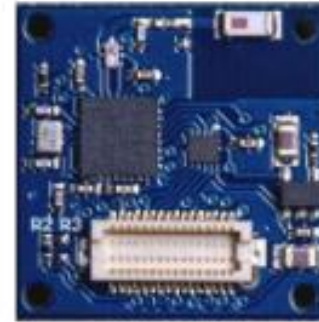


CSE

Microcontroller Application




Created by
Md. Forhad Hossain




3 - ACCODING TO INSTRUCTION SET

CISC (COMPLEX INSTRUCTION SET COMPUTER) ARCHITECTURE MICROCONTROLLERS

- ▶ Has an instruction set that supports many addressing modes for the arithmetic and logical instructions, data transfer and memory accesses instructions.
 - ▶ Many of the instructions are macro like.
 - ▶ Allows the programmer to use one instruction in place of many simpler instructions.
 - ▶ Example: Intel 8096 family.
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RISC (REDUCED INSTRUCTION SET COMPUTER) ARCHITECTURE MICROCONTROLLERS

- ▶ Contains an instruction set that supports fewer addressing modes for the arithmetic and logical instructions and for data transfer instructions.
 - ▶ Allows simultaneous access of program and data.
 - ▶ Instruction pipelining increases execution speed
 - ▶ Allow each instruction to operate on any register or use any addressing mode.
 - ▶ Smaller chip and pin count.
 - ▶ Very low power consumption.
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EXTERNAL MEMORY MICROCONTROLLERS

- An external system has a microcontroller unit that does not have all the functional blocks available on a chip.
- All or part of the memory units are externally interfaced using an interfacing circuit called the glue circuit.
- Example: 8031 has no program memory on the chip.

Thank You