



Overwatch:

The Elusive Goal; Play by Sound

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BLIZZARD ENTERTAINMENT



BLIZZARD ENTERTAINMENT

GAMEPLAY
FIRST



OVERWATCH

PLAY BY SOUND





THE WORLD OF OVERWATCH



WHAT IS OVERWATCH?

- COMPETITIVE TEAM-BASED FPS
- UNIQUE HEROES AND ABILITIES
- 6V6 OBJECTIVE BASED GAMEPLAY
- CURRENTLY IN BETA
- LAUNCHING ON MAY 24TH OF 2016!



OVERWATCH™

PLAY BY SOUND IN OVERWATCH!



PILLARS

A CLEAR MIX

PINPOINT ACCURACY

GAMEPLAY INFORMATION

INFORMATIVE HERO VO

PAVLOVIAN RESPONSE



PILLARS

A CLEAR MIX

PINPOINT ACCURACY

GAMEPLAY INFORMATION

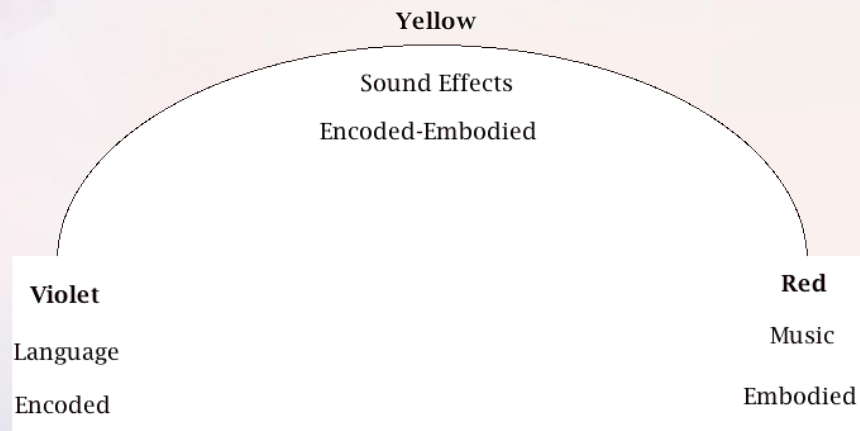
INFORMATIVE HERO VO

PAVLOVIAN RESPONSE



A CLEAR MIX ALWAYS HEAR WHAT IS IMPORTANT

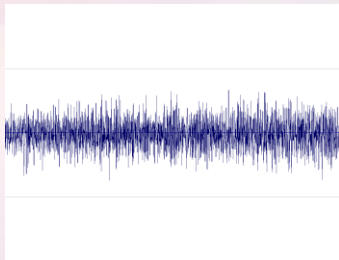
WALTER MURCH – “DENSE CLARITY, CLEAR DENSITY”



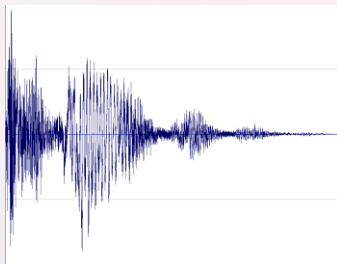
A CLEAR MIX ALWAYS HEAR WHAT IS IMPORTANT

WE TRIED HDR...

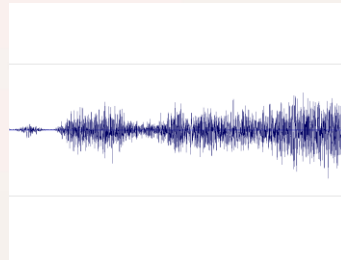
Background Ambience



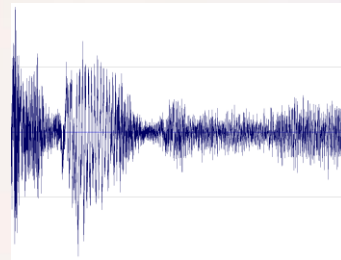
Loud Sound



Background Alone



Mixed



A CLEAR MIX ALWAYS HEAR WHAT IS IMPORTANT

Who is your greatest threat?

Who am I looking at?

Who is looking at me?

Who is close by?

Who is shooting their weapon nearby?

Who is using a dangerous ability?

Who is damaging me?



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A CLEAR MIX ALWAYS HEAR WHAT IS IMPORTANT

THE IMPORTANCE SYSTEM

Sound Importance Factors	
▲ Damaged	Sound Importance Factor
Weight	0.5
MemoryTime	2
▲ Distance	Sound Importance Factor
Weight	0.3
MemoryTime	1
▲ Enemy Size on My Screen	Sound Importance Factor
Weight	0.1
MemoryTime	0.2
▲ My Size on Enemy Screen	Sound Importance Factor
Weight	0.3
MemoryTime	3
▲ Scripted	Sound Importance Factor
Weight	0.4
MemoryTime	1
▲ Seen By	Sound Importance Factor
Weight	0.3
MemoryTime	2
▲ Shot At	Sound Importance Factor
Weight	0.6
MemoryTime	2

A CLEAR MIX ALWAYS HEAR WHAT IS IMPORTANT



Threat Level - 40



OVERWATCH™

A CLEAR MIX ALWAYS HEAR WHAT IS IMPORTANT



Threat Level - 20



Threat Level - 40

A CLEAR MIX ALWAYS HEAR WHAT IS IMPORTANT



A CLEAR MIX ALWAYS HEAR WHAT IS IMPORTANT



A CLEAR MIX ALWAYS HEAR WHAT IS IMPORTANT

Pharah	120
Reinhardt	98
Torbjorn	87
Pharah	45
Tracer	43
Symmetra	38
Symmetra Turret	36
Torbjorn Turret	35
Hanzo	20
Widowmaker	18
Reinhardt	16
SeventySix	15
Mercy	8
Tracer	2



A CLEAR MIX ALWAYS HEAR WHAT IS IMPORTANT

High	Pharah	120
Medium	Reinhardt	98
	Torbjorn	87
Low	Pharah	45
	Tracer	43
	Symmetra	38
	Symmetra Turret	36
	Torbjorn Turret	35
	Hanzo	20
Cull	Widowmaker	18
	Reinhardt	16
	SeventySix	15
	Mercy	8
	Tracer	2

Importance Value to
sort into buckets

Bucket index for Wwise



A CLEAR MIX ALWAYS HEAR WHAT IS IMPORTANT

Buckets

1

HIGH

2

NORMAL

4-10

LOW
(and friendlies)

