

# Embedded software engineer

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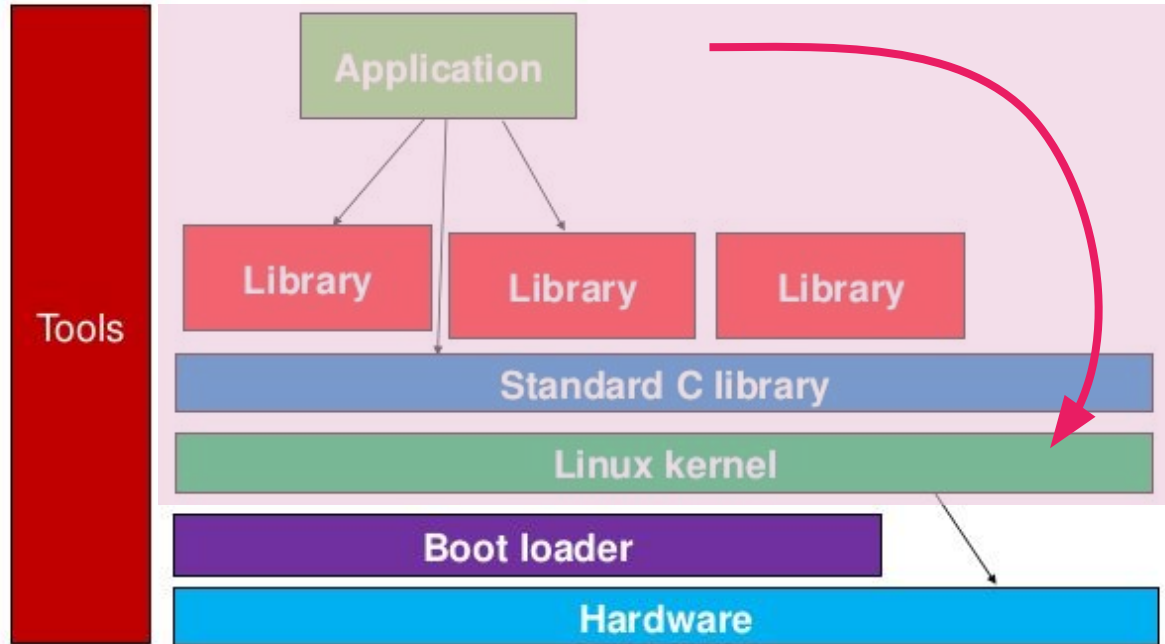
# Examples of embedded systems

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How could I come to  
be an embedded  
software engineer?

# Linux Architecture



# Application

# SW algorithm

For ADAS

(Advanced Driver Assistance System)

- **OpenCV**
  - C++
  - Eclipse
- 
- Image processing & computer vision

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# Around View Monitoring System



# Libraries



# User driver

For supporting SW  
( HDMI input / output )

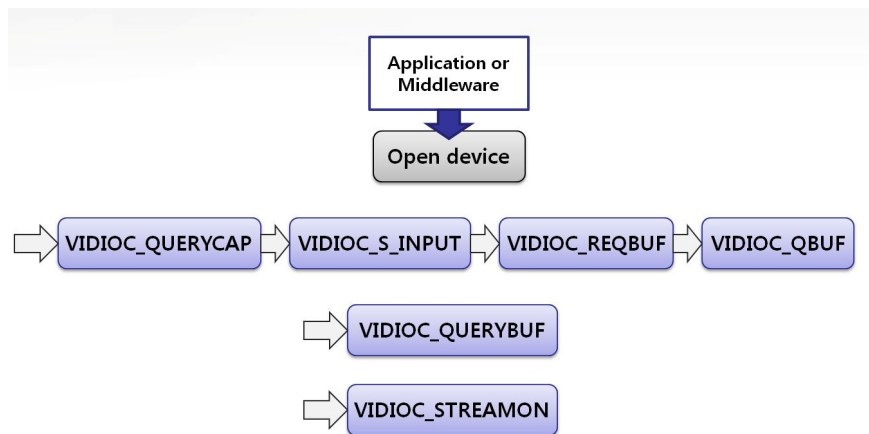
- `libv4l2`
- `libdrm`
- Provide input & output resources for application

