



Procedural Generation of Cinematic Dialogues in **ASSASSIN'S CREED ODYSSEY**

François Paradis
Programmer @ Ubisoft Québec

francois.paradis2@ubisoft.com

GAME DEVELOPERS CONFERENCE
MARCH 18–22, 2019 | #GDC19



PROCEDURAL GENERATION OF CINEMATIC DIALOGUES

FRANÇOIS PARADIS
UBISOFT QUÉBEC





WHAT IS ASSASSIN'S CREED: ODYSSEY?





WHAT IS ASSASSIN'S CREED: ODYSSEY?

BRANCHING DIALOGUES



PLAYER
CHOICES



IMPACT &
CONSEQUENCES





WHAT IS ASSASSIN'S CREED: ODYSSEY?

1,200

CINEMATIC DIALOGUES

30 HOURS

CINEMATIC DIALOGUES

25,000

LINES





MOTIVATION

EFFICIENT CONTENT



MODULAR



ITERATIVE



PROCEDURAL





INTRODUCTION



WORKFLOWS



GENERATING SCENES



CHALLENGES AND OPPORTUNITIES



CONCLUSION



OVERVIEW

1

WORKFLOWS

2

GENERATING SCENES

3

CHALLENGES & OPPORTUNITIES



OVERVIEW

Sanctuary of Apollo

?  ?s
275 m

New Engraving Unlocked!
+4% Assassin Damage

+1 





WORKFLOWS

TEAM STRUCTURE



**QUEST
DESIGNER**



WRITER



**CINEMATIC
DESIGNER**



TEAM STRUCTURE



QUEST
DESIGNER



WRITER



CINEMATIC
DESIGNER



TEAM STRUCTURE



QUEST
DESIGNER



WRITER



CINEMATIC
DESIGNER



TEAM STRUCTURE



**QUEST
DESIGNER**



WRITER



**CINEMATIC
DESIGNER**



**PROCEDURAL
SYSTEMS**



PROCEDURAL CONTENT GENERATION



**ALWAYS
PLAYABLE**



INSPIRATION

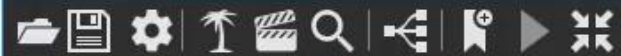


TOOLBOX

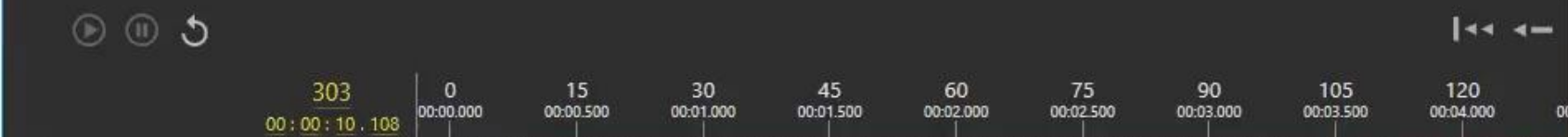


**AMOUNT
OF CONTENT**





Graph Staging Variables Animation



Dialogue

		A misthios! Well, aren't you a sight to my aged eyes. Young. Energetic. [beat] Perhaps I should just pay for your body instead of your help.																									
		A	MISTHIOS						WELL	AREN'T			YOU	SIGHT	TO MY			AGED	EYES								
		EY	M	IY	S	TH	IY	OW	S		W	EHL	AAR	NT	Y	UW	EVS	AY	T	TUV	M	AY	EY	JH	IHD	AY	Z
0.30s		9.90s																									

Camera

Cam001
10.20s

▼ AUXESIA_UCF_62

Facial State

#eager (happy 7 (optimistic))

1.50s

Look At

Four small charts showing Cassandra performance metrics. Each chart has a purple background with a white diagonal line. The top of each chart is labeled 'KASSANDRA' (or 'KASSAN...'). The bottom left of each chart shows a time value: 0.42s, 0.51s, 0.30s, and 0.50s. A small icon is visible in the bottom right corner of each chart.

Animation

Also

3.17s (100%)