REST

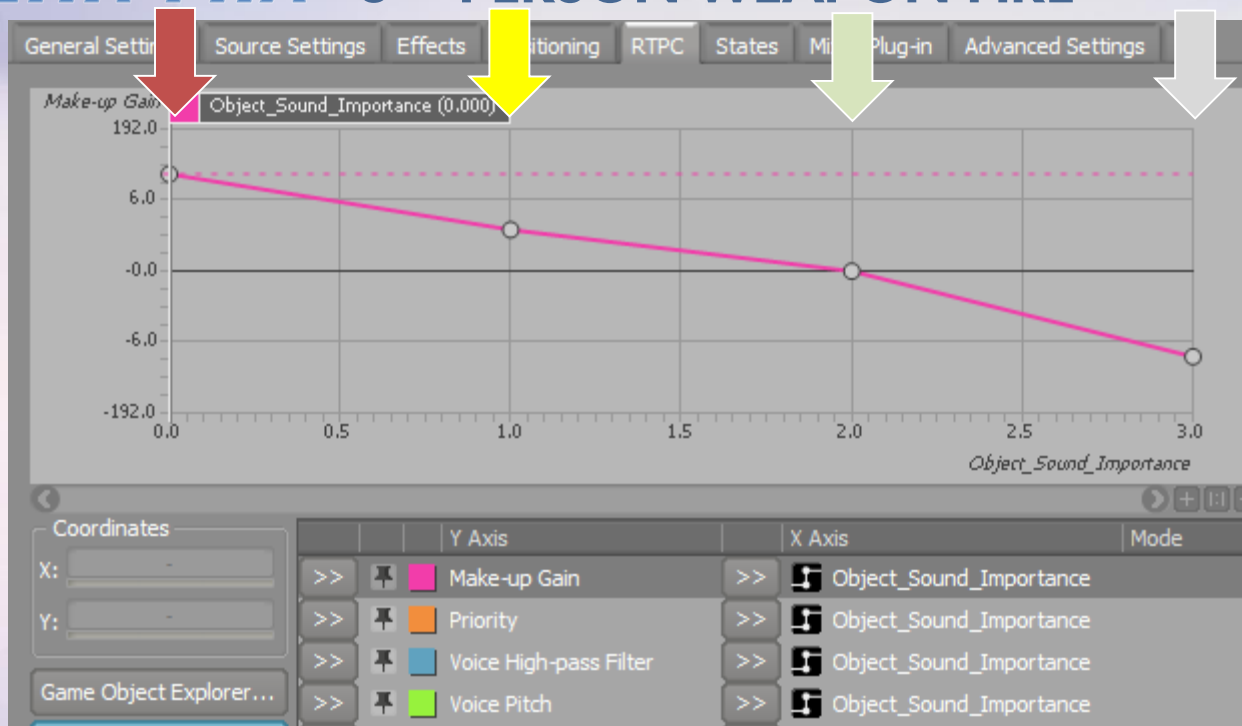
CULL



OVERWATCH™

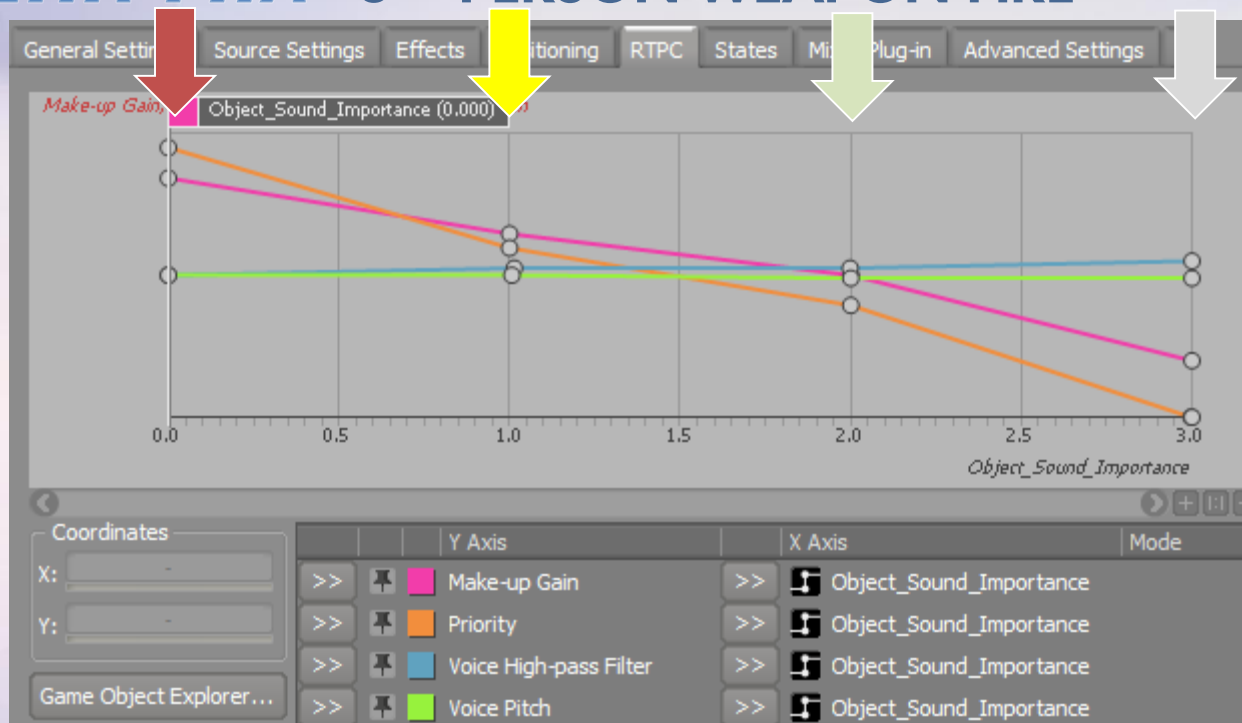
A CLEAR MIX

3RD PERSON WEAPON FIRE



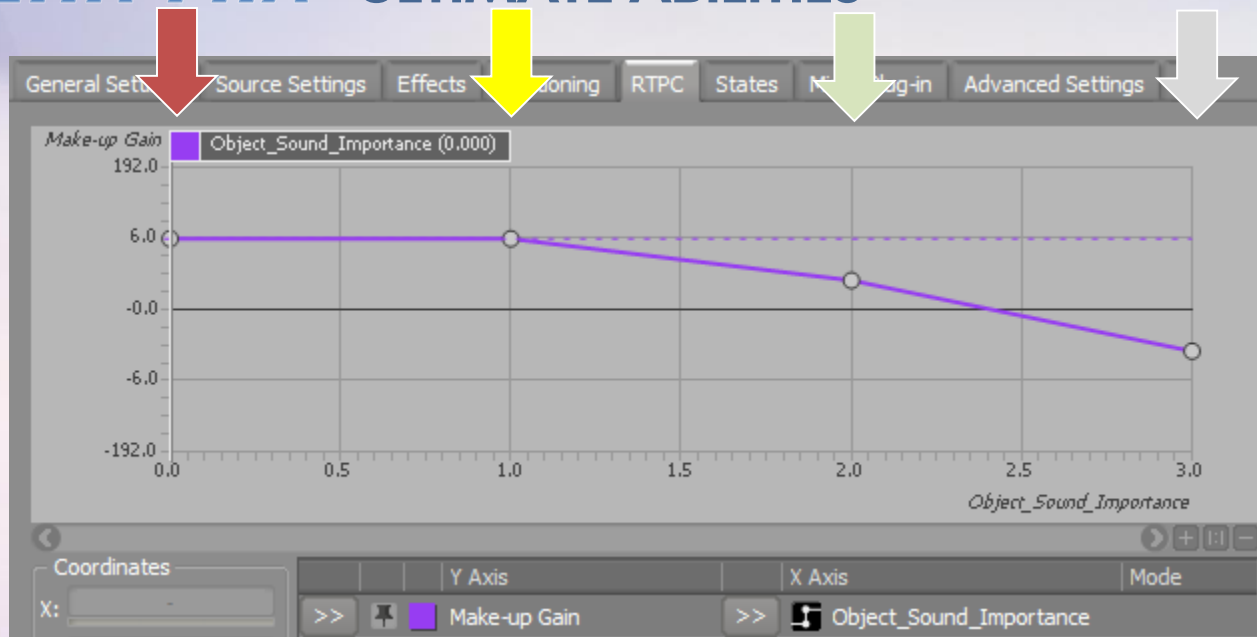
A CLEAR MIX

3RD PERSON WEAPON FIRE



A CLEAR MIX

ULTIMATE ABILITIES



Sound Importance

Sound Importance
Friendly/Enemy

PILLARS

A CLEAR MIX

PINPOINT ACCURACY

GAMEPLAY INFORMATION

INFORMATIVE HERO VO

PAVLOVIAN RESPONSE



PILLARS

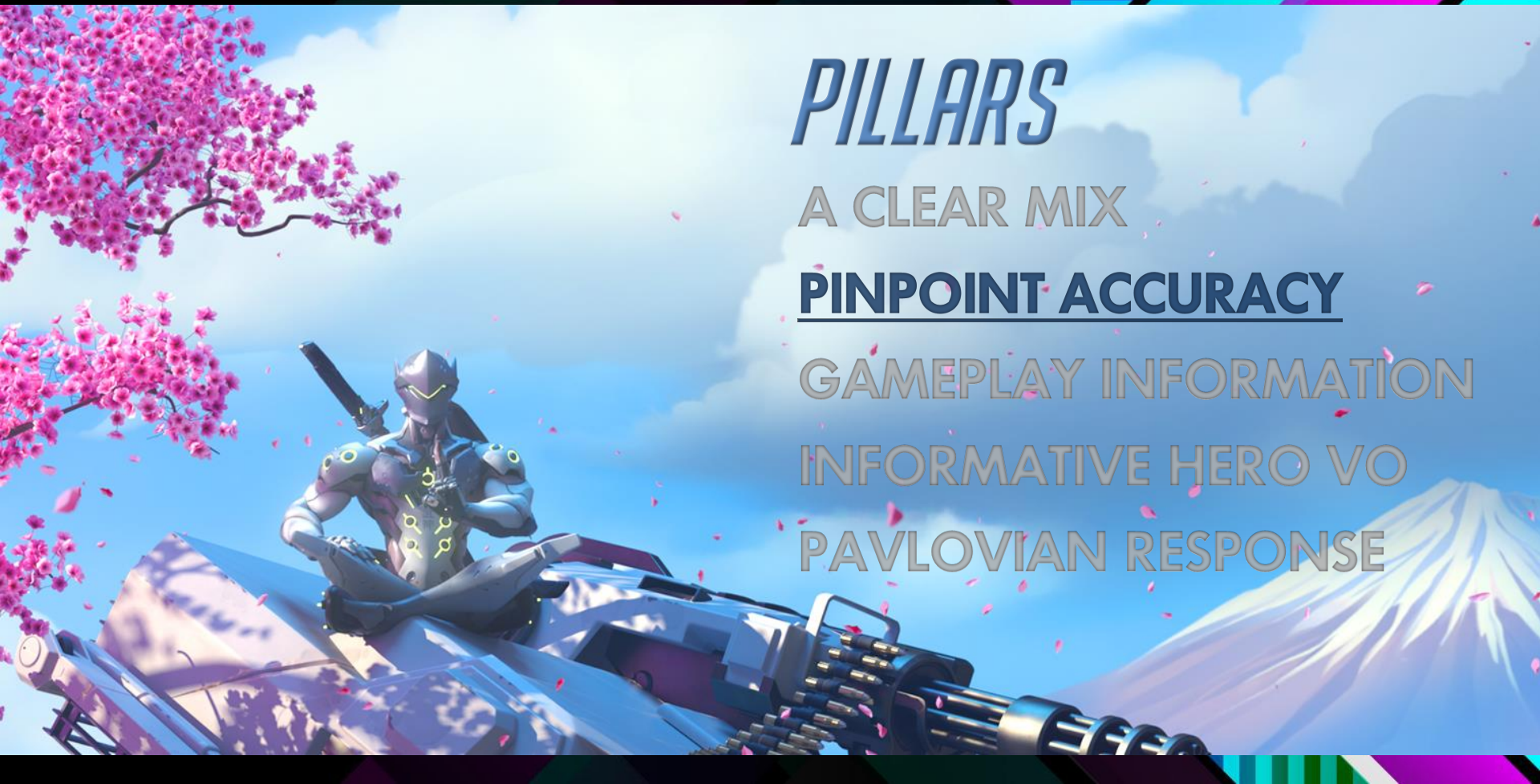
A CLEAR MIX

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PINPOINT ACCURACY TO LOCATE YOUR THREATS



**Now we know what your threat is.
How easily can you locate it?**

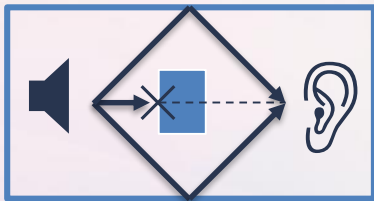
- OBSTRUCTION AND OCCLUSION
- DISTANCE AND SPACE
- 3D AUDIO

PINPOINT ACCURACY

TO LOCATE YOUR THREATS

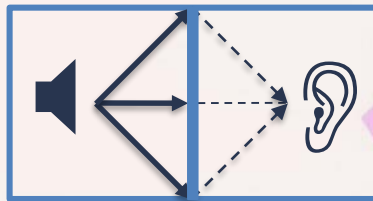
OBSTRUCTION

- Usually line of sight ray cast
- Possible angle, object size