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# Libraries Overview

Libv4l2

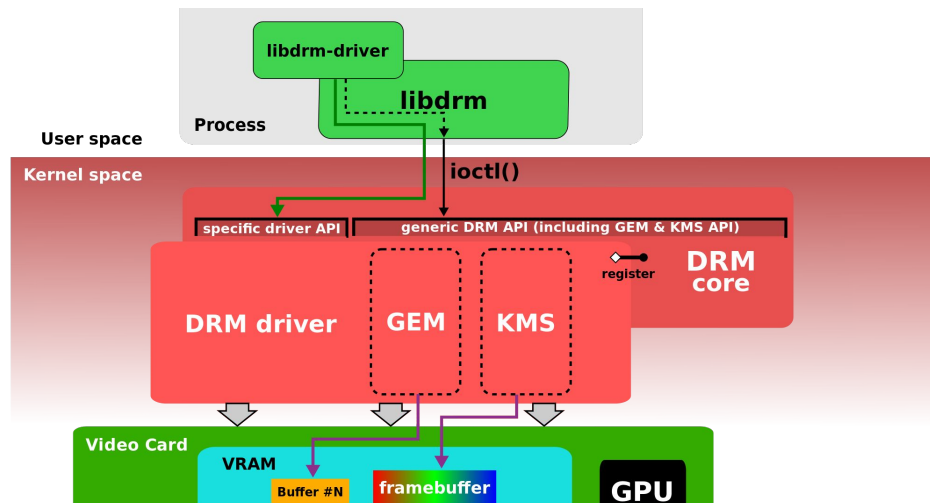
- /dev/video\*



[http://3.bp.blogspot.com/-C51qPEwRUR0/UficbzSF\\_2I/AAAAAAAAjA/1WqOaRTrQCw/s1600/v4l2+work1.jpg](http://3.bp.blogspot.com/-C51qPEwRUR0/UficbzSF_2I/AAAAAAAAjA/1WqOaRTrQCw/s1600/v4l2+work1.jpg)

Libdrm

- /dev/dri/card\*

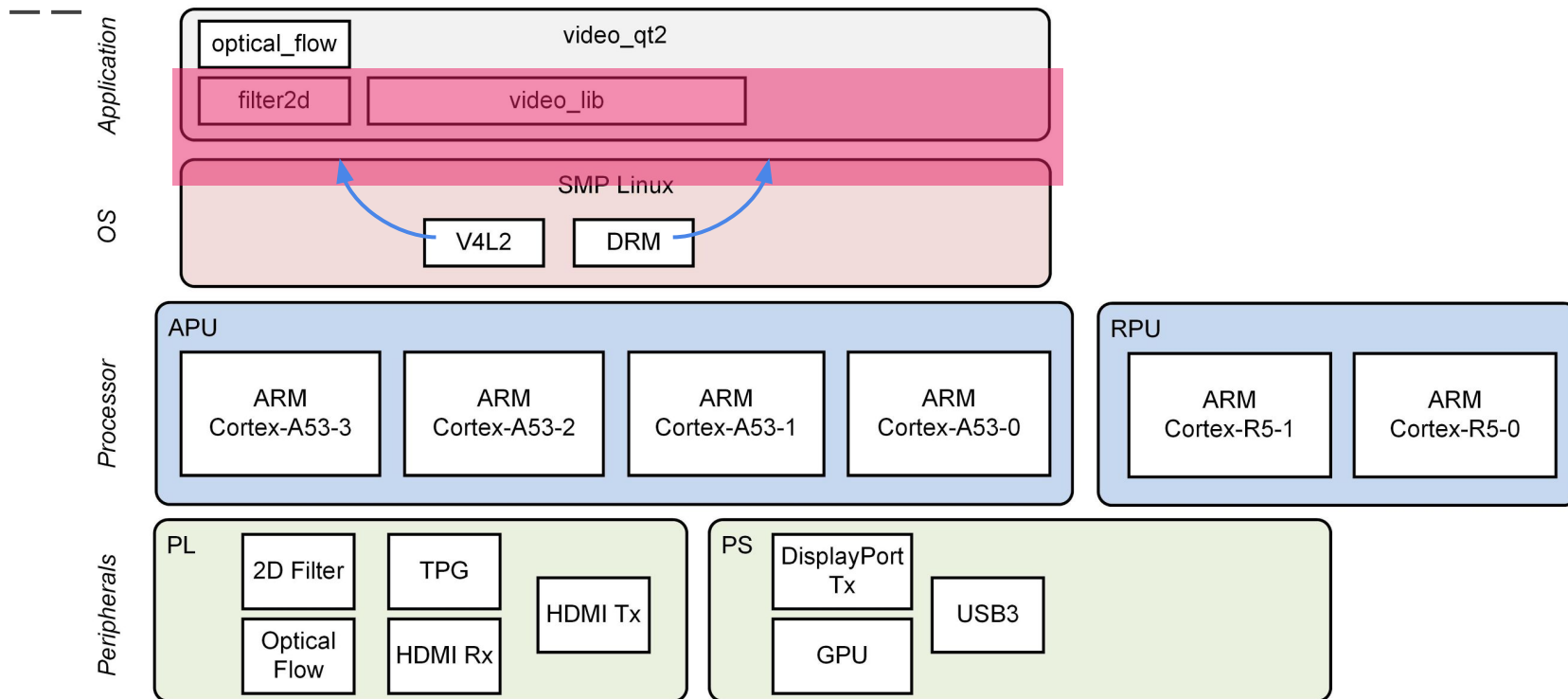


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[https://upload.wikimedia.org/wikipedia/commons/thumb/3/3d/DRM\\_architecture.svg/2000px-DRM\\_architecture.svg.png](https://upload.wikimedia.org/wikipedia/commons/thumb/3/3d/DRM_architecture.svg/2000px-DRM_architecture.svg.png)

Version 1

# Case



<http://www.wiki.xilinx.com/file/view/btrd-dm9-top-2017.1.jpg/615115849/btrd-dm9-top-2017.1.jpg>

**Linux kernel**

# Kernel driver

For supporting HW  
( HDMI input/output )

- `drivers/gpu/drm`
  - `drivers/staging/hdmi`
  - `drivers/media/platform`
- 
- Support color pixel format for HW

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Now

I'm doing

**Thank you**