


GPAC: Delivery of VR/360 videos using Tiles

IBC, September 2016

romain.bouqueau@gpac-licensing.com

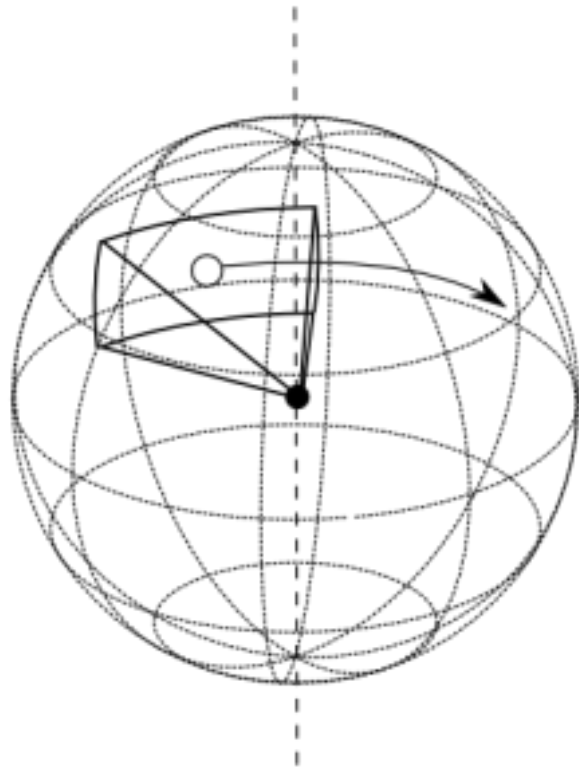
GPAC

- Multimedia OSS around MPEG4 since 2003:
 - MP4Box (packager) + MP4Client (player)
 - MPEG #HEVC #DASH #SHVC #CENC + IETF + W3C
 - Story: IBC 2014 EBU OSS talk  GPAC Licensing
 - Future: FOSDEM 2015 talk
 - IBC 2015: MP4Box.js - MP4 in the browser

VR/360 content

- Partial field of view:
- Bandwidth is expensive, 360 videos require at least 4K.

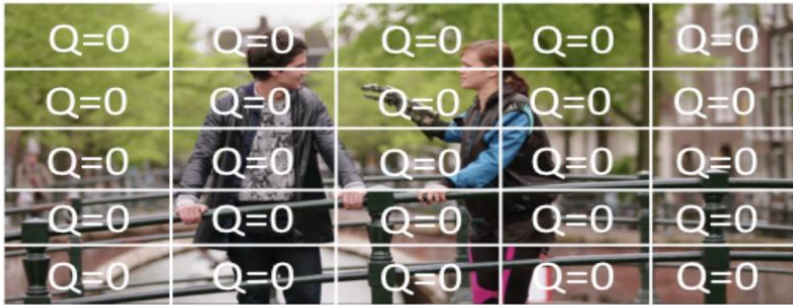
=> Let's create zones in the content.



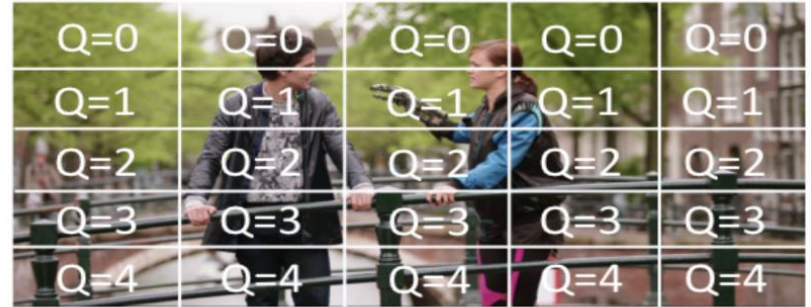
Tiling in GPAC



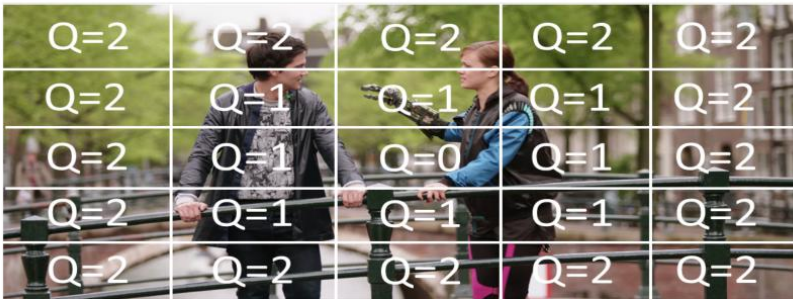
Strategies to favor some tiles



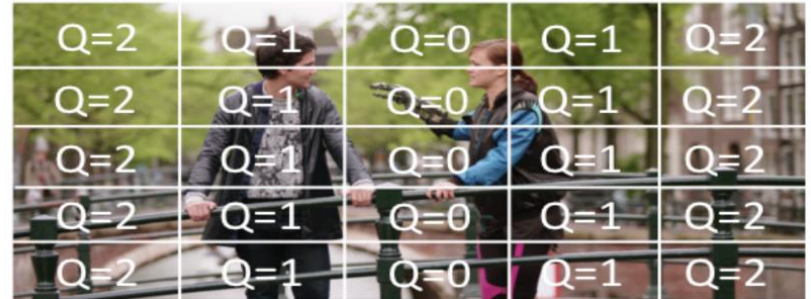
Uniform Priority



Row-based Priority



Center-based Priority



Column-based Priority

GPAC OSS player

- Signalling:
 - HEVC Tiling (independant rectangular regions)
 - Single decoder!
 - MPEG-DASH with SRD (Spatial Relationship Descriptors)
- Compatible with other GPAC player features:
 - 3D native navigation
 - Any codec
 - Any delivery
 - CENC



Thank you
Time for demos!

GPAC

#industry #mp4box #osmo4 #broadcast #mpeg #mp4
#dash #hevc

romain.bouqueau@gpac-licensing.com

Demos

- <http://gpac.io/2016/05/25/srd/>