OCCLUSION

- Usually on/off
- Not a lot of possibilities for range



PINPOINT ACCURACY TO LOCATE YOUR THREATS

OUR PROBLEMS

Very black or white

Hard time telling when you are in danger

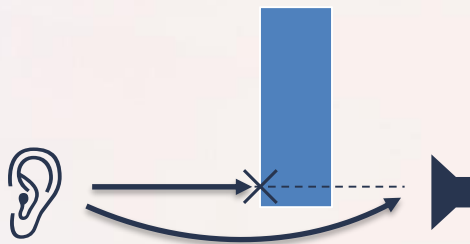
Hard time telling when enemies are upstairs or downstairs

...If only we knew how far of a path they had to you!

PINPOINT ACCURACY TO LOCATE YOUR THREATS

RAYCAST AND PATH DIVERSION

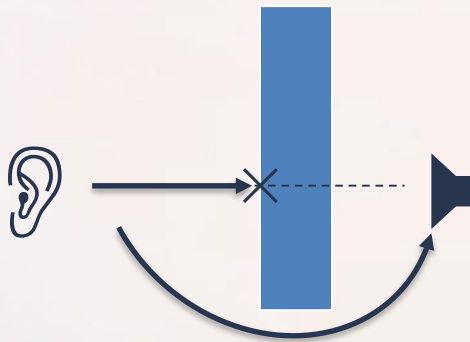
Raycast blocked
Path Diversion 5%



PINPOINT ACCURACY TO LOCATE YOUR THREATS

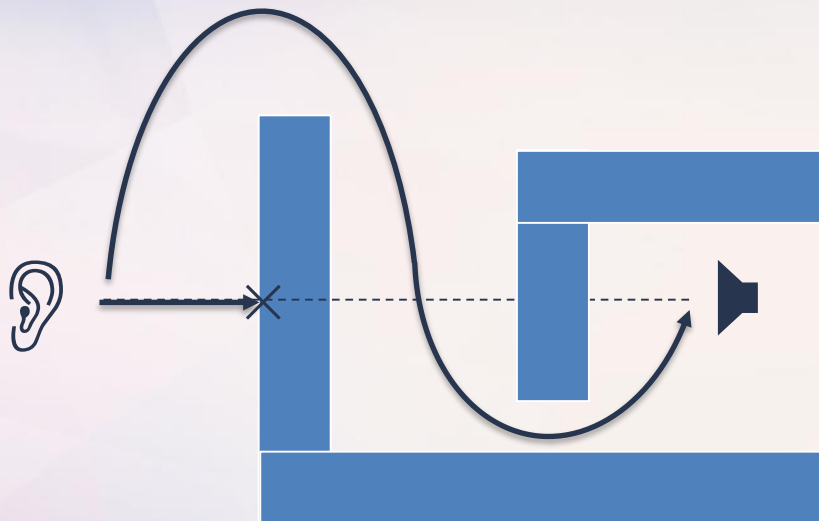
RAYCAST AND PATH DIVERSION

Raycast blocked
Path Diversion 30%



PINPOINT ACCURACY TO LOCATE YOUR THREATS

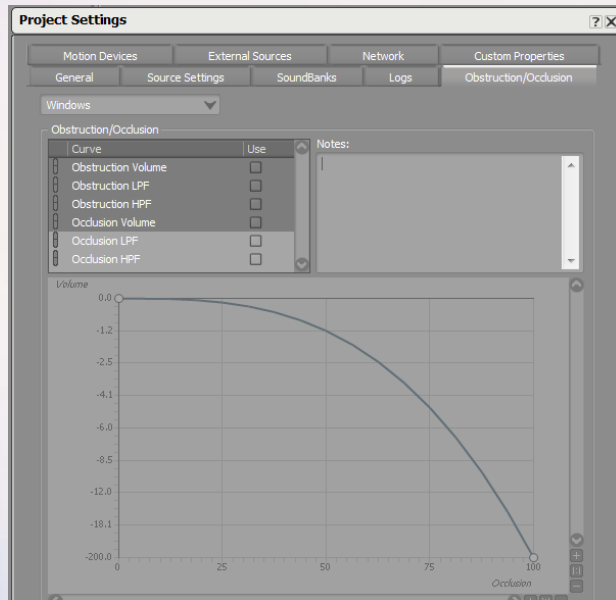
RAYCAST AND PATH DIVERSION



Raycast blocked
Path Diversion 100%

PINPOINT ACCURACY TO LOCATE YOUR THREATS

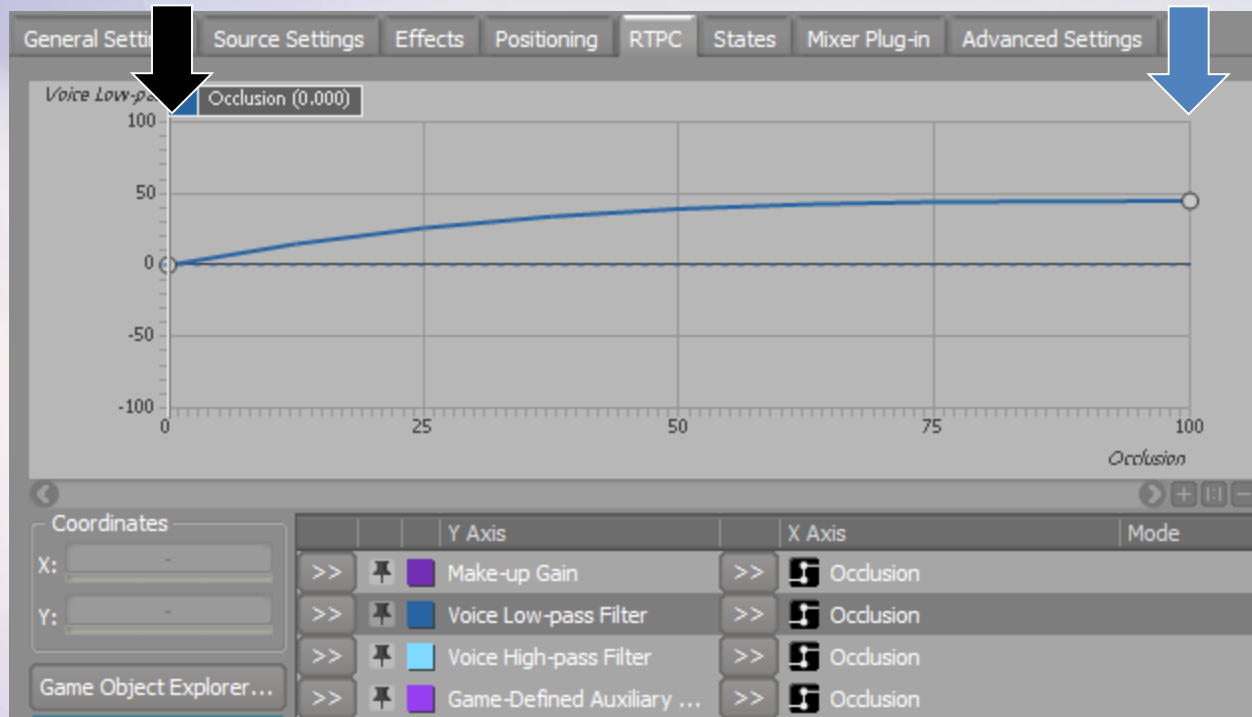
WWISE INTERNAL: OBSTRUCTION AND OCCLUSION



PINPOINT ACCURACY

3RD PERSON FOOTSTEPS

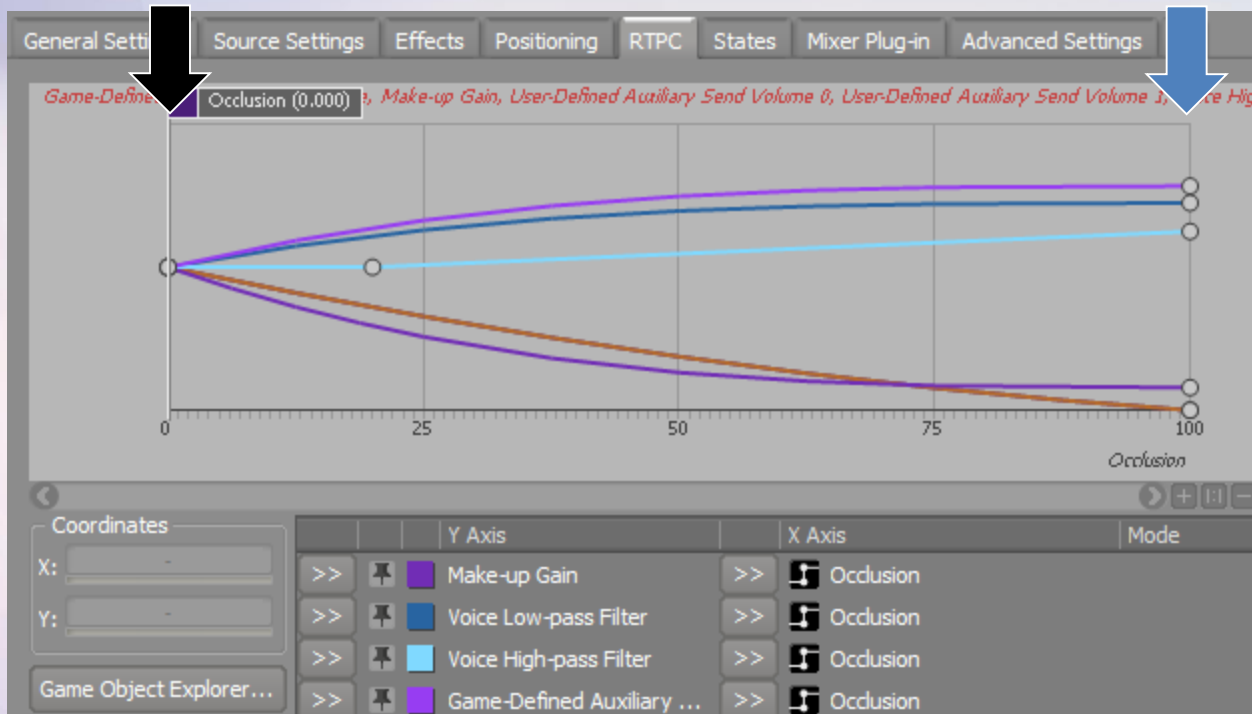
0%



100%

3RD PERSON FOOTSTEPS

0%



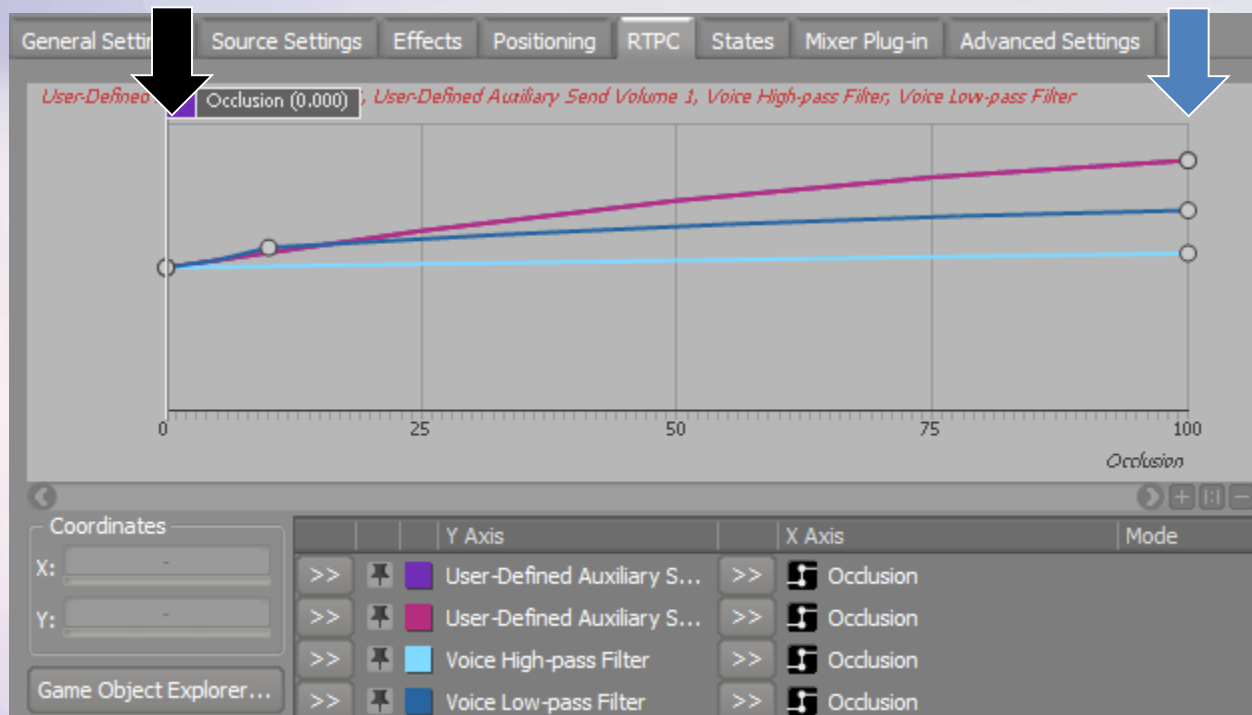
100%



PINPOINT ACCURACY

3RD PERSON WEAPON FIRE

0%



100%



PINPOINT ACCURACY TO LOCATE YOUR THREATS

OBSTRUCTION AND OCCLUSION

Feeling of safety from hiding
Play by listening to the walls
Ignore enemies who can't hurt you

Obstruction/Occlusion Footsteps and Weapons

PINPOINT ACCURACY TO LOCATE YOUR THREATS

OBSTRUCTION AND OCCLUSION

Feeling of safety from hiding
Play by listening to the walls
Ignore enemies who can't hurt you

Obstruction/Occlusion

Full Battle

PINPOINT ACCURACY TO LOCATE YOUR THREATS

DISTANCE AND SPACE

Layered Sounds
Indoor vs Outdoor
Distance filtering
Focus and Spread
Reverb and Quad Delay



