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# 卡顿分析

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# systrace

- ❖ `sdk/platform-tools/systrace`
- ❖ 需要python2.7



# No module win32con

```
PS D:\develop\sdk-tools-windows-4333796\platform-tools\systrace> python .\systrace.py -h
Traceback (most recent call last):
  File ".\systrace.py", line 48, in <module>
    from systrace import run_systrace
  File "D:\develop\sdk-tools-windows-4333796\platform-tools\systrace\catapult\systrace\systrace\run_systrace.py", line 4
1, in <module>
    from devil import devil_env
  File "D:\develop\sdk-tools-windows-4333796\platform-tools\systrace\catapult\systrace\systrace\..\..\devil\devil\devil_
env.py", line 32, in <module>
    import dependency_manager # pylint: disable=import-error
  File "D:\develop\sdk-tools-windows-4333796\platform-tools\systrace\catapult\dependency_manager\dependency_manager\__in
it__.py", line 29, in <module>
    from .archive_info import ArchiveInfo
  File "D:\develop\sdk-tools-windows-4333796\platform-tools\systrace\catapult\dependency_manager\dependency_manager\arch
ive_info.py", line 9, in <module>
    from dependency_manager import exceptions
  File "D:\develop\sdk-tools-windows-4333796\platform-tools\systrace\catapult\dependency_manager\dependency_manager\exce
ptions.py", line 5, in <module>
    from py_utils import cloud_storage
  File "D:\develop\sdk-tools-windows-4333796\platform-tools\systrace\catapult\common\py_utils\py_utils\cloud_storage.py"
, line 22, in <module>
    from py_utils import lock
  File "D:\develop\sdk-tools-windows-4333796\platform-tools\systrace\catapult\common\py_utils\py_utils\lock.py", line 20
, in <module>
    import win32con
ImportError: No module named win32con
```



# 安装win32con

- ❖ `pip2 install pypiwin32`



# No module six

```
PS D:\develop\sdk-tools-windows-4333796\platform-tools\systrace> python .\systrace.py
Traceback (most recent call last):
  File ".\systrace.py", line 48, in <module>
    from systrace import run_systrace
  File "D:\develop\sdk-tools-windows-4333796\platform-tools\systrace\catapult\systrace\systrace\run_systrace.py", line 43, in <module>
    from systrace import systrace_runner
  File "D:\develop\sdk-tools-windows-4333796\platform-tools\systrace\catapult\systrace\systrace\systrace_runner.py", line 11, in <module>
    from systrace import output_generator
  File "D:\develop\sdk-tools-windows-4333796\platform-tools\systrace\catapult\systrace\systrace\output_generator.py", line 15, in <module>
    from tracing.trace_data import trace_data
  File "D:\develop\sdk-tools-windows-4333796\platform-tools\systrace\catapult\tracing\tracing\trace_data\trace_data.py", line 17, in <module>
    import six
ImportError: No module named six
```



# 安装six

❖ pip2 install six



# 使用

- ❖ 启动设备
- ❖ 输入命令与参数
- ❖ `python systrace.py -e 192.168.181.102:5555 -l`



# 不加参数启动

- ❖ 在命令行: `python systrace.py -e 192.168.181.102:5555`
- ❖ 在设备上进行操作
- ❖ 在命令行: 按下enter



# 启动systrace

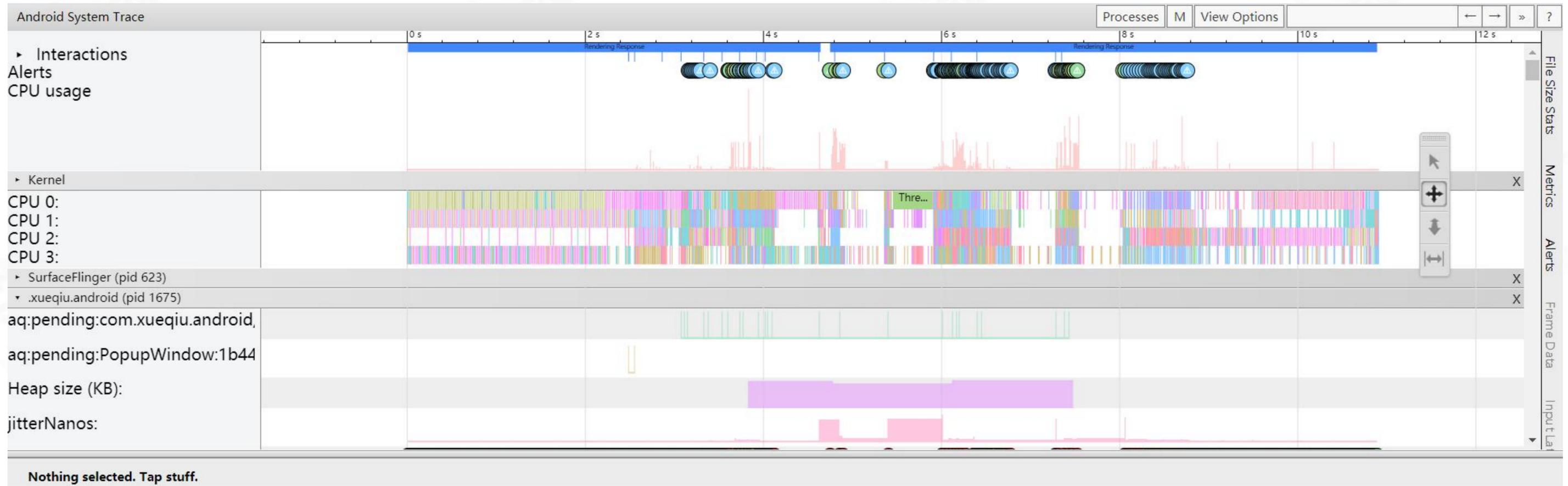
```
D:\develop\sdk-tools-windows-4333796\platform-tools\systrace>python systrace.py -e 192.168.181.102:5555 -o D:\develop\sdk-tools-windows-4333796\platform-tools\systrace\result\result.html
These categories are unavailable: binder_driver
Starting tracing (stop with enter)
Tracing completed. Collecting output...

Outputting Systrace results...
Tracing complete, writing results

Wrote trace HTML file: file:///D:\develop\sdk-tools-windows-4333796\platform-tools\systrace\result\result.html
```



# 点击保存的html



# 详细信息

- ❖ 1: 帧点

- ❖ 绿: 16.6ms内, 黄, 红超过16.6ms

- ❖ 2: 任务状态

- ❖ 灰: 休眠, 蓝色: 可运行, 绿色: 运行, 橙色: 不响应信号

- ❖ 3: 函数调用



# GPR显示情况

<code>-o &lt; FILE &gt;</code>	输出的目标文件
<code>-t N, -time=N</code>	执行时间, 默认5s
<code>-b N, -buf-size=N</code>	buffer大小 (单位kB),用于限制trace总大小, 默认无上限
<code>-k &lt; KFUNCS &gt;, -ktrace=&lt; KFUNCS &gt;</code>	追踪kernel函数, 用逗号分隔



# GPR显示情况

<code>-a &lt; APP_NAME &gt;, -app=&lt; APP_NAME &gt;</code>	追踪应用包名, 用逗号分隔
<code>-from-file=&lt; FROM_FILE &gt;</code>	从文件中创建互动的systrace
<code>-e &lt; DEVICE_SERIAL &gt;, -serial=&lt; DEVICE_SERIAL &gt;</code>	指定设备
<code>-l, -list-categories</code>	列举要显示数据



# 常用快捷键

- ❖ w: 放大
- ❖ s: 缩小
- ❖ m: 找到下一帧, 显示时间
- ❖ `python systrace.py -e 192.168.181.102:5555 -l`



# 卡顿影响因素

- ❖ 内存问题：（内存抖动、full gc）
- ❖ cpu （计算耗时）
- ❖ render （布局复杂、overdraw）



# 帧分析

- ❖ 冰冻帧：一个帧超过0.7s
- ❖ 帧分析：`adb -s devicesname shell dumpsys gfxinfo | less`

