15/03/2023 / DENNIS MICKA

DESIGNING CAULDRONS FOR ‘HORIZON FORBIDDEN WEST’

WHO AM I?

DENNIS MICKA
SENIOR WORLD DESIGNER

15/03/2023 / DENNIS MICKA

WHAT IS THIS TALK ABOUT?

- Development of the *optional* Cauldrons in HFW.
  - zooming in on the 'Tallneck Cauldron'
- Difference between Quest- and World Design at Guerrilla.
- My personal experiences and thought processes
  - less about the ins and outs of Level Design.
- Take Aways: the things I've learned

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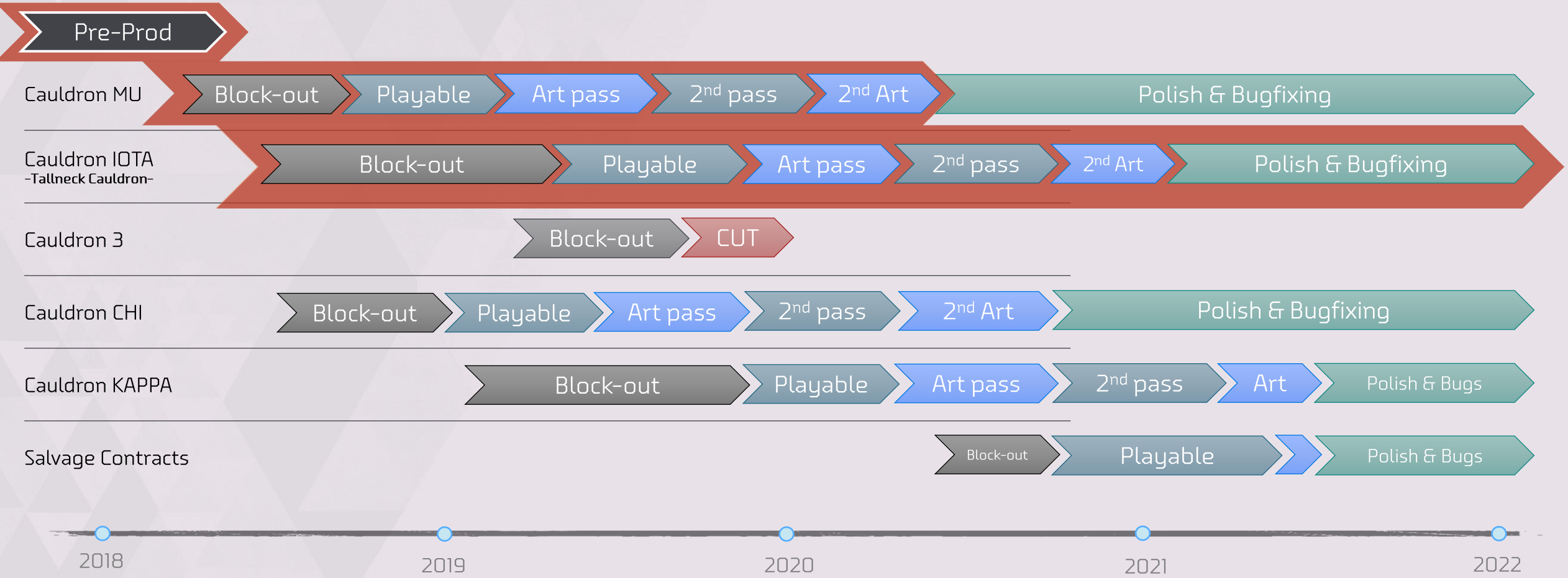
WHAT IS A CAULDRON?!

WHAT IS A CAULDRON?!

- Subterranean, sci-fi robot foundries.
  - Horizon's **dungeons**.
- Goal: **Override the Core** to unlock machine overrides.

- Gameplay:
  - Exploration & traversal
  - Light on puzzles
  - Combat: Boss fight

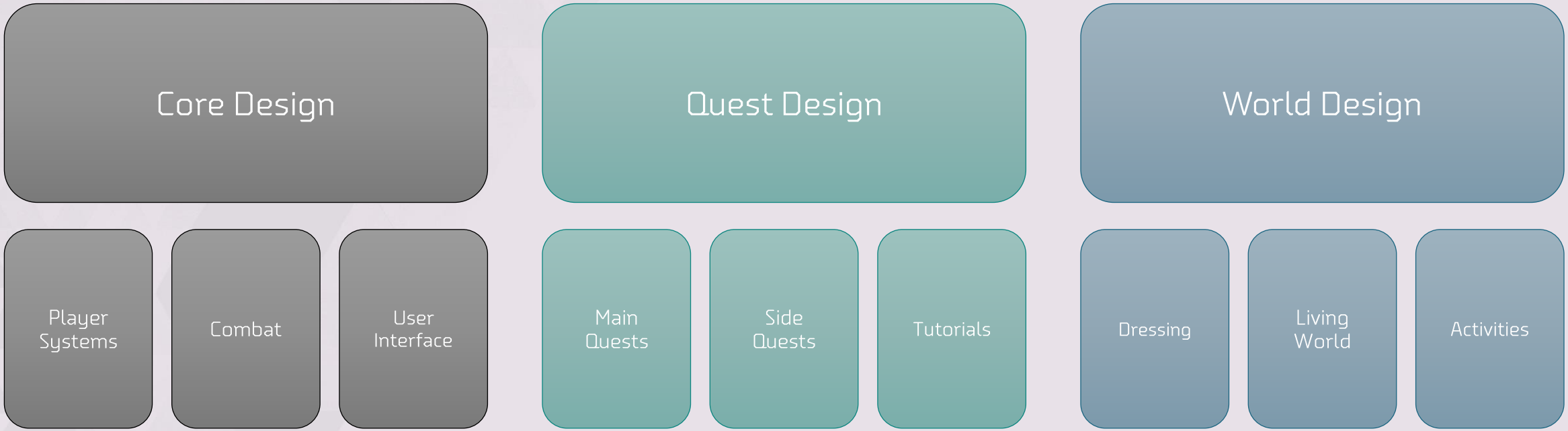
TIMELINE OF DEVELOPMENT



THE BEGINNING

2018 2019 2020 2021

DESIGN TEAM STRUCTURE
AT GUERRILLA



CAN I DO CAULDRONS PLZ?

"Okay."

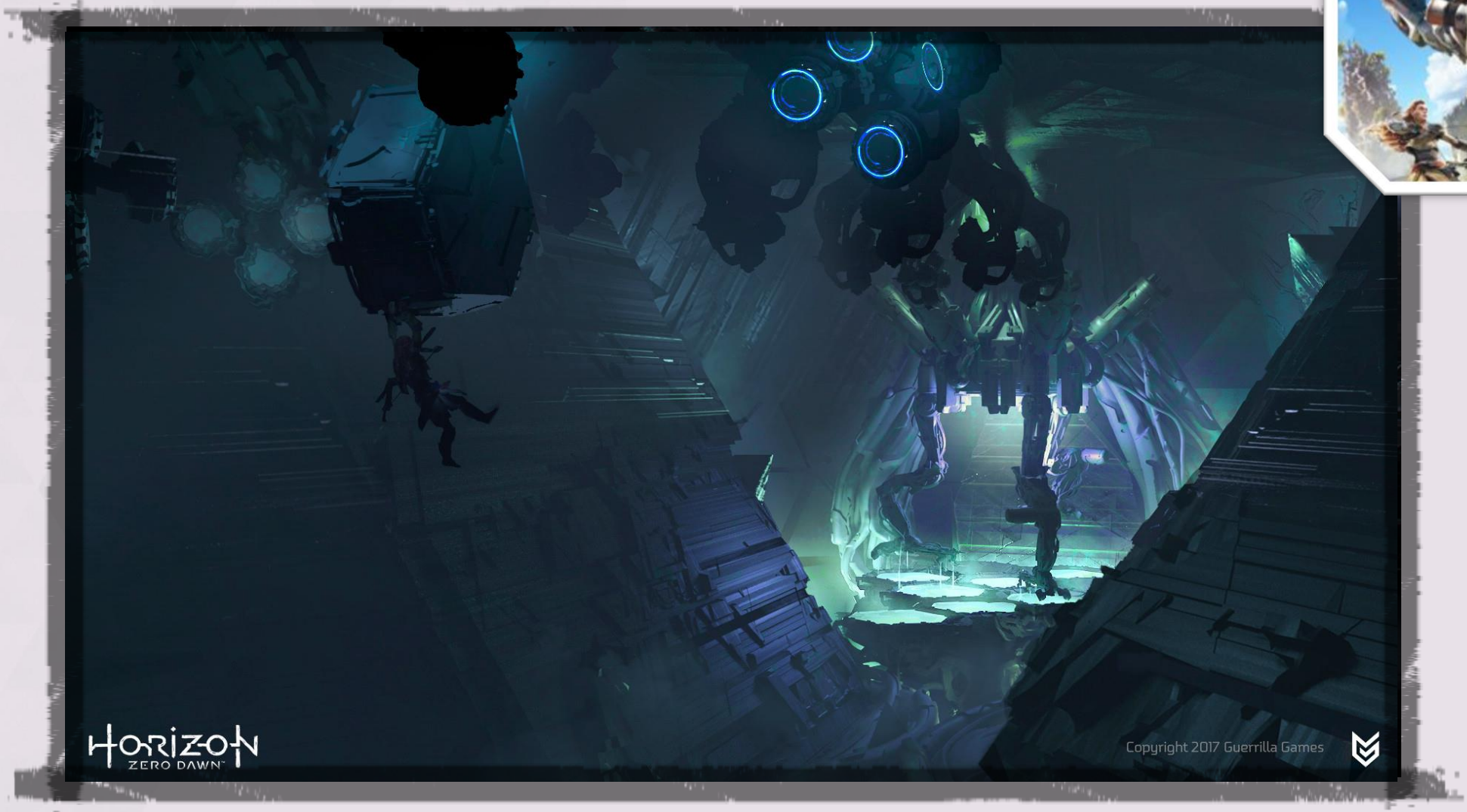
PRE-PRODUCTION

STUDYING ZERO DAWN

Pre-Prod

2018 2019 2020 2021 2022

STUDYING WHAT CAME BEFORE



STUDYING WHAT CAME BEFORE

THE FORMULA

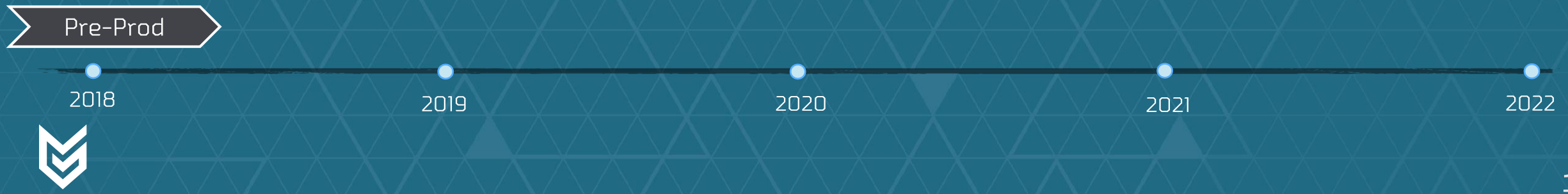
STUDYING WHAT CAME BEFORE

CAULDRON XI

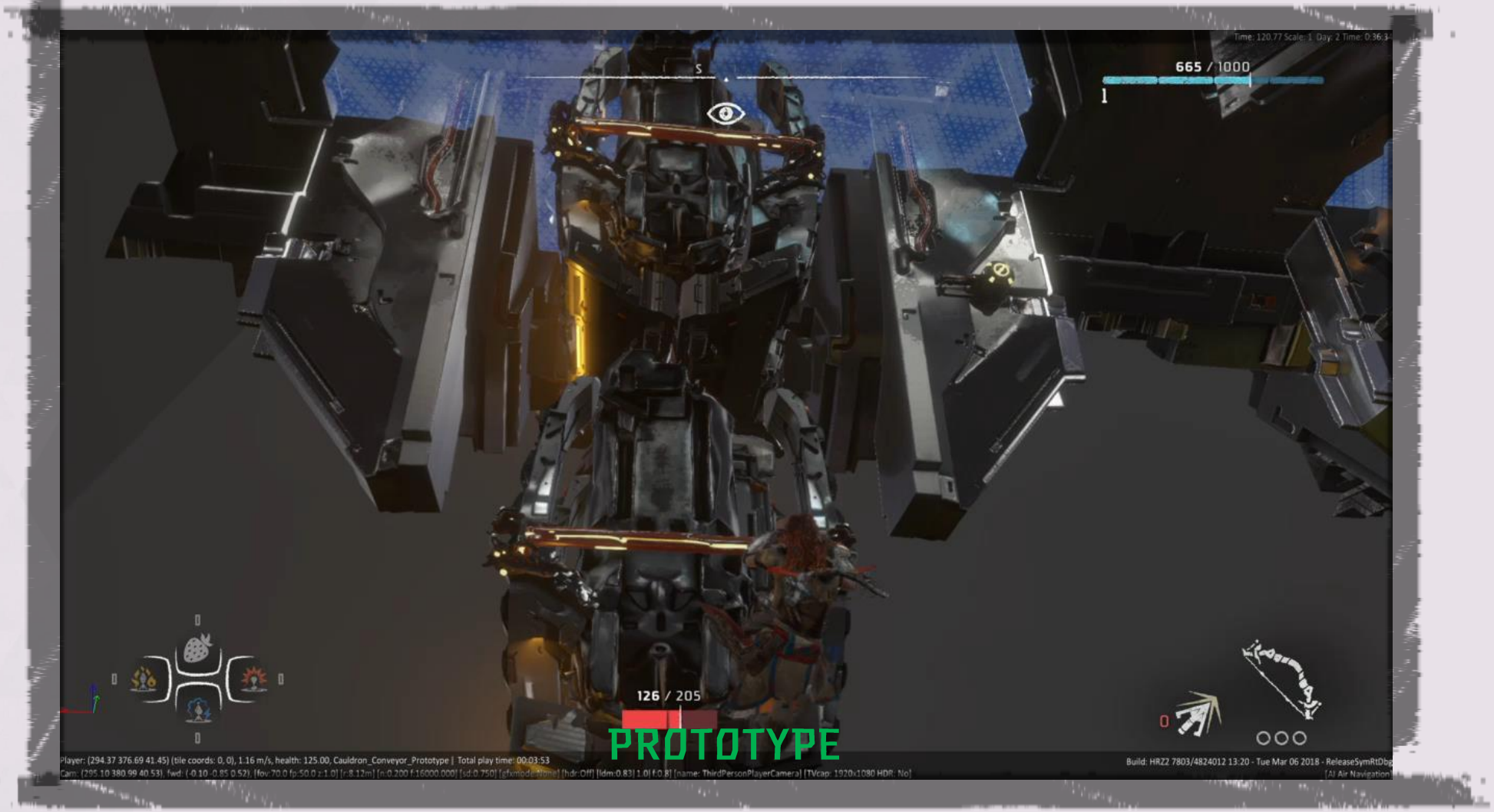
- Cauldron XI (from Zero Dawn)