PINPOINT ACCURACY

TO LOCATE YOUR THREATS

DISTANCE AND
SPACE

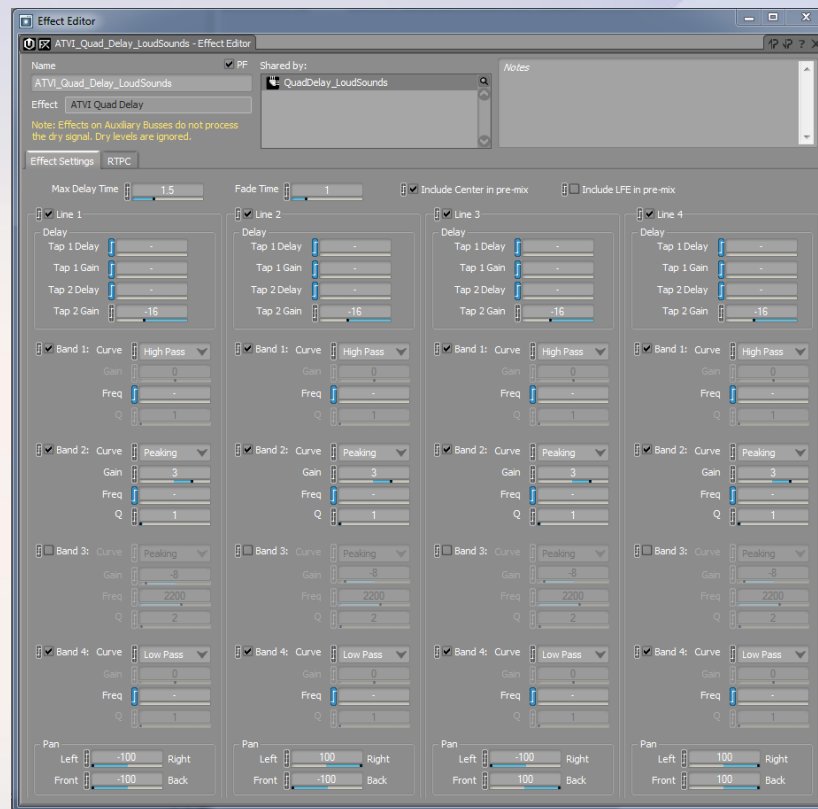
Quad Delay



PINPOINT ACCURACY

Distance and Space Quad Delay

4 multi-tap delays
4 parametric EQs
4 panners



Quad Delay

PILLARS

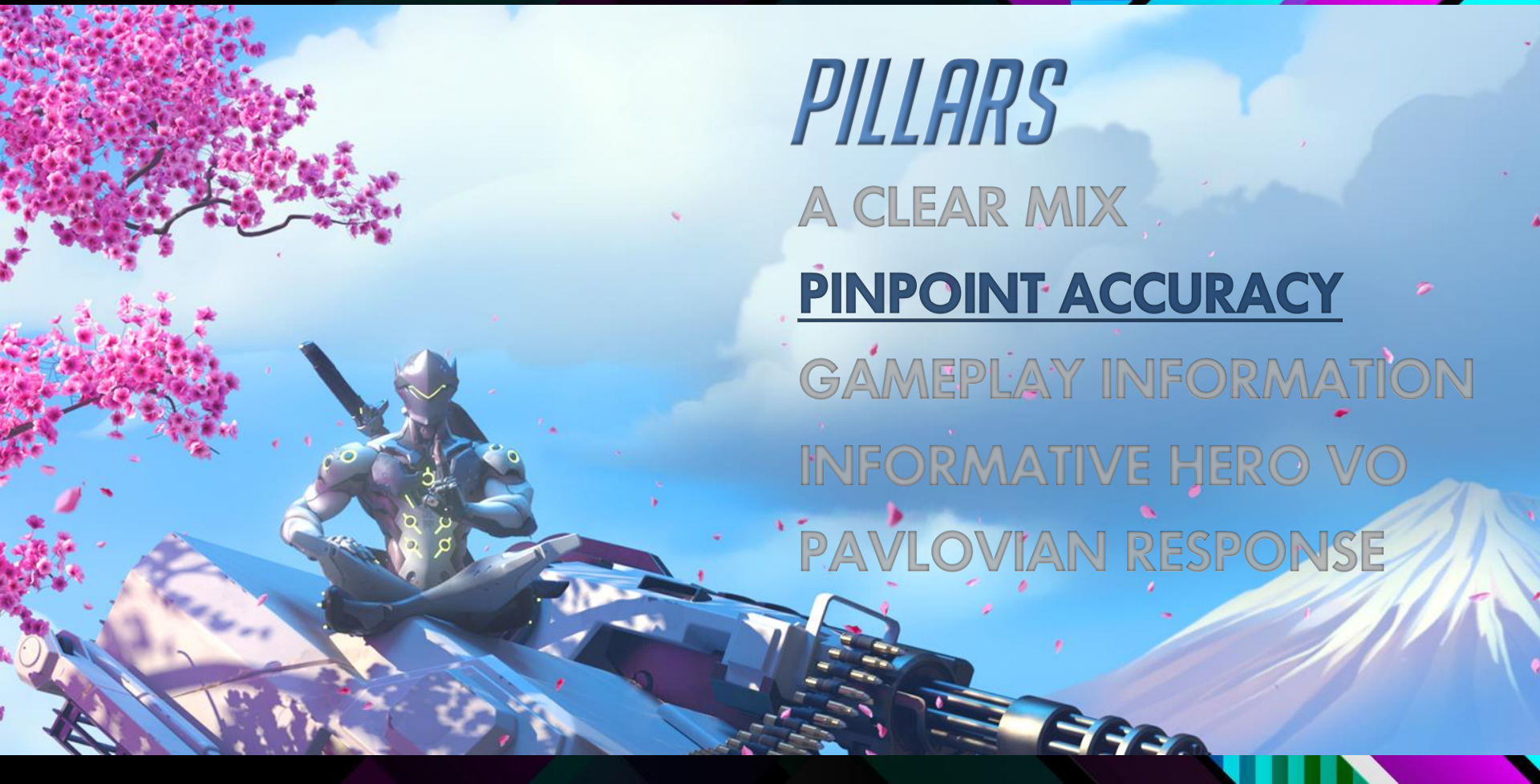
A CLEAR MIX

PINPOINT ACCURACY

GAMEPLAY INFORMATION

INFORMATIVE HERO VO

PAVLOVIAN RESPONSE



PILLARS

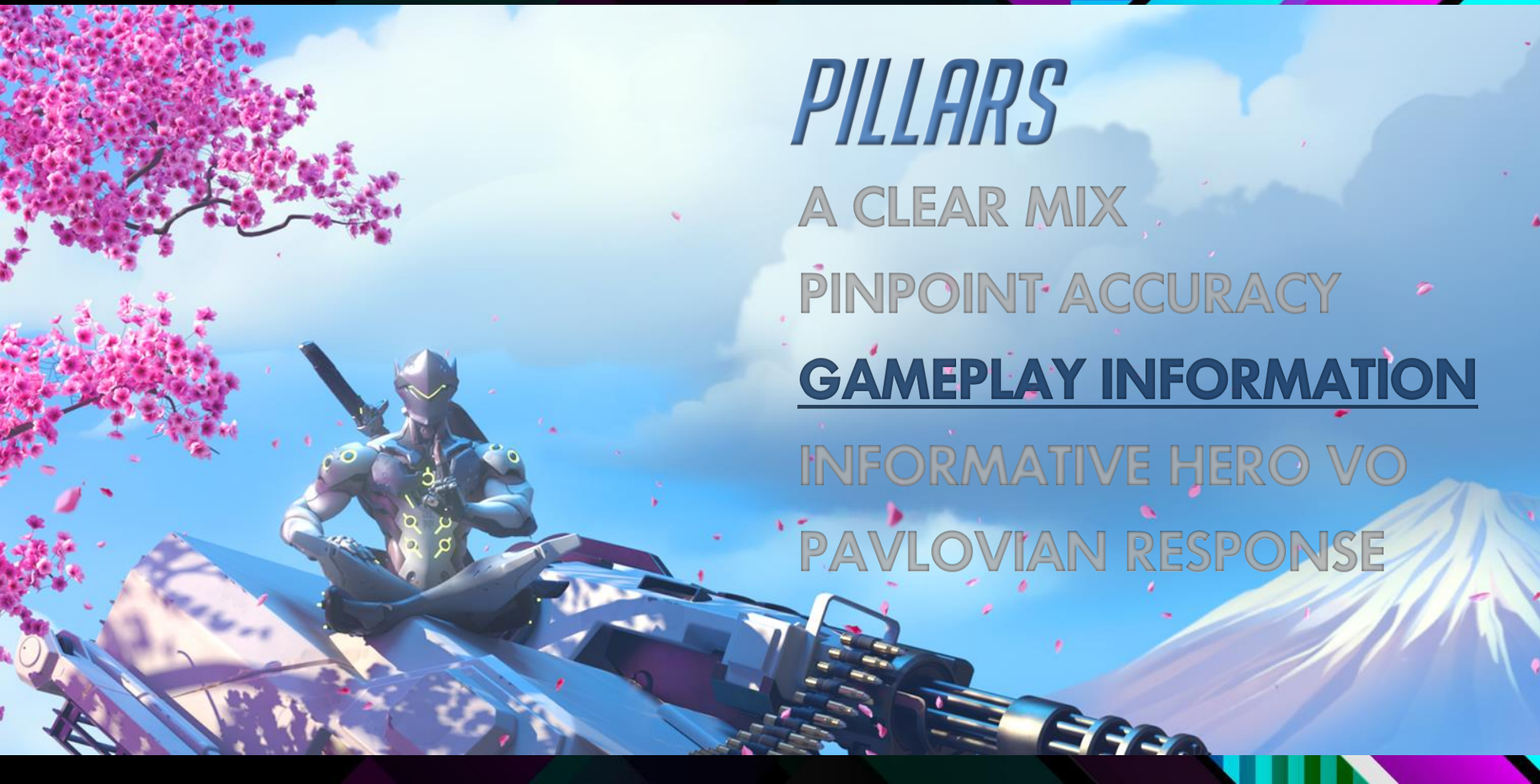
A CLEAR MIX

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PAVLOVIAN RESPONSE



GAMEPLAY INFORMATION THROUGH SOUND

**Now we know what your threat is.
Now we know where it is coming from
Can you tell who it is?**

**Unique Soundscape per Character
Clear Gameplay Cues
Changing the Sound for the Context
Dynamic Sounds with DataFlow
Music communicates Game State**