▼ KASSANDRA

Facial State

AUXESIA_UCF ...
0.49s

Time  Look At   

Animation



POST-LAUNCH CONTENT



POST LAUNCH ROADMAP

LEGACY OF THE FIRST BLADE



THE FATE OF ATLANTIS



EPISODE 1

DECEMBER
2018

EPISODE 2

EPISODE 3

EPISODE 1

SPRING
2019

EPISODE 2

EPISODE 3



CONTENT SCOPE



SCENE



FULLY GENERATED

FULLY HANDCRAFTED



CONTENT SCOPE

L1

FULLY GENERATED

L2

SOME HANDCRAFTED CHANGES
WITHOUT CUSTOM ASSETS

L3

A LOT OF HANDCRAFTED CHANGES
WITH CUSTOM ASSETS

L4

FULLY MOCAPPED



CONTENT SCOPE

L1

FULLY GENERATED

20%

L2

SOME HANDCRAFTED CHANGES
WITHOUT CUSTOM ASSETS

70%

L3

A LOT OF HANDCRAFTED CHANGES
WITH CUSTOM ASSETS

9%

L4

FULLY MOCAPPED

1%



GENERATION INPUTS

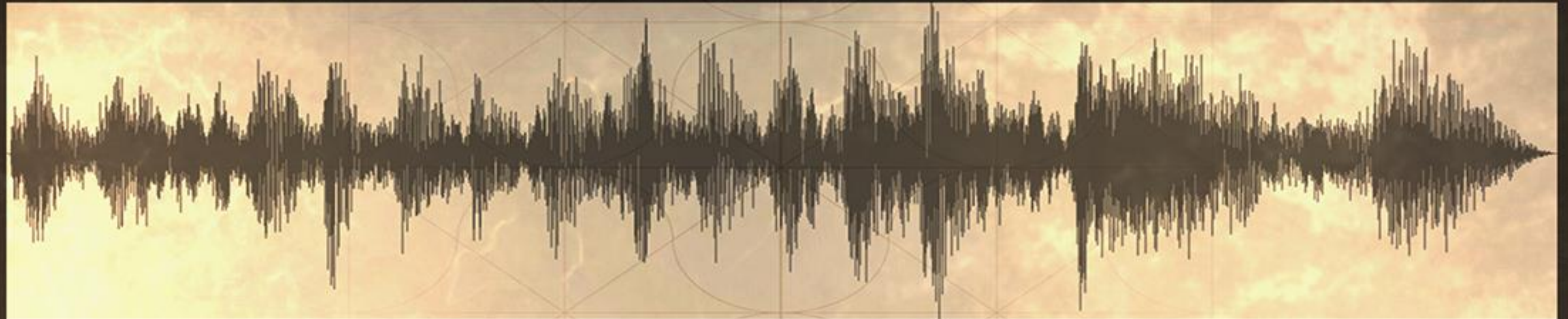
“FOLLOW ME THEN! QUICKLY, WE MUST BE DISCREET!”

- ALEXIOS

#HAPPY @SOCRATES



GENERATION INPUTS



FOLLOW

ME

THEN

QUICKLY

WE

MUST

BE

DISCREET





INTRODUCTION



WORKFLOWS



GENERATING SCENES



CHALLENGES AND OPPORTUNITIES



CONCLUSION



PROCEDURAL GENERATION RESULT

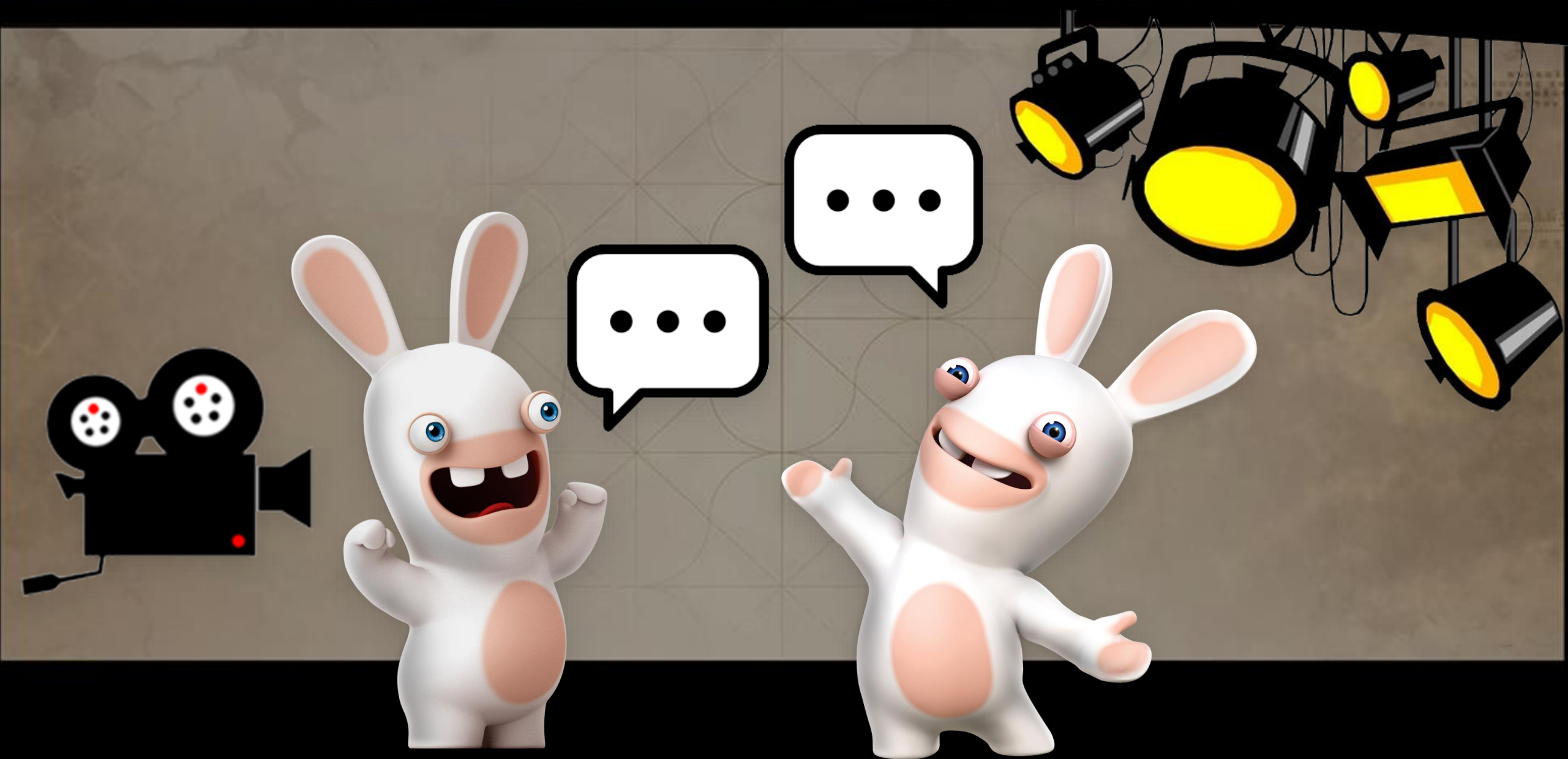


03

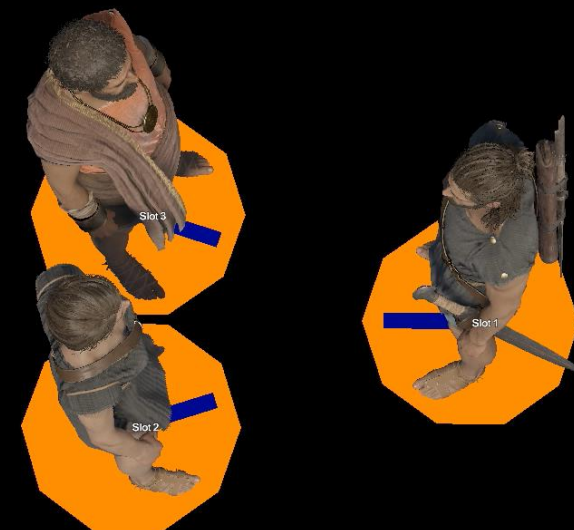
GENERATING SCENES



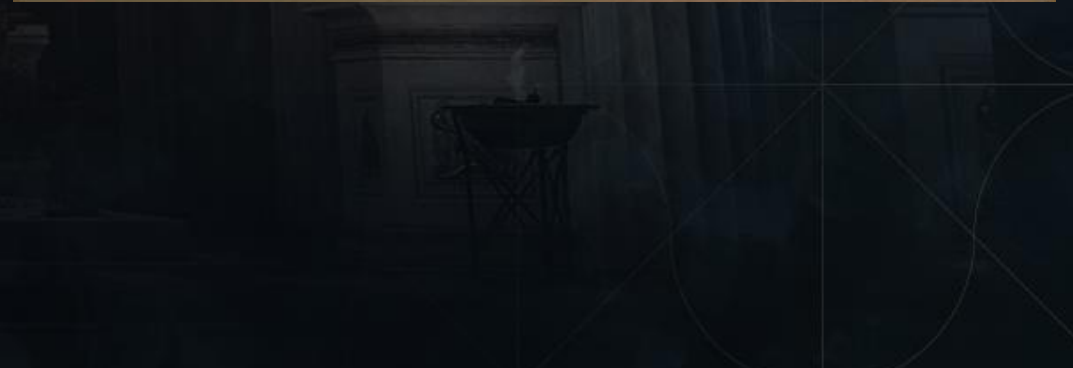
GENERATE ALL THE THINGS



STAGING



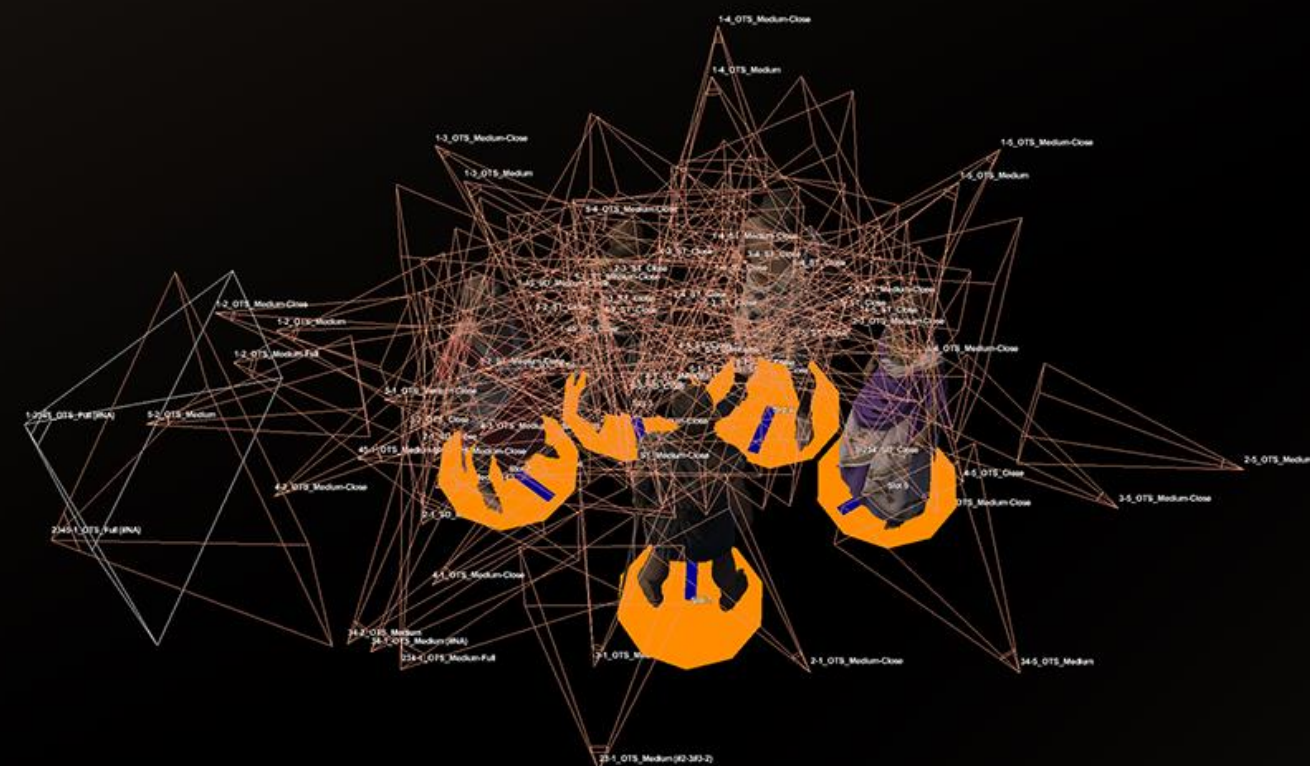
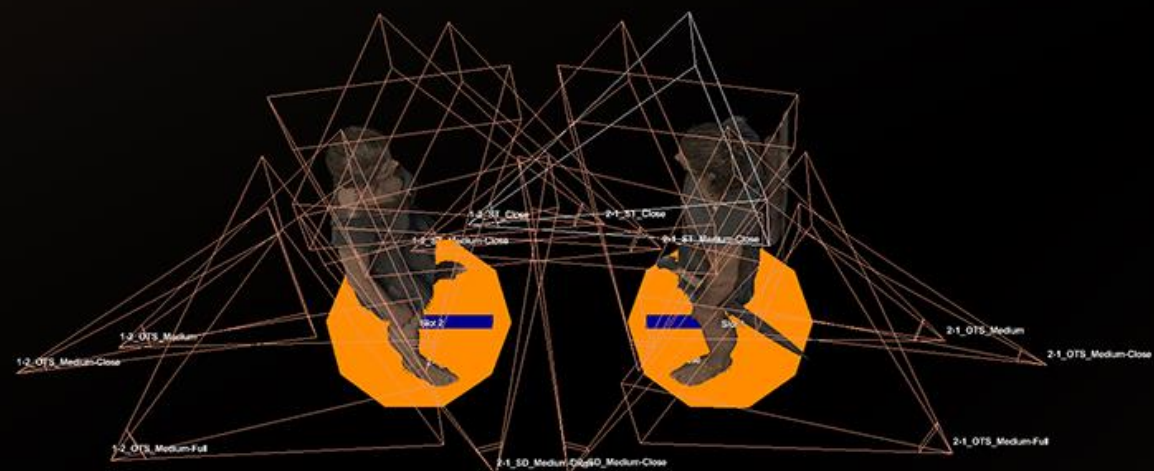
STAGING



STAGING



STAGING / CAMERA BANK



STAGING / CAMERA BANK



STANDARD



SIDE



OVER THE SHOULDER



CLOSE



MEDIUM-CLOSE



MEDIUM



MEDIUM-FULL



FULL



PROCEDURAL CINEMATIC CAMERA



PROCEDURAL CINEMATIC CAMERA



PROCEDURAL CINEMATIC CAMERA

TALL



HIGH



SHORT



LOW



PROCEDURAL CINEMATIC CAMERA



PROCEDURAL
CAMERA TYPES

Handheld



Steadicam



Fixed



EDITING



EDITING: CHOOSING THE SHOT

ALEXIOS
to
KASSANDRA

SILENCE

KASSANDRA
to
ALEXIOS

SILENCE

ALEXIOS
to
KASSANDRA



EDITING: CHOOSING THE SHOT

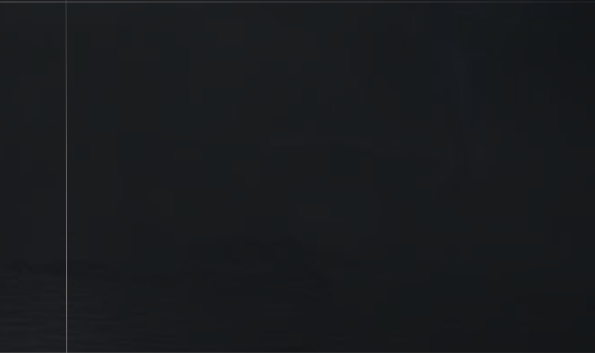
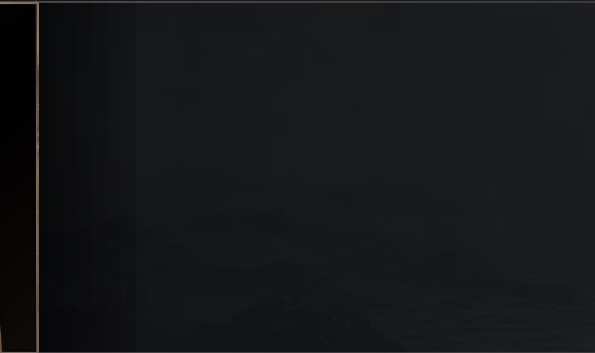
CLOSE

MEDIUM-CLOSE

MEDIUM

MEDIUM-FULL

STANDARD



SIDE



OVER THE
SHOULDER



EDITING: CHOOSING THE SHOT

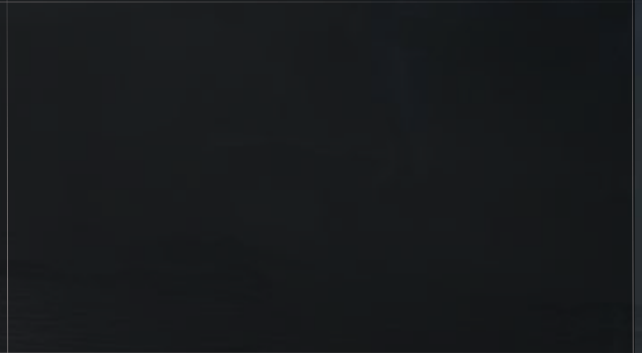
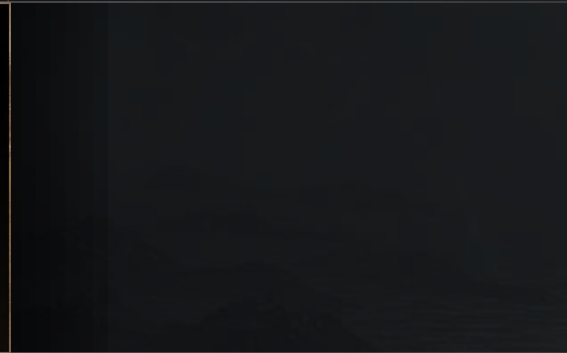
20%

