

Software Engineering Conference in Russia



Video Capturing for Unity-powered games on Android

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Video Game Capturing

“Players love replays. A user that watches game video typically plays more often and plays for longer than the average user.”

EVERYPLAY

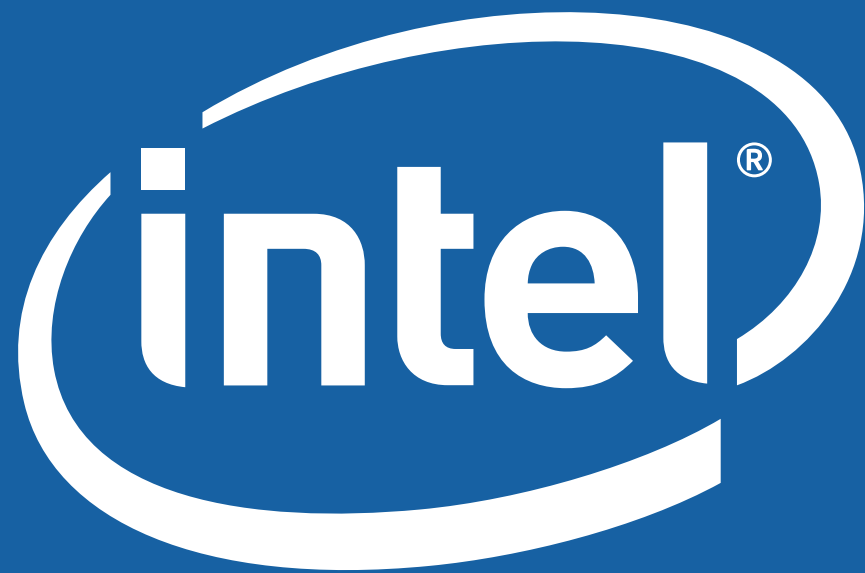
“Over the last two years, users have shared an incredible amount of content with Kamcord; over 4.5 million videos to date and 1 million in the last month alone.”

Kamcord

“By 2018, 84% of internet traffic will be video content.”

Cisco

Unity Video Capturing Prerequisites:



Intel® INDE
Media for Mobile



Android SDK



Unity 4.2+

Unity Video Capturing Assets:

- Two jar files: `android-1.2.2415.jar` and `domain-1.2.2415.jar`
- Two java classes: `Capturing.java` and `VideoCapture.java`
- Apache Ant build script - `build.xml`
- `AndroidManifest.xml`:
"android.permission.WRITE_EXTERNAL_STORAGE"
"android.permission.RECORD_AUDIO"
- Simple 3d stuff

Unity Video Capturing C# side

- `classID = AndroidJNI.FindClass("com/intel/example/Capturing")`
- `constructorMethodID = AndroidJNI.GetMethodID(classID, "<init>", "(Landroid/content/Context;I)V")`
- `startCapturingMethodID = AndroidJNI.GetMethodID(classID, "startCapturing", "(Ljava/lang/String;)V")`
- `capturingObject = AndroidJNI.NewObject(classID, constructorMethodID, ...)`
- `AndroidJNI.CallVoidMethod(capturingObject, startCapturingMethodID, ...)`

Unity Video Capturing Approaches:

Postprocessing effect

```
public class Capture : MonoBehaviour
{
    void OnRenderImage(...)
    ...
}
```

Framebuffer

```
public class Capture : MonoBehaviour
{
    void OnPreRender()
    ...
    IEnumerator OnPostRender()
    ...
}
```

Unity Video Capturing Approaches:

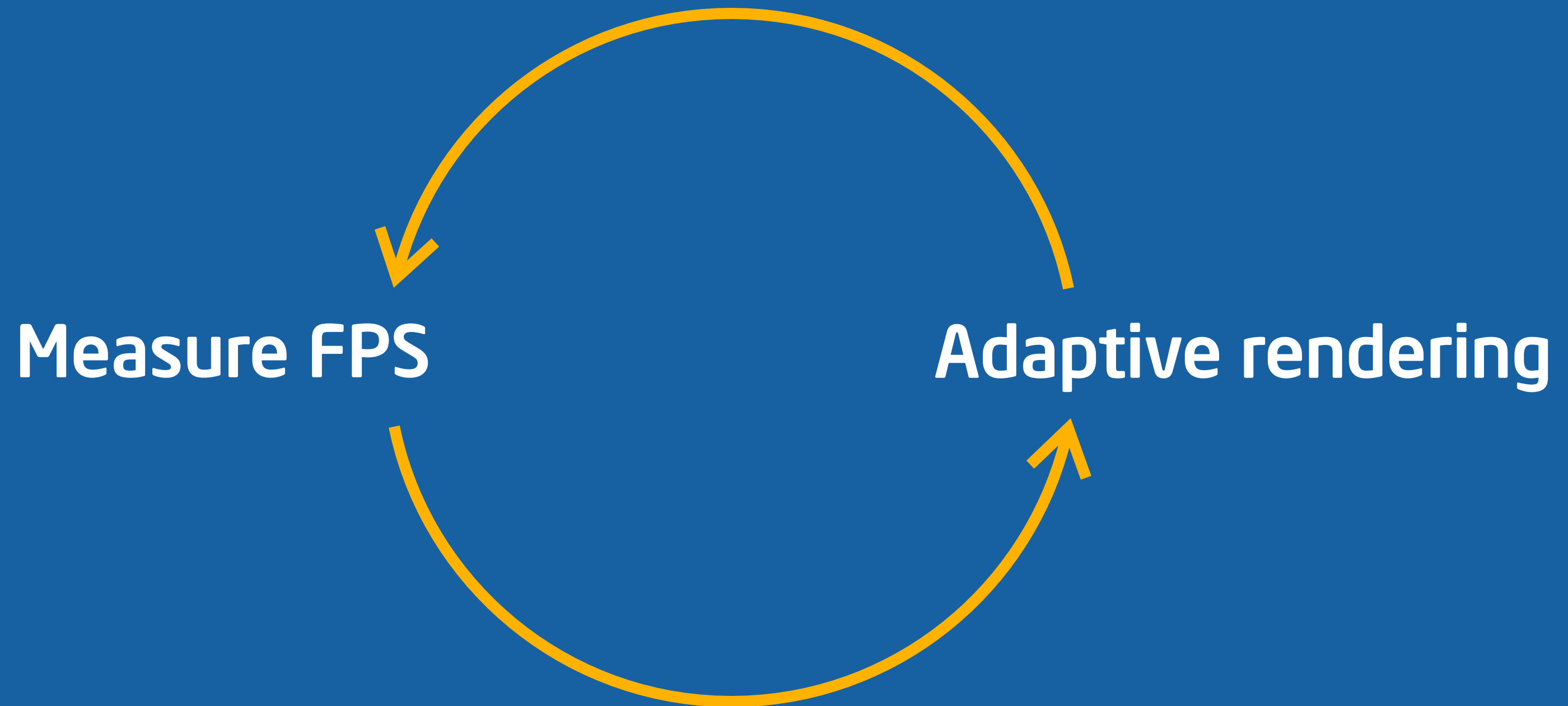
Postprocessing effect

- Unity Pro only
- No Unity GUI
- + Captures any on-screen rendering: drop shadows, deferred shading and fullscreen post-effects
- + Tested with Unity 4.2 - 4.5

Framebuffer

- + Works with Unity Free
- + Captures Unity GUI
- Captures on-screen rendering only
- Not working since Unity 4.5

Unity Video Capturing Performance



Questions?

- <https://software.intel.com/en-us/media-for-mobile>
- <https://software.intel.com/en-us/articles/intel-inde-media-pack-for-android-tutorials-video-capturing-for-unity3d-applications>
- <https://software.intel.com/en-us/articles/intel-inde-media-pack-for-android-tutorials-advanced-video-capturing-for-unity3d>
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