Footsteps



Soldier: 76
Tactical Visor



Lucio

Enemy vs Friendly



Mercy
Heal Beam

PILLARS

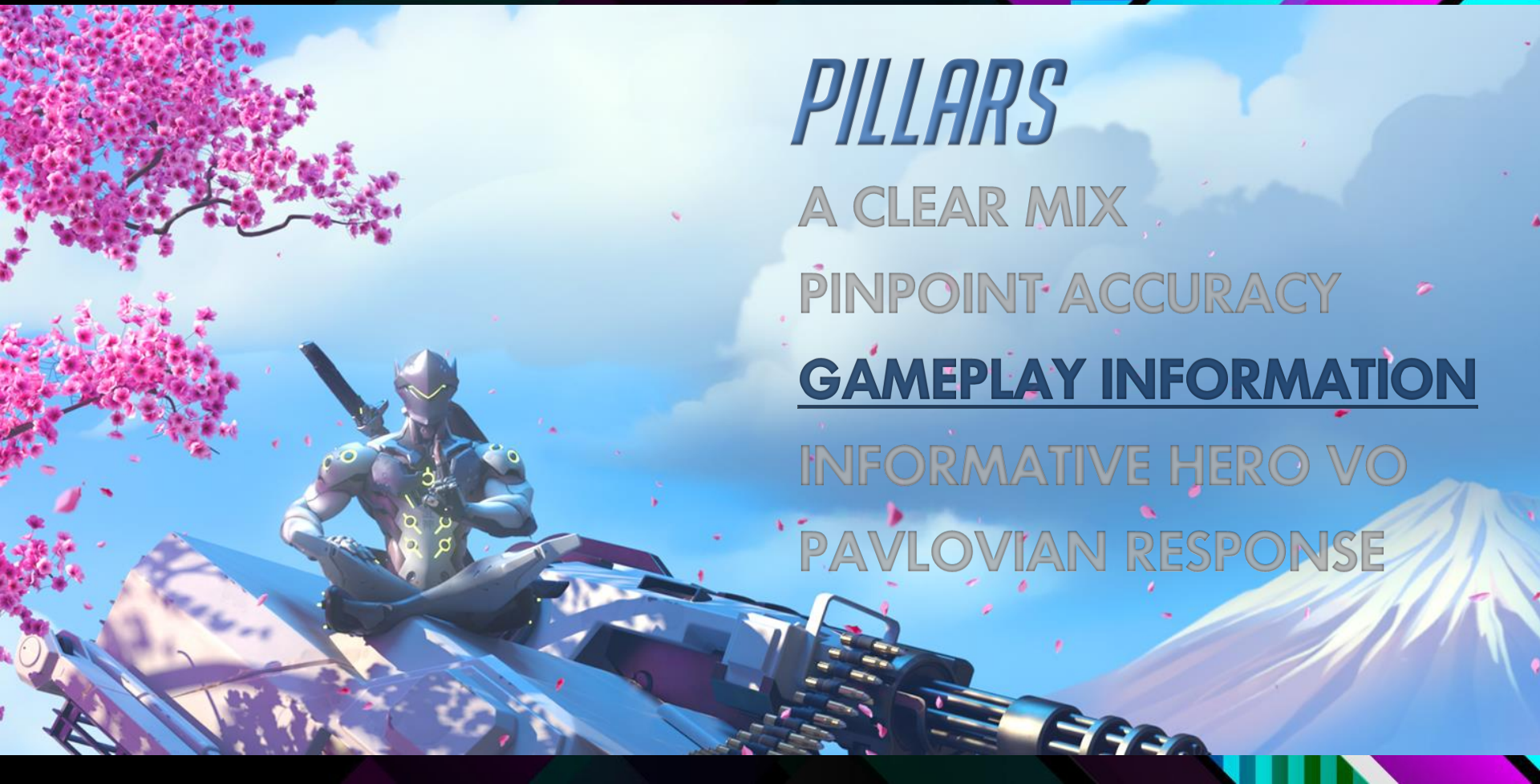
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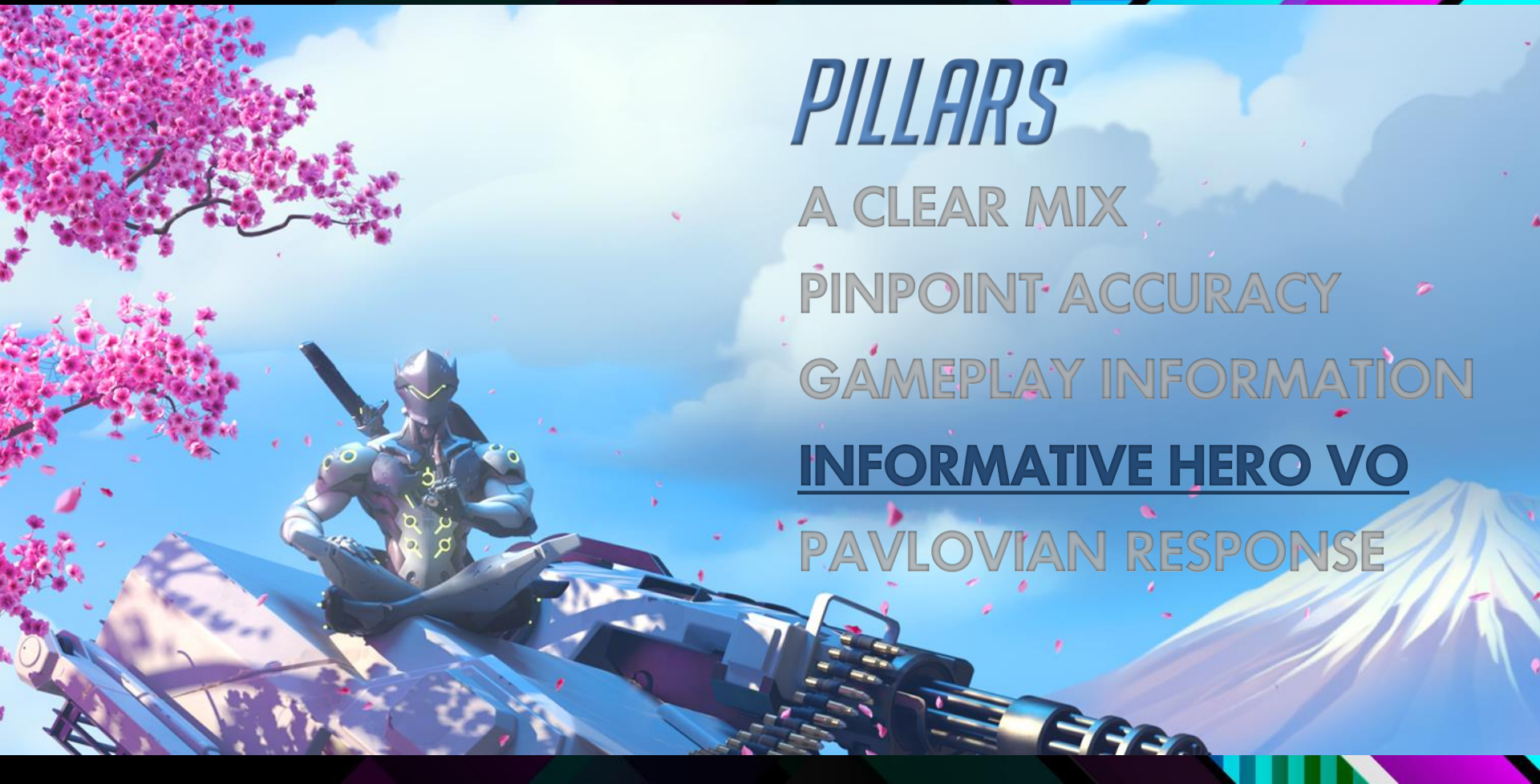
A CLEAR MIX

PINPOINT ACCURACY

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PAVLOVIAN RESPONSE



INFORMATIVE HERO VO THAT IS FULL OF CHARACTER

TEAM COMMUNICATION IS KEY!

Voice over IP is very important

Being able to communicate without Voice Chat

Heroes that speak about the objectives and situations

Hear what is right for your gameplay situation



OVERWATCH™

OVERWATCH VOICESYSTEM

**STIMULUS DRIVEN
CRITERIA SELECTION
SERVER AUTHENTICATED
POWERFUL POST PROCESSING**

Inspired by other great games!





Gameplay Scenario (Pharah)

VOICE EXAMPLE PHARAH'S VIEW

Hero	Stimulus	Broadcast	Category	Heard?
Reinhardt	Shield activate	Friendly + Player	Chatter	×
Pharah	Jump	Player	Exerts	✓
Pharah	Rocket barrage	Enemy + Player	Critical	✓
Pharah	Damage taken	Involved Heroes	Pain	×
Pharah	Death	All	Death	✓
Widowmaker	Enemy killed - Crit	Player	Chatter	×
Reinhardt	Shield low health	Player	Chatter	×
Reinhardt	Charge activate	All	Critical	✓
Reinhardt	Charge unsuccessful	Player	Chatter	×



Gameplay Scenario (Widowmaker)

VOICE EXAMPLE WIDOWMAKER'S VIEW

Hero	Stimulus	Broadcast	Category	Heard?
Reinhardt	Shield activate	Friendly + Player	Chatter	✓
Pharah	Jump	Player	Exerts	×
Pharah	Rocket barrage	Enemy + Player	Critical	✓
Pharah	Damage taken	Involved Heroes	Pain	×
Pharah	Death	All	Death	✓
Widowmaker	Enemy killed - Crit	Player	Chatter	✓
Reinhardt	Shield low health	Player	Chatter	×
Reinhardt	Charge activate	All	Critical	✓
Reinhardt	Charge unsuccessful	Player	Chatter	×



Gameplay Scenario (Reinhardt)

VOICE EXAMPLE REINHARDT'S VIEW

Hero	Stimulus	Broadcast	Category	Heard?
Reinhardt	Shield activate	Friendly + Player	Chatter	✓
Pharah	Jump	Player	Exerts	×
Pharah	Rocket barrage	Enemy + Player	Critical	✓
Pharah	Damage taken	Involved Heroes	Pain	×
Pharah	Death	All	Death	✓
Widowmaker	Enemy killed - Crit	Player	Chatter	×
Reinhardt	Shield low health	Player	Chatter	✓
Reinhardt	Charge activate	All	Critical	✓
Reinhardt	Charge unsuccessful	Player	Chatter	✓



