EMBEDDED SYSTEMS DESIGN

MOOC REPORT

A report submitted in partial fulfillment of the requirements for the Award of Degree of

BACHELOR OF TECHNOLOGY

In

ELECTRONICS AND COMMUNICATION ENGINEERING

By

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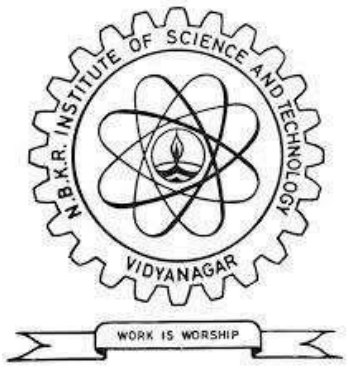
Regd. No: 20KB1A04H7

Under Supervision of the

IIT Kharagpur

By prof.Anupam basu

(Duration: 12Weeks)



(DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING)

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ISO 9001-2000 Certified Institution

Vidyanagar-524413, Nellore District, Andhra Pradesh, India

(2020-2024)

EMBEDDED SYSTEMS DESIGN

What Is Embedded System Design (ESD)?

An embedded system is a self-contained, microprocessor-based computer system typically implemented as a component of a larger electrical or mechanical system. At the core of the embedded system is an integrated circuit that performs computational tasks.

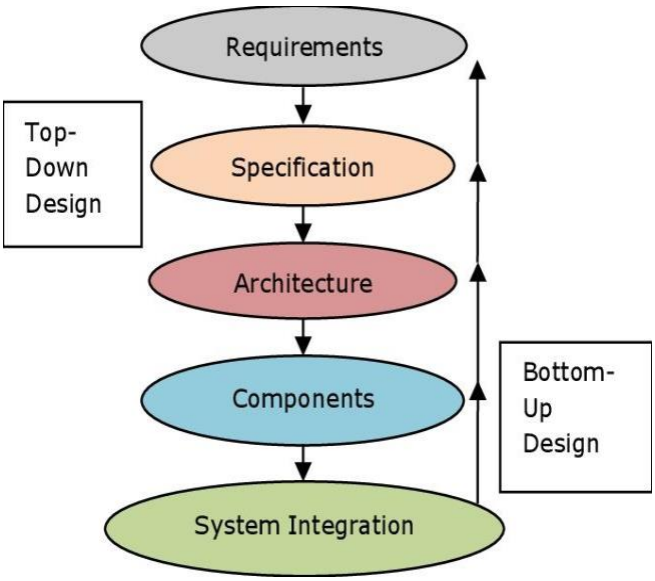
Why Is Embedded System Design Important?

Today, there are billions of embedded system devices used across many industries including medical and industrial equipment, transportation systems, and military equipment. Many consumer devices from digital watches to kitchen appliances and automobiles also feature them. Embedded systems are small, fast, powerful, and designed for very specific use cases. While general purpose systems can perform multiple functions, they can be too costly for many applications, and may also fail to measure up to embedded systems' reliability, low power consumption, minimal size, and other functional and performance features.

What I learnt?

Embedded System refer to electronic products that are based on microcontrollers. They possess computational logic, memories, communications, I/O peripherals and are usually used for a specific function. A washing machine is an embedded system. The same goes for your smartphone, security access system, vending machine, and possibly any 'intelligent' appliances.

Embedded systems design is the process where hardware and firmware designers come together to build embedded systems from scratch. This involves PCB design, where the necessary components are connected to build functional circuits. To bring the electronics to life, the firmware is coded and then programmed into the microcontroller.



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VEDAGIRI VAISHNAVI

for successfully completing the course

Embedded Systems Design

with a consolidated score of **49** %

Online Assignments	19.38/25	Proctored Exam	30/75

Total number of candidates certified in this course: **996**

Jan-Apr 2023

(12 week course)

Prof. Debjani Chakraborty
Coordinator, NPTEL
IIT Kharagpur

Indian Institute of Technology Kharagpur

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