

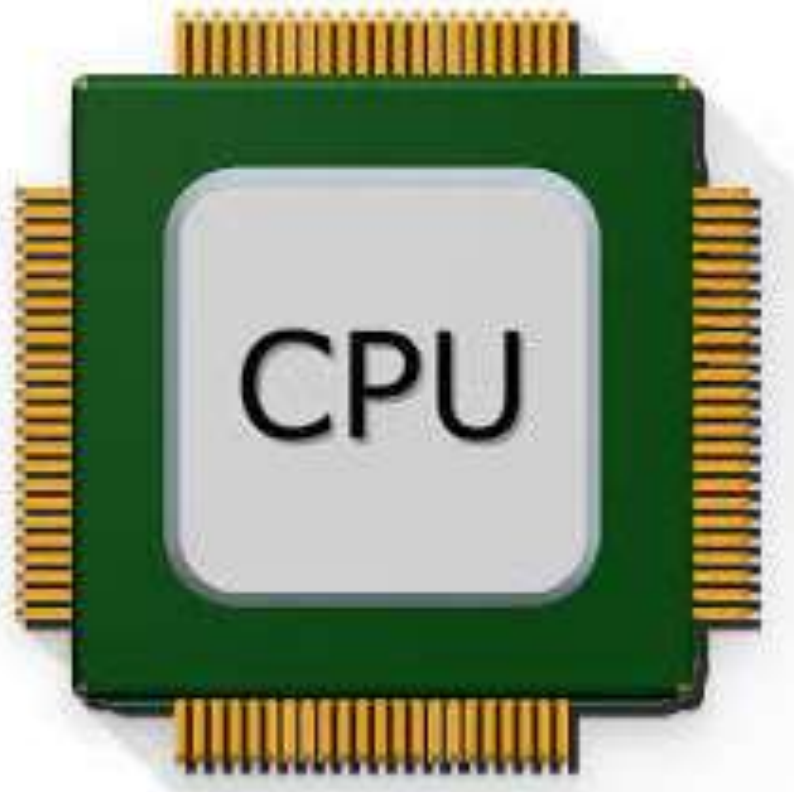


Household devices



**Is these devices are
controlled by anything ?**







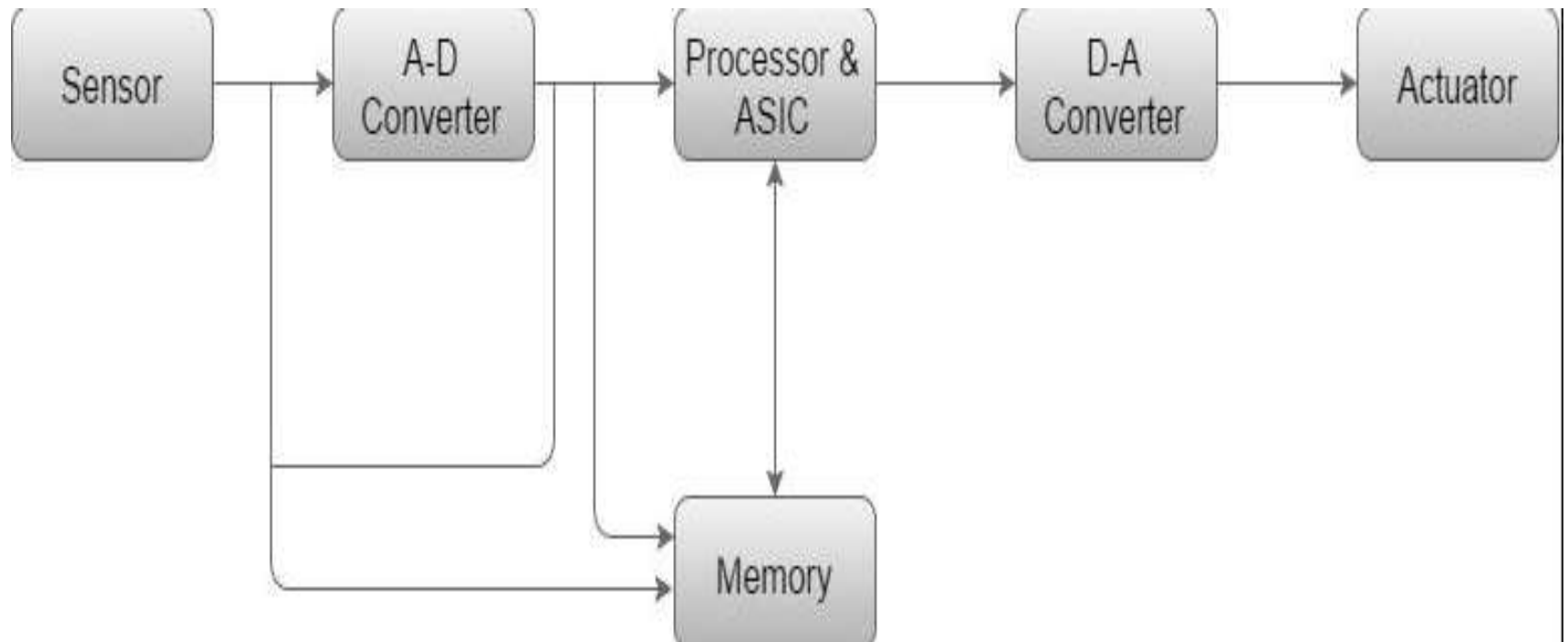
EMBEDDED SYSTEM

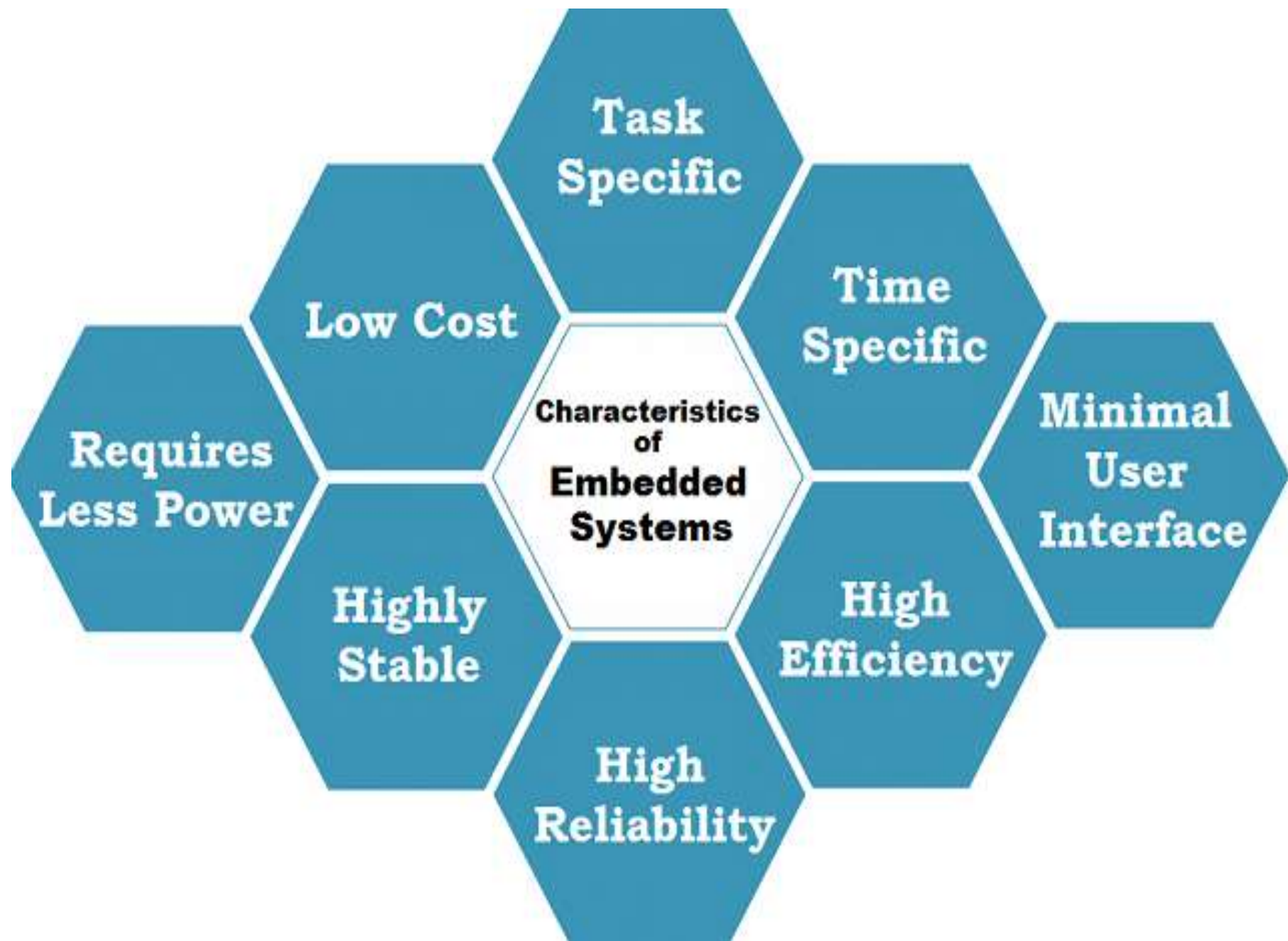
Embedded System

- An embedded system is a combination of computer hardware and software designed for a specific function.



Basic structure of Embedded System :







Microcontroller Vs Microprocessor

Microcontroller

1. CPU, RAM, ROM, I/O and timer are all on a single chip
2. Fix amount of on-chip ROM, RAM, I/O ports
3. Single purpose
4. Highly bit addressable

Microprocessor

CPU is stand alone, RAM, ROM, I/O and timer are separate

Designer can decide on the amount of RAM, ROM and I/O ports

General purpose

Expensive

Quick Notes :

- **Microprocessor and Microcontroller act as brain in the system.**
- **First Microcontroller was introduced by INTEL in 1971.**
- **Some examples for Microcontrollers are Washing machine, Television, Camera, AC, etc.**
- **Phones, Laptops are examples of Microprocessors.**

Types of Microcontrollers :

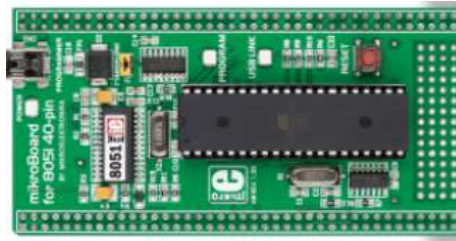
○ **PIC** : Peripheral Interface Controller



○ **ARM** : Advance RISC Machine



○ **8051** Microcontroller



○ **AVR** : Alf & Vegard's RISC Processor



○ **MSP** : Mixed Signal Processor



