
- Step 7 Training & Sales support
- Step 8 Maintenance & Technical support

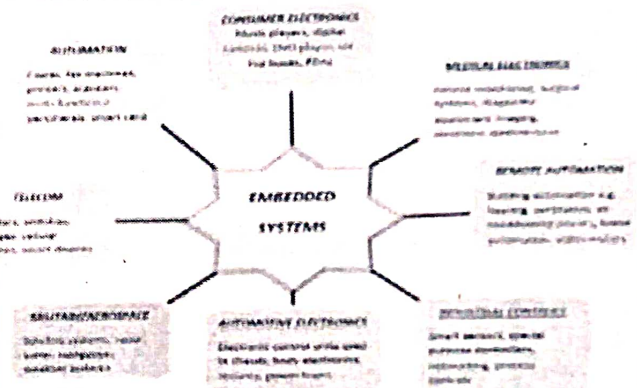


TIMERS & COUNTERS

- In some of the applications there is always a requirement of delay that needed to provide in the application.
- For example, in LED display applications there is a requirement of some delay so that LED can be continuing blink.
- The programming can be done in such a way so that delay can be generating the embedded system.
- The delay time span can be decided by using the crystal oscillator and system frequency so that delay can be generated as per user requirement.

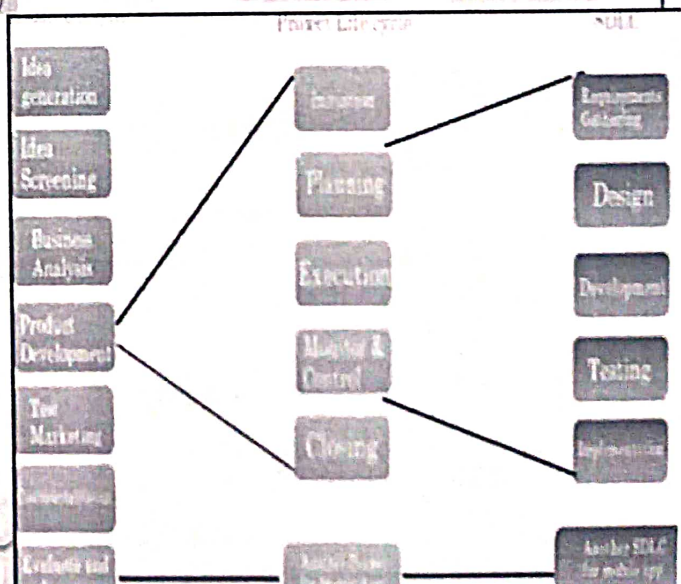
APPLICATIONS OF EMBEDDED SYSTEMS

The embedded system can be used in various sectors like industries, agricultural devices, medical devices and automobiles industry, and many more sectors.



ASSEMBLER:

- The assembler is used when the programming language used for designing the application is assembly language.
- The assembly language program is then converted into the HEX code so that it can be further processed.
- And after writing the code the programmer is used for writing the program in the chip.



People

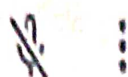
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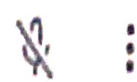
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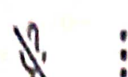
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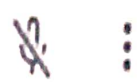
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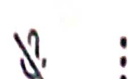
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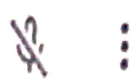
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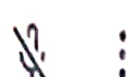
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Hema Selvan



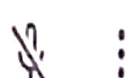
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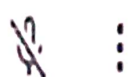
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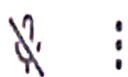
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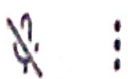
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Keerthana M.N



Domnic Vishal



Keerthana T



kiruthika .s



FEBRONIA JEROME



Koushalyaa .B.J



Gokul Vinayagam M



Kowsalya M



Gokulan Parthiban















Lakshmi Preetha



People

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	Santhosh Raja		:
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	Sharmila Srinithi. R ...		:
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	Sithara.R		:
	Sneha S		:
	Sneka R		:

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	Sneka R		:
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	Sujith		:
	Suvetha R		:
	SARAVANA		:
	Taran Raja		:
	VEDHA R		:
	VIGNESH .R		:
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	YAMINI S		: