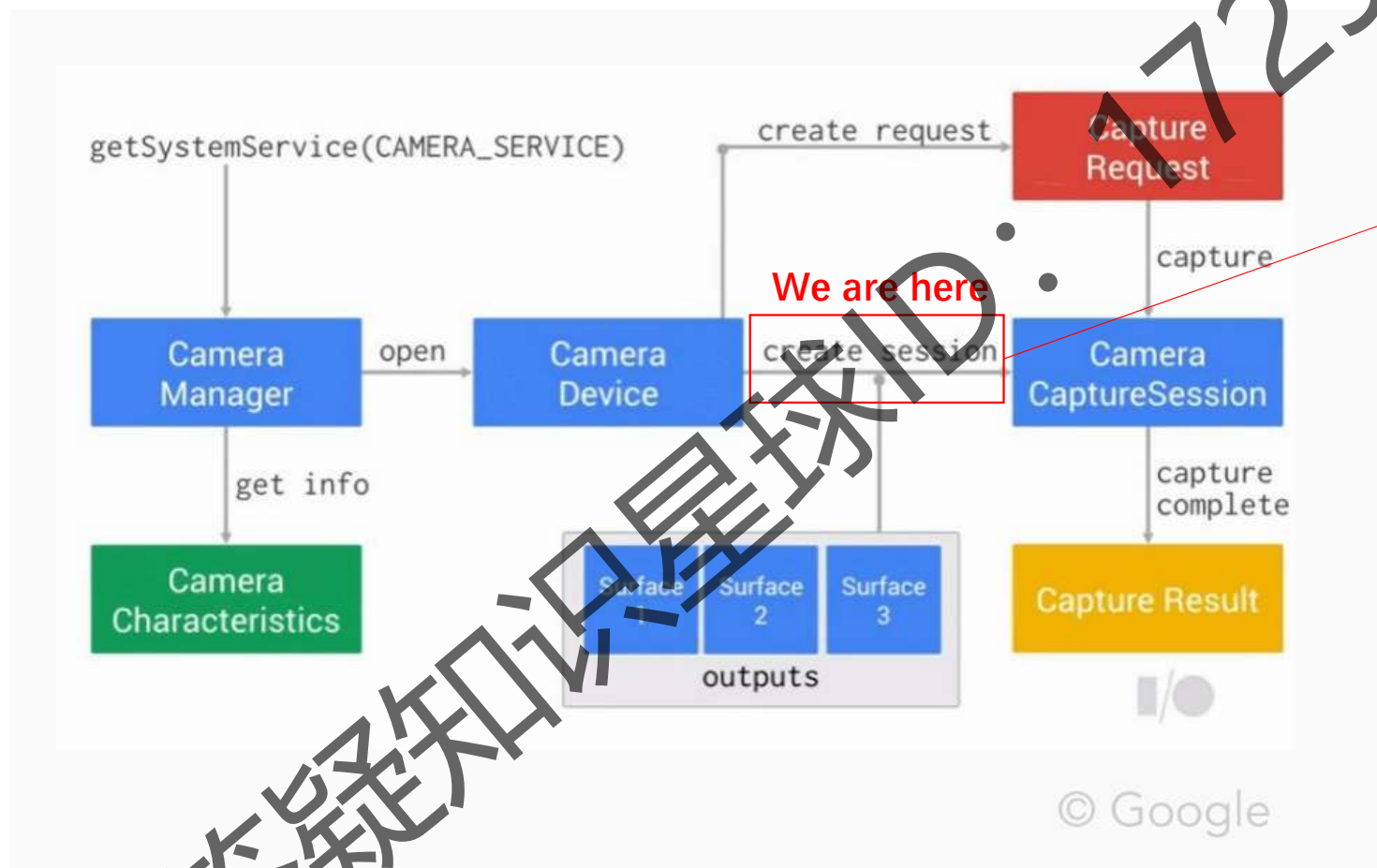


Android Camera2 API专题

第17讲

Reprocessable Capture Session详解一

课程体系

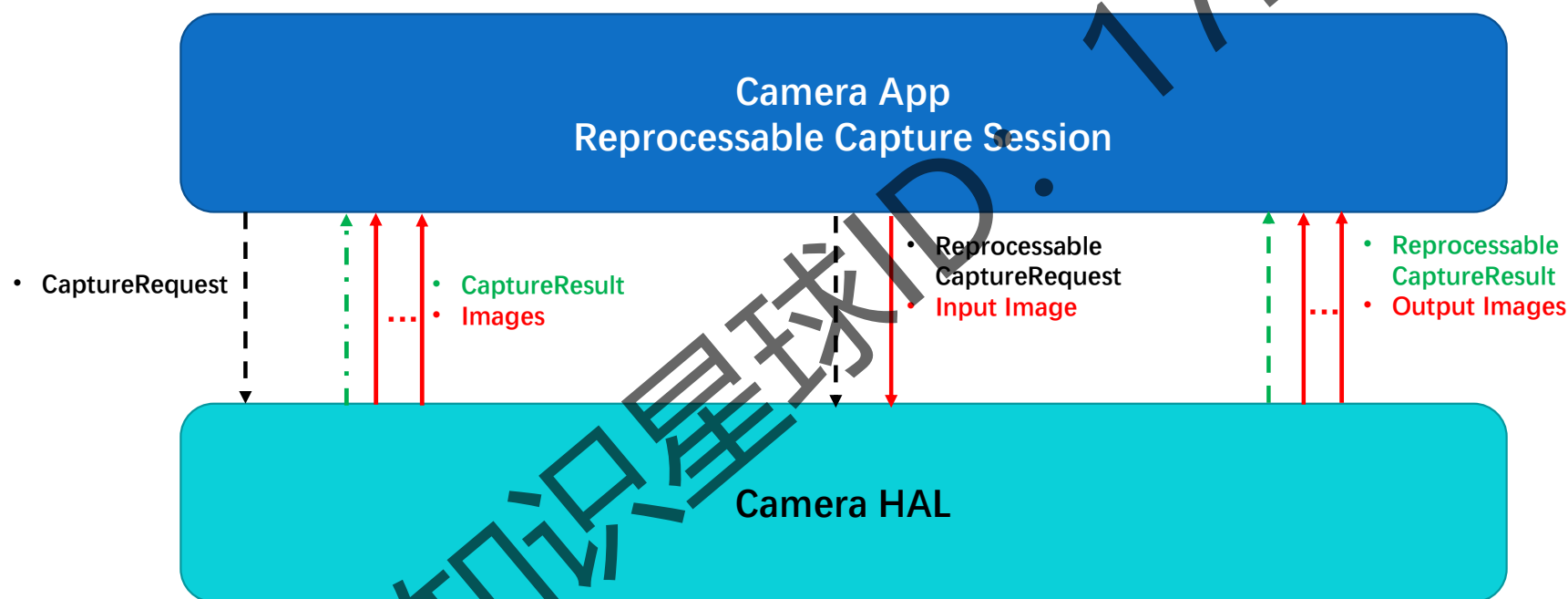


- StreamConfigurationMap
- OutputConfiguration
- **InputConfiguration**
- SessionConfiguration
- createCaptureSession

Agenda

- Reprocessable Architecture
- Reprocessable Flow
- Reprocessing guaranteed stream configurations
- Reprocessable 相关的APIs
 - InputConfiguration
 - CameraDevice
 - CameraCaptureSession
 - ImageWriter

Reprocessable Architecture



Reprocessible Flow

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Reprocessing guaranteed stream configurations - LIMITED-level

LIMITED-level additional guaranteed configurations for creating a reprocessible capture session
(PRIV input is guaranteed only if PRIVATE reprocessing is supported. YUV input is guaranteed only if YUV reprocessing is supported)

Input		Target 1		Target 2		Target 3		Target 4		Sample use case(s)
Type	Max Size	Type	Max Size	Type	Max Size	Type	Max Size	Type	Max Size	
PRIV/YUV	MAXIMUM	Same as input	MAXIMUM	JPEG	MAXIMUM					No-viewfinder still image reprocessing.
PRIV/YUV	MAXIMUM	Same as input	MAXIMUM	PRIV	PREVIEW	JPEG	MAXIMUM			ZSL(Zero-Shutter-Lag) still imaging.
PRIV/YUV	MAXIMUM	Same as input	MAXIMUM	YUV	PREVIEW	JPEG	MAXIMUM			ZSL still and in-app processing imaging.
PRIV/YUV	MAXIMUM	Same as input	MAXIMUM	YUV	PREVIEW	YUV	PREVIEW	JPEG	MAXIMUM	ZSL in-app processing with still capture.

- PREVIEW: 跟屏幕宽高比一样($\leq 1080P$)
- RECORD: 当前平台支持的最大录像Size
- MAXIMUM: 当前这种Format最大的输出Size

Reprocessing guaranteed stream configurations - FULL-level

Input		Target 1		Target 2		Target 3		Target 4		Sample use case(s)
YUV	MAXIMUM	YUV	MAXIMUM	PRIV	PREVIEW					Maximum-resolution multi-frame image fusion in-app processing with regular preview.
YUV	MAXIMUM	YUV	MAXIMUM	YUV	PREVIEW					Maximum-resolution multi-frame image fusion two-input in-app processing.
PRIV/YUV	MAXIMUM	Same as input	MAXIMUM	PRIV	PREVIEW	YUV	RECORD			High-resolution ZSL in-app video processing with regular preview.
PRIV	MAXIMUM	PRIV	MAXIMUM	PRIV	PREVIEW	YUV	MAXIMUM			Maximum-resolution ZSL in-app processing with regular preview.
PRIV	MAXIMUM	PRIV	MAXIMUM	YUV	PREVIEW	YUV	MAXIMUM			Maximum-resolution two-input ZSL in-app processing.
PRIV/YUV	MAXIMUM	Same as input	MAXIMUM	PRIV	PREVIEW	YUV	PREVIEW	JPEG	MAXIMUM	ZSL still capture and in-app processing.

- PREVIEW: 跟屏幕宽高比一样(<=1080P)
- RECORD: 当前平台支持的最大录像Size
- MAXIMUM: 当前这种Format最大的输出Size

FULL-level additional guaranteed configurations for creating a reprocessible capture session (PRIV input is guaranteed only if PRIVATE reprocessing is supported. YUV input is guaranteed only if YUV reprocessing is supported)

Reprocessing guaranteed stream configurations - RAW-capability

Input		Target 1		Target 2		Target 3		Target 4		Sample use case(s)
Type	Max Size	Type	Max Size	Type	Max Size	Type	Max Size	Type	Max Size	
PRIV/YUV	MAXIMUM	Same as input	MAXIMUM	YUV	PREVIEW	RAW	MAXIMUM			Mutually exclusive ZSL in-app processing and DNG capture.
PRIV/YUV	MAXIMUM	Same as input	MAXIMUM	PRIV	PREVIEW	YUV	PREVIEW	RAW	MAXIMUM	Mutually exclusive ZSL in-app processing and preview with DNG capture.
PRIV/YUV	MAXIMUM	Same as input	MAXIMUM	YUV	PREVIEW	YUV	PREVIEW	RAW	MAXIMUM	Mutually exclusive ZSL two-input in-app processing and DNG capture.
PRIV/YUV	MAXIMUM	Same as input	MAXIMUM	PRIV	PREVIEW	JPEG	MAXIMUM	RAW	MAXIMUM	Mutually exclusive ZSL still capture and preview with DNG capture.
PRIV/YUV	MAXIMUM	Same as input	MAXIMUM	YUV	PREVIEW	JPEG	MAXIMUM	RAW	MAXIMUM	Mutually exclusive ZSL in-app processing with still capture and DNG capture.

