Chapter 1: Embedded Systems – A Pragmatic Approach
Chapter 2: Work Environment and Workflow Optimization

1. Write/modify code
2. Compile and link
3. Run
4. Debug natively on the host machine
5. Post-mortem debugging
6. Identify issues or next feature to implement
Chapter 3: Architectural Patterns

This chapter has no images.
Chapter 4: The Boot-Up Procedure
Chapter 5: Memory Management

- 512MB System region: 0xE000 0000
- 1GB External peripherals region: 0xA000 0000
- 1GB External RAM region: 0x6000 0000
- 512MB Built-in peripherals region: 0x4000 0000
- 512MB SRAM region: 0x2000 0000
- 512MB Code region: 0x0000 0000
Chapter 6: General-Purpose Peripherals
Chapter 7: Local Bus Interfaces
Chapter 8: Low-Power Optimizations
Chapter 9: Distributed Systems and IoT Architecture

Diagram:

- A
- B
- C
- D
- E
- F
- G
- H
- I

Connections:
- A to C
- B to C
- C to E
- C to F
- D to C
- D to F
- E to C
- E to F
- F to C
- F to H
- G to D
- G to H
- H to F
- H to I
- I to F
Chapter 10: Parallel Tasks and Scheduling

SRAM: 0x2000 0000

CCRAM: 0x1000 0000

stack_space

Task0 stack

Task1 stack

0x1000 0000 + CCRAM_SIZE

0x2000 0000 + SRAM_SIZE

free memory

stack not in use

SP in Interrupt handler

SP before/after interrupt

extra stack frame saved by store_context()

stack frame saved by NVIC

stack not in use

SP after store_context

SP in Interrupt handler

SP before/after Interrupt

running process stack

running process stack

R0 R1 R2 R3 R12 LR PC xPSR

R4 R5 R6 R7 R8 R9 R10 R11 R0 R1 R2 R3 R12 LR PC xPSR
Task 1: waiting

Task 2: running

Task 3: just created
Chapter 11: Embedded Operating Systems

This chapter has no images.