30%

40%

10%

25%



10%



65%



EDITING: CHOOSING THE SHOT

BEGINNING



EDITING: CHOOSING THE SHOT



1

SMALL GESTURE

2

BIG GESTURE

EDITING: CHOOSING THE SHOT



EDITING: TIMING THE CUT



VO 1

VO 2

VO3

VO 4

VO 5



CAM 1

CAM 2

CAM 3

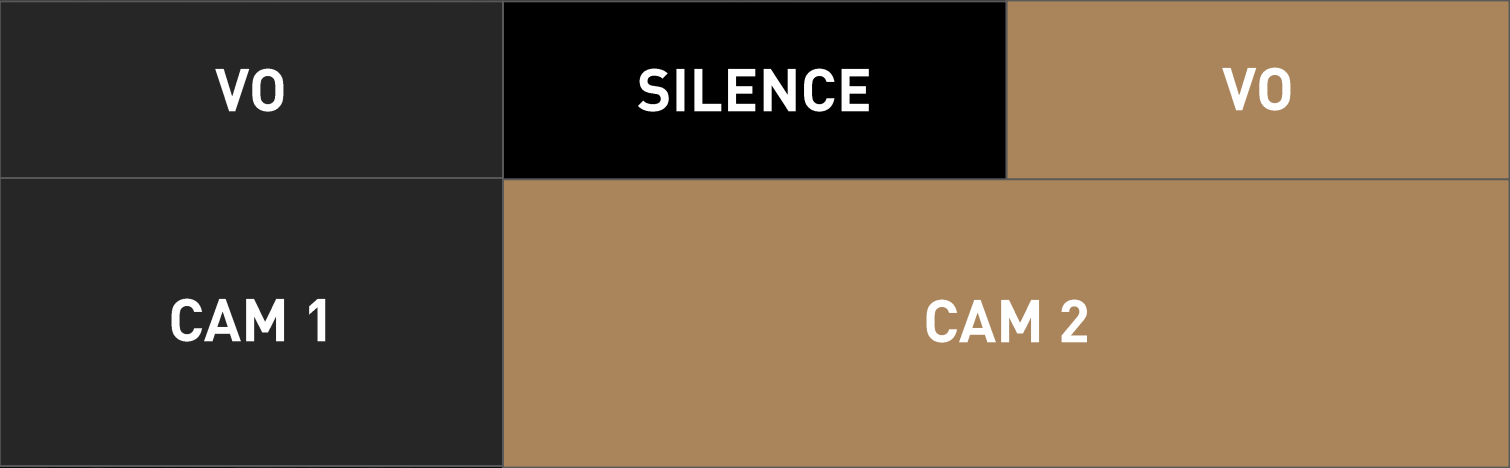
CAM 4

