

#Assignment 1

Thursday, August 28, 2025 4:04 PM

Page 5 : Embedded system is a mix of SW and HW
Page 6 : SW + HW + target = Embedded system
Page 7 : embedded system is computing system unlike general purpose computers
Page 8 : embedded systems are used for specific target
Page 9 : First PC in the world
Page 10 : First Transistor in the world was very big
Page 11 : Manufacturing first transistor in Bell Labs
Page 12 : IC Function is known from the datasheet
Page 13 : Microcontroller = microprocessor + Peripherals
Page 14 : Microprocessor is general purpose
Page 15 : processor use fetch decode execute
Page 16 : -----
Page 17 : multiplication in CISC and RISC
Page 18 : risk is more simple than CISC
Page 19 : con Neuman has bottle nick
Page 20 : Havard has each peripheral connected independently to the MP
Page 21 : Ram is faster than rom
Page 22 : SRAM is faster than Dram
Page 23 : Heap is used in dynamic memory allocation
Page 24 : Masked rom can't be modified
Page 25 : OTPROM in programed once
Page 26 : EPROM use UV in erasing
Page 27 : EEPROM use electricity in erasing
Page 28 : Flash is limited in writing cycles
Page 29 : toolchain convert code to machine code
Page 30 : Linker used to link function call with its definition
Page 31 : flashing is two types on and off circuit
Page 32 : SW divided into APP ECU HAL
Page 33 : HAL contain peripheral drivers
Page 34 : -----
Page 35 : -----
Page 36 : -----
Page 37 : arm use RISC with their processors
Page 38 : arm use 25K transistor in their first processor
Page 39 : Arm now can be used in mobile phones , Ai
Page 40 : there are different types of Buses in the Arm MC
Page 41 : Voltage regulator ensure regular voltage supply to the MP
Page 42 : AMBA Bus set is designed by arm which is widely used then
Page 43 : different buses needs bridges to communicate together
Page 44 : AHB is faster than APB
Page 45 : RCC in big improvement in Power Management
Page 46 : -----
Page 47 : STM contains variety of MC of cortex family
Page 48 : How to create project
Page 49 : Adjust configuration bits using CUBEIDE Gui
Page 50 : -----
Page 51 : code generation
Page 52 : code perspective
Page 53 : code debug
Page 54 : -----
Page 55 : -----
Page 56 : -----