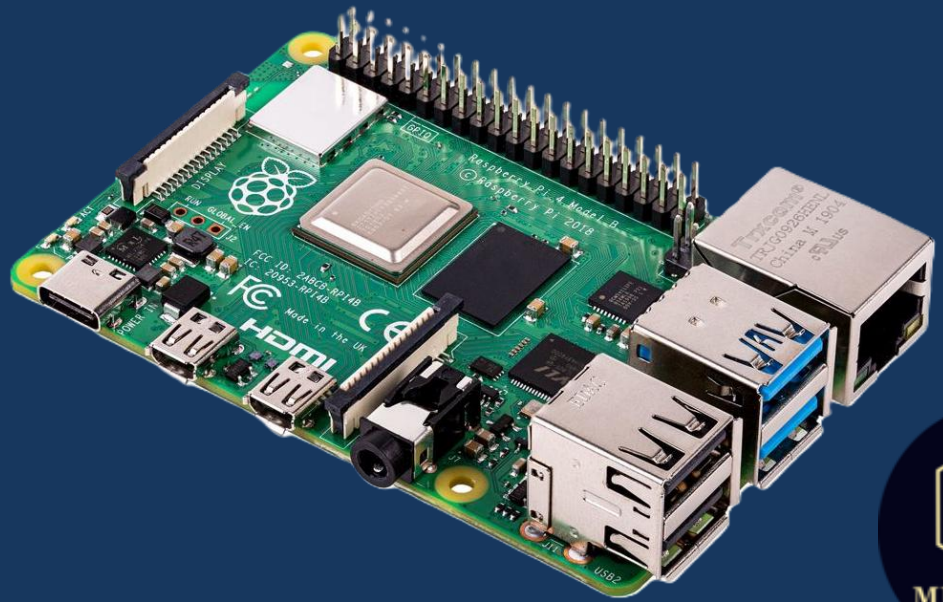
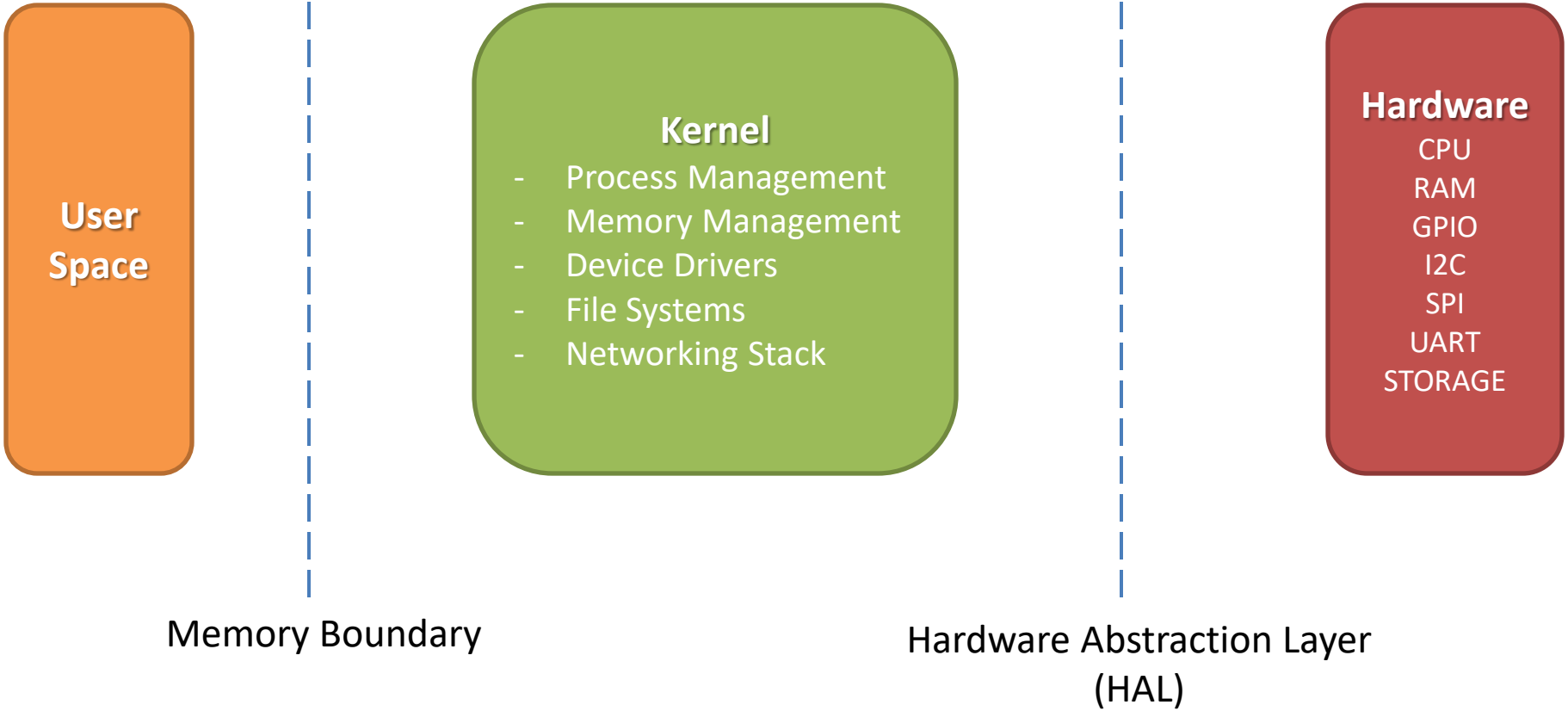
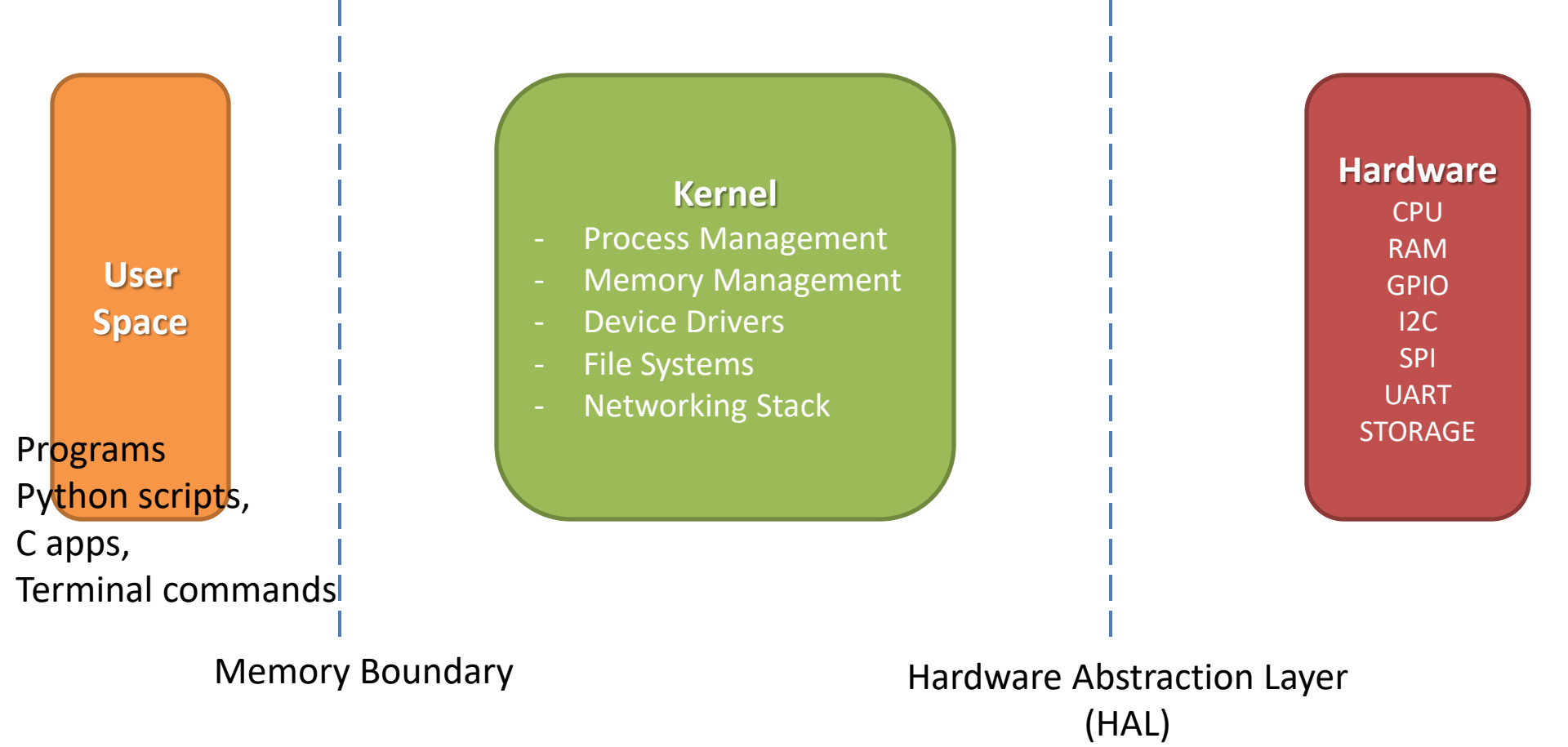
# Linux Driver Development with Raspberry Pi



MP CODING


User Space
Kernel
- Process Management
- Memory Management
- Device Drivers
- File Systems
- Networking Stack
Hardware
CPU
RAM
GPIO
I2C
SPI
UART
STORAGE
Memory Boundary
Hardware Abstraction Layer (HAL)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Python scripts,
C apps,
Terminal commands
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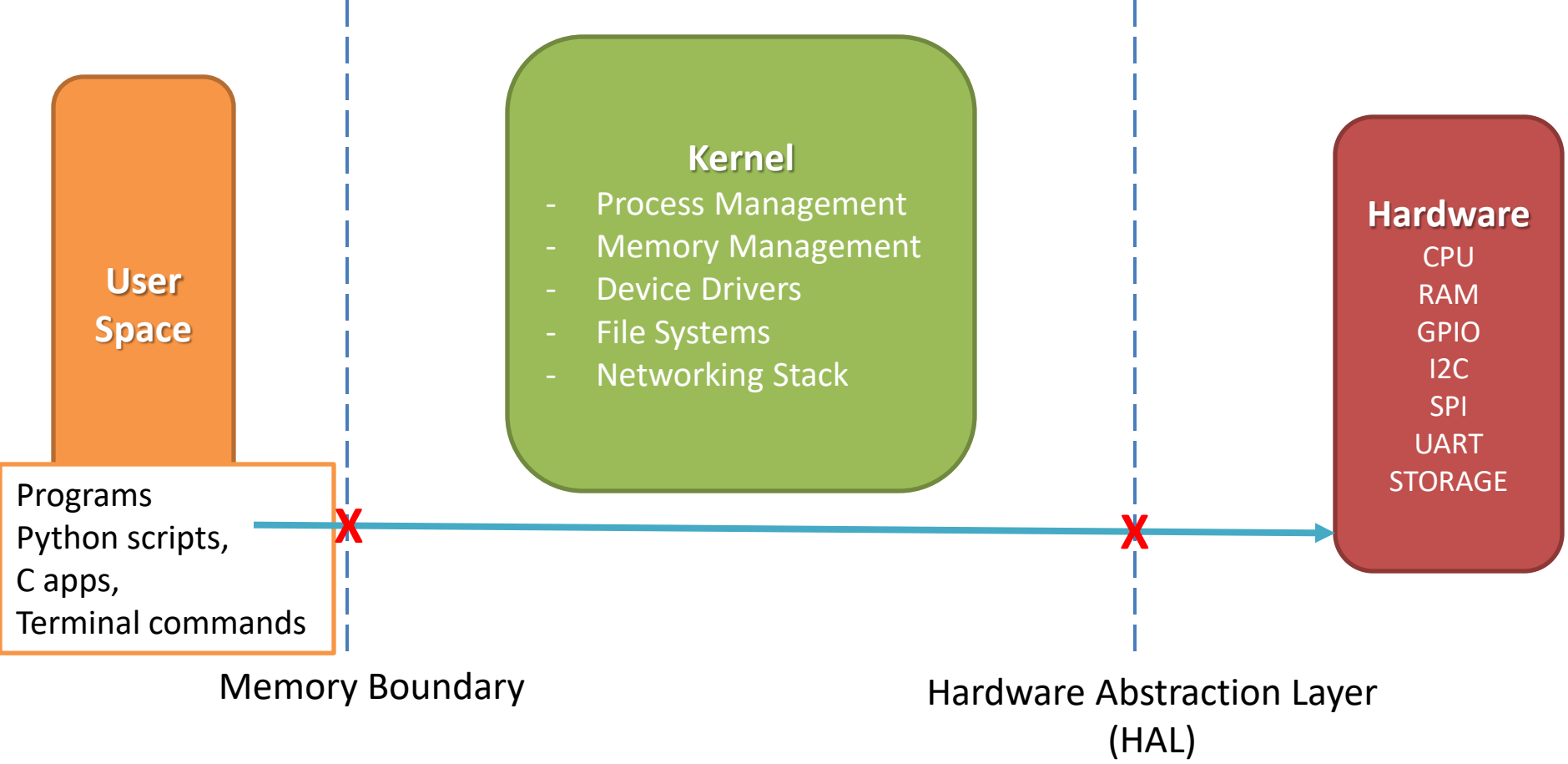
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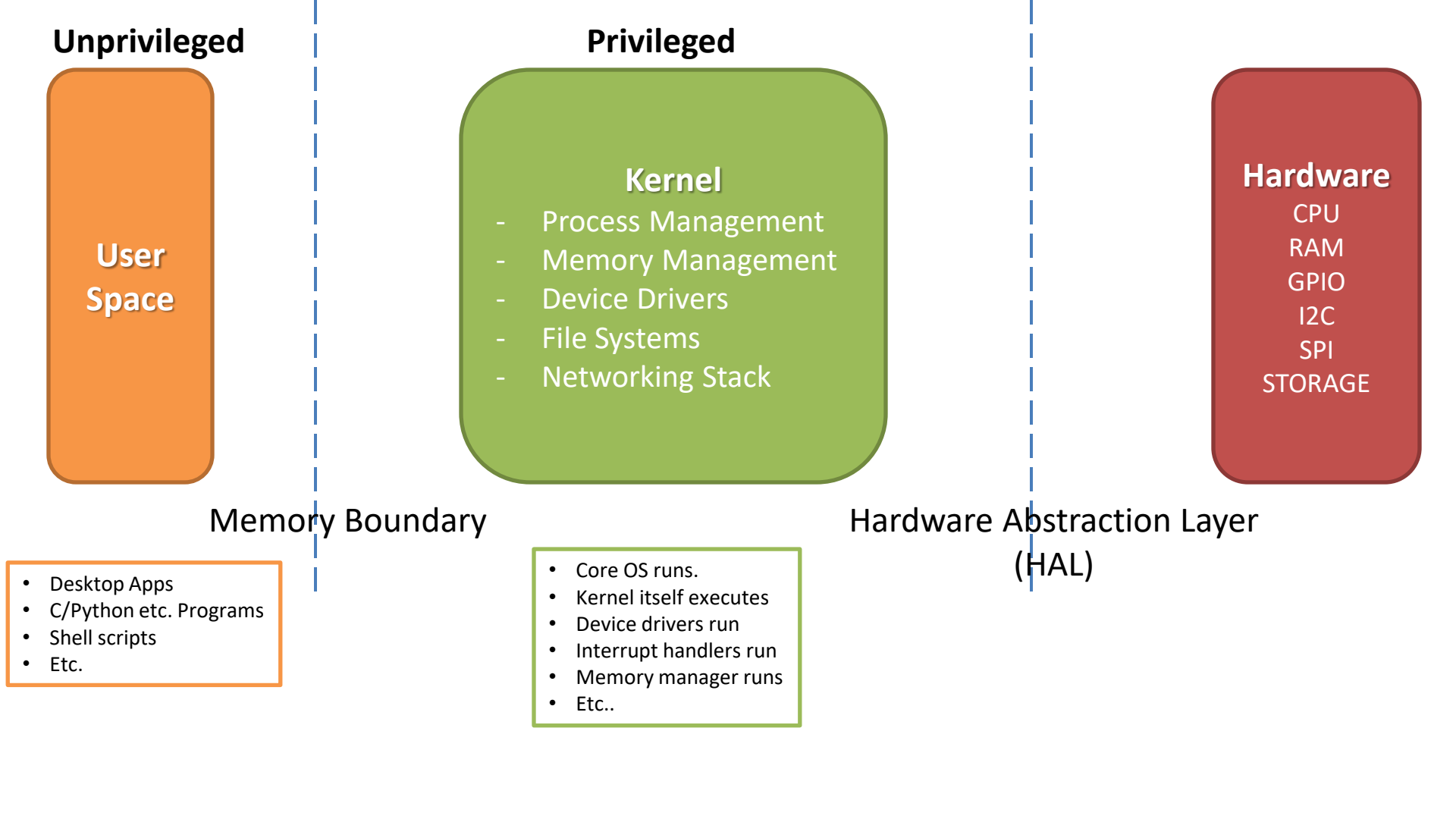