CAM 5

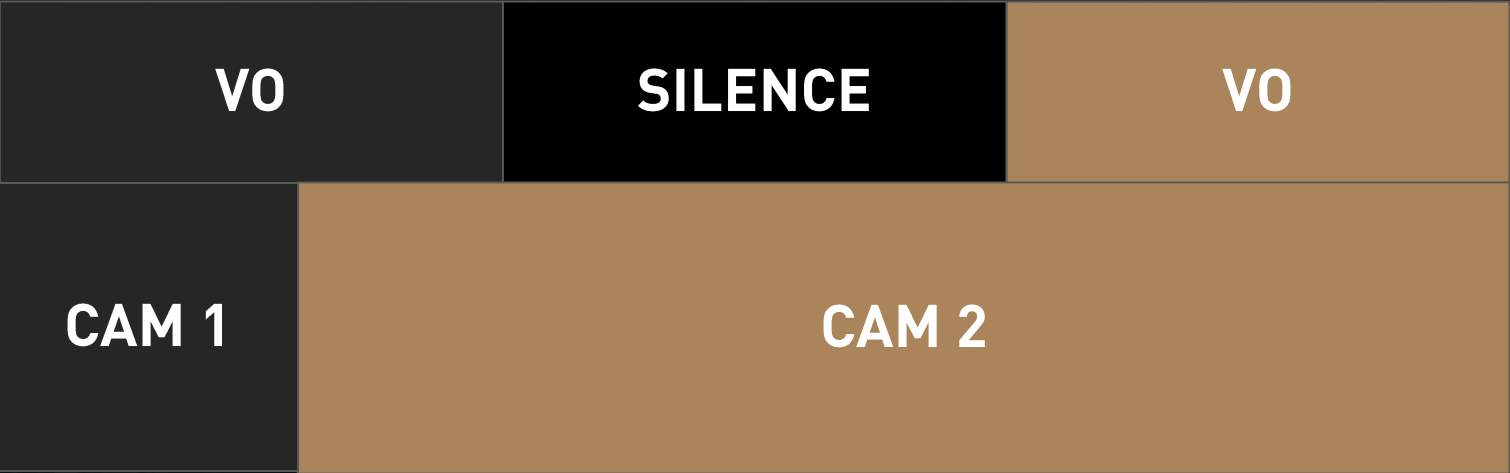


EDITING: TIMING THE CUT

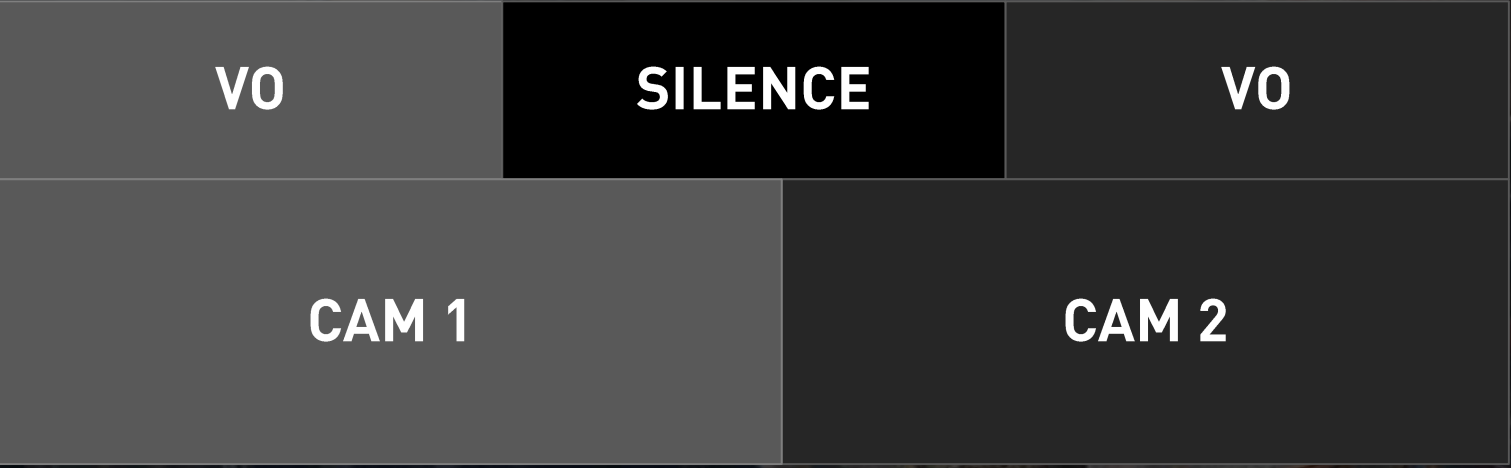
BEGINNING



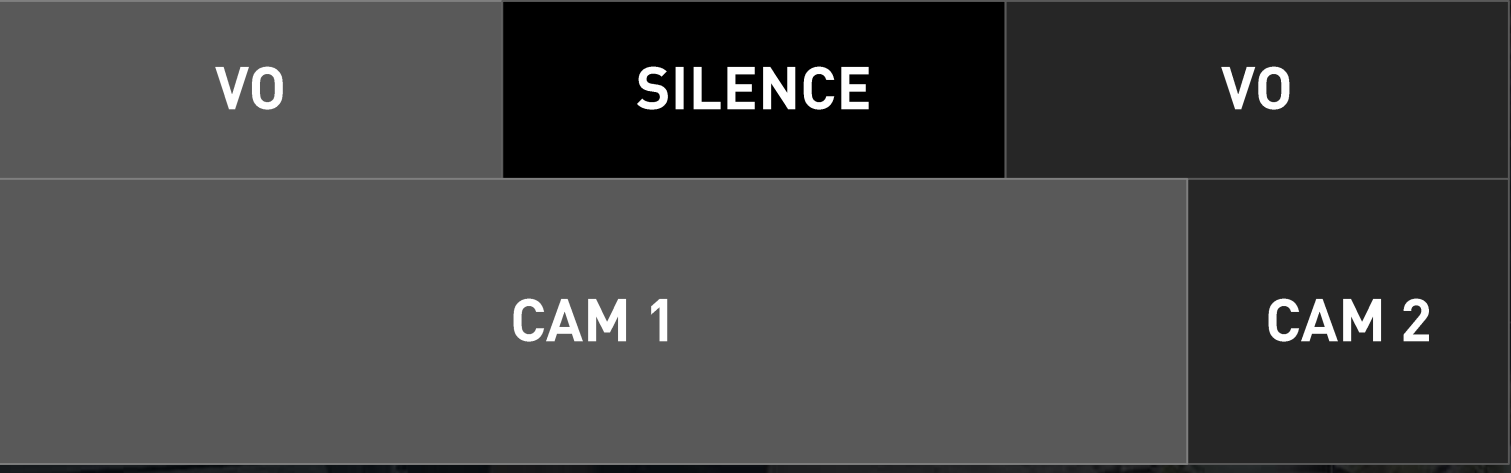
BEFORE



MIDDLE

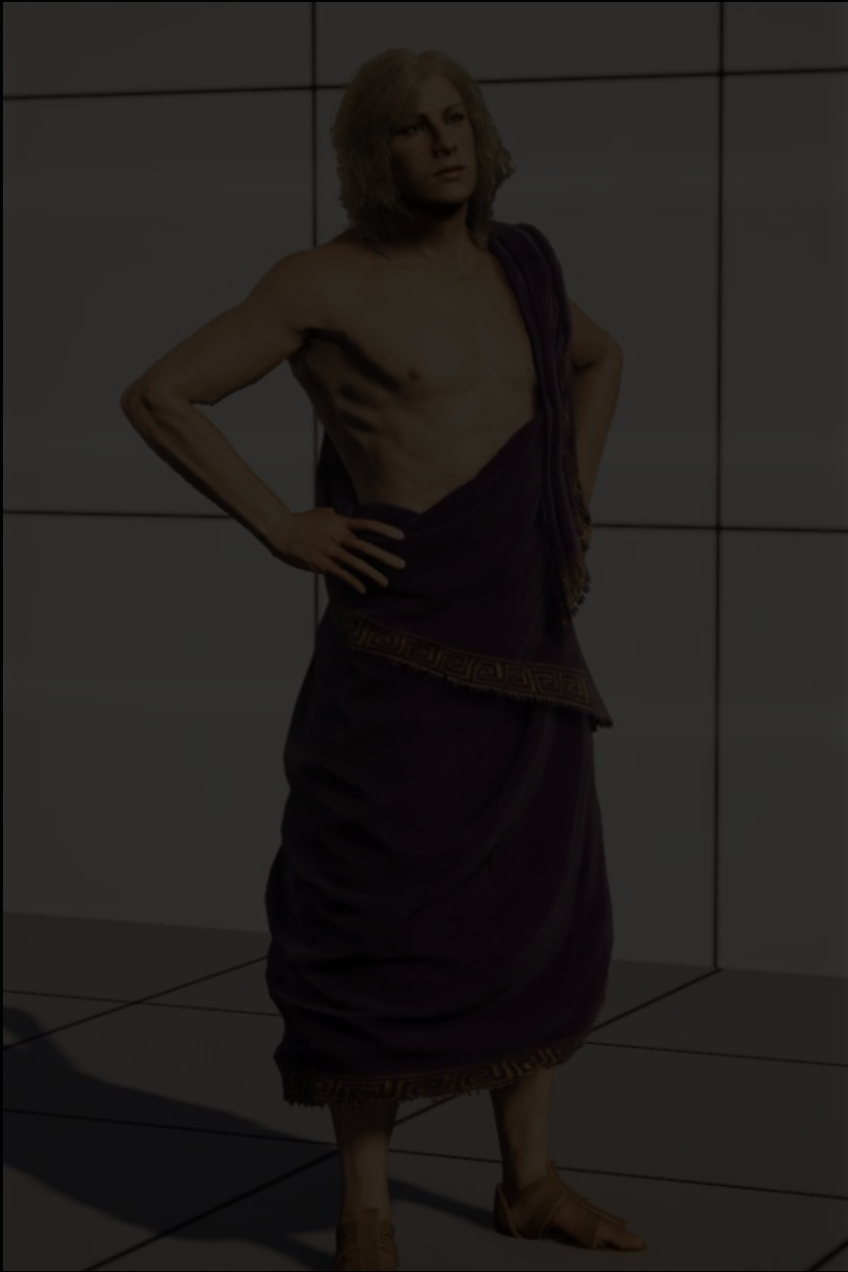


AFTER



BODY ANIMATION

IDLE



GESTURE



BODY ANIMATION (IDLE)

#PROUD

HOH_PROUD



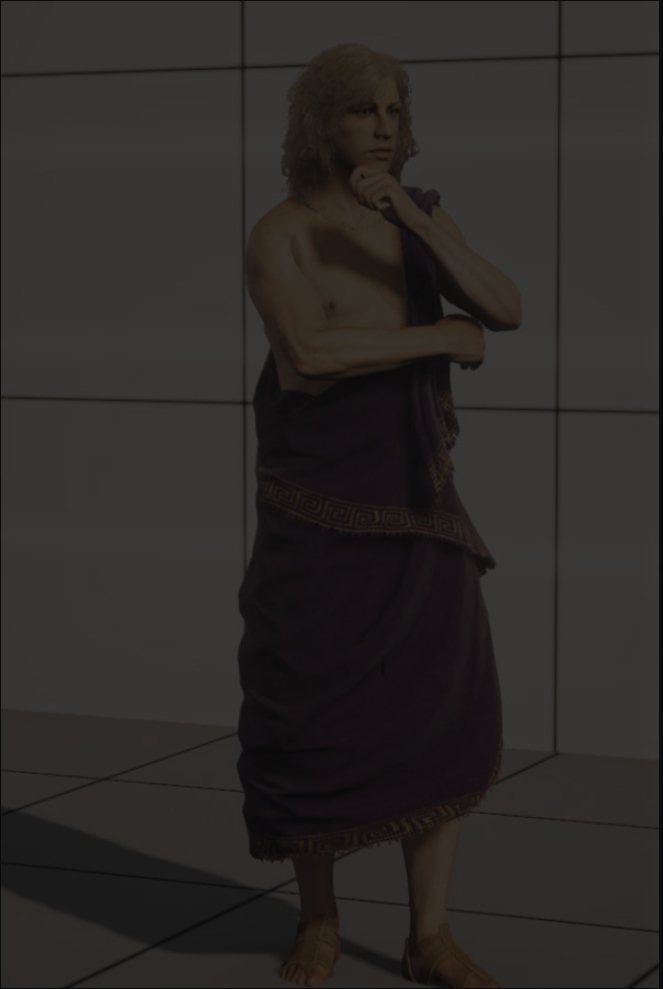
AD_CASUAL



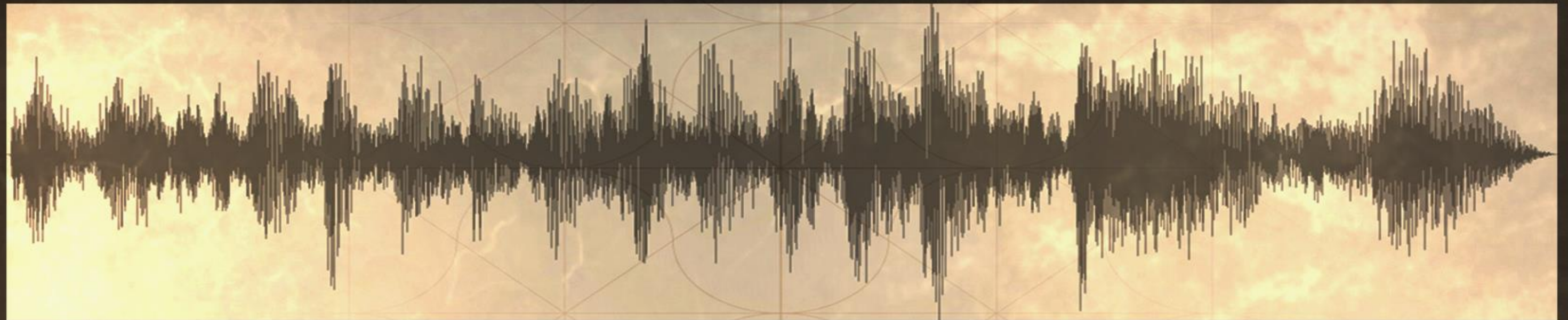
GRK_CURIOUS



THINK_INTERESTED



BODY ANIMATION (GESTURES)



FOLLOW

ME

THEN

QUICKLY

WE

MUST

BE

DISCREET



BODY ANIMATION (GESTURES)

Ab

I'm Me
Mine
Myself
Personally
I will
My have I am

ME

ME

Ab

fast
quickly soon
today directly briskly
in a hurry now
without delay
immediately
instantly promptly
fleety presto
shortly

QUICKLY

NOW



BODY ANIMATION (GESTURES)



ANIMATION A



ME



ANIMATION B



NOW



ANIMATION C



ME



ANIMATION D



ME



NOW



BODY ANIMATION (GESTURES)

WORD		ANIMATION	SCORE
ME		ANIMATION A	1
ME		ANIMATION C	5 
ME		ANIMATION D	3
QUICKLY		ANIMATION B	2
QUICKLY		ANIMATION D	4



