

Level Design Workshop

Section Two: Layout Fundamentals



GAME DEVELOPERS CONFERENCE™ CHINA
SHANGHAI INTERNATIONAL CONVENTION CENTER
SHANGHAI, CHINA · OCTOBER 19-21, 2014

THE ROLE OF LAYOUT

Layout & Mechanics

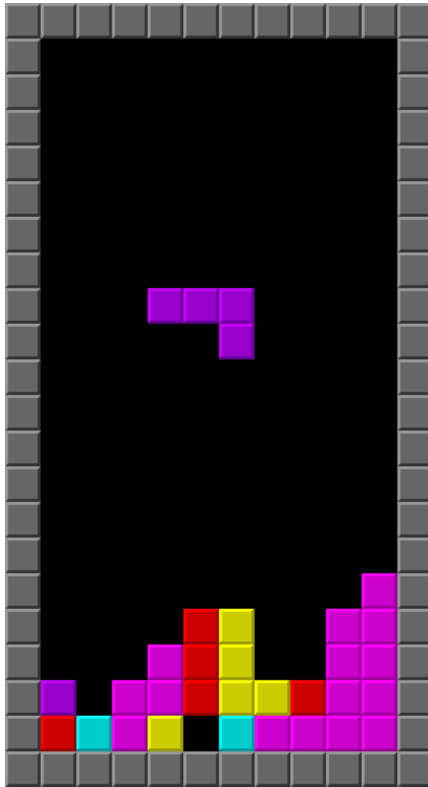
- Mechanics: Player's Verb Set
- Layout: Space Conducive to those Verbs

A sandbox is a very
Simple layout for
Playing w/Sand



Do Games Require Layout?

- Some Mechanics-Driven Games Do Not

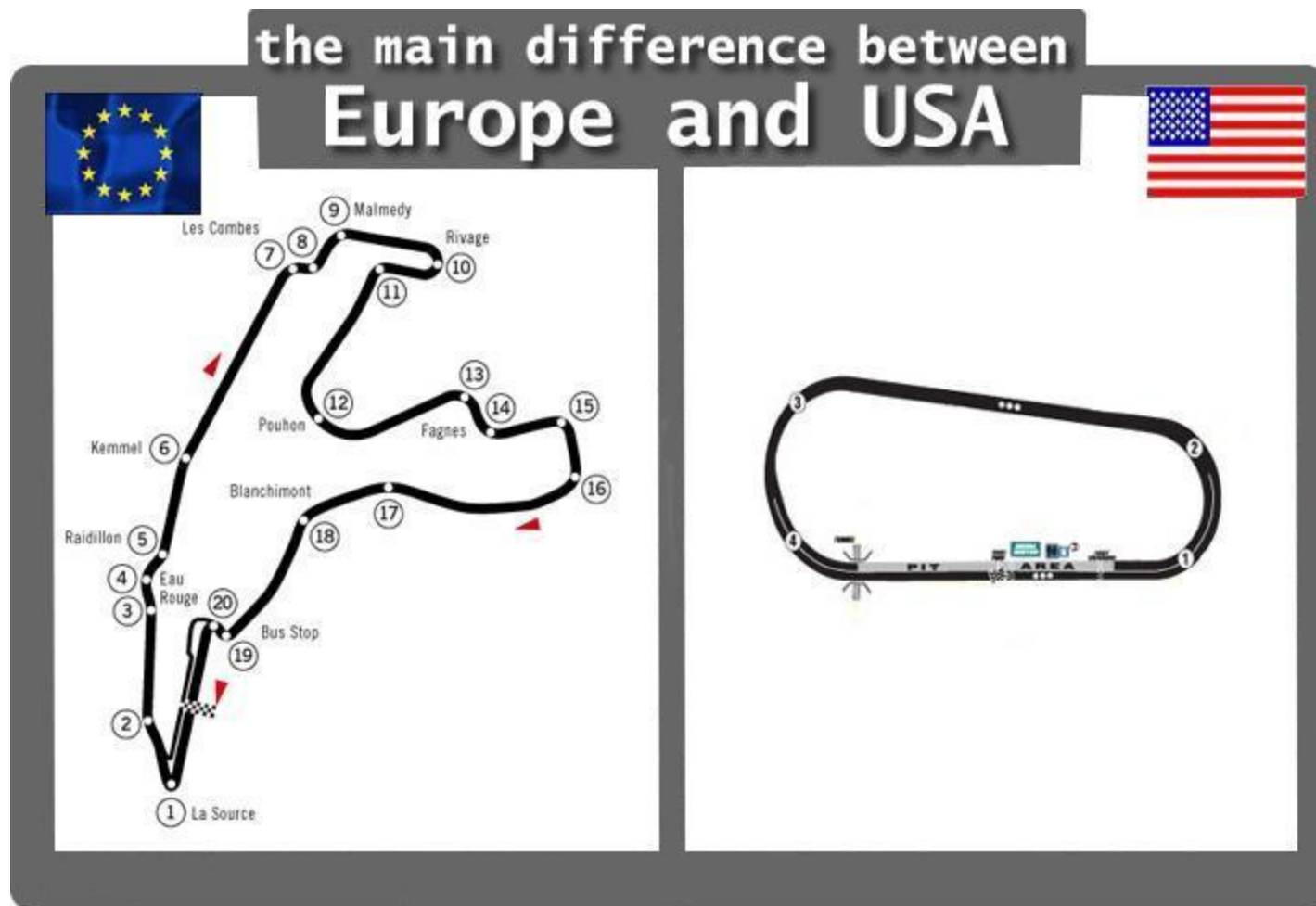


When Does Layout Matter?

- Any game in which physical space impacts the player activity



Layout As Gameplay Rule