PRE-PRODUCTION

PROTOTYPING



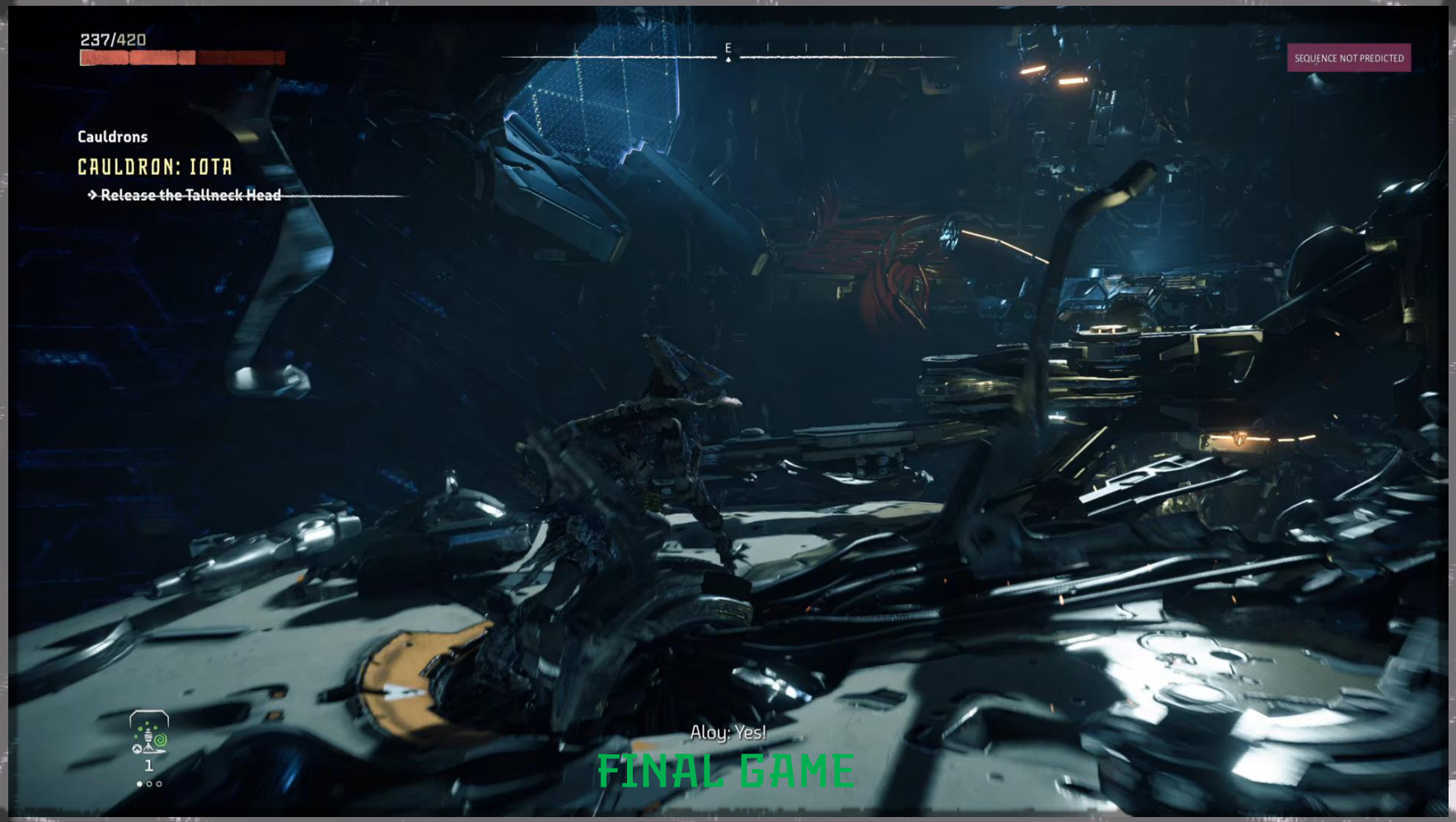
PROTOTYPING



PROTOTYPING

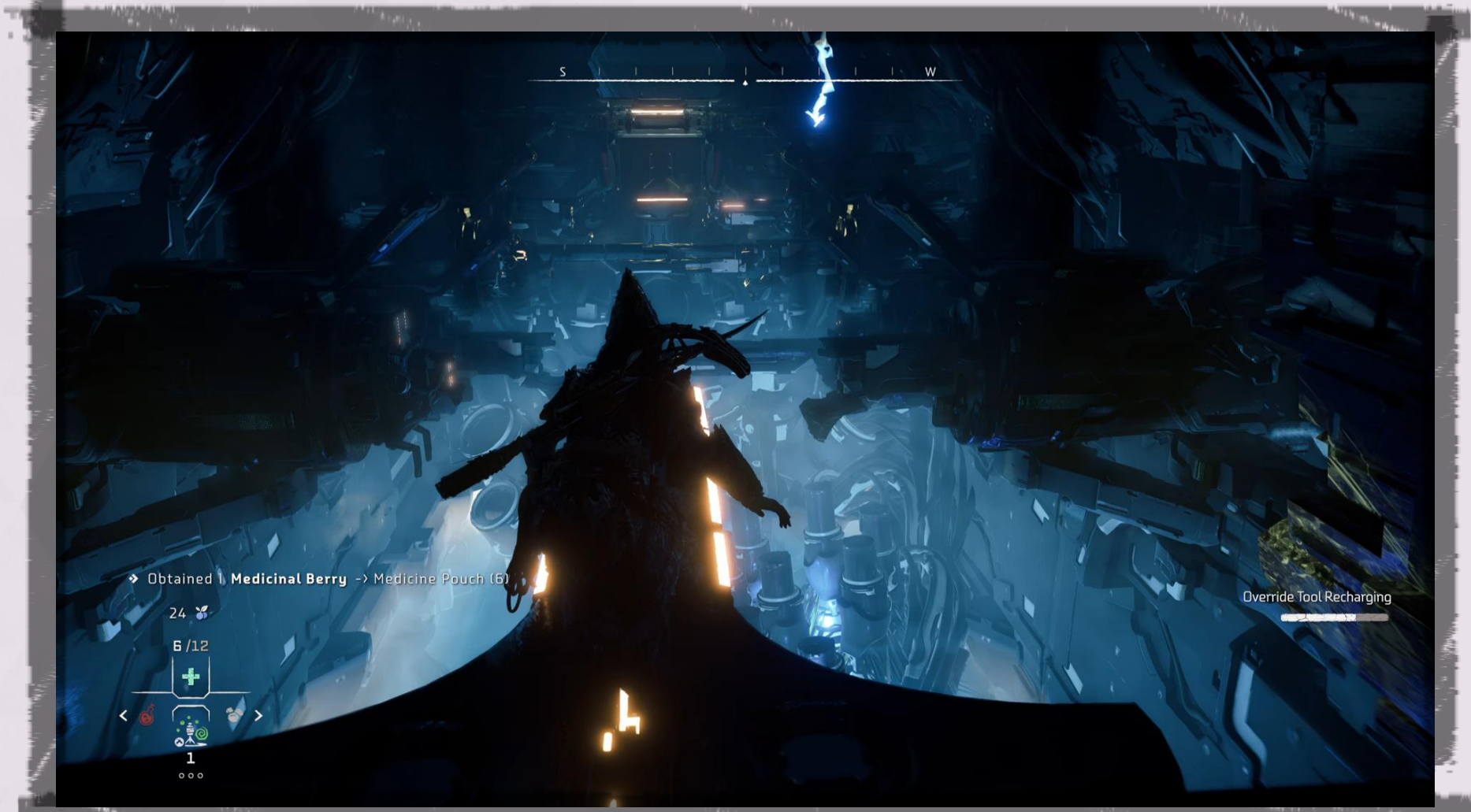
PROTOTYPING

PROTOTYPING



TECH DESIGN

PROTOTYPING



TAKEAWAY #1

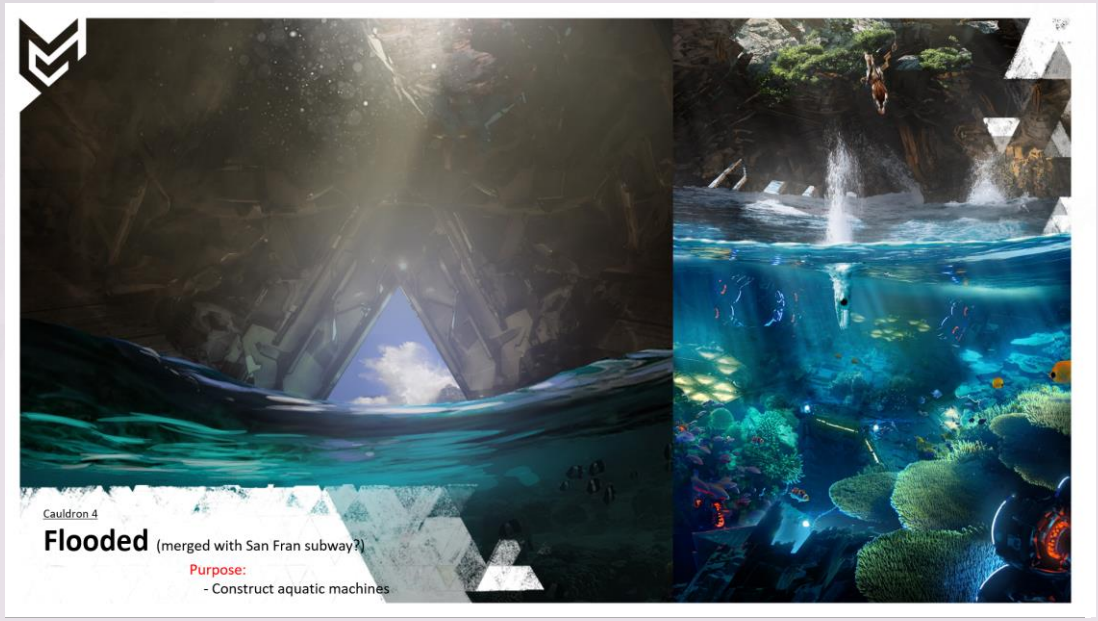
Make good use of your pre-production time!

PRE-PRODUCTION

PITCHING

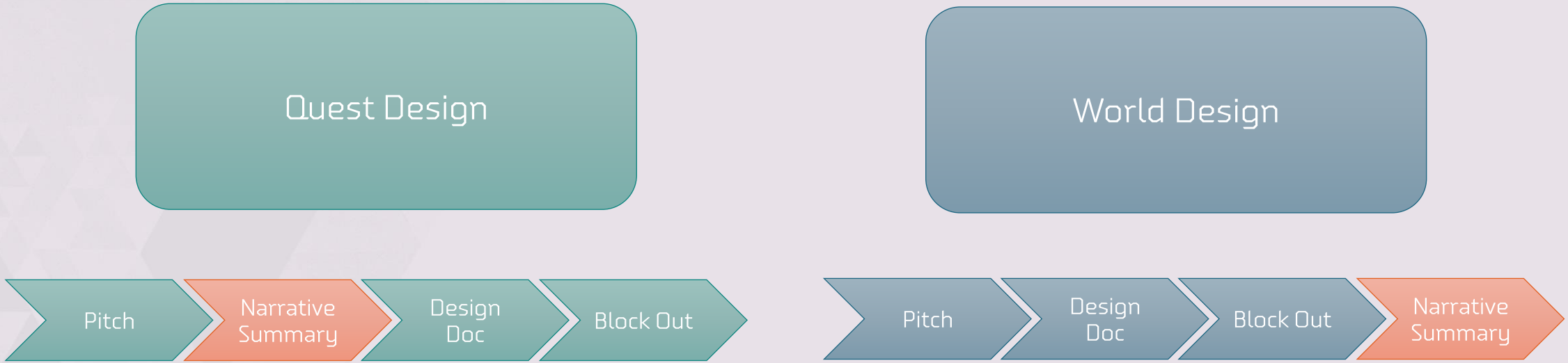
PITCHING

- *Basic* Cauldron
  - Cauldron MU
- Tallneck Cauldron
  - Cauldron IOTA
- ~~Cauldron 3~~
- Dying & overgrown Cauldron
  - Cauldron CHI
- Flooded Cauldron
  - Cauldron KAPPA

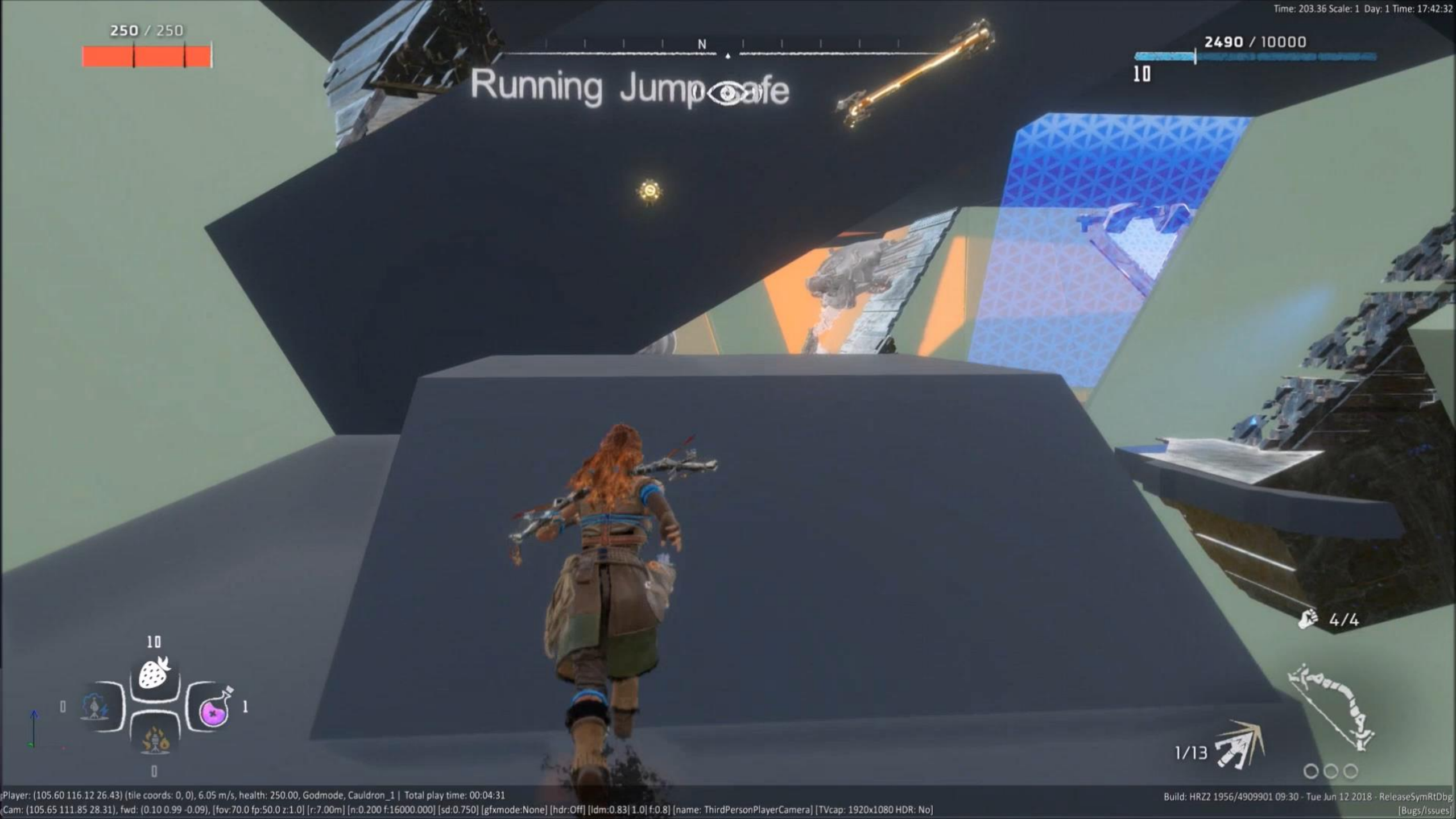


PITCHING

QUEST VS WORLD DESIGN



THE FIRST ONE


Time: 203.36 Scale: 1 Day: 1 Time: 17:42:32
250 / 250
N
Running Jump Safe
2490 / 10000
10
4/4
10
0
1
0
1/13
Player: (105.60 116.12 26.43) (tile coords: 0, 0), 6.05 m/s, health: 250.00, Godmode, Cauldron_1 | Total play time: 00:04:31
Cam: (105.65 111.85 28.31), fwd: (0.10 0.99 -0.09), [fov:70.0 fp:50.0 z:1.0] [r:7.00m] [n:0.200 f:16000.000] [sd:0.750] [gfxmode:None] [hdr:Off] [ldm:0.83|1.0|f:0.8] [name: ThirdPersonPlayerCamera] [TVcap: 1920x1080 HDR: No]
Build: HRZ2 1956/4909901 09:30 - Tue Jun 12 2018 - ReleaseSymRtDbg
[Bugs/Issues]

CAULDRON MU
REFLECTION

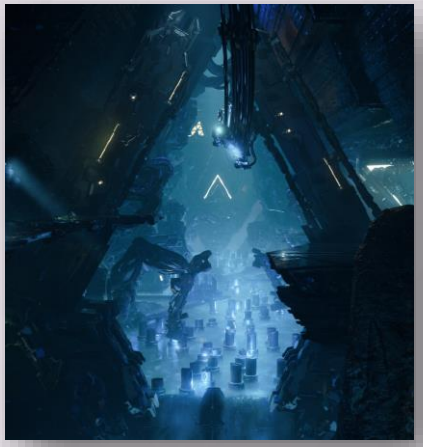
WHAT WORKED?

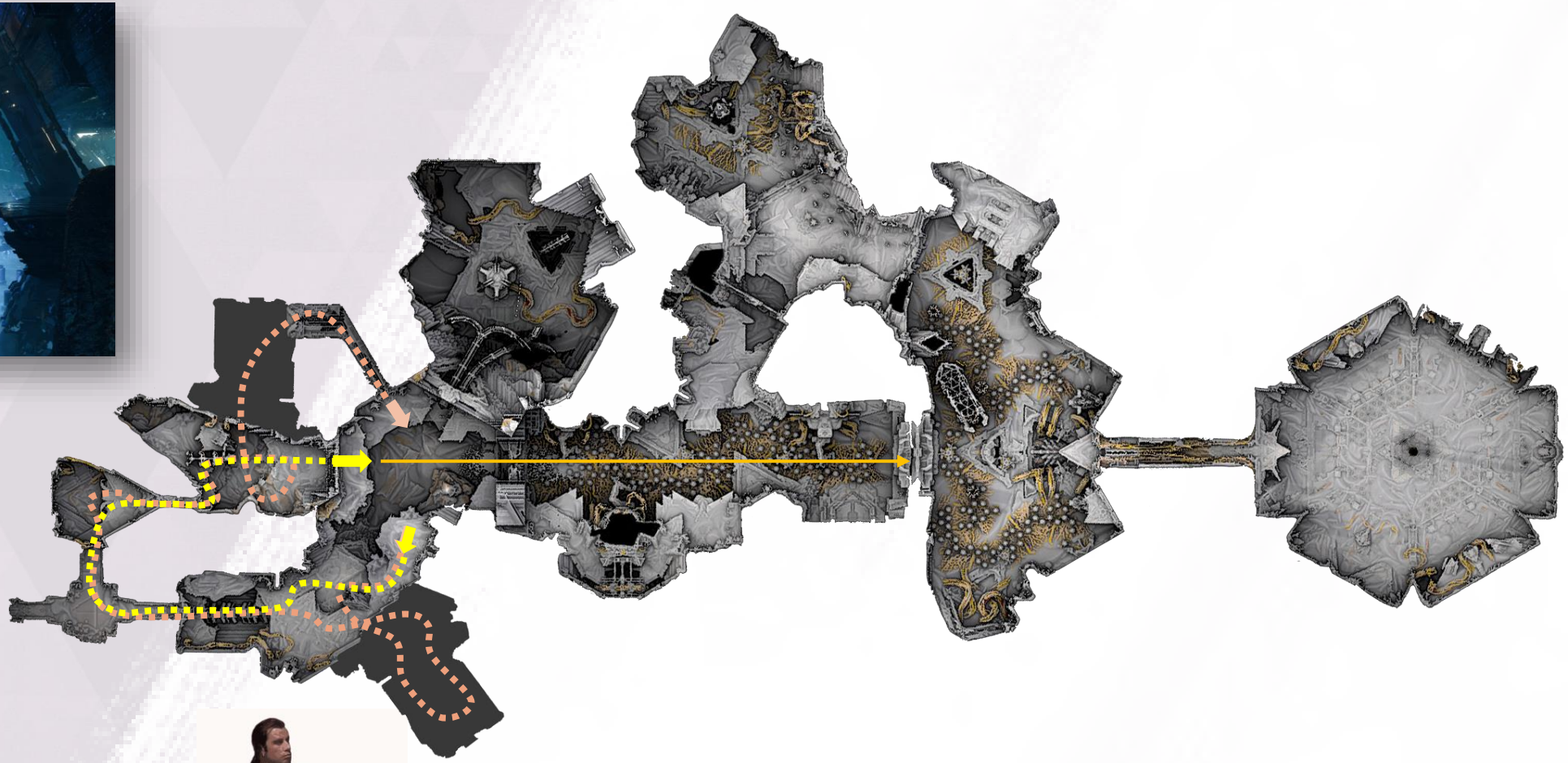
- It was good enough!
  - Scored well

WHAT DIDN'T?

- Too big
  - Goal shown too late
- Too disorienting
  - Too much looping around
- Combat spaces too small
- Bad pacing
  - Too cramped with *everything*

CAULDRON MU
ON THE CUTTING FLOOR





CAULDRON MU

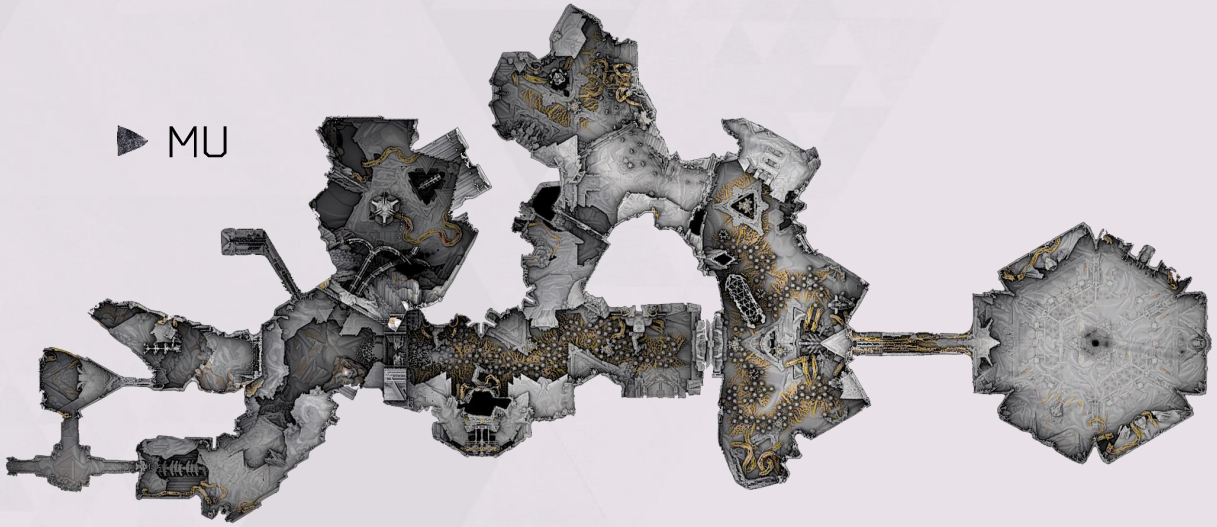
1ST ART PASS

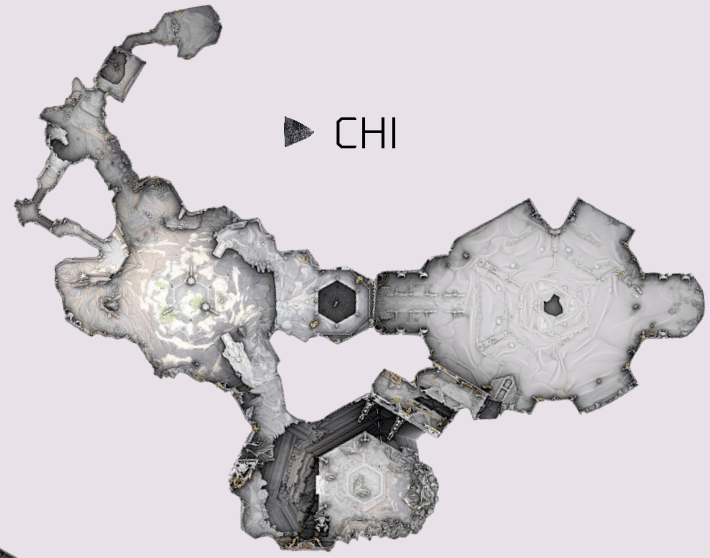
CAULDRON MU

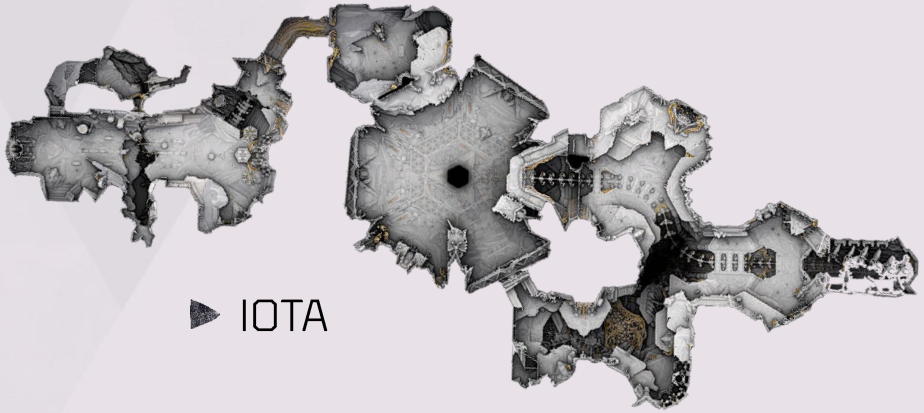
2ND ART PASS

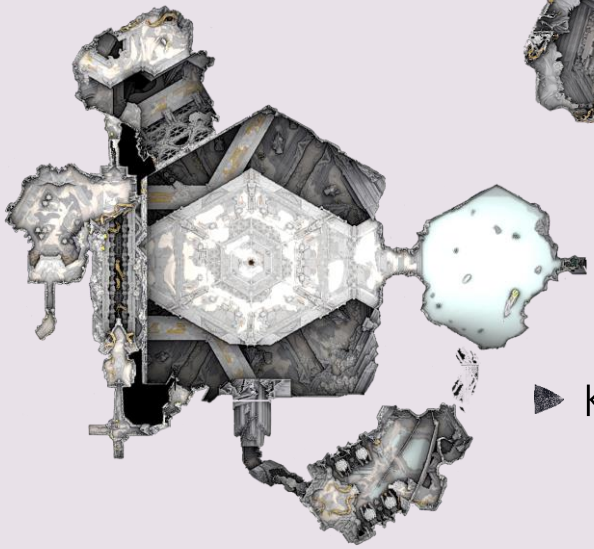
CAULDRON MU

MAP SIZE COMPARISON









TAKEAWAY #2

Bigger isn't always better.

