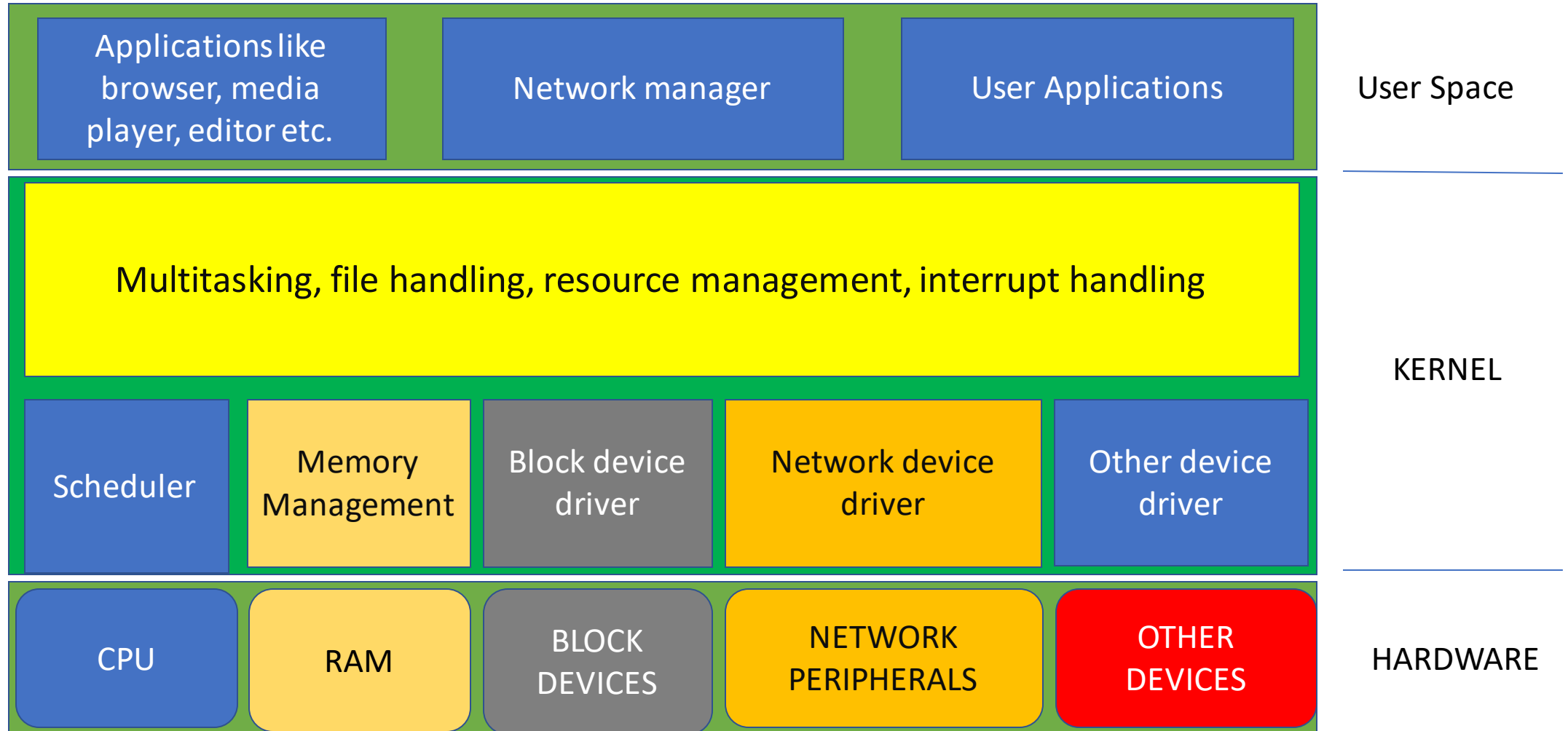# Linux Kernel Device Driver Development – Part 1