PILLARS

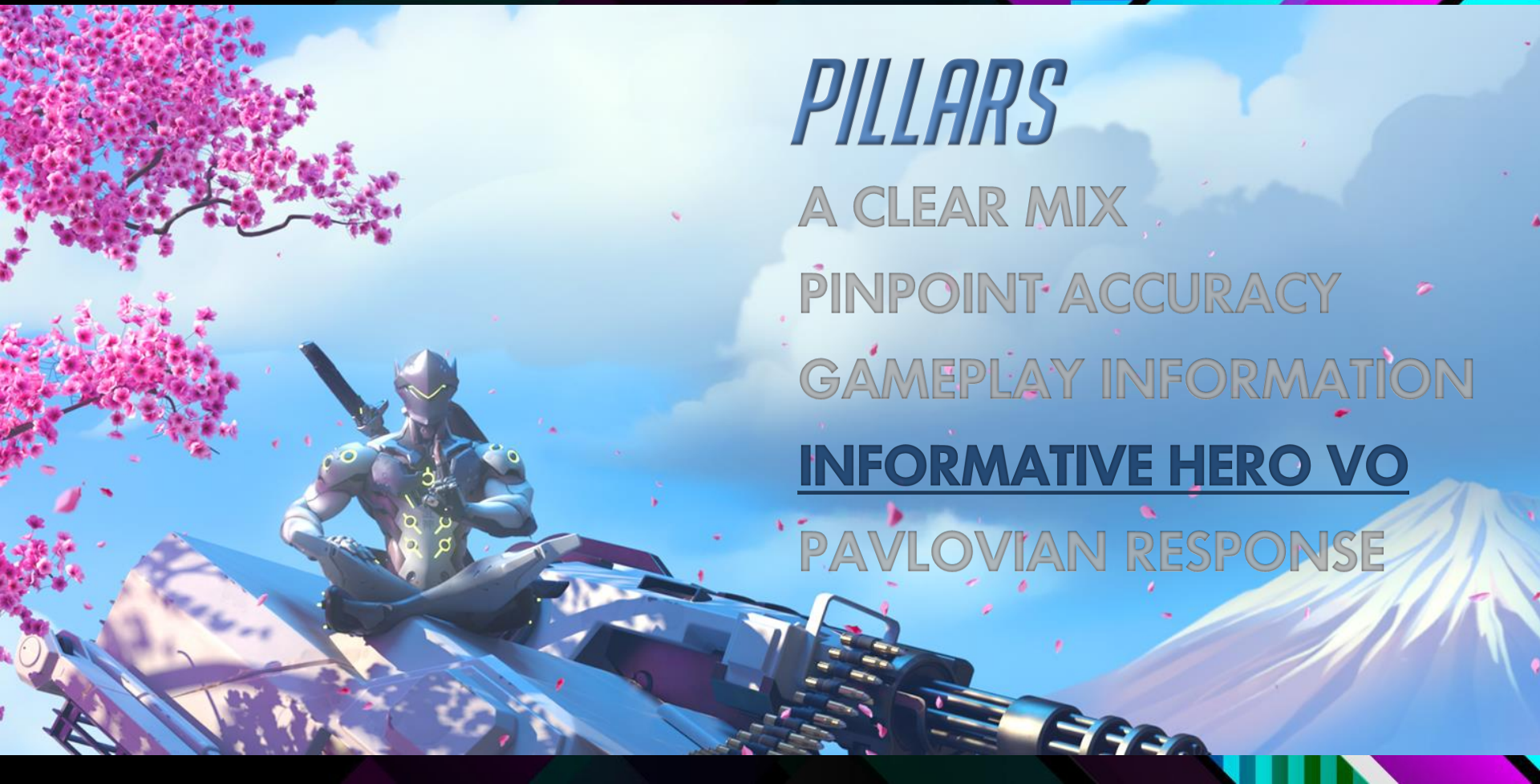
A CLEAR MIX

PINPOINT ACCURACY

GAMEPLAY INFORMATION

INFORMATIVE HERO VO

PAVLOVIAN RESPONSE



PILLARS

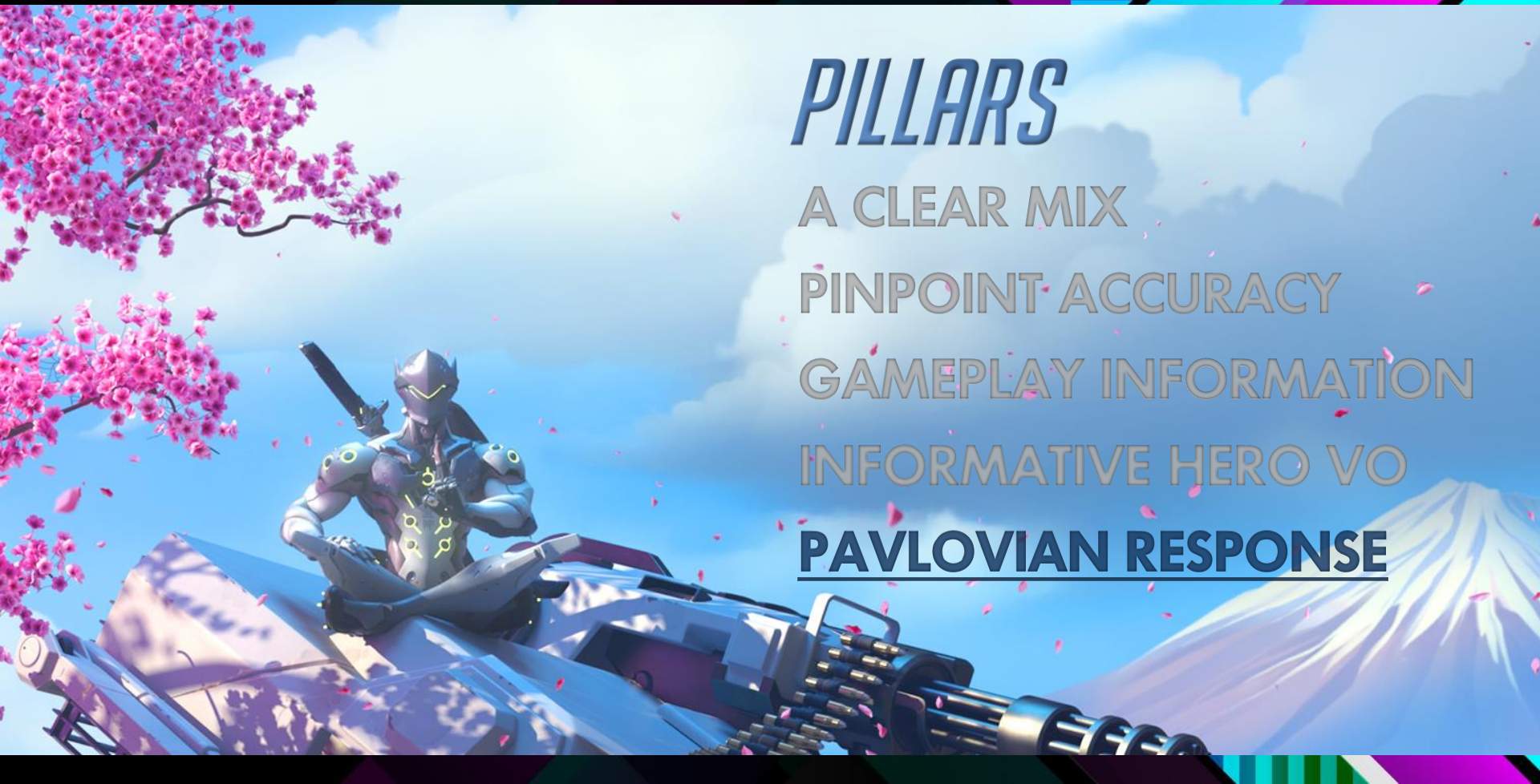
A CLEAR MIX

PINPOINT ACCURACY

GAMEPLAY INFORMATION

INFORMATIVE HERO VO

PAVLOVIAN RESPONSE

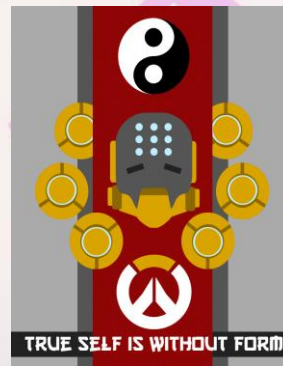
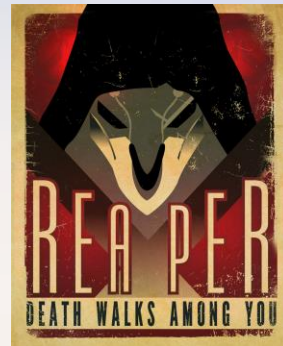


PAVLOVIAN RESPONSE

THAT EVOKES A REACTION



Minimal variation in sound and VO
Goes against our instincts sometimes, but for the best
Leads to “iconic” sounds
Quick reaction times
Positive Emotional Response



Before

After

SUMMARY OF PILLARS

A CLEAR MIX

*** PINPOINT ACCURACY ***

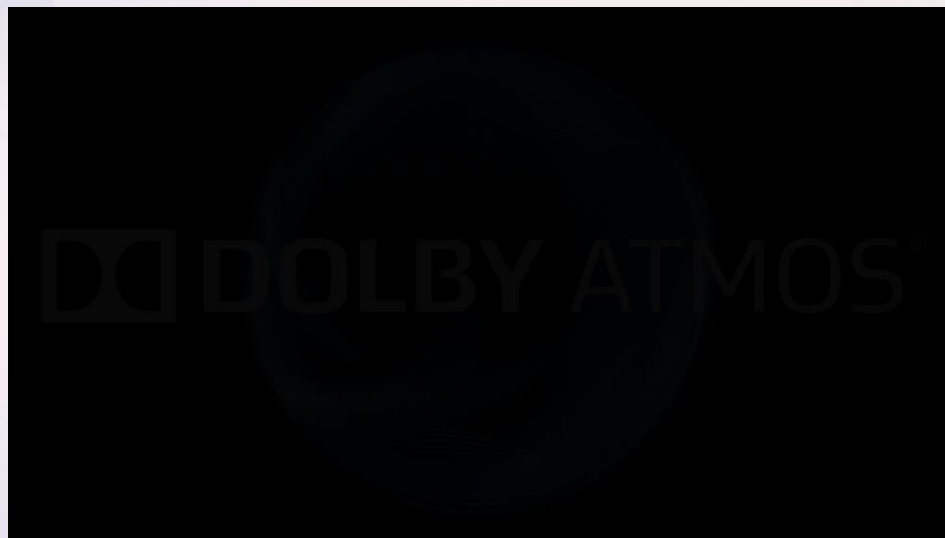
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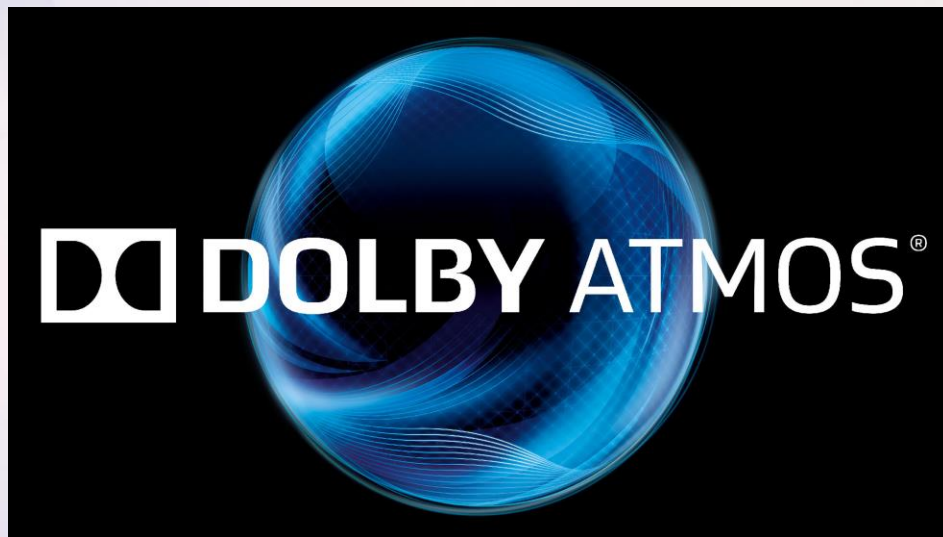
PINPOINT ACCURACY TO LOCATE YOUR THREATS

3D AUDIO – AN ANNOUNCEMENT...



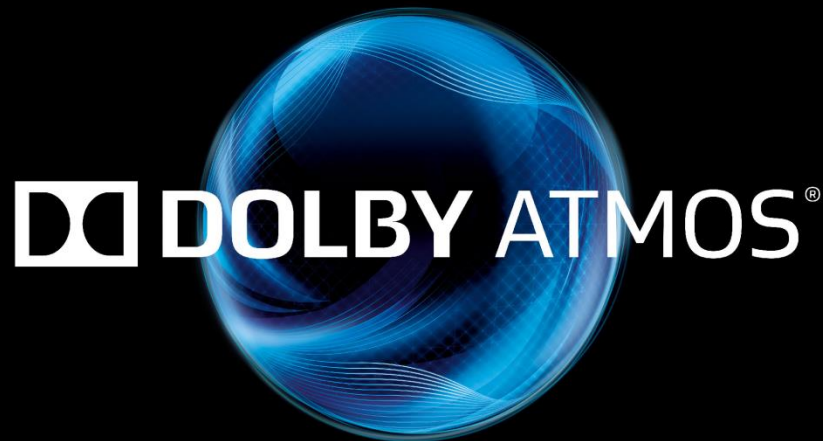
OVERWATCH

PINPOINT ACCURACY TO LOCATE YOUR THREATS
DOLBY ATMOS COMING TO OVERWATCH!



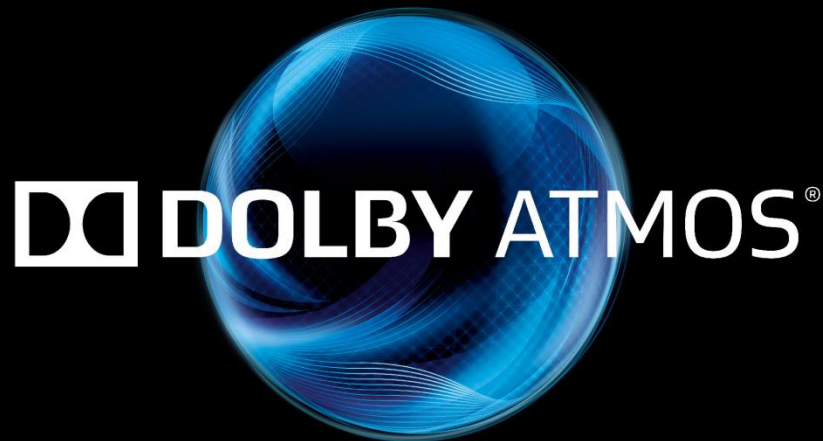
PINPOINT ACCURACY TO LOCATE YOUR THREATS

1ST GAME WITH ATMOS FOR HEADPHONES



PINPOINT ACCURACY TO LOCATE YOUR THREATS

OVERWATCH (PC) – COMING IN NEXT BETA PATCH



THE ELUSIVE GOAL

WHAT'S NEXT?







Q&A

**Wrap-up Room:
Overlook 3022**