'THE TALLDRON'

280 / 280
W
7680 / 150
WAITING FOR OCCLUSION!
15
CAULDRON IOTA
[Locate the Cauldron Core]
20
5
8

TALLNECK CAULDRON

Tallneck + Cauldron

== Tallneck Cauldron

== **WIN**

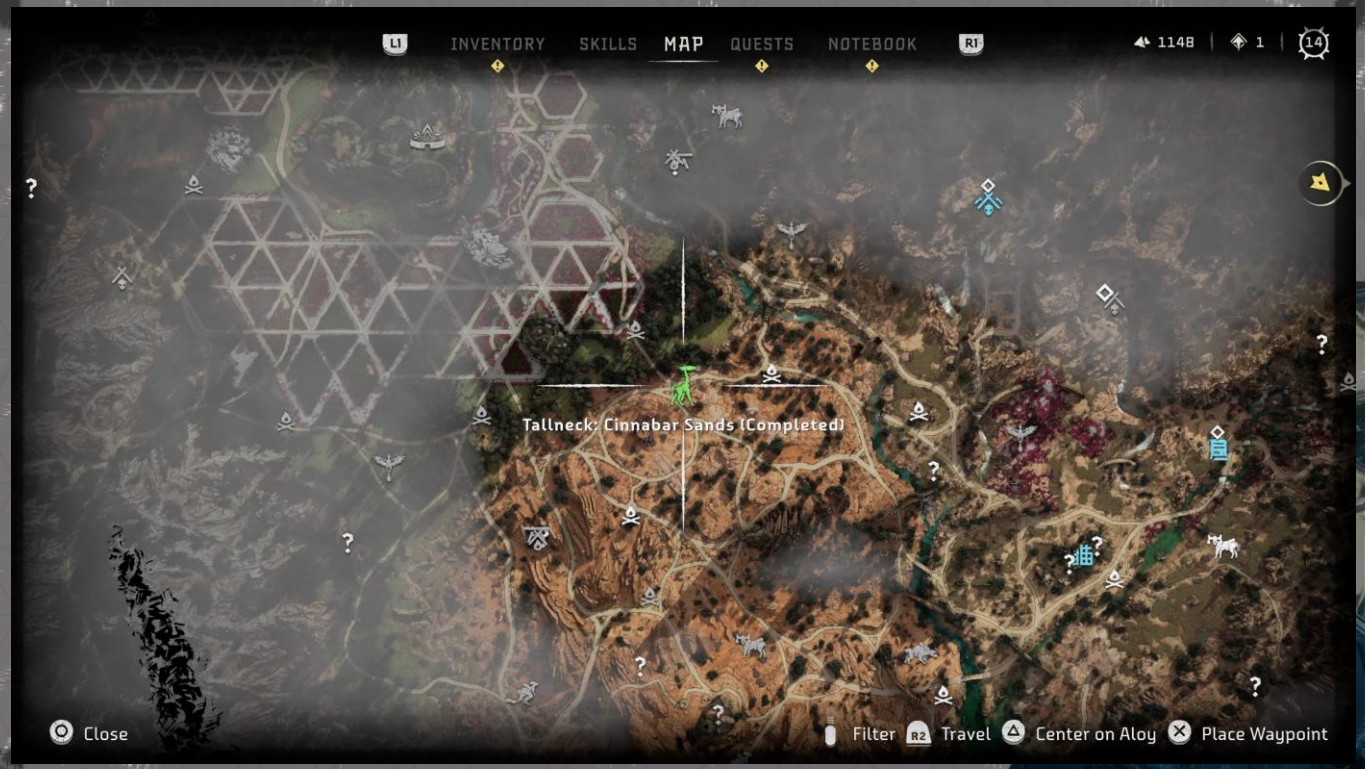
TALLNECK CAULDRON

-- ALMOST DIDN'T HAPPEN

"What if we *ride* a Tallneck
out of a Cauldron?!"

SCOPE REDUCTIONS

SAVED THE TALLDRON



TAKEAWAY #3

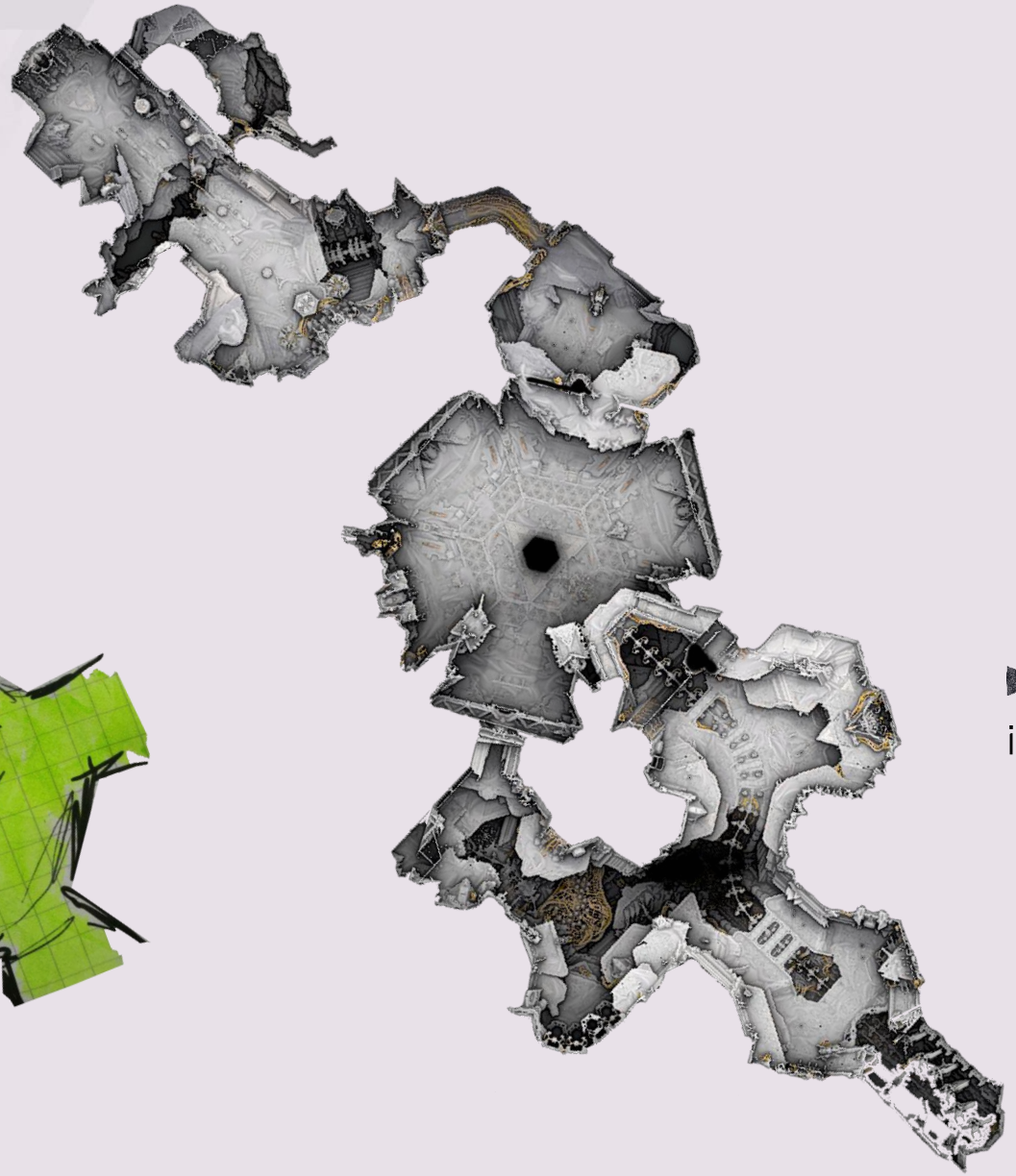
When stuck, move onto something else
(if possible)

PAPER DESIGN

PAPER DESIGN

VS IN-GAME INTERIOR MAP

- Proposed high level map #4



- (near) final interior map

PROBLEMS TO SOLVE
FOR THE IOTA'S DESIGN

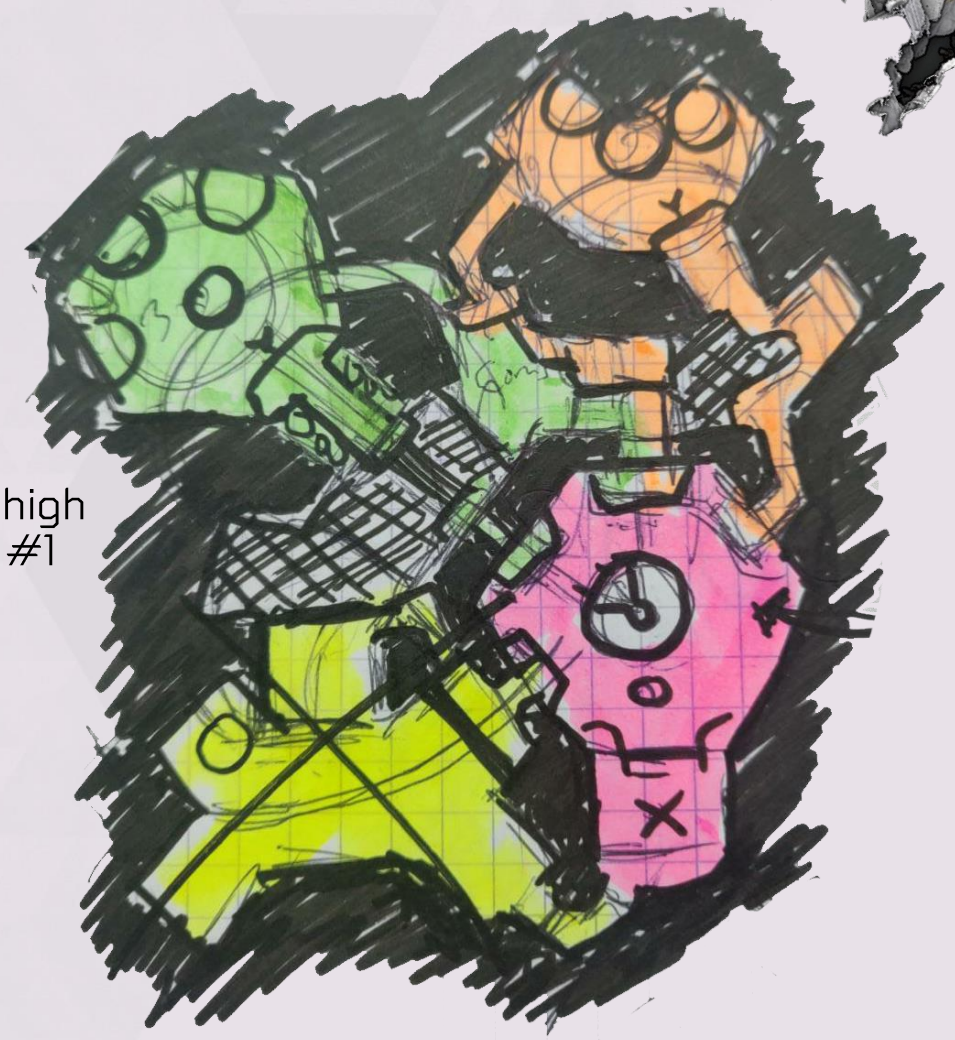
- Cauldrons don't need Aloy
  - IOTA would need its production halted – somehow...
- Aloy wouldn't be interested in helping a machine [get built]
  - Make it Aloy's problem – somehow...
- How do we get Aloy on top of a Tallneck as it's exiting the Cauldron?
  - Aloy would need the Tallneck to solve the problem
    - What could a Tallneck do to help Aloy?

IOTA

VERSION 1

Paper Design
Block-out
Playable
Art pass
2nd pass
2nd Art
Polish & Bugfixing
2018
2019
2020
2021
2022

VERSION 0

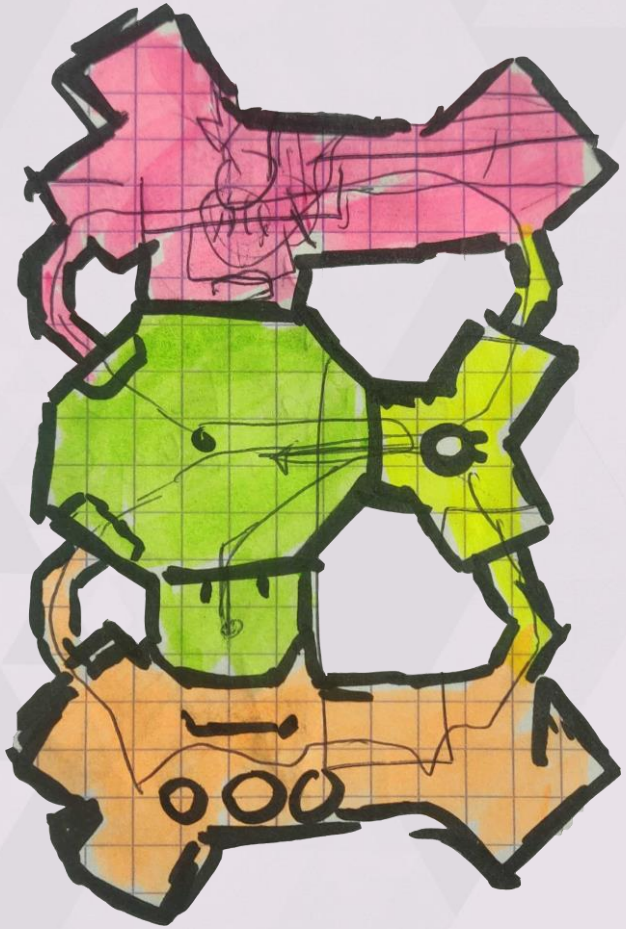


- Proposed high level map #1

- (near) final interior map

VERSION 1

HIGH-LEVEL BLOCK OUT



VERSION 1

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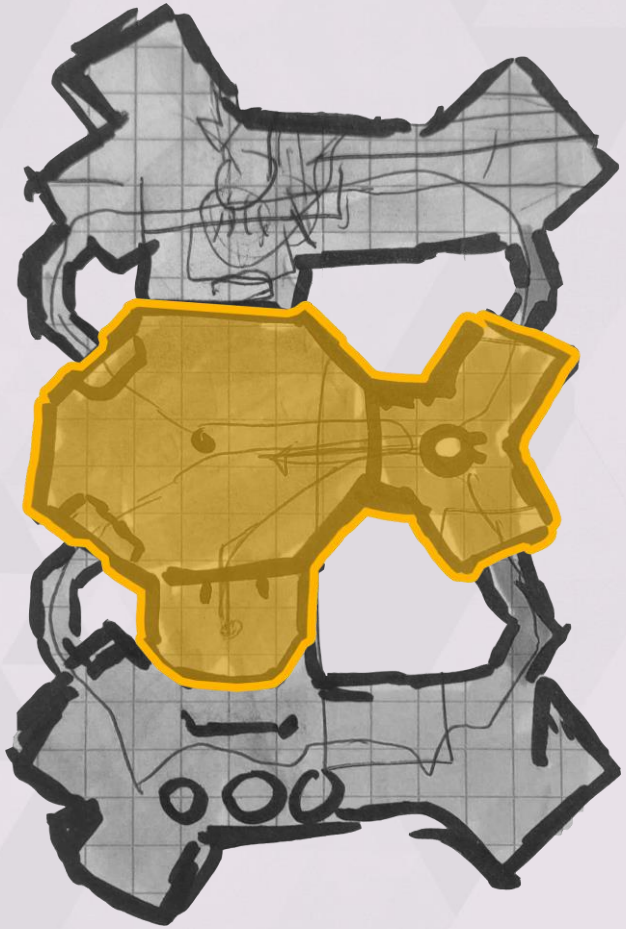

VERSION 1

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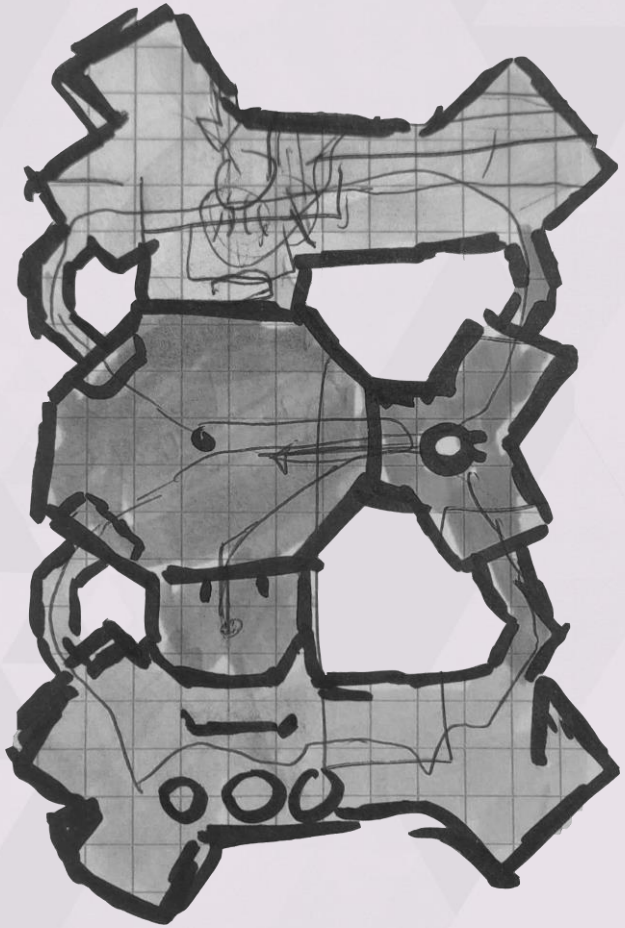

VERSION 1

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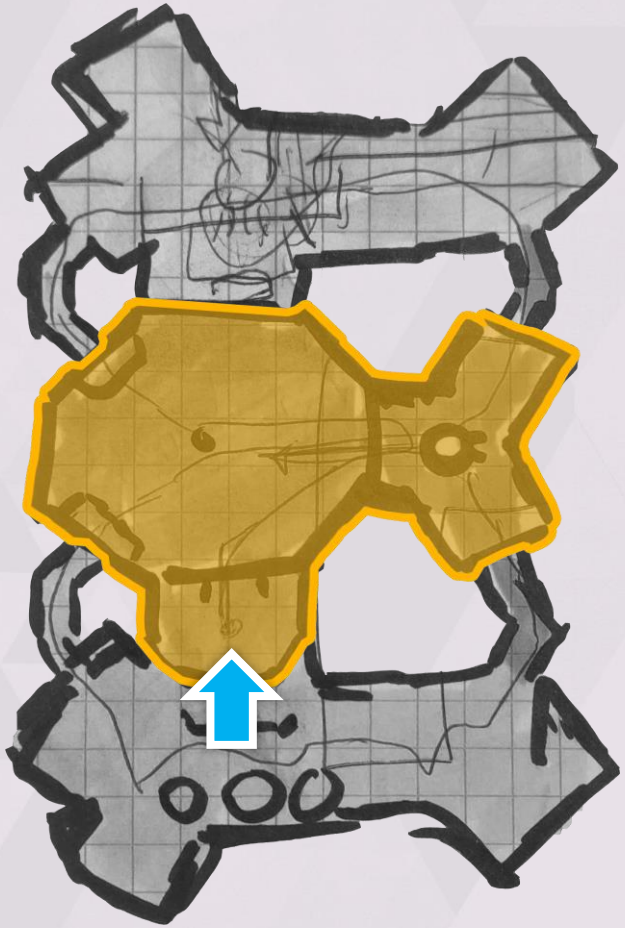

