

# Embedded Systems

Networks and Embedded Software

Introduction

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# Embedded Systems (1)

- Classification



Personal Computer  
General-purpose



Embedded System  
Specific control functions

# Embedded Systems (2)

- Characterization
  - Not seen as being computers
    - I am using a MP3 player, not a computer
  - Embedded into another system
    - Is part of the MP3 player
  - Perform process control
    - Display track list
    - Handle track selection
    - Control volume

# Embedded Systems (3)

- Characterization (continued)
  - Environment imposes constraints
    - Size
      - Must fit into device
    - User Interaction
      - Buttons or touch screen instead of keyboard and mouse
    - Power consumption
      - Device must work with batteries
    - Costs
      - Low cost high quantity products

# Embedded Systems (4)

- Examples

- Automotive

- Engine Control
    - Antilock Breaking Control



- Communication

- Switch



- Domestic

- Microwave oven
    - Washing machine