- PREVIEW: 跟屏幕宽高比一样(<=1080P)
- RECORD: 当前平台支持的最大录像Size
- MAXIMUM: 当前这种Format最大的输出Size

RAW-capability additional guaranteed configurations for creating a reprocessible capture session (PRIV input is guaranteed only if PRIVATE reprocessing is supported. YUV input is guaranteed only if YUV reprocessing is supported)

Reprocessing guaranteed stream configurations - LEVEL-3

LEVEL-3 additional guaranteed configurations for creating a reprocessable capture session (PRIV input is guaranteed only if PRIVATE reprocessing is supported. YUV input is always guaranteed).

Input		Target 1		Target 2		Target 3		Target 4		Target 5		Sample use case(s)
Type	Max Size	Type	Max Size	Type	Max Size	Type	Max Size	Type	Max Size	Type	Max Size	
YUV	MAXIMUM	YUV	MAXIMUM	PRIV	PREVIEW	PRIV	640x480	RAW	MAXIMUM			In-app viewfinder analysis with ZSL and RAW.
PRIV/YUV	MAXIMUM	Same as input	MAXIMUM	PRIV	PREVIEW	PRIV	640x480	RAW	MAXIMUM	JPEG	MAXIMUM	In-app viewfinder analysis with ZSL, RAW, and JPEG reprocessing output.

- PREVIEW: 跟屏幕宽高比一样($\leq 1080P$)
- RECORD: 当前平台支持的最大录像Size
- MAXIMUM: 当前这种Format最大的输出Size

Reprocessing guaranteed stream configurations

- LIMITED-level with MULTI_RES

LIMITED-level additional guaranteed configurations for creating a reprocessable capture session with multi-resolution input and multi-resolution outputs

(PRIV input is guaranteed only if PRIVATE reprocessing is supported. YUV input is guaranteed only if YUV reprocessing is supported)

Input		Target 1		Target 2		Target 3		Target 4		Sample use case(s)
Type	Max Size	Type	Max Size	Type	Max Size	Type	Max Size	Type	Max Size	
PRIV/YUV	MULTI_RES	Same as input	MULTI_RES	JPEG	MULTI_RES					No-viewfinder still image reprocessing.
PRIV/YUV	MULTI_RES	Same as input	MULTI_RES	PRIV	PREVIEW	JPEG	MULTI_RES			ZSL(Zero-Shutter-Lag) still imaging.
PRIV/YUV	MULTI_RES	Same as input	MULTI_RES	YUV	PREVIEW	JPEG	MULTI_RES			ZSL still and in-app processing imaging.
PRIV/YUV	MULTI_RES	Same as input	MULTI_RES	YUV	PREVIEW	YUV	PREVIEW	JPEG	MULTI_RES	ZSL in-app processing with still capture.

- PREVIEW: 跟屏幕宽高比一样($\leq 1080P$)
- RECORD: 当前平台支持的最大录像Size
- MAXIMUM: 当前这种Format最大的输出Size
- MULTI_RES: MultiResolutionImageReader配置的最大值

Reprocessing guaranteed stream configurations - FULL-level with MULTI_RES

FULL-level additional guaranteed configurations for creating a reprocessable capture session with multi-resolution input and multi-resolution outputs

(PRIV input is guaranteed only if PRIVATE reprocessing is supported. YUV input is guaranteed only if YUV reprocessing is supported)

Input		Target 1		Target 2		Target 3		Target 4		Sample use case(s)
Type	Max Size	Type	Max Size	Type	Max Size	Type	Max Size	Type	Max Size	
PRIV	MULTI_RES	PRIV	MULTI_RES	PRIV	PREVIEW	YUV	MULTI_RES			Maximum-resolution ZSL in-app processing with regular preview.
PRIV	MULTI_RES	PRIV	MULTI_RES	YUV	PREVIEW	YUV	MULTI_RES			Maximum-resolution two-input ZSL in-app processing.
PRIV/YUV	MULTI_RES	Same as input	MULTI_RES	PRIV	PREVIEW	YUV	PREVIEW	JPEG	MULTI_RES	ZSL still capture and in-app processing.

- PREVIEW: 跟屏幕宽高比一样(<=1080P)
- RECORD: 当前平台支持的最大录像Size
- MAXIMUM: 当前这种Format最大的输出Size
- MULTI_RES: MultiResolutionImageReader配置的最大值

Thanks