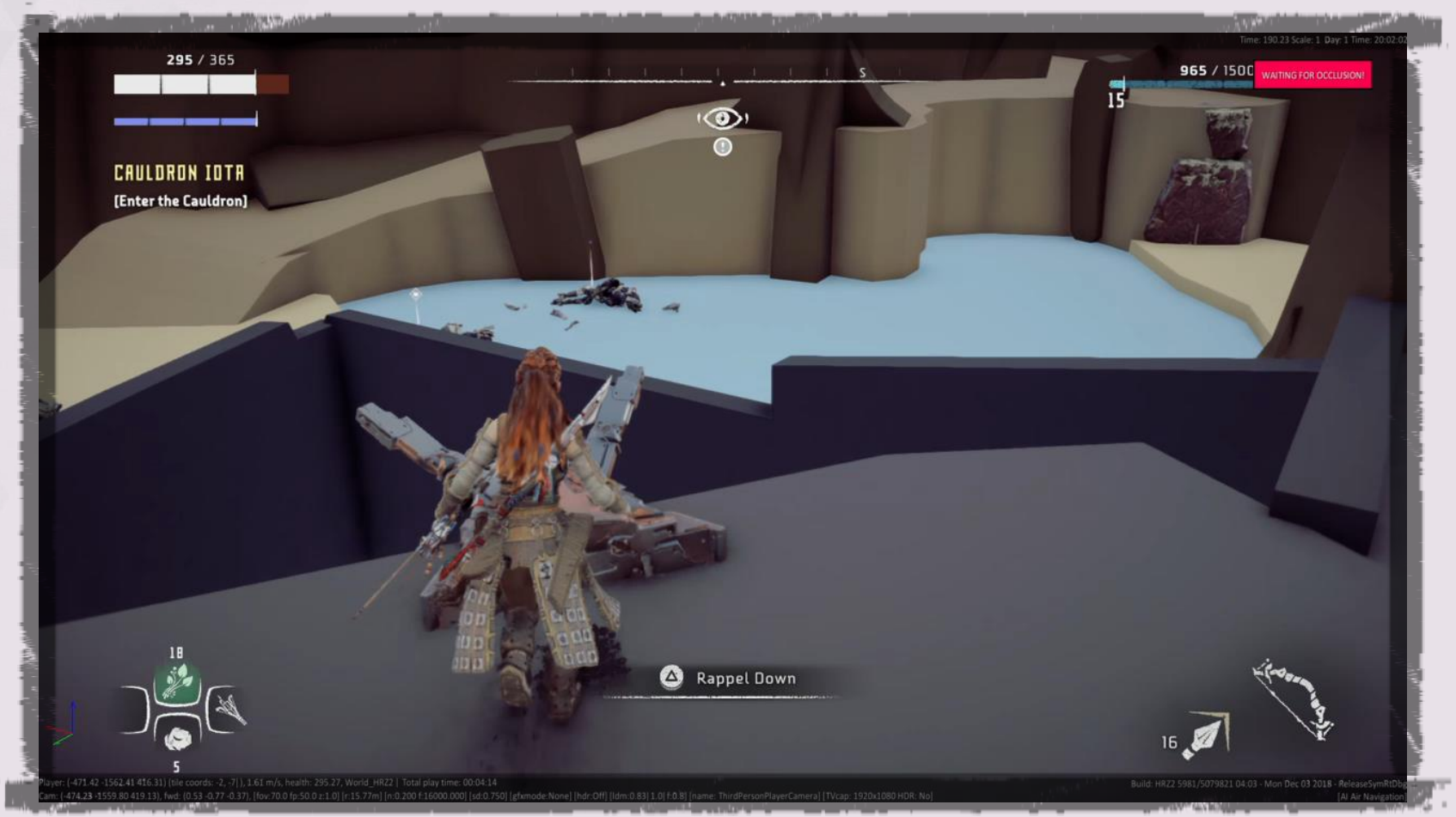

VERSION 1

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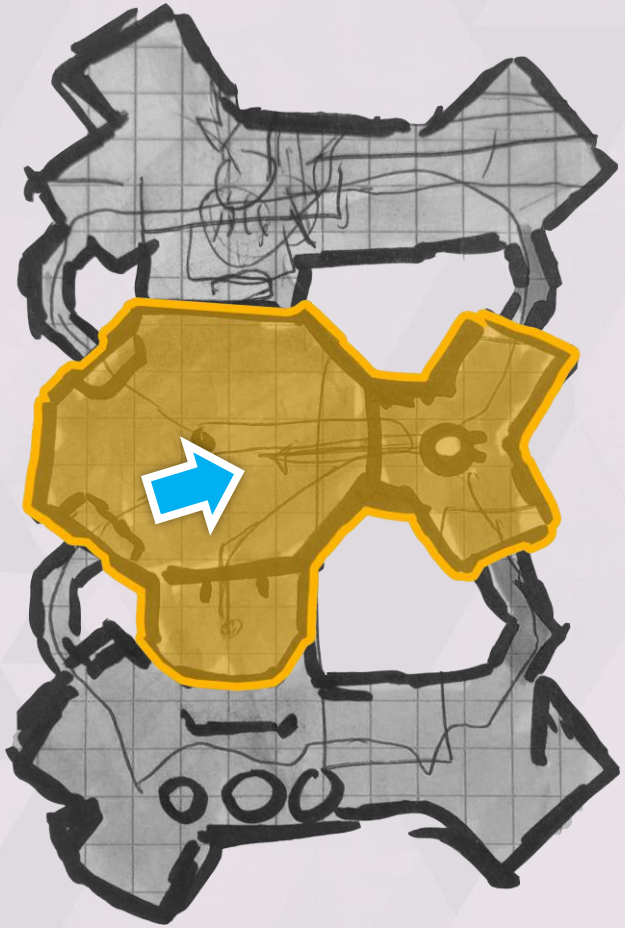

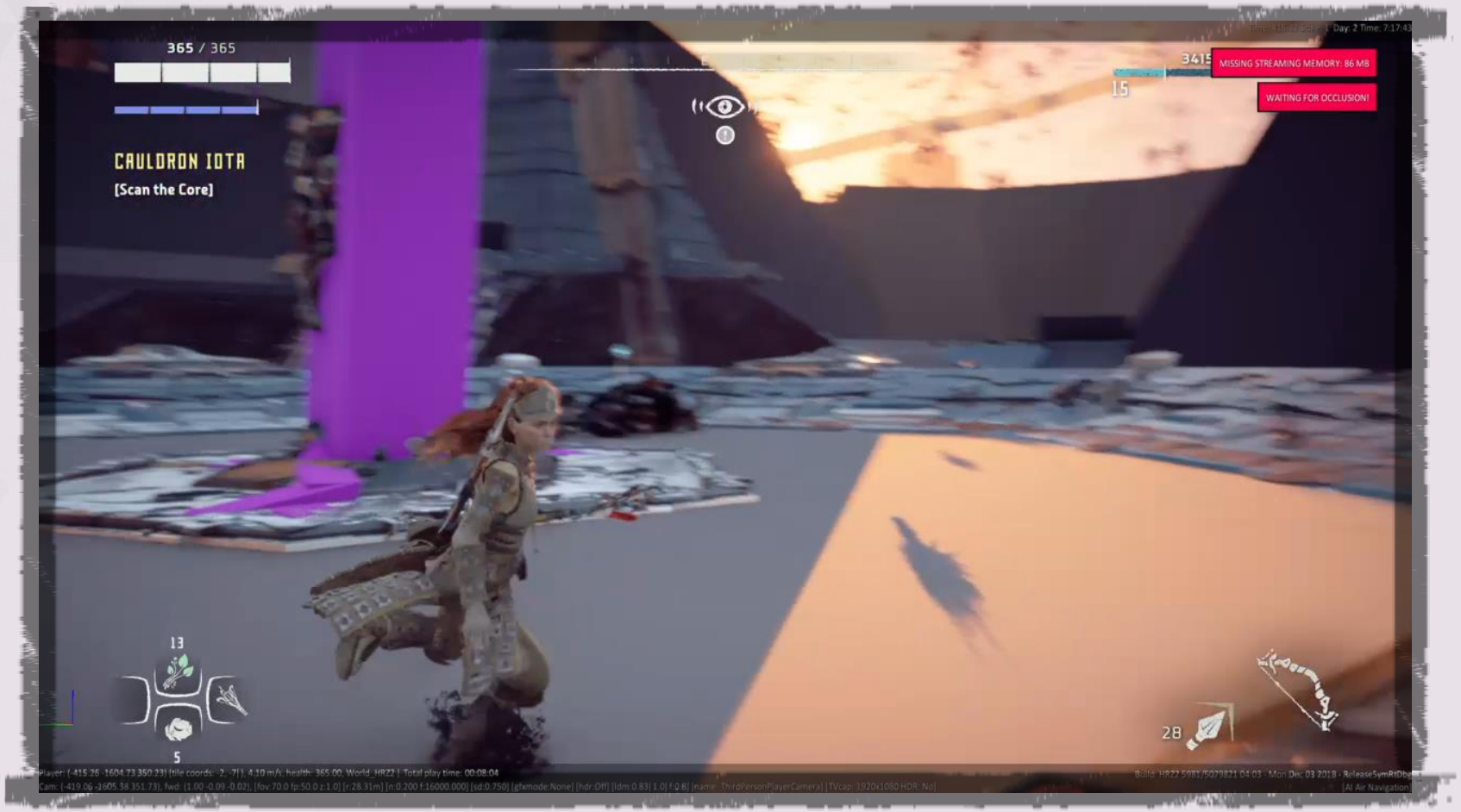

VERSION 1

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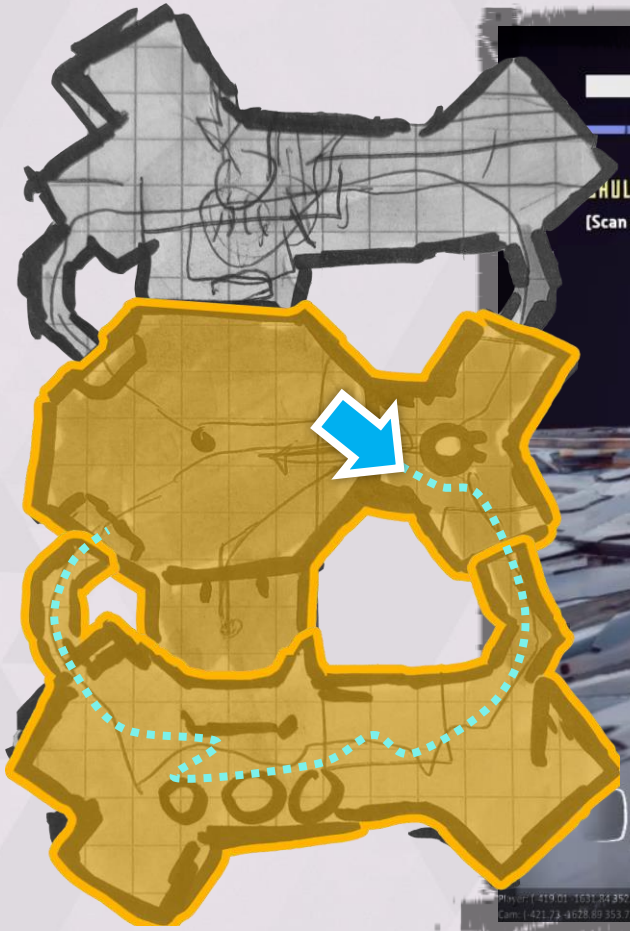

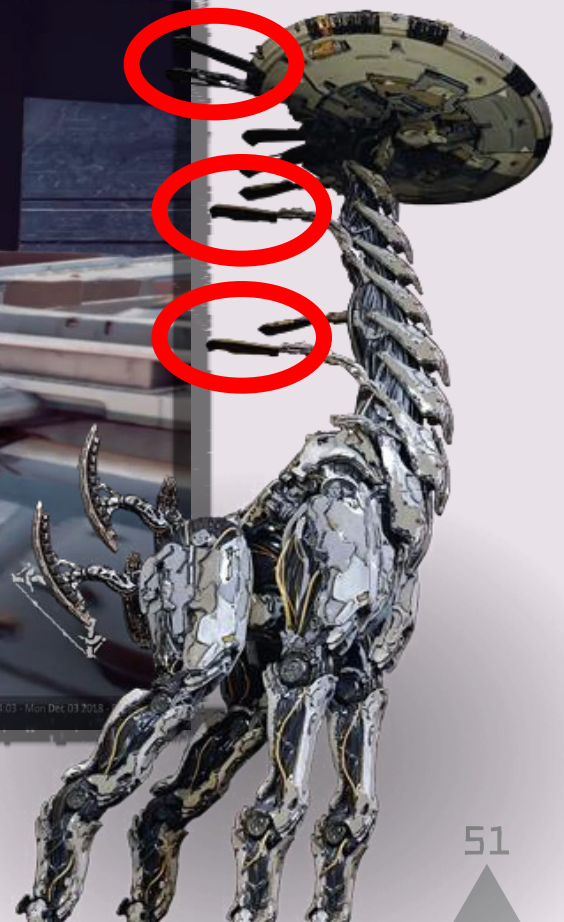

VERSION 1

HIGH-LEVEL BLOCK OUT

VERSION 1

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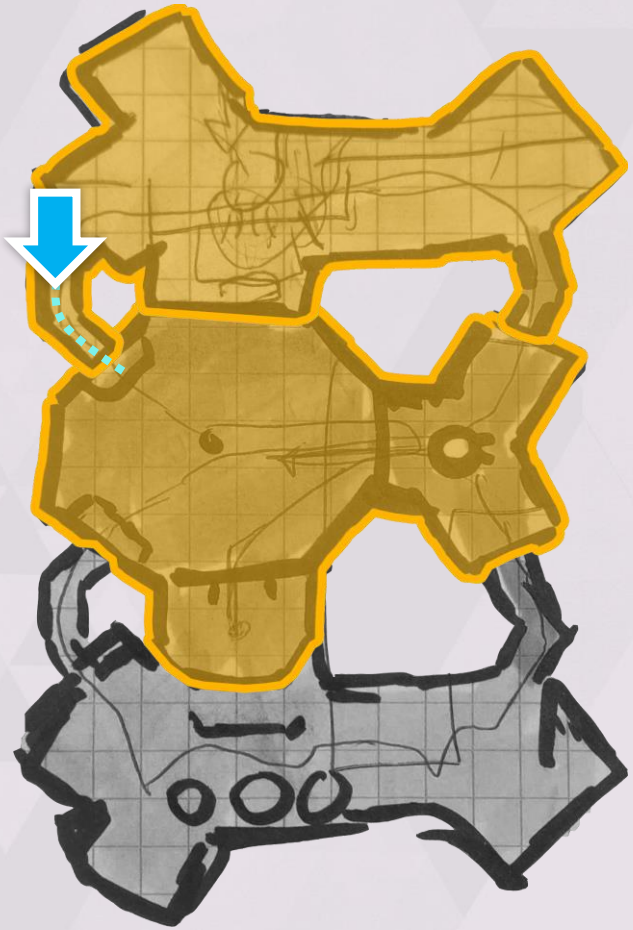

VERSION 1

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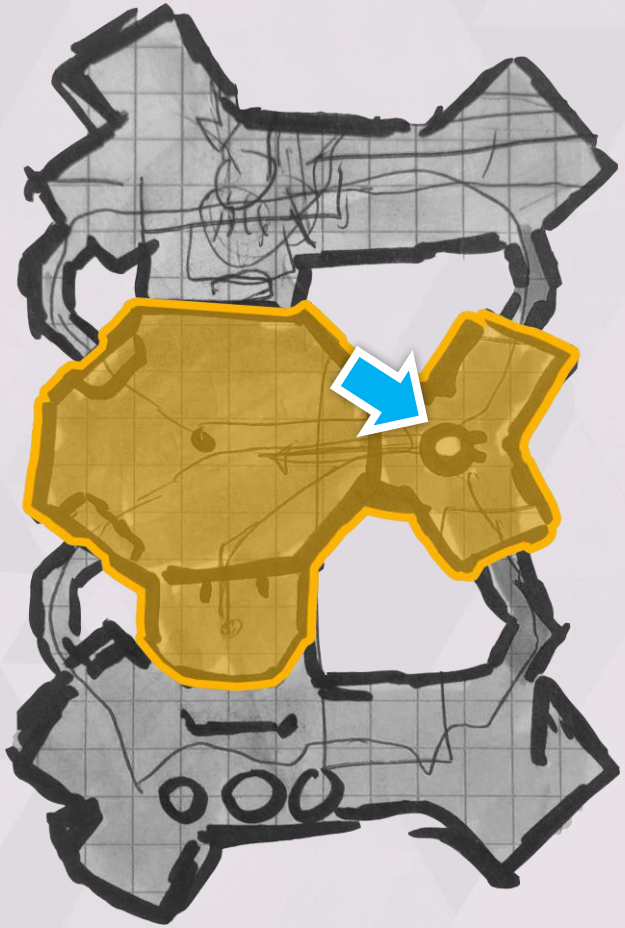

VERSION 1

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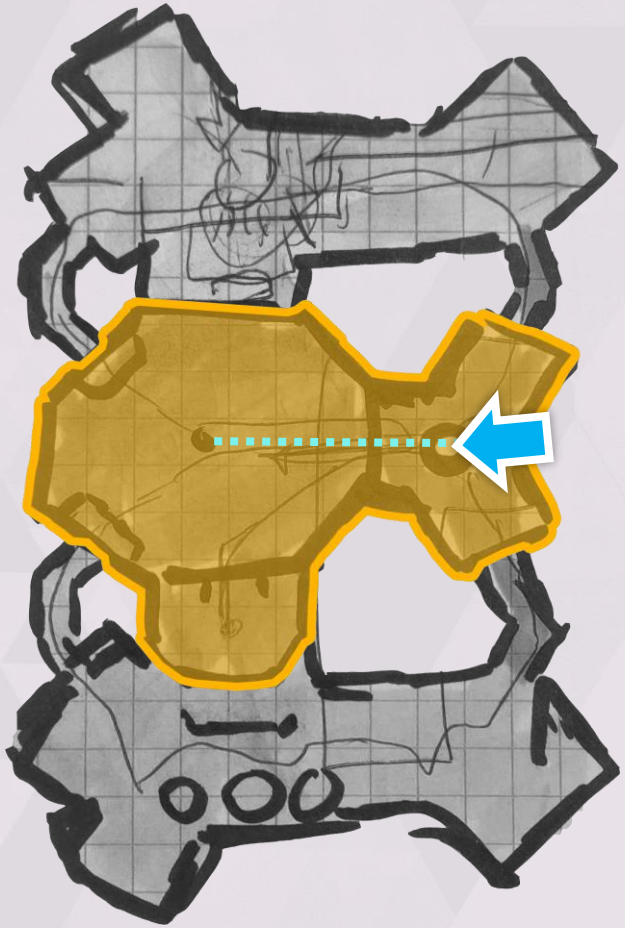


VERSION 1

NO MORE HEPHAESTUS

VERSION 1
REFLECTION

WHAT WORKED?

- Looping the Player around
- Construction of Tallneck

WHAT DIDN'T?

- The flow at the end
- The narrative

TAKEAWAY #4

Be adaptable.

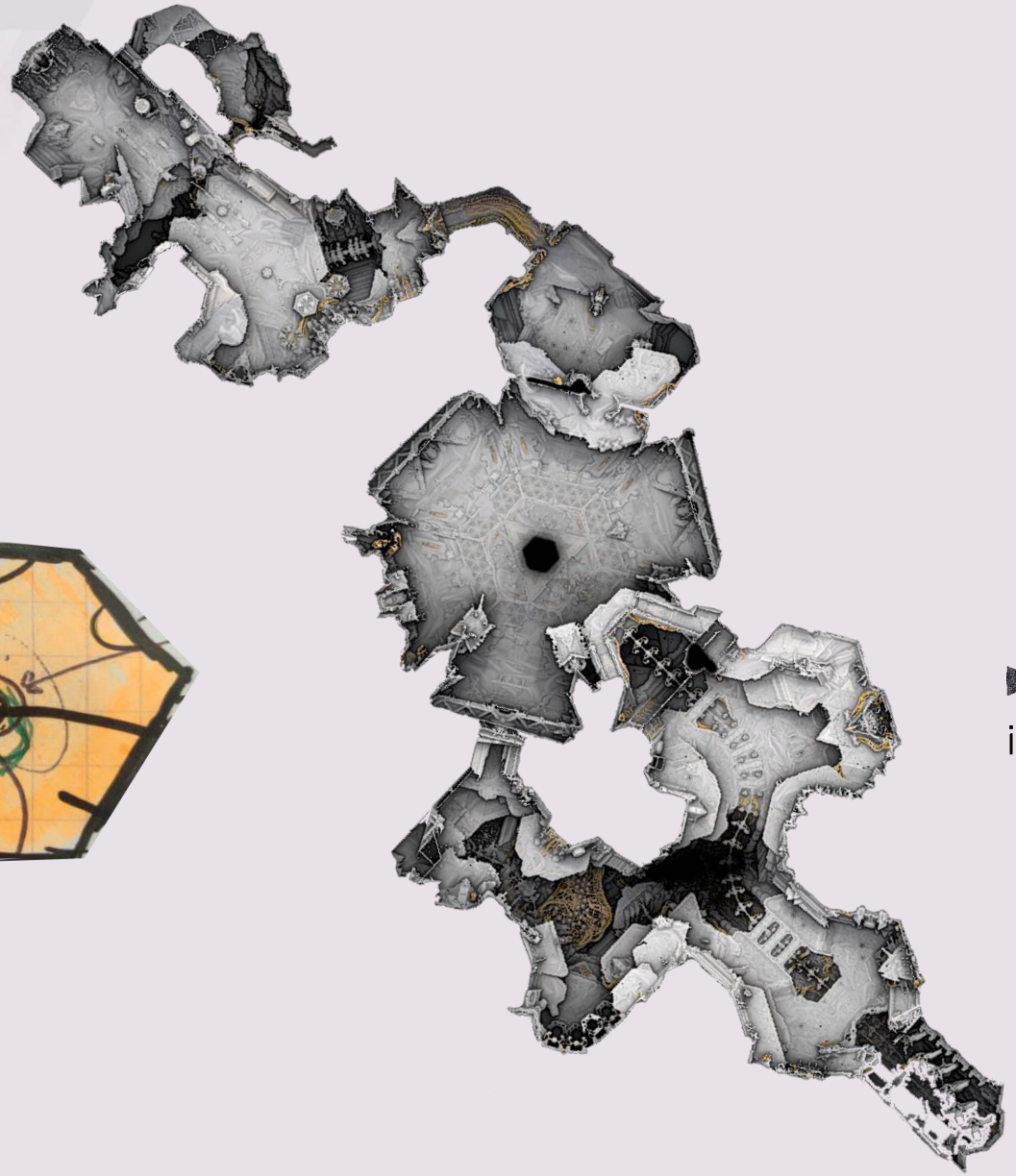
IOTA

VERSION 2

Paper Design
Block-out
Playable
Art pass
2nd pass
2nd Art
Polish & Bugfixing
2018
2019
2020
2021
2022

VERSION 2
PAPER DESIGN

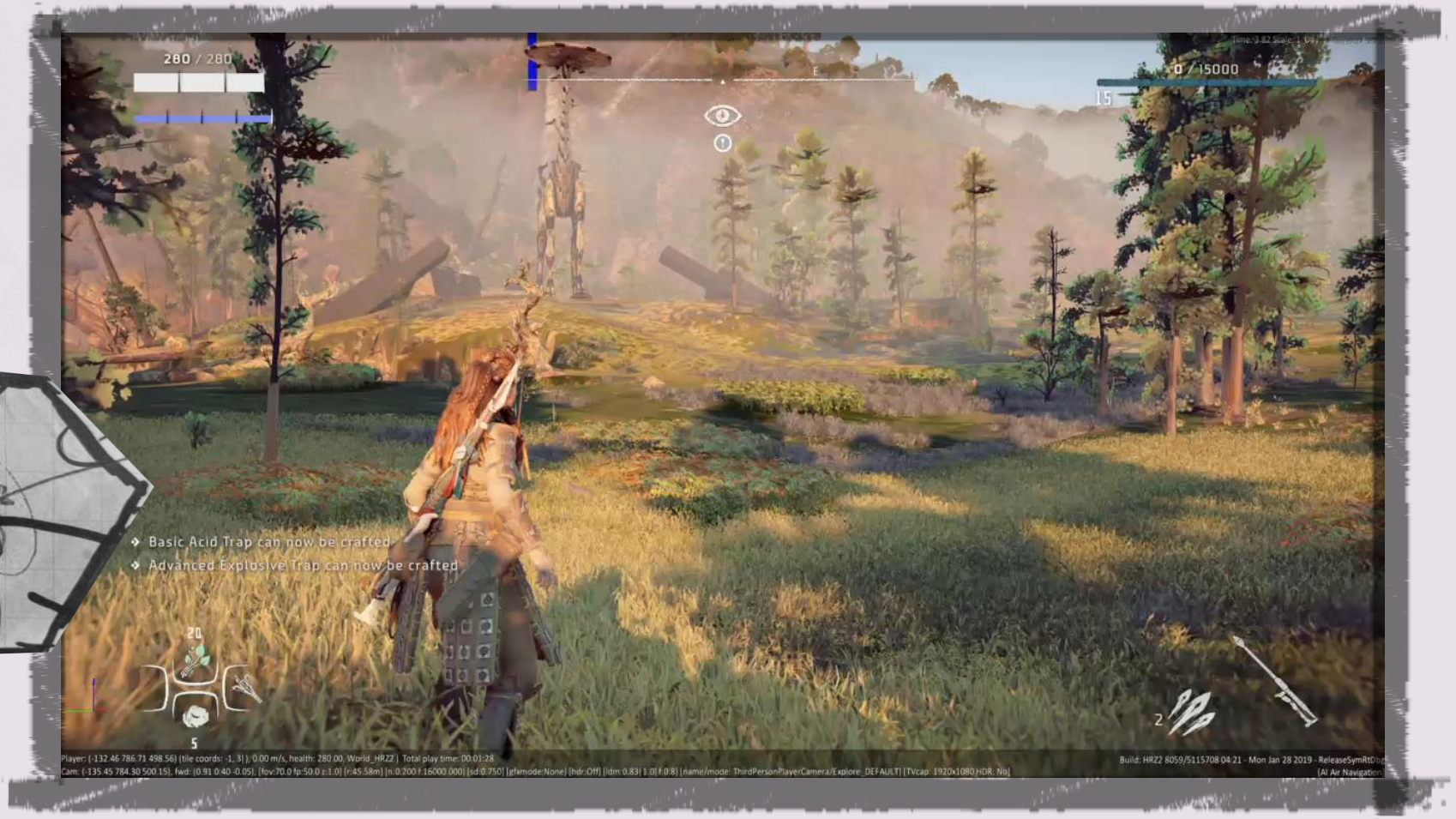
- Proposed high level map #3



- (near) final interior map

VERSION 2

HIGH-LEVEL BLOCK OUT

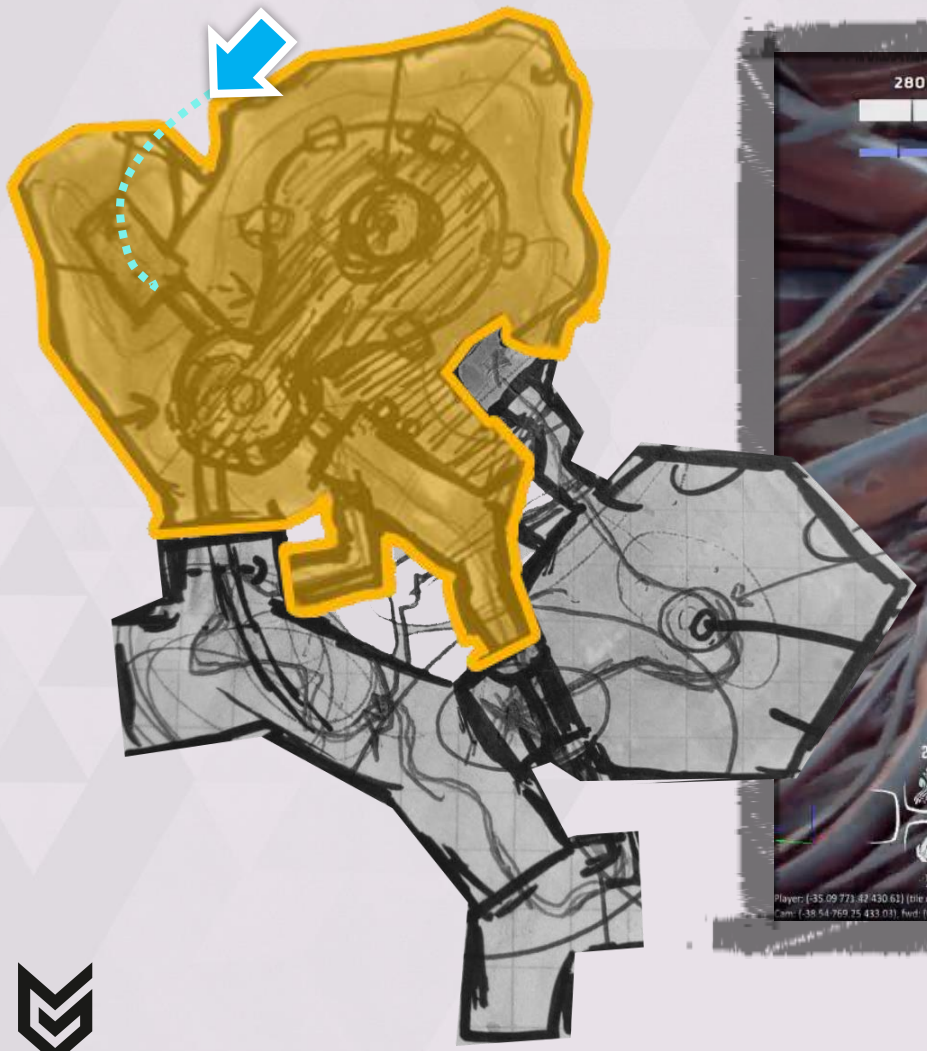


VERSION 2

HIGH-LEVEL BLOCK OUT

VERSION 2

HIGH-LEVEL BLOCK OUT



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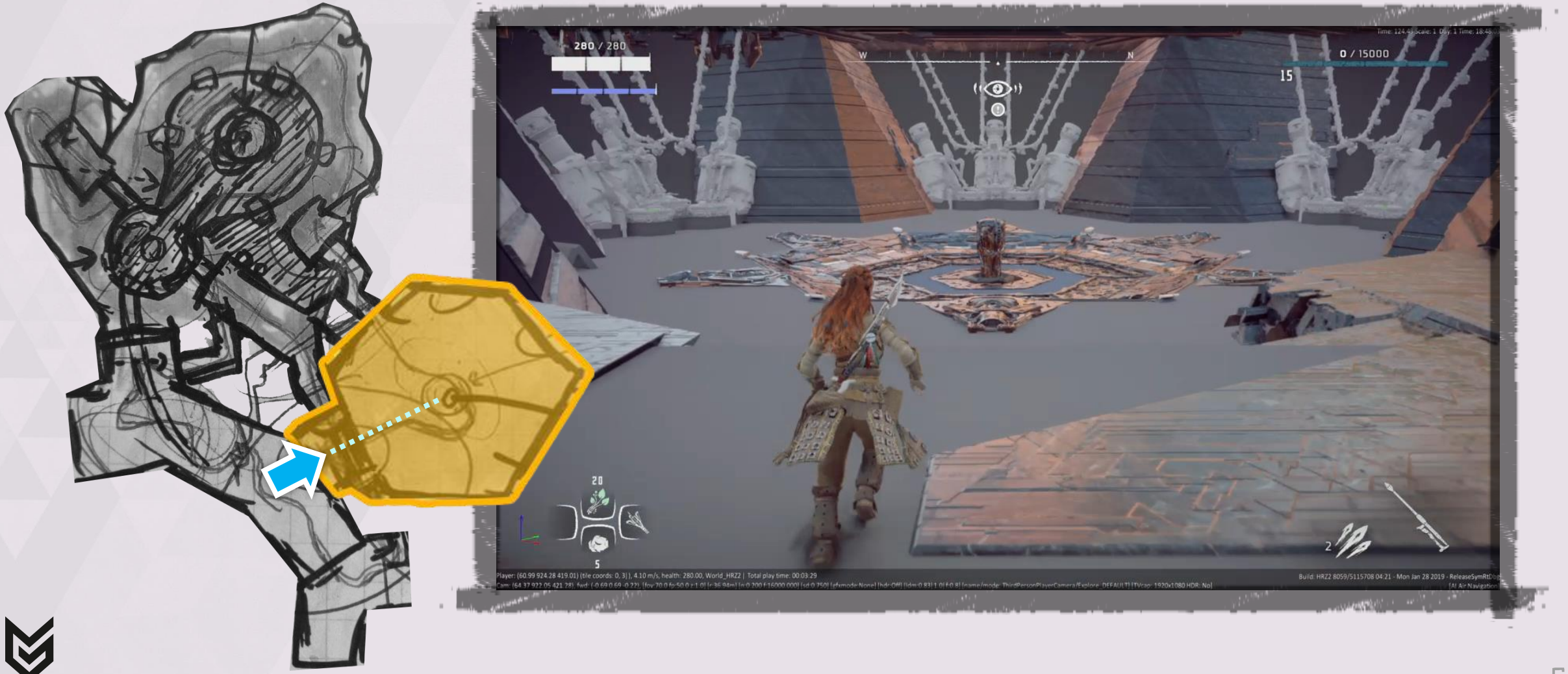

VERSION 2

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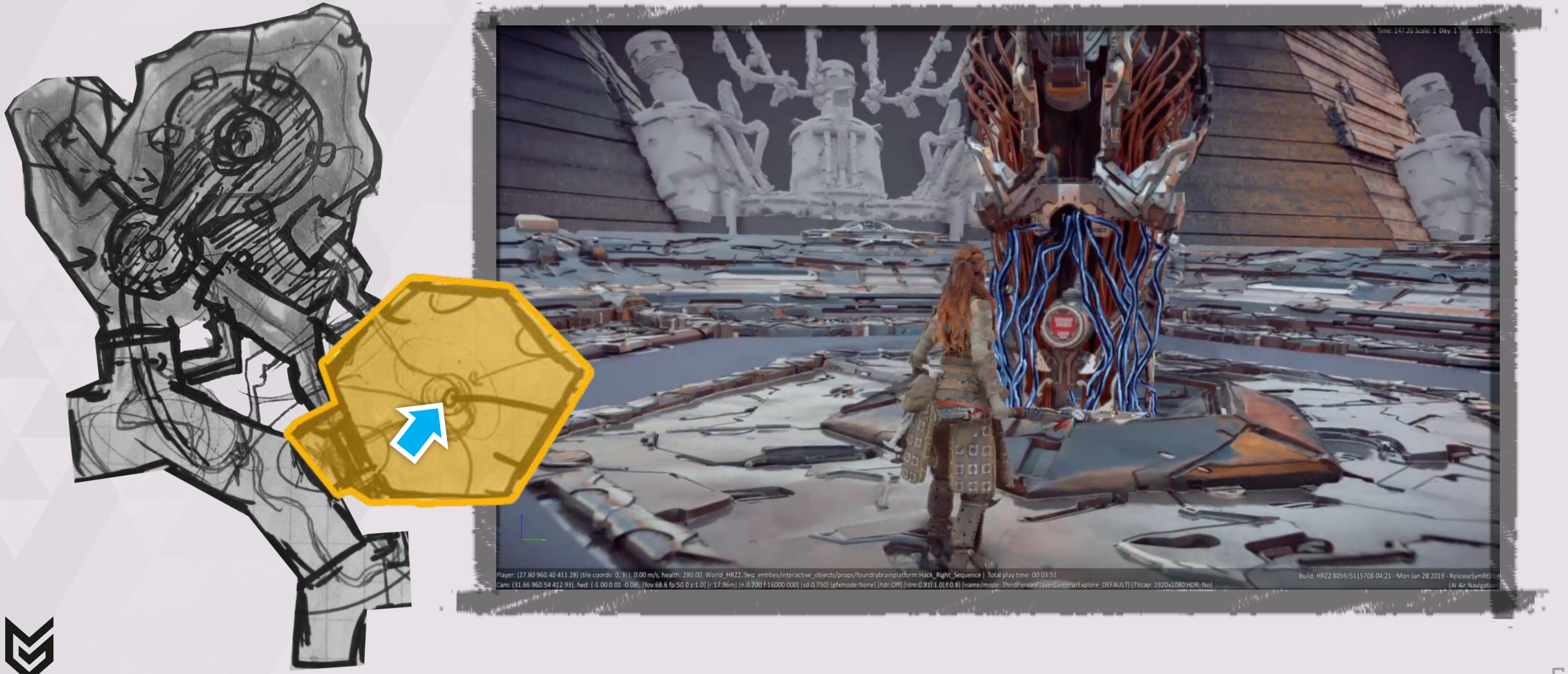

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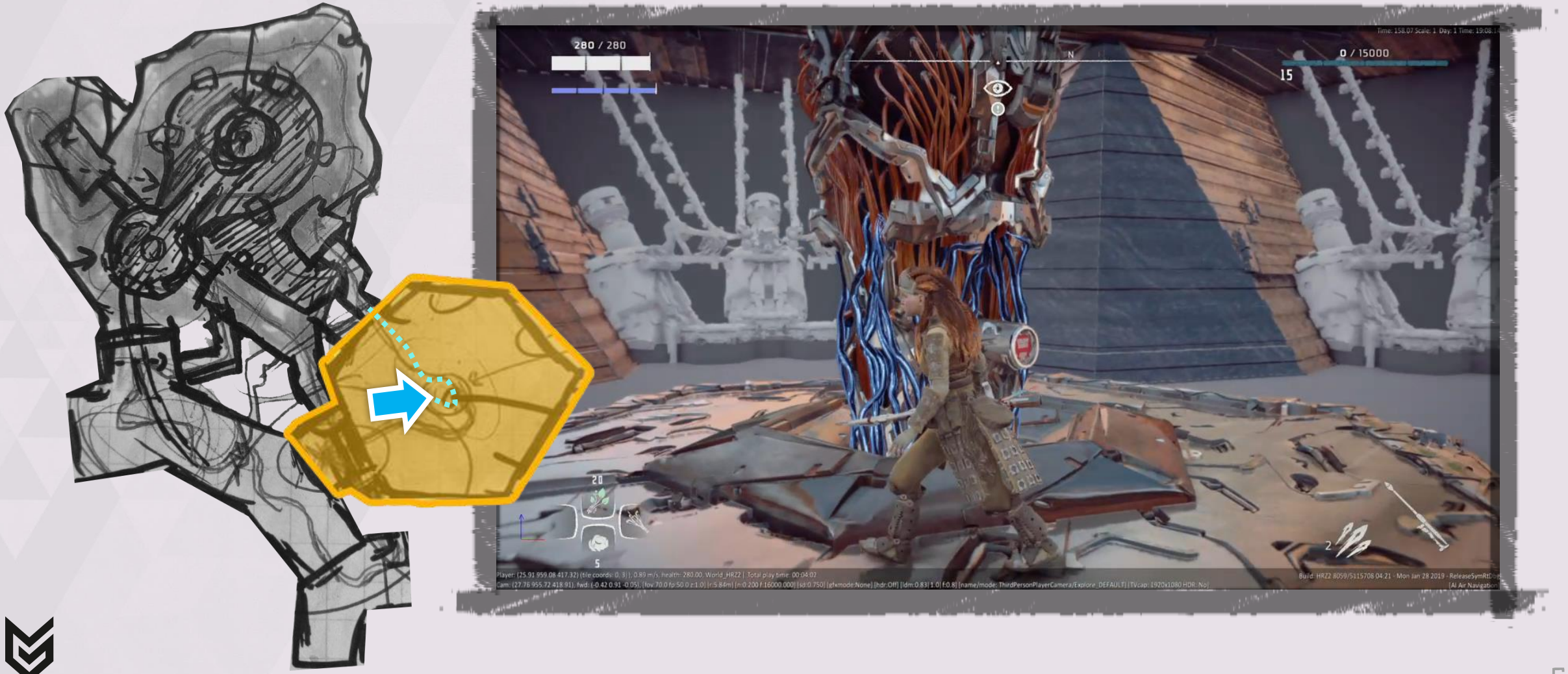

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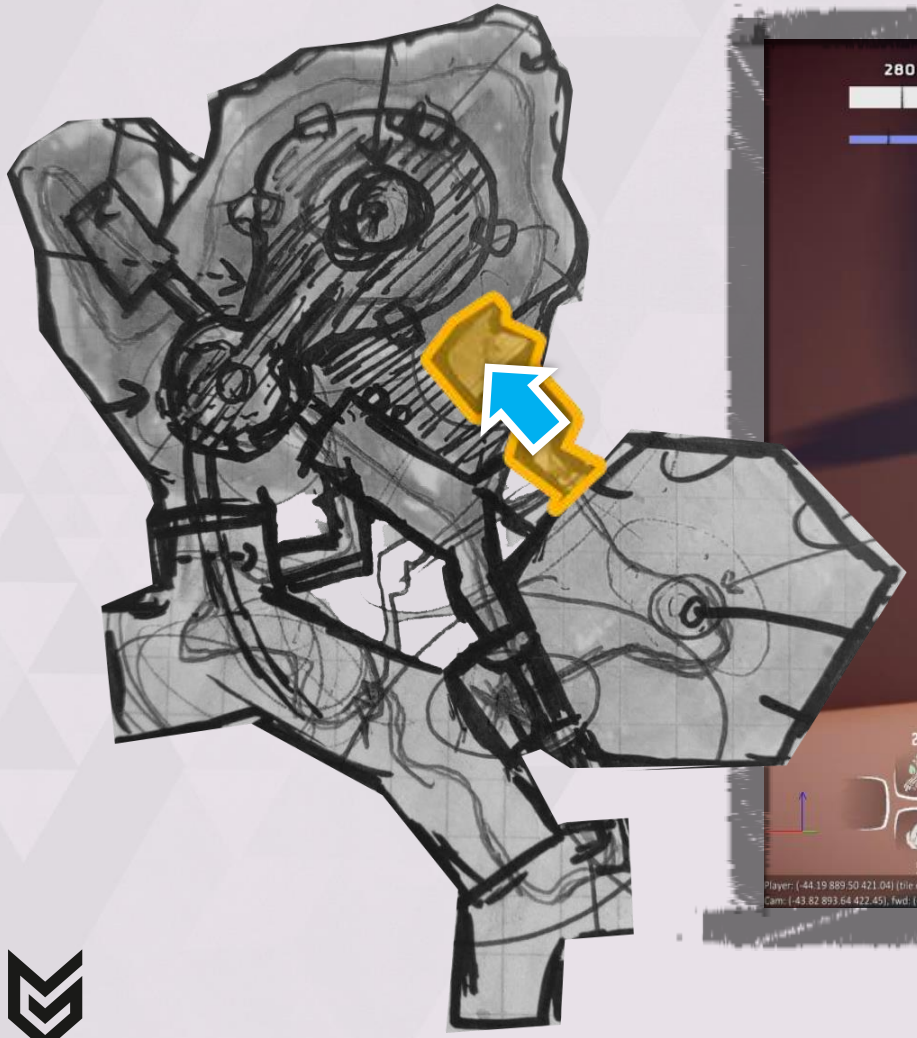

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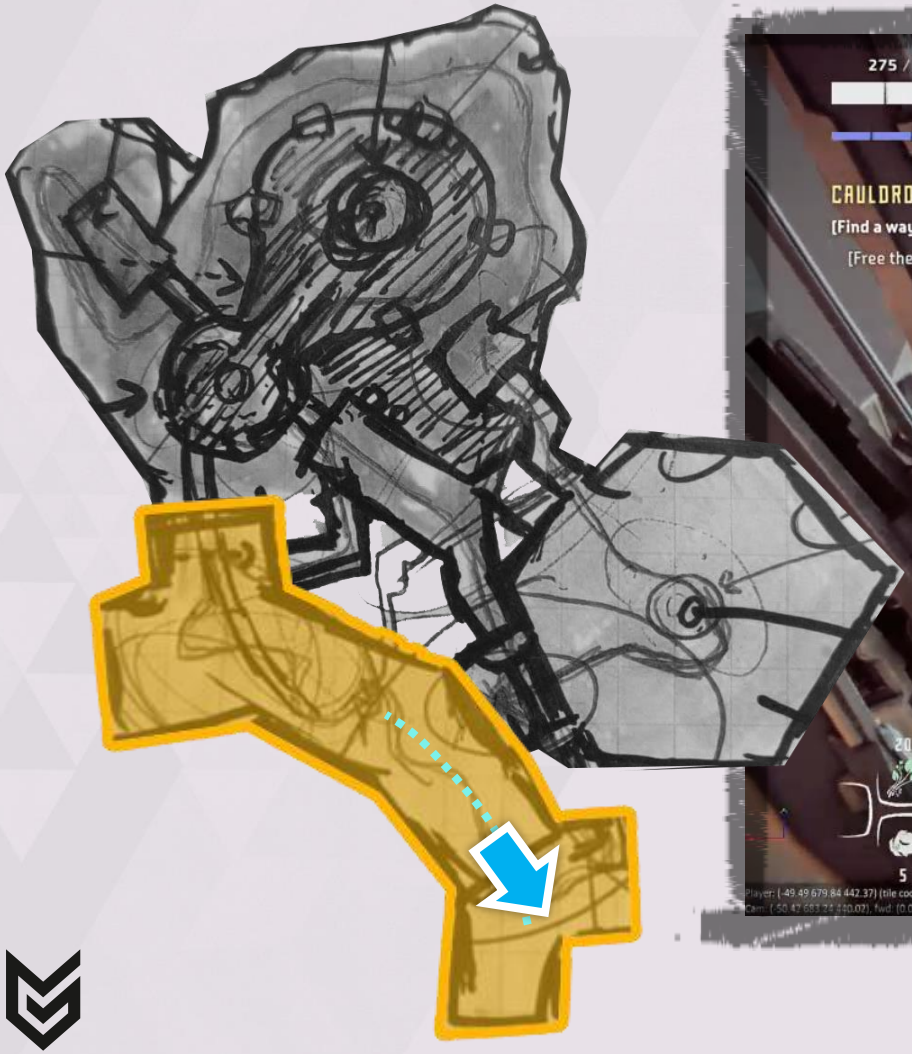


VERSION 2

HIGH-LEVEL BLOCK OUT

VERSION 2
DIDN'T MAKE IT EITHER

- Horizon lore says:
  - "Machines get assembled in the Core room."
  - "Core Rooms always have a 'Core Brain'.
- GEMINI would feature a merged twin Core

VERSION 2
REFLECTION

WHAT WORKED?

- Surfing Tallneck head
- Reduced level size

WHAT DIDN'T?

- The narrative

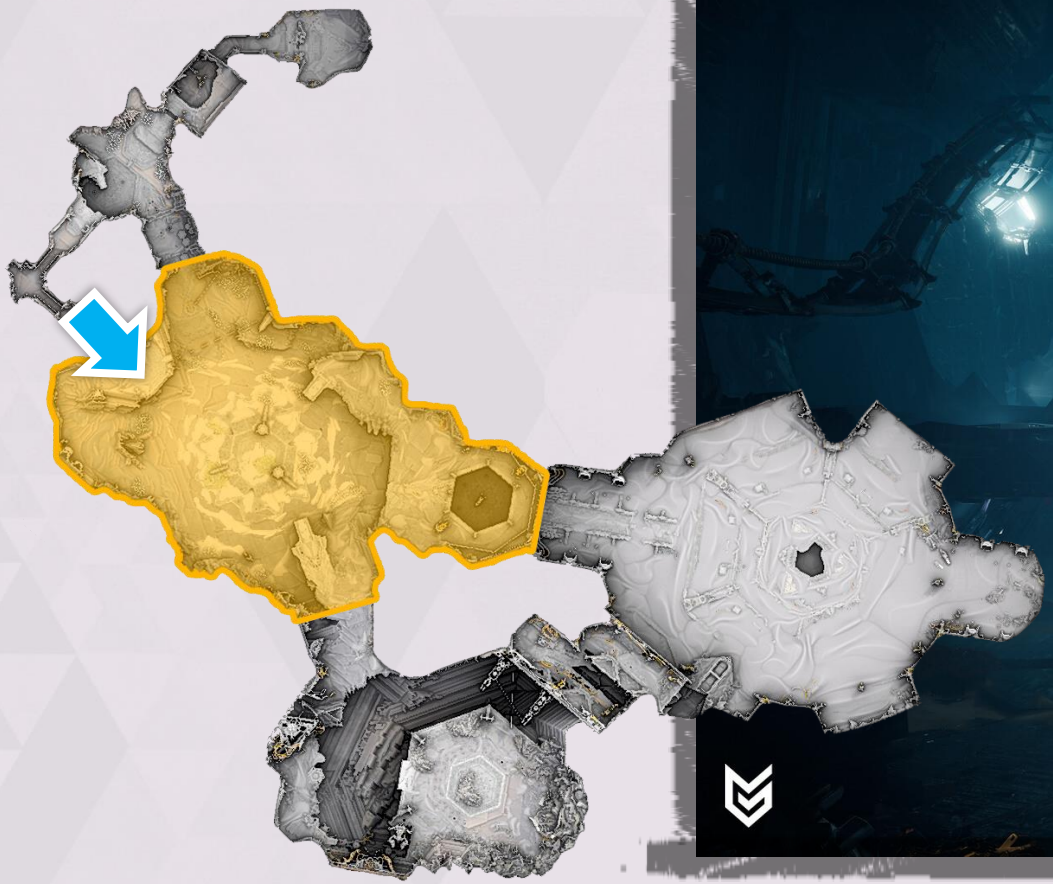
TAKEAWAY #5

Fail early
(and re-iterate)

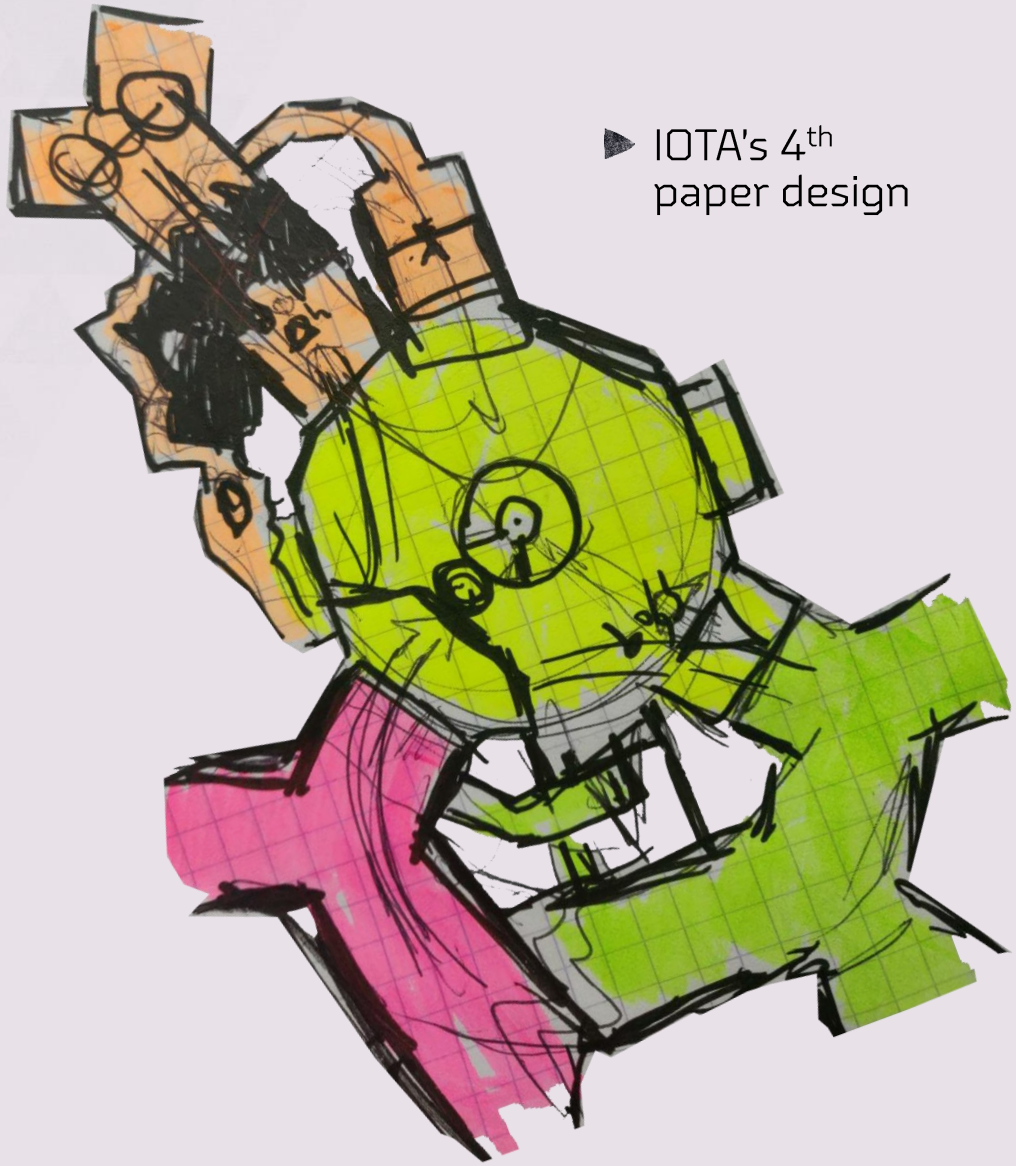
VERSION 3

...BACK TO PAPER DESIGN

MOST VALUABLE LESSON
FROM CAULDRON 4

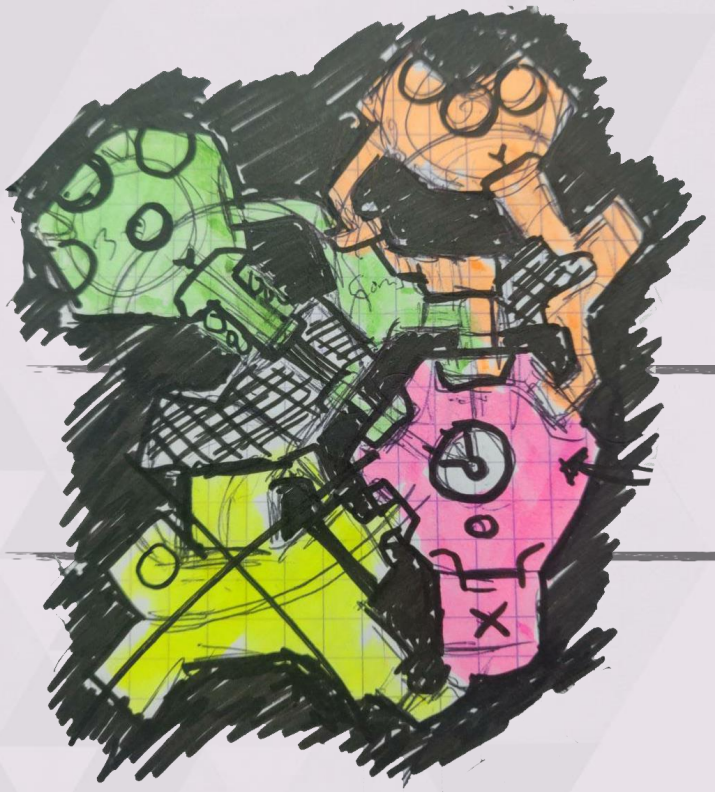


PAPER DESIGN

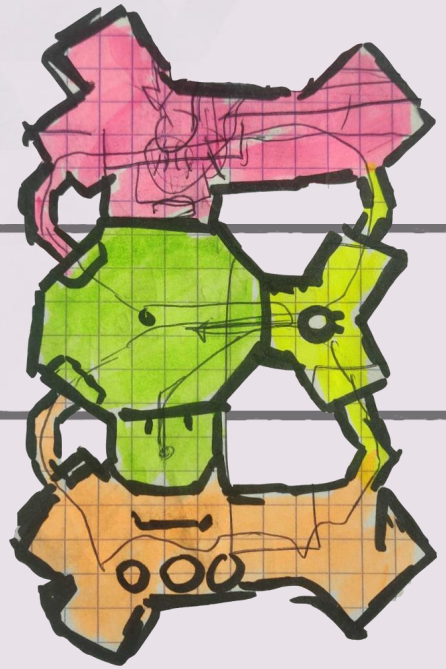


- IOTA's 4th paper design

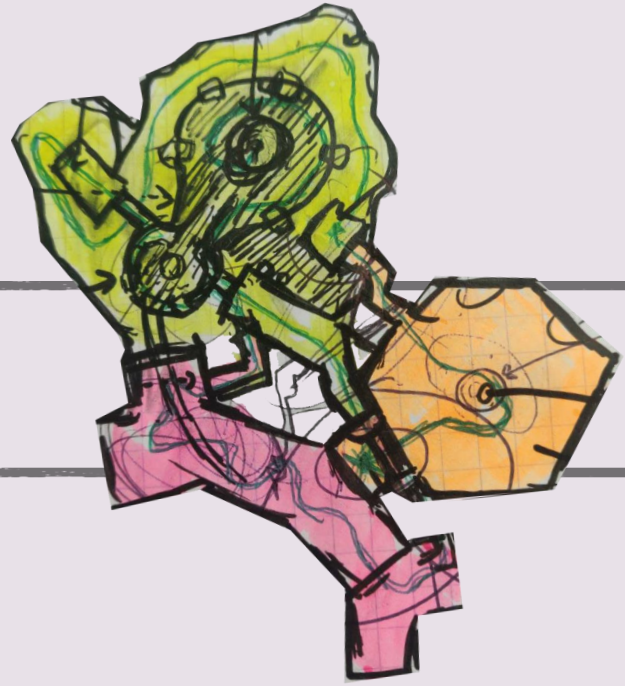
PAPER DESIGN
COMPARISON



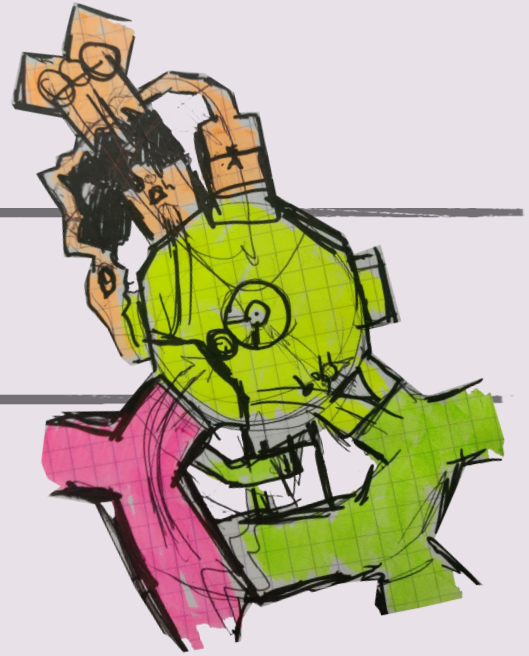
▶ Version 0



▶ Version 1



▶ Version 2



▶ Version 3

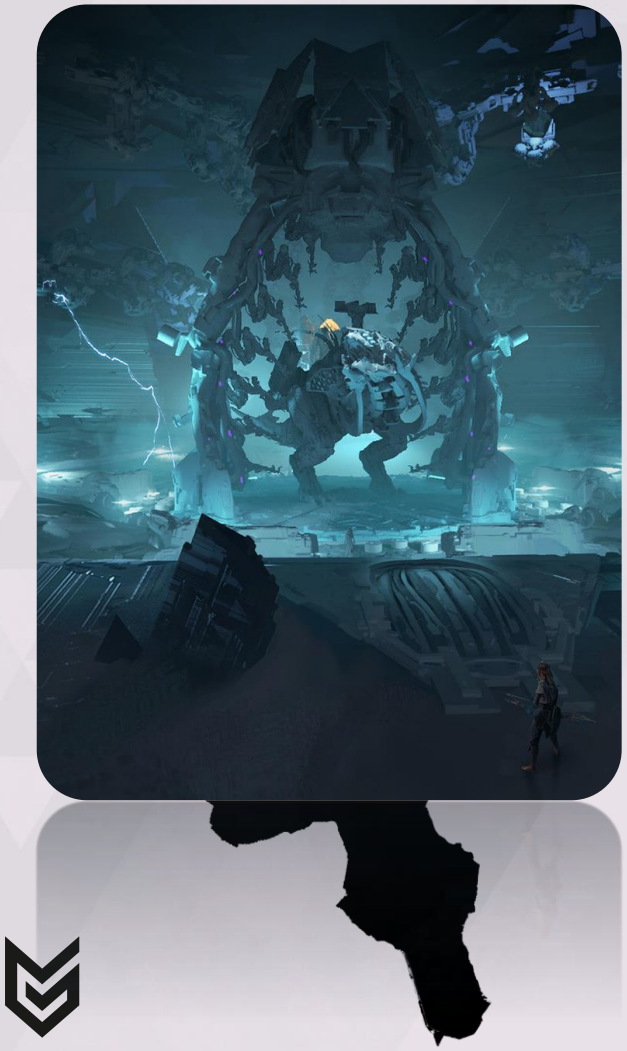
TAKEAWAY #6

The *imposter syndrome* is real.
But don't let it get you down!

VERSION 3

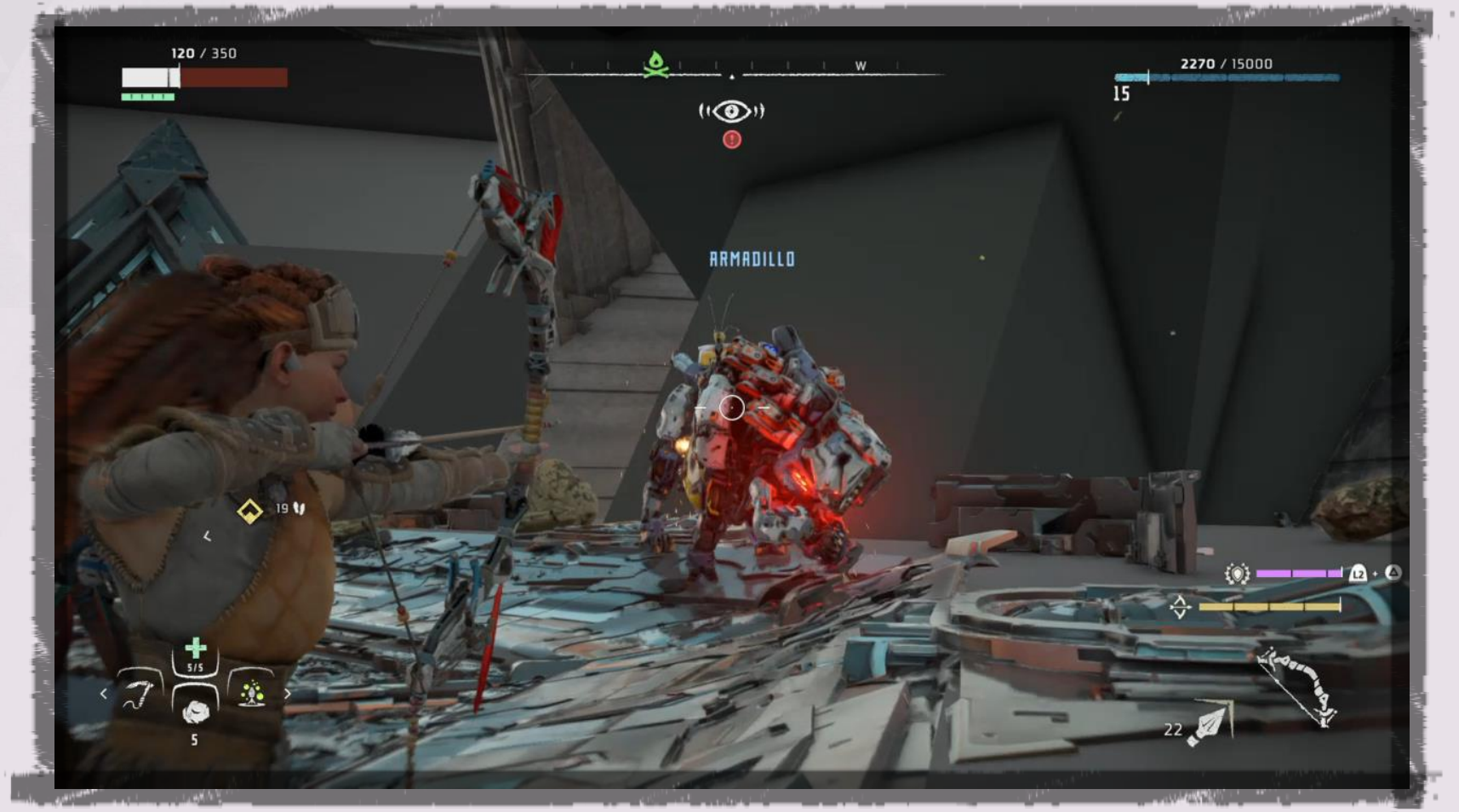
HANG ON. WE'RE GETTING THERE!