Course Content

- ❖ Installing the Linux on Virtual machine.
- ❖ **Introduction to Linux Kernel**
- ❖ Code compilation
- ❖ Makefile creation
- ❖ Hello world Module
- ❖ Module utilities
- ❖ Character Driver
- ❖ Creating /sys and /proc entries using kernel module
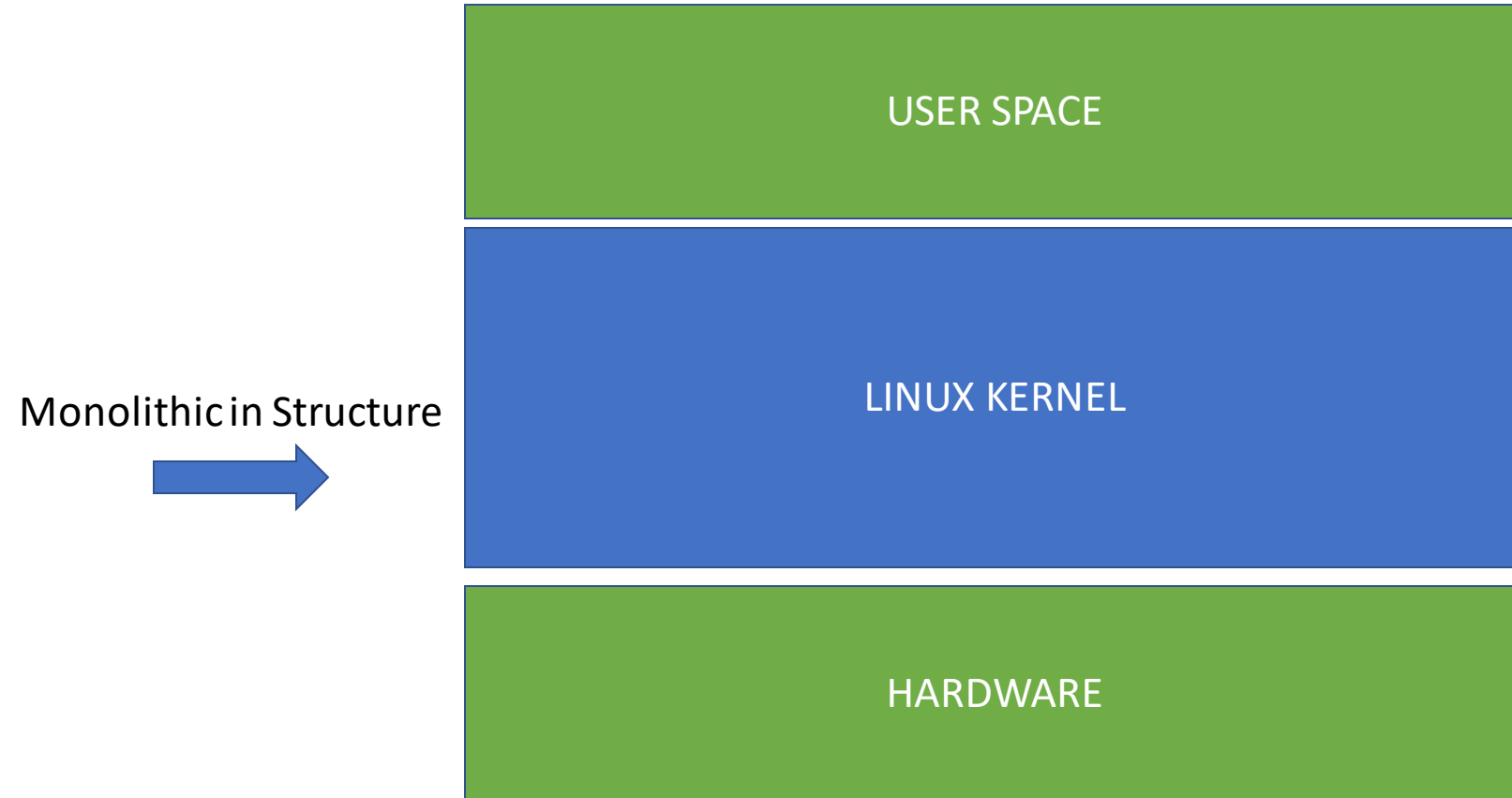- ❖ Submitting your First patch to Linux kernel source.

Introduction to Linux Kernel

- Heart of Operating System
- Manage hardware directly
- Monolithic kernel
- Clear partition between the resource management
- Everything is a file
- Constant version update
- Support from Open source

Introduction to Linux Kernel

Applications like browser, media player, editor etc.	Network manager	User Applications

User Space

Multitasking, file handling, resource management, interrupt handling

Scheduler	Memory Management	Block device driver	Network device driver	Other device driver

KERNEL

CPU	RAM	BLOCK DEVICES	NETWORK PERIPHERALS	OTHER DEVICES

HARDWARE

Introduction to Linux Kernel

USER SPACE

Monolithic in Structure

LINUX KERNEL

HARDWARE

Introduction to Linux Kernel

USER SPACE

LINUX KERNEL

Monolithic in Structure

Device Driver

Kernel module

HARDWARE

Utilities like insmod, rmmod, lsmod, modprobe etc.