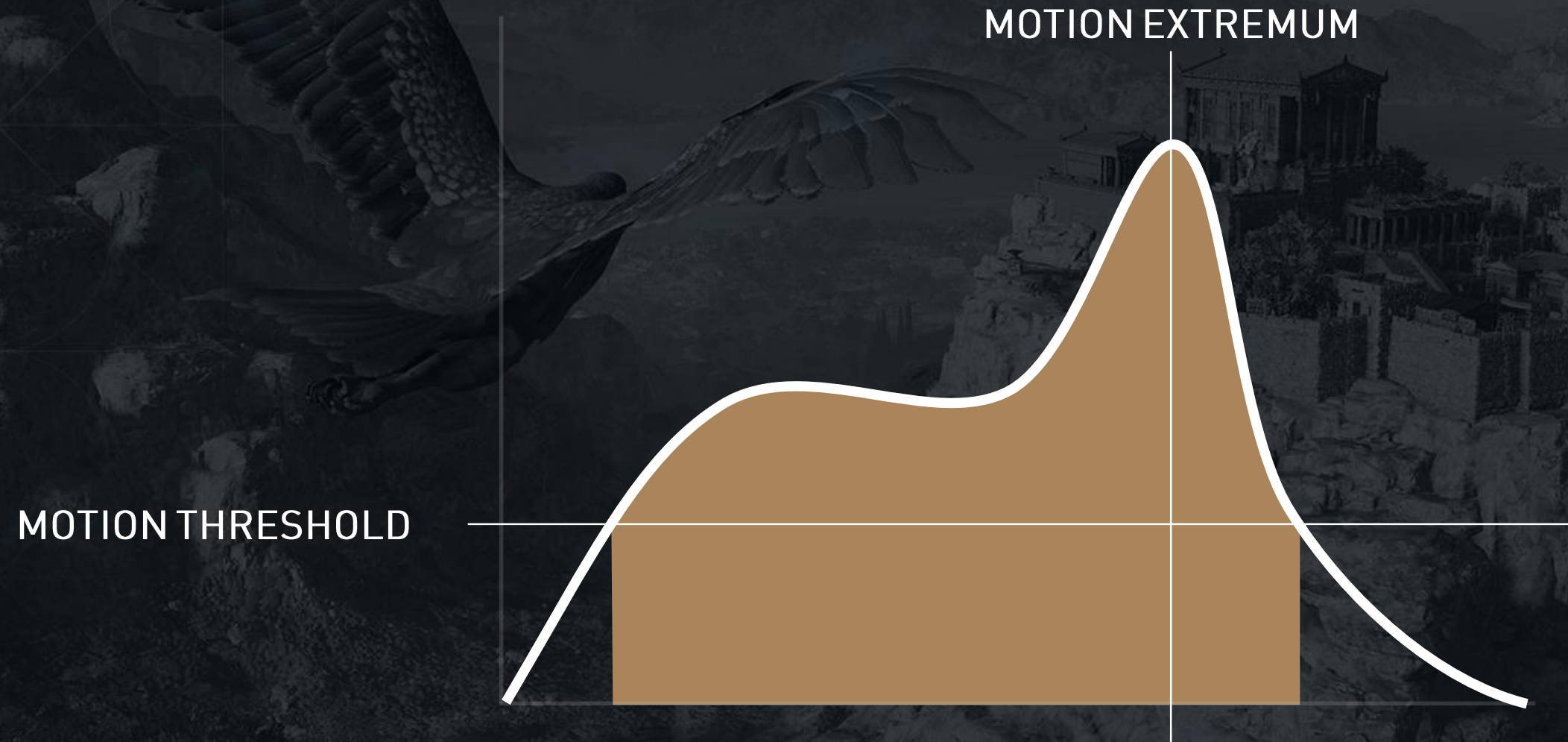
BODY ANIMATION (GESTURES)



BODY ANIMATION (GESTURES)



BODY ANIMATION (GESTURES)



BODY ANIMATION (GESTURES)



FACIAL ANIMATION



FACIAL ANIMATION





Thursday 11:30am, room 2006

A New Era of Performance Capture with Machine Learning

Daniel Holden
Machine Learning Researcher, Ubisoft La Forge

GAME DEVELOPERS CONFERENCE
MARCH 18–22, 2019 | #GDC19

Credits: La Forge / Yannick Marion



LOOK-AT

**WHEN NOT SPEAKING, LOOK AT THE SPEAKER.
WHEN SPEAKING, LOOK AT THE LAST PERSON WHO SPOKE.**





LOOK-AT (GLANCES)



PHOTOGRAPHY: LIGHTING AND DOF



LIGHTING





INTRODUCTION



WORKFLOWS



GENERATING SCENES



CHALLENGES AND OPPORTUNITIES



CONCLUSION



LIGHTING





CHALLENGES & OPPORTUNITIES



DELO_Q700_G010_S010_DIA_Socrates(0x17D51D817AD)
Origin: Pushed by Talk to Socrates(0x17D51D822F5) - OasisResourceDialogueInstance
Intro 1st(0x17D51D859EF) [2295316] [00:00:05.070]
DialogueStage_1v1_#Default(Cam007)
Last modified: Thu Jun 21 17:36:16 2018 (224 days ago)
Last oasis import: Thu May 31 16:39:10 2018 (245 days ago)
Last generation (current block): Thu May 31 16:39:10 2018 (245 days ago)
Location: EXTERIOR

00:00:05.070

MANUAL FOCUS
Nav Mesh Type [Shift-.] : Human
Display MetaLinks [Shift-L] : Off

Active padIndex: 1





LOCALIZATION



0.0



MANAGING SCALE

1
GENERATE EARLY

2
GENERATE OFTEN

3
ALWAYS GENERATE



MIXING HANDCRAFTED AND PROCEDURAL



ARTISTIC DIRECTION



05

CONCLUSION

BE AN
ADVOCATE
FOR
USERS



FIND WAYS TO USE
**PROCEDURAL
SYSTEMS**



GENERATION



ITERATION



A cinematic screenshot from the game Assassin's Creed Odyssey. In the foreground, a character in ancient Greek attire stands on a rocky ledge next to a brown horse, looking out over a vast landscape. The landscape features rolling hills, a river, and a large, ancient stone statue of a winged figure. The sky is filled with dramatic, golden-hour clouds. The text 'Q AND A' is centered in the middle of the image.

Q AND A