Unprivileged
Privileged
User Space
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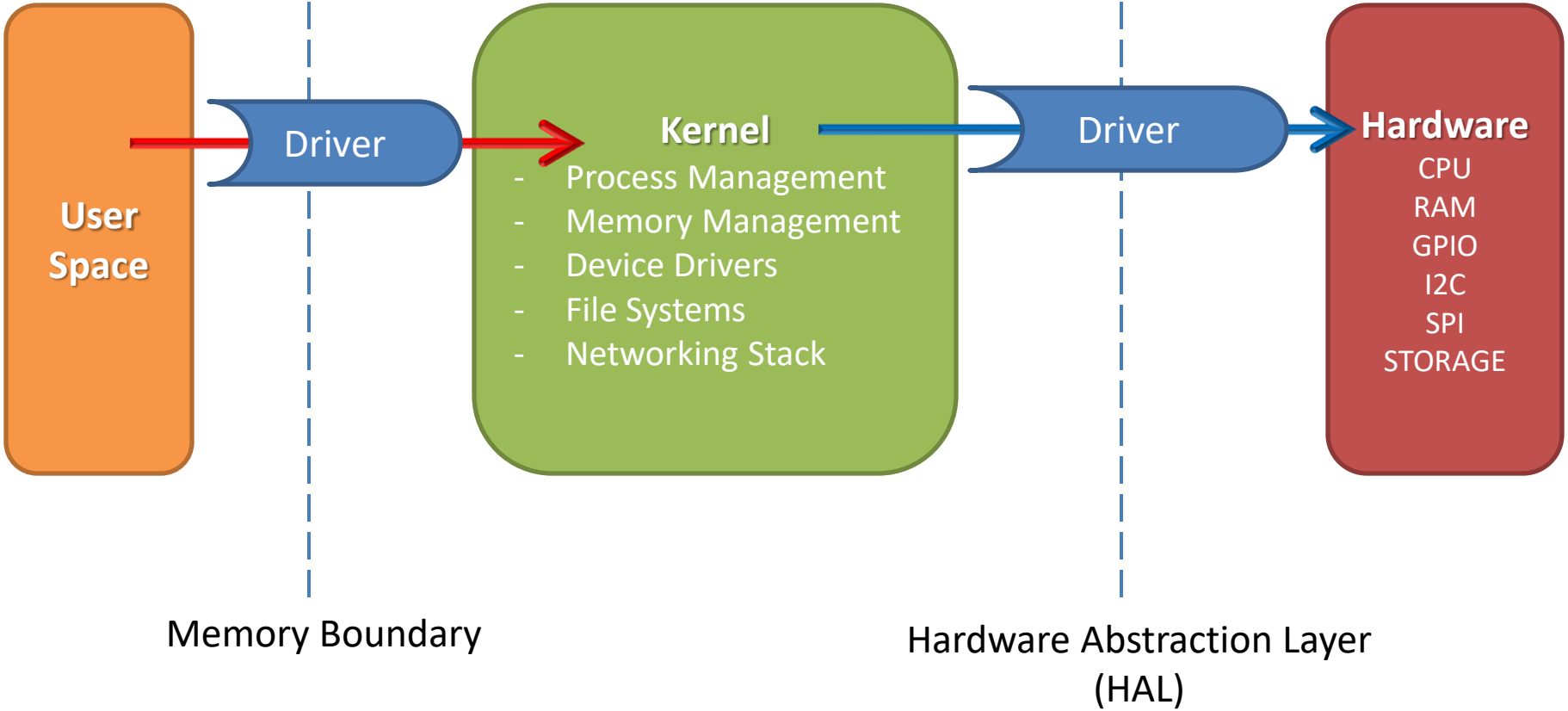
Hardware Abstraction Layer (HAL)
• Desktop Apps
• C/Python etc. Programs
• Shell scripts
• Etc.
• Core OS runs.
• Kernel itself executes
• Device drivers run
• Interrupt handlers run
• Memory manager runs
• Etc..




**Only kernel space can directly interact with hardware (GPIO, I2C, SPI, etc).**