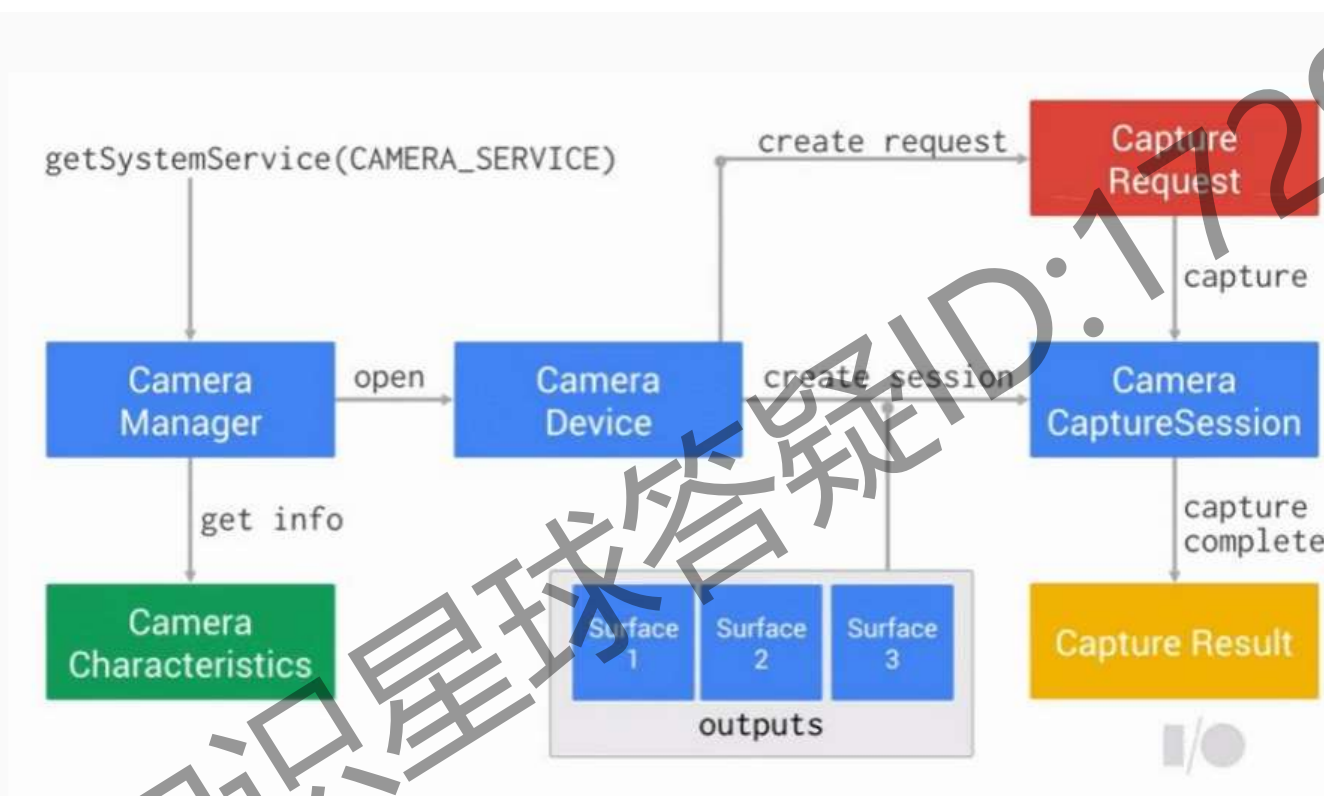# Android Camera2 API专题

第33讲
AE自动曝光实战

课程体系

AE · Flash · Zoom · AF · AWB · FD

We are here

Agenda

- GeekCamera2
  1. AE自动曝光流程
  2. EV控制流程
  3. AE Lock流程

GeekCamera2 - AE自动曝光流程

- 回顾GeekCamera2启动流程：第11讲 Android Camera2 API StreamConfigurationMap实战一

- Step1: 3A总开关控制

```
Preview#initCameraParameters
  |-->CameraController2#setSceneMode
    |-->CameraSettings#setSceneMode
      |-->根据当前的scene mode来设置CaptureRequest.CONTROL_MODE
```

- Step2: 设置AE 模式

```
CameraController2#createPreviewRequest
  |--> CameraSettings#setupBuilder
  |--> CameraSettings#setAEMode
    |-->根据是否自动曝光和Flash状态设置AE Mode
```

GeekCamera2 – EV控制流程

- UI上按EV方式展示可调范围

```
MainActivity#cameraSetup
  |--> SeekBar exposure_seek_bar = findViewById(R.id.exposure_seekbar);
  |--> exposure_seek_bar.setOnSeekBarChangeListener(null);
  |--> exposure_seek_bar.setMax( preview.getMaximumExposure() - min_exposure );
  |--> exposure_seek_bar.setProgress( preview.getCurrentExposure() - min_exposure );
  |--> exposure_seek_bar.setOnSeekBarChangeListener(new OnSeekBarChangeListener()
```

- 调节EV

```
onProgressChanged
  |--> Preview.setExposure
    |--> CameraController2.setExposureCompensation
      |--> CameraSettings.setExposureCompensation
        |--> 设置CONTROL_AE_EXPOSURE_COMPENSATION
    |--> showToast(getExposureCompensationString(new_exposure), 0, true);
```

GeekCamera2 – AE Lock流程

- AE Lock流程

```
MainActivity#clickedExposureLock
 |--> Preview#toggleExposureLock
  |--> CameraController2#setAutoExposureLock
   |--> set CaptureRequest.CONTROL_AE_LOCK value
```

Thanks