VERSION 3
1ST PLAYABLE



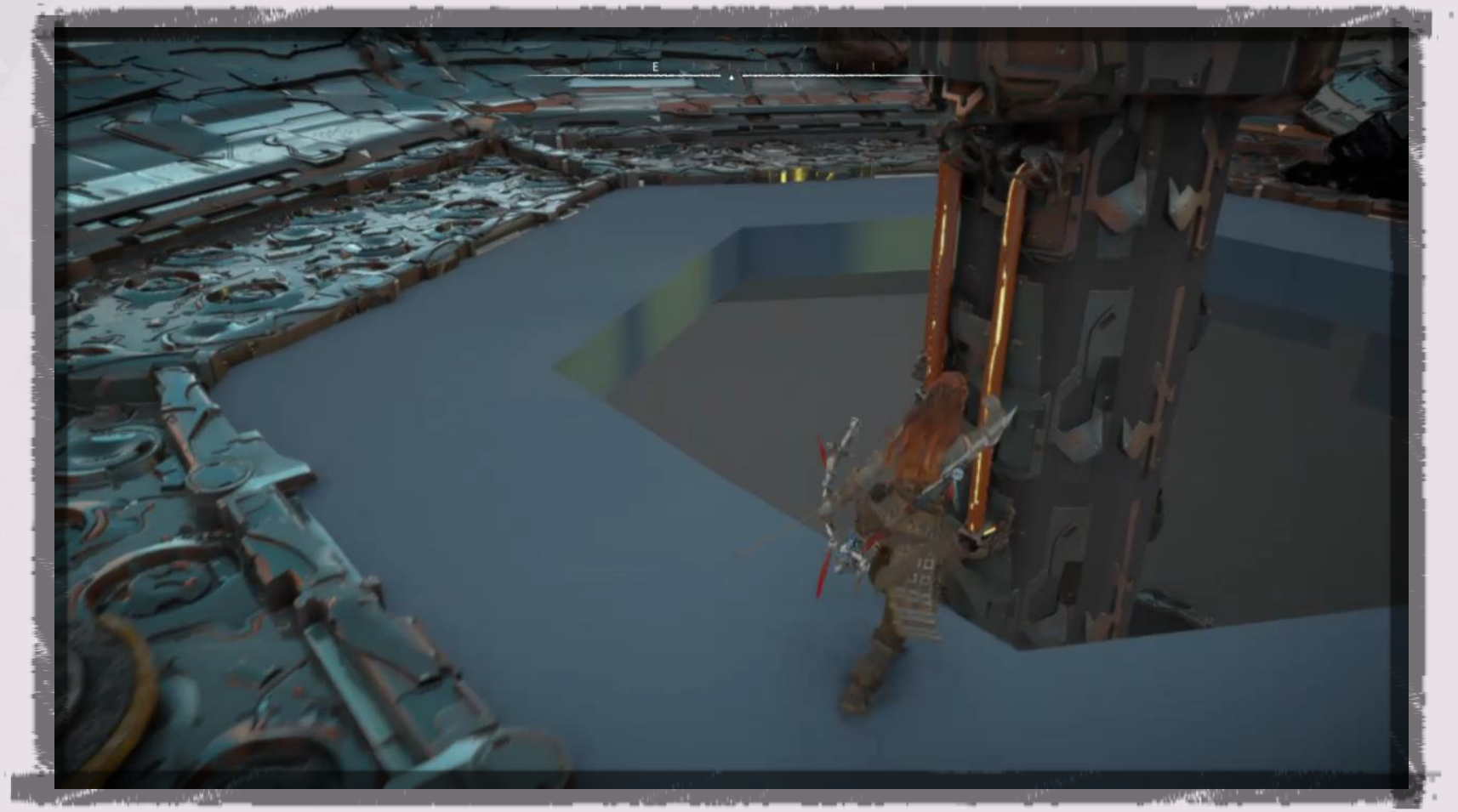
VERSION 3

1ST PLAYABLE



VERSION 3

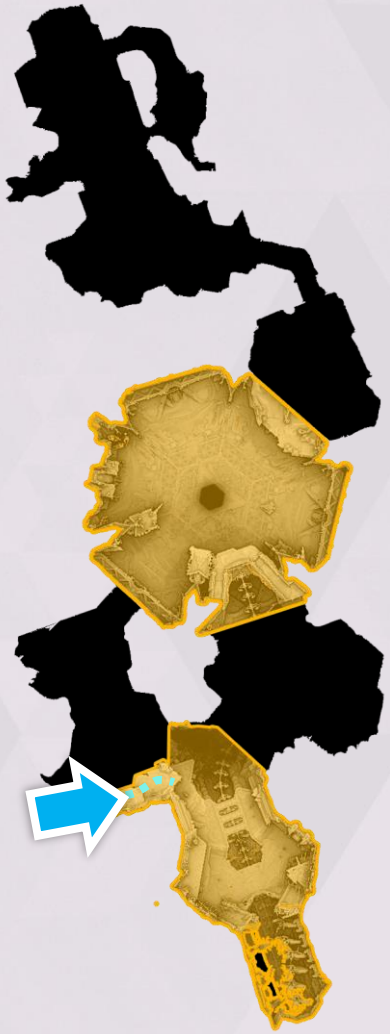
1ST PLAYABLE



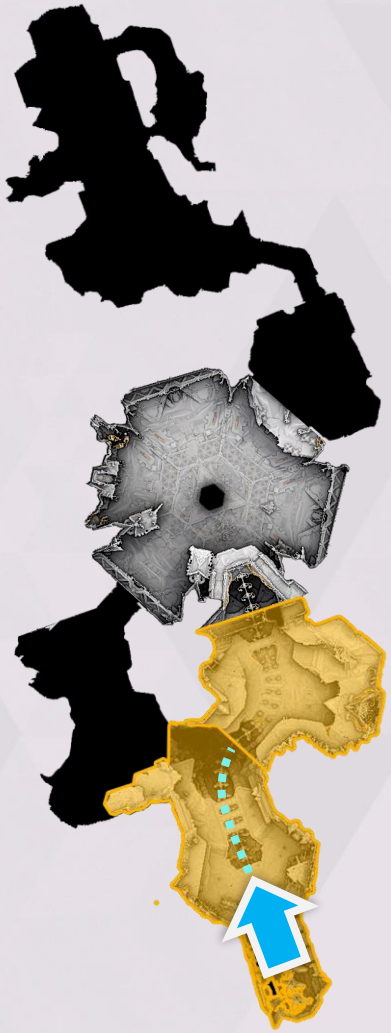
VERSION 3

1ST PLAYABLE

VERSION 3
1ST PLAYABLE



VERSION 3
1ST PLAYABLE



VERSION 3

HIGH-LEVEL BLOCK OUT

VERSION 3
1ST PLAYABLE

VERSION 3

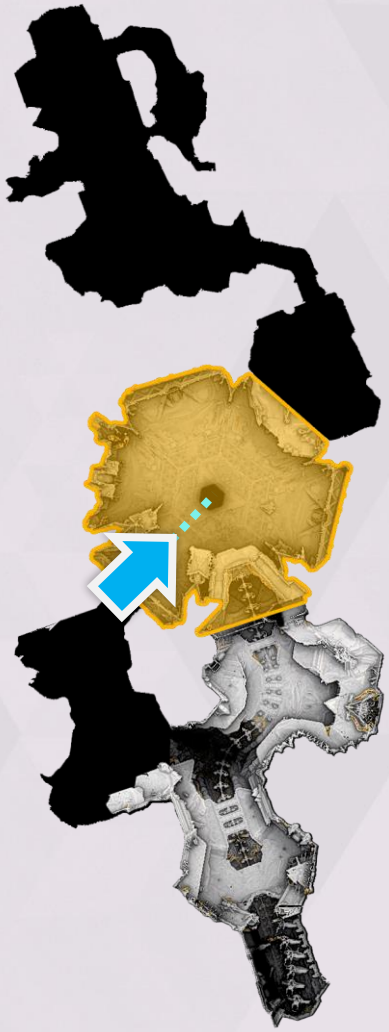
HIGH-LEVEL BLOCK OUT

VERSION 3

HIGH-LEVEL BLOCK OUT

VERSION 3

MORE CUTS?!



TAKEAWAY #7

Keep people involved.

VERSION 3

1ST PLAYABLE

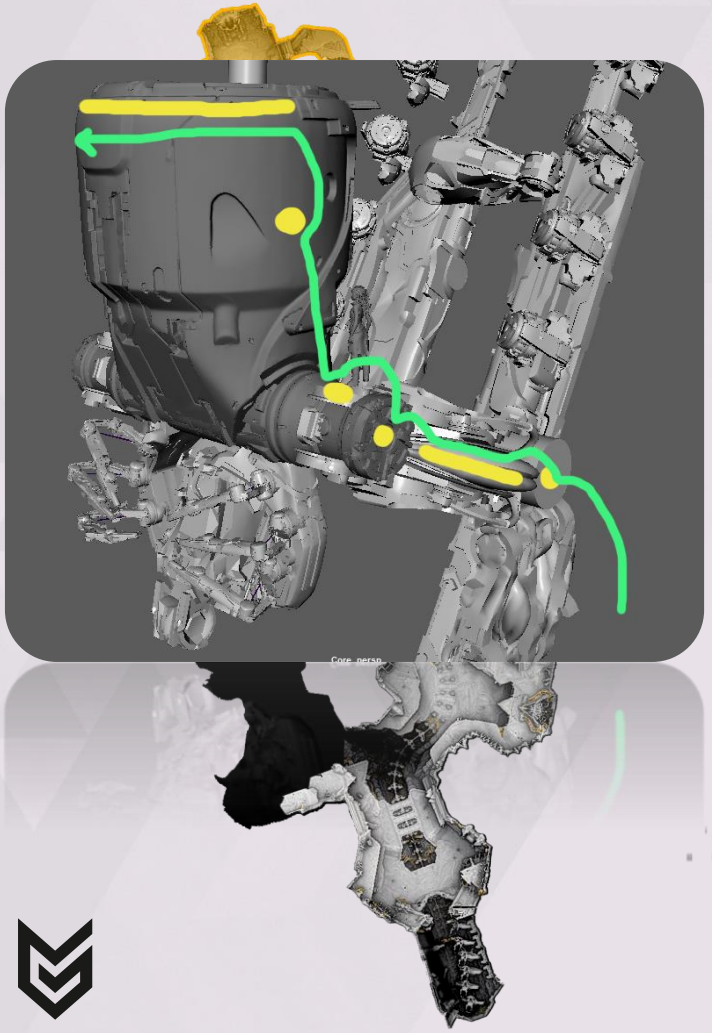
VERSION 3

1ST PLAYABLE

VERSION 3

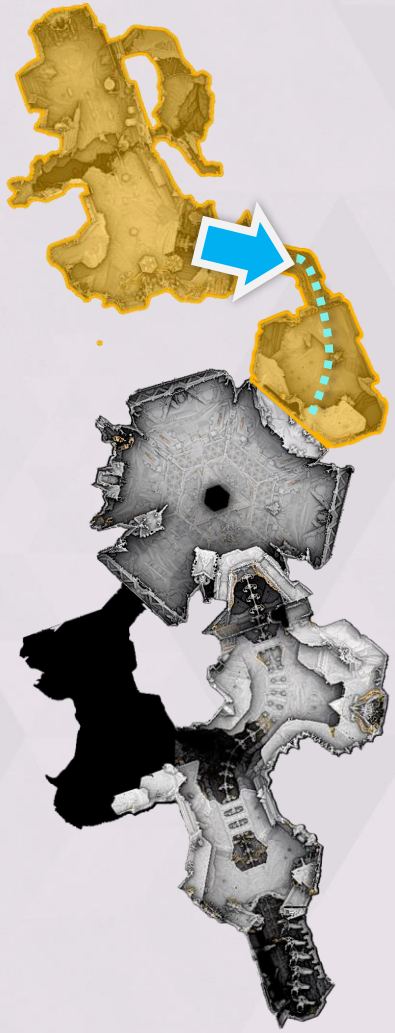
NEAR-FINAL LEVEL

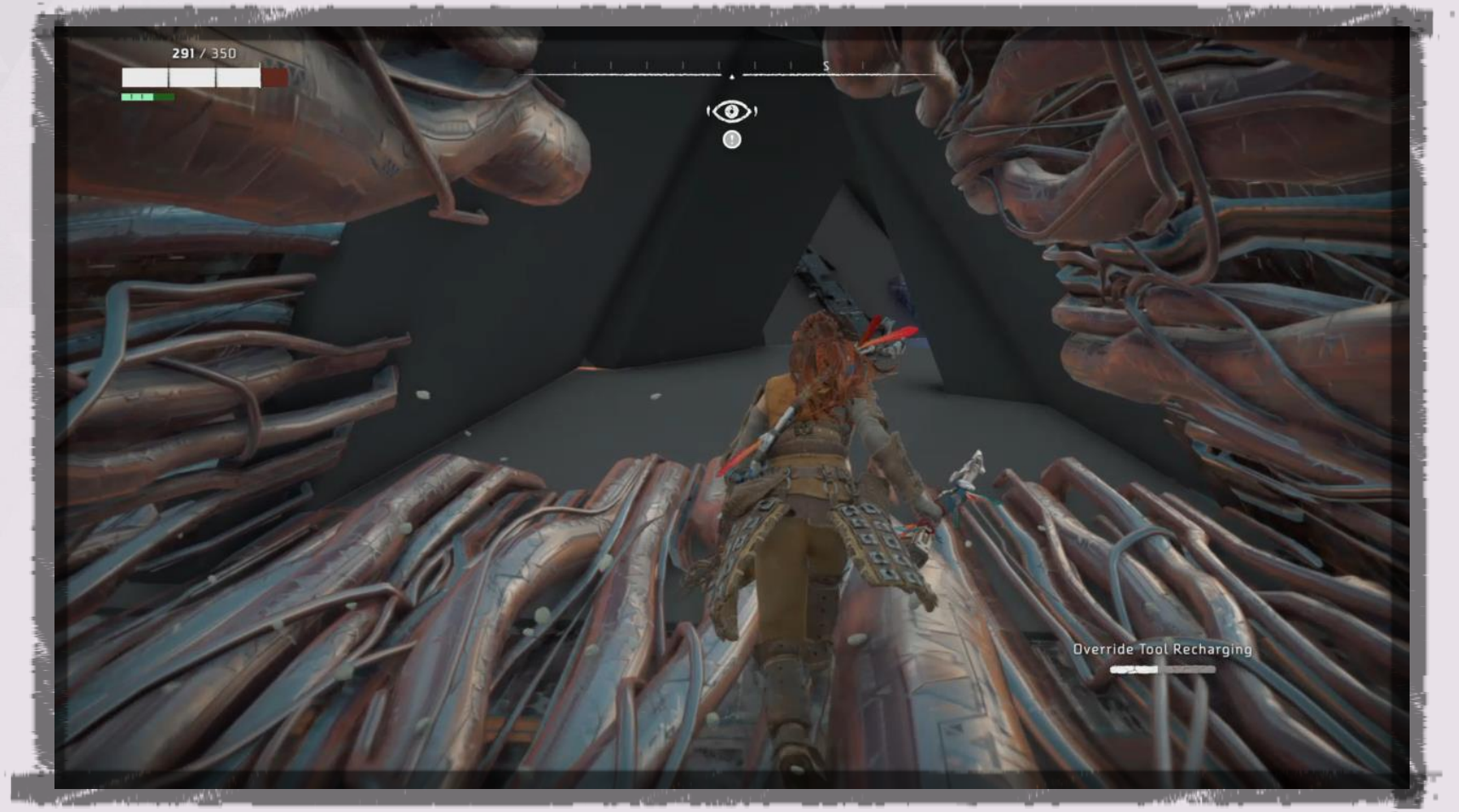
VERSION 3
1ST PLAYABLE



VERSION 3

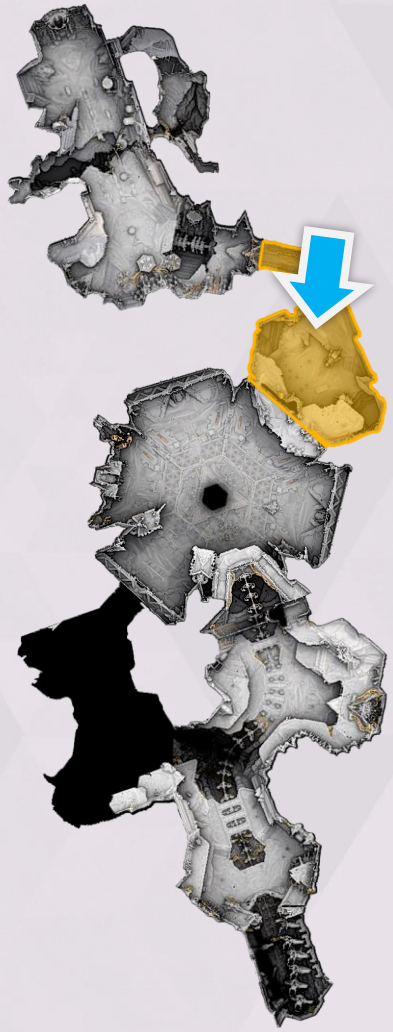
1ST PLAYABLE





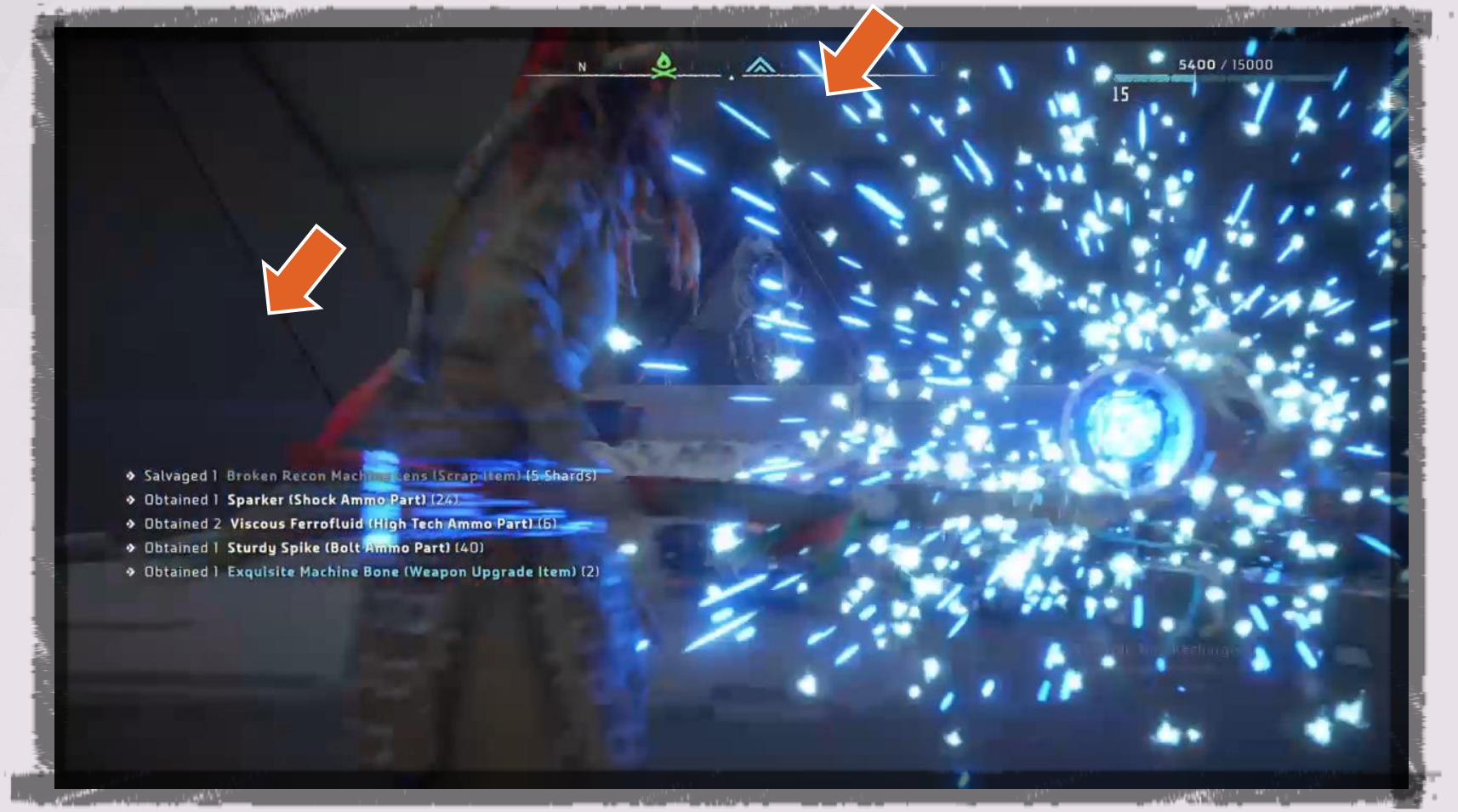
VERSION 3

FINAL LEVEL



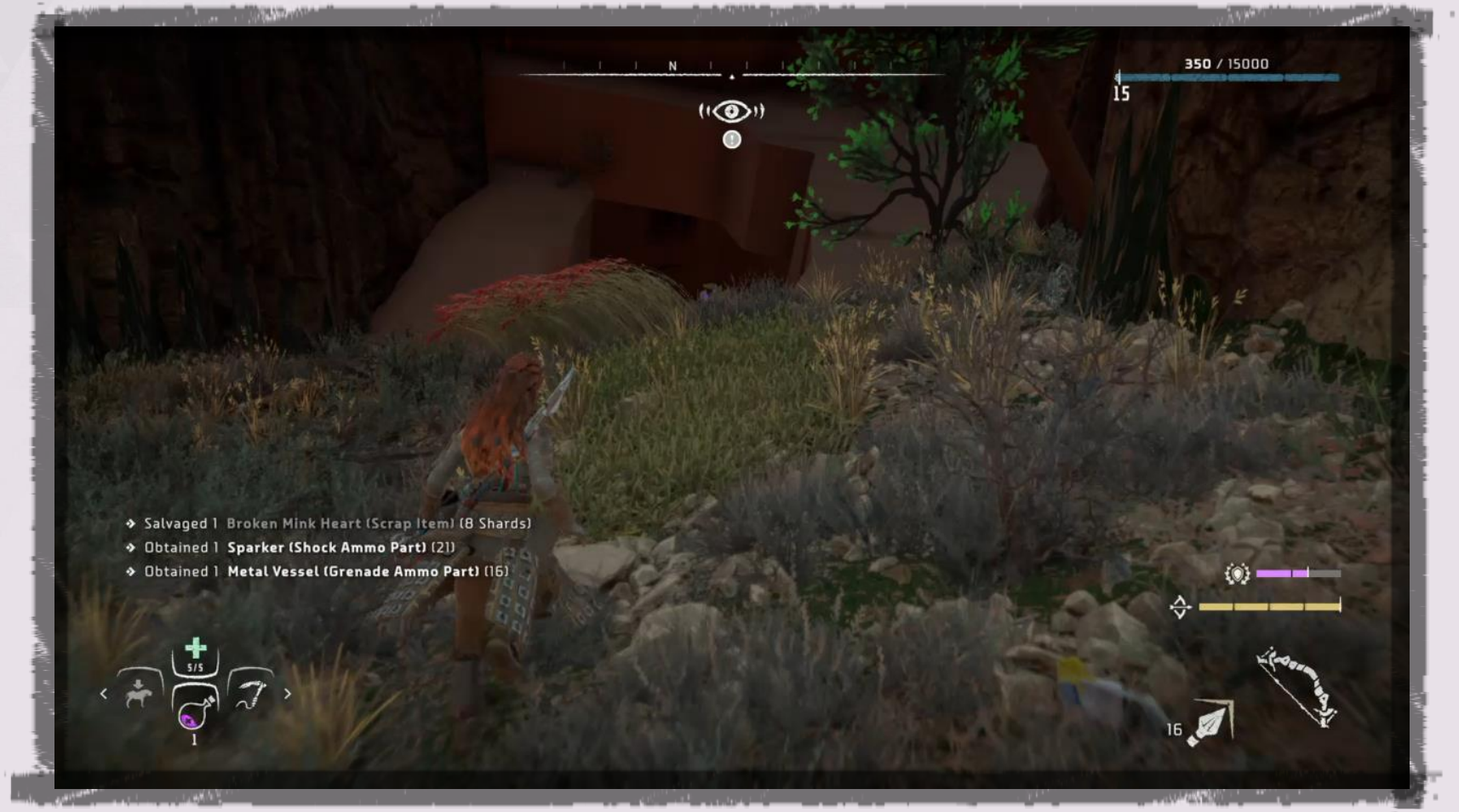
VERSION 3

1ST PLAYABLE



VERSION 3

1ST PLAYABLE



TAKEAWAY #8

Designing backwards
-or around set pieces

IOTA

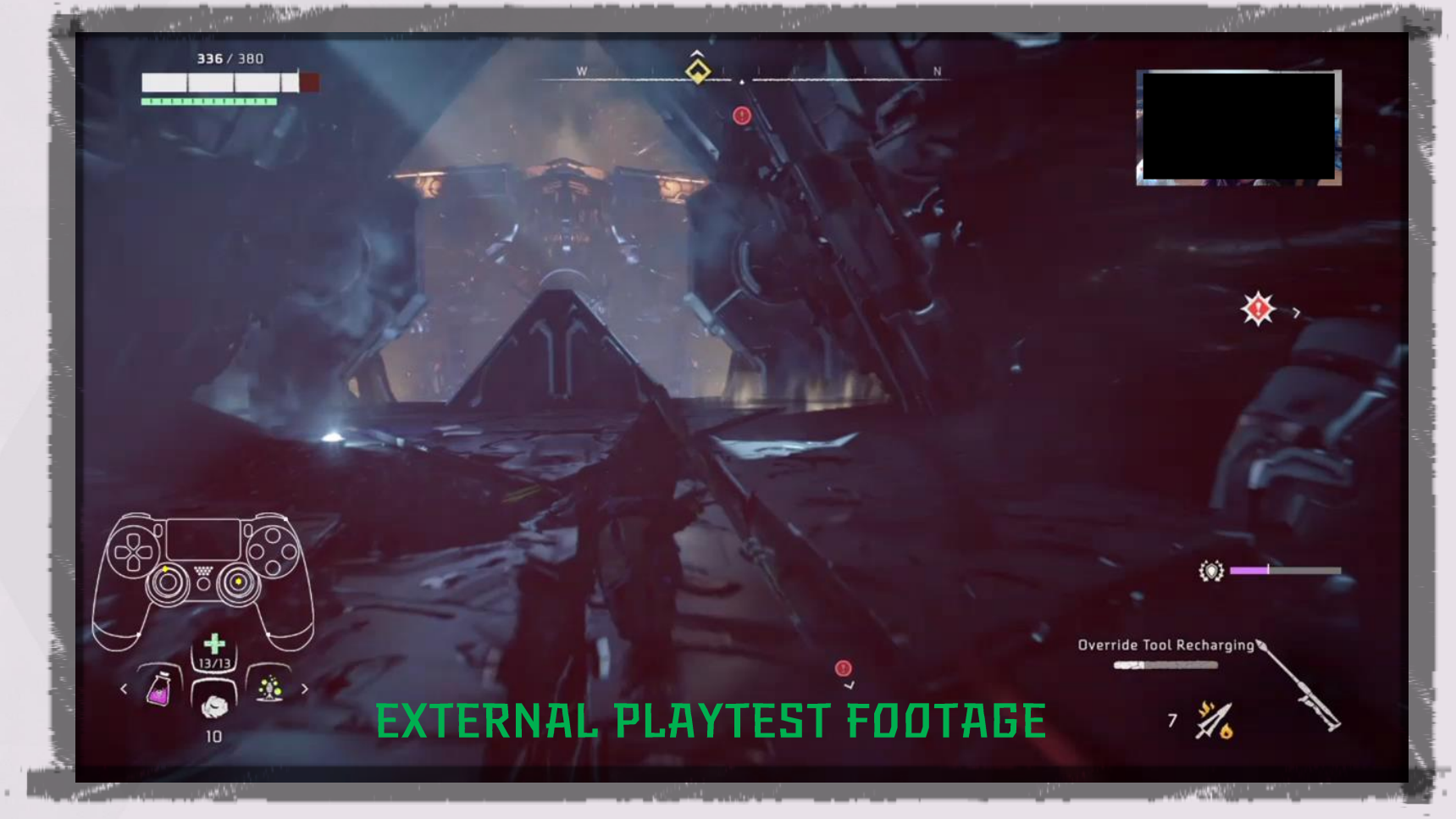
2ND PASS

Paper Design
Block-Out
Playable
2nd Pass
2nd Art
Polish & Bugfixing
2018
2019
2020
2021
2022

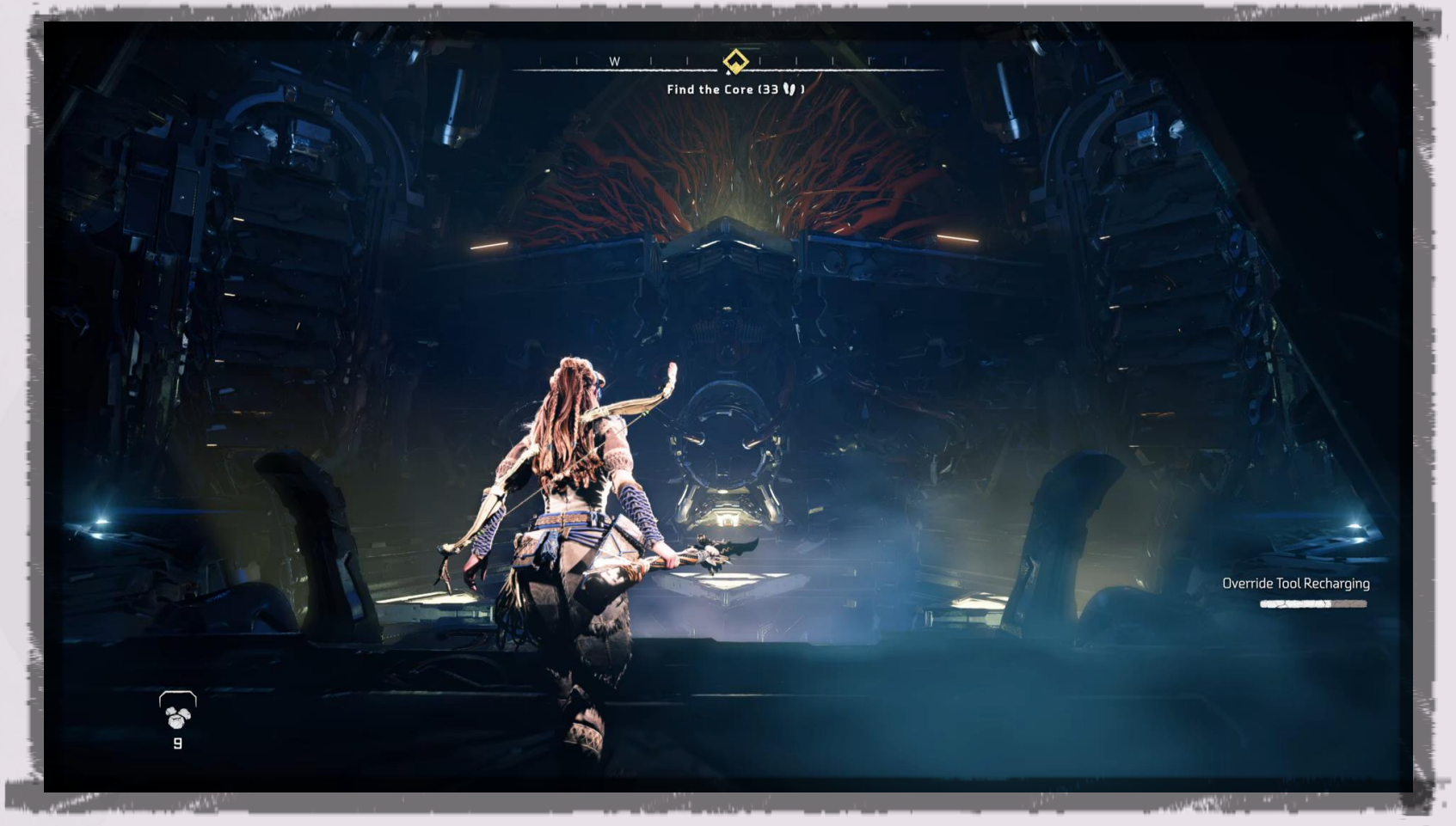
2ND PASS
MUST FIX ISSUES

- Too many player deaths
- Core Room(s) too small
- Some missed the Tallneck reveal
- Testers got stuck in the space underneath the Core

2ND PASS
PLAYER DEATHS



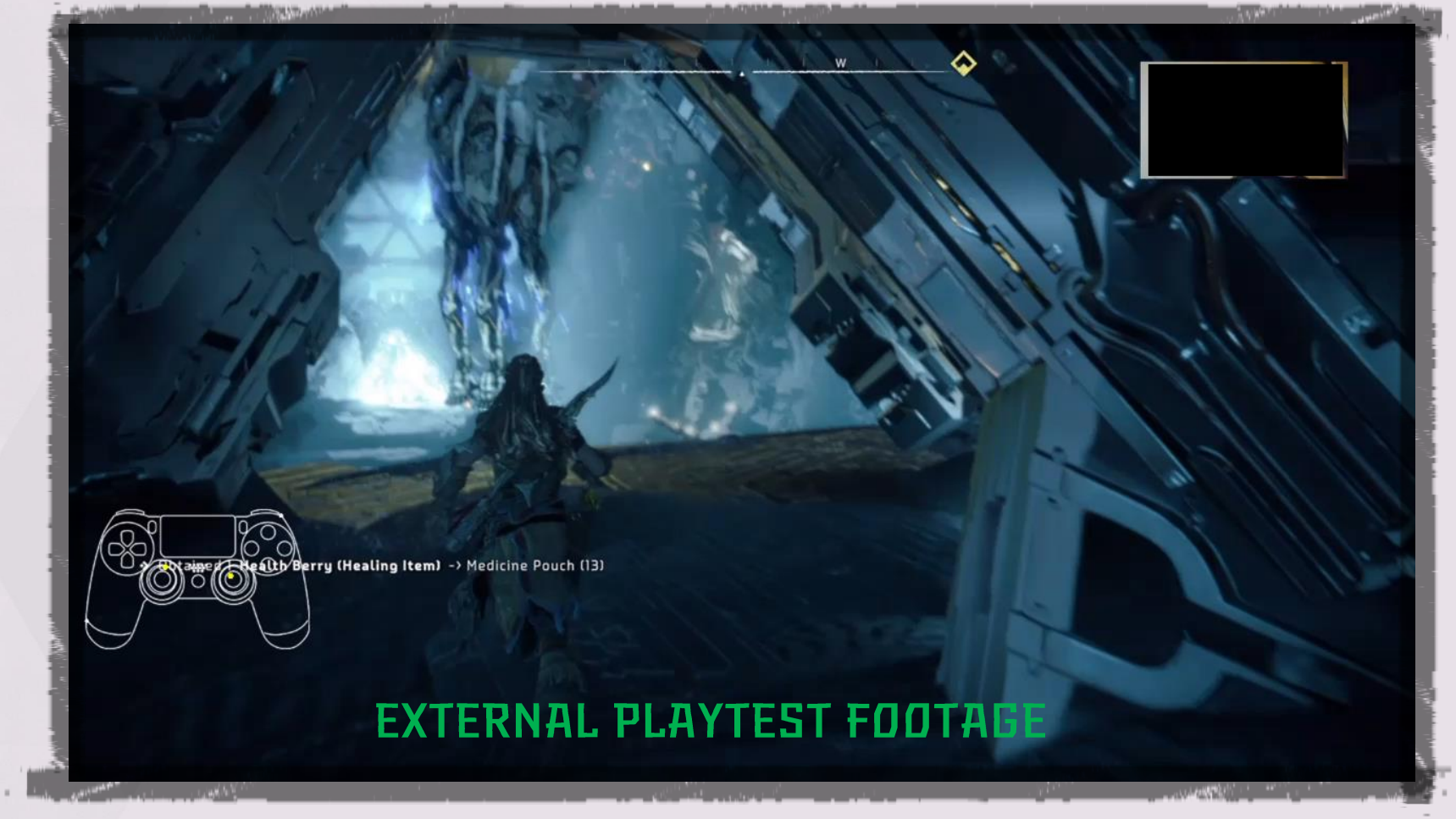
2ND PASS
PLAYER DEATHS



2ND PASS
CORE ROOM TOO SMALL

2ND PASS

WHAT TALLNECK?!



2ND PASS
OH, THAT ONE

2ND PASS
UNDERNEATH THE CORE

2ND PASS

UNDERNEATH THE CORE

IOTA

POLISH

Block-out
Playable
2nd Pass
2nd Art
Polish & Bugfixing
2018
2019
2020
2021
2022

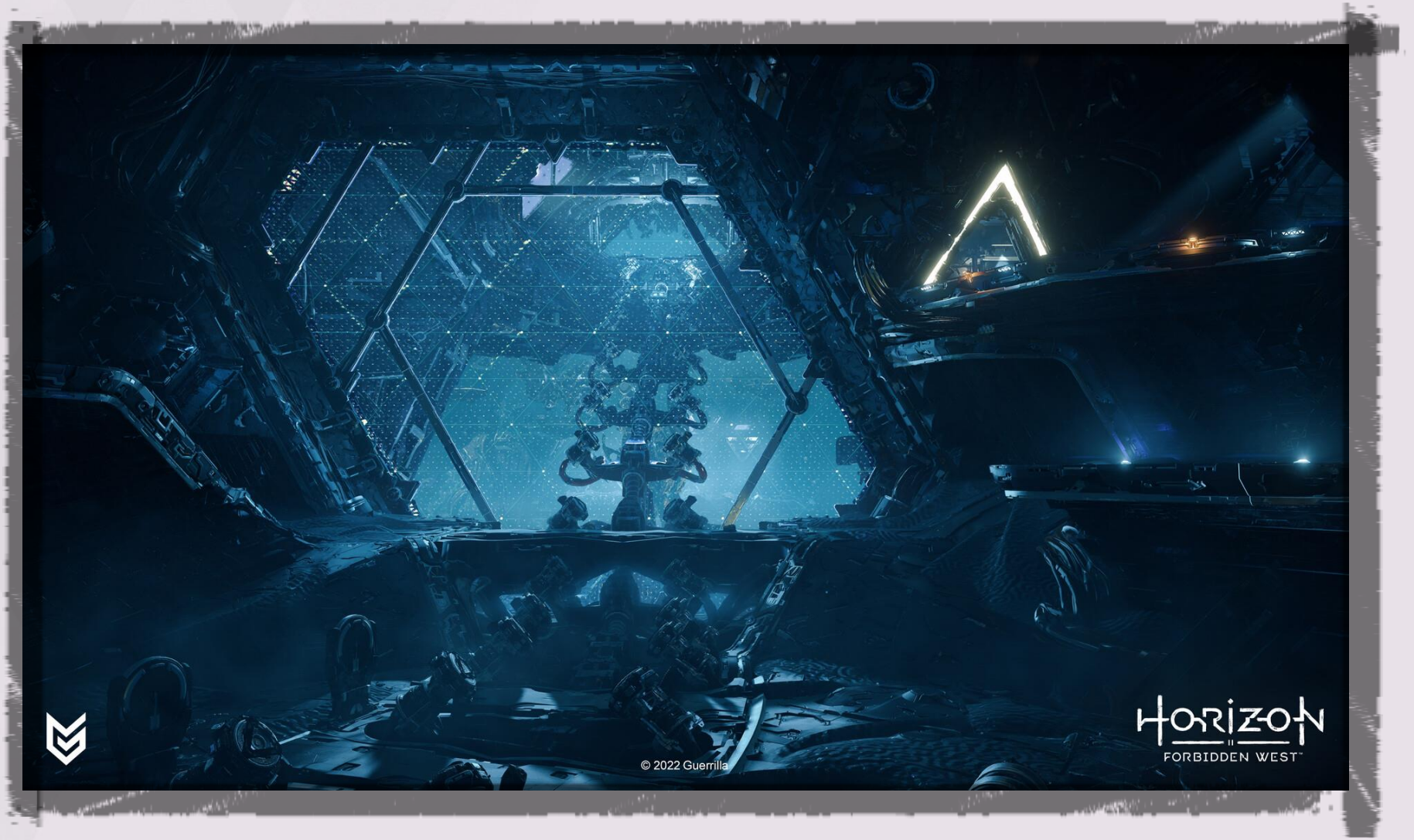
POLISH

BACKTRACKING NOT ALLOWED!

POLISH

BACKTRACKING NOT ALLOWED!

POLISH
LIGHTING!



POLISH
INTERACTIVE OBJECTS & MARKERS

E
4
4
Aloy: Here goes nothing.

WRAP UP!

TAKEAWAYS THE THINGS I LEARNED

- Use your pre-production time well
- Bigger doesn't equal better
- Be adaptable
- Fail early (and re-iterate)
- The imposter syndrome is real.
  But you're going to be okay!
- Get/Keep people involved
- If you're stuck on your level design:
  - Move on for now.
  - Design around set pieces

ACKNOWLEDGEMENTS

IT'S A TEAM EFFORT!

- [Concept Art] – Erik, Lloyd
- [Environment Art] – Olmo, Kaj, Scotty & Gary
- [Design] – Floris, Dennis vbB, Daniel & Dennis Z
- [Direction] – Misja & Mathijs
- [Narrative] – Ben & Ariadna
- [Tech Design] – Marcin, Iris, Hakan, Esther & Andrius
- [Lighting] – Hus & Roderick
- [Audio] – Ramon, Lewis, Lucas & Bastiaan
- [QA] – Joshua & the team
- [VFX] – Marijn & Anthonie
- [Production] – Brian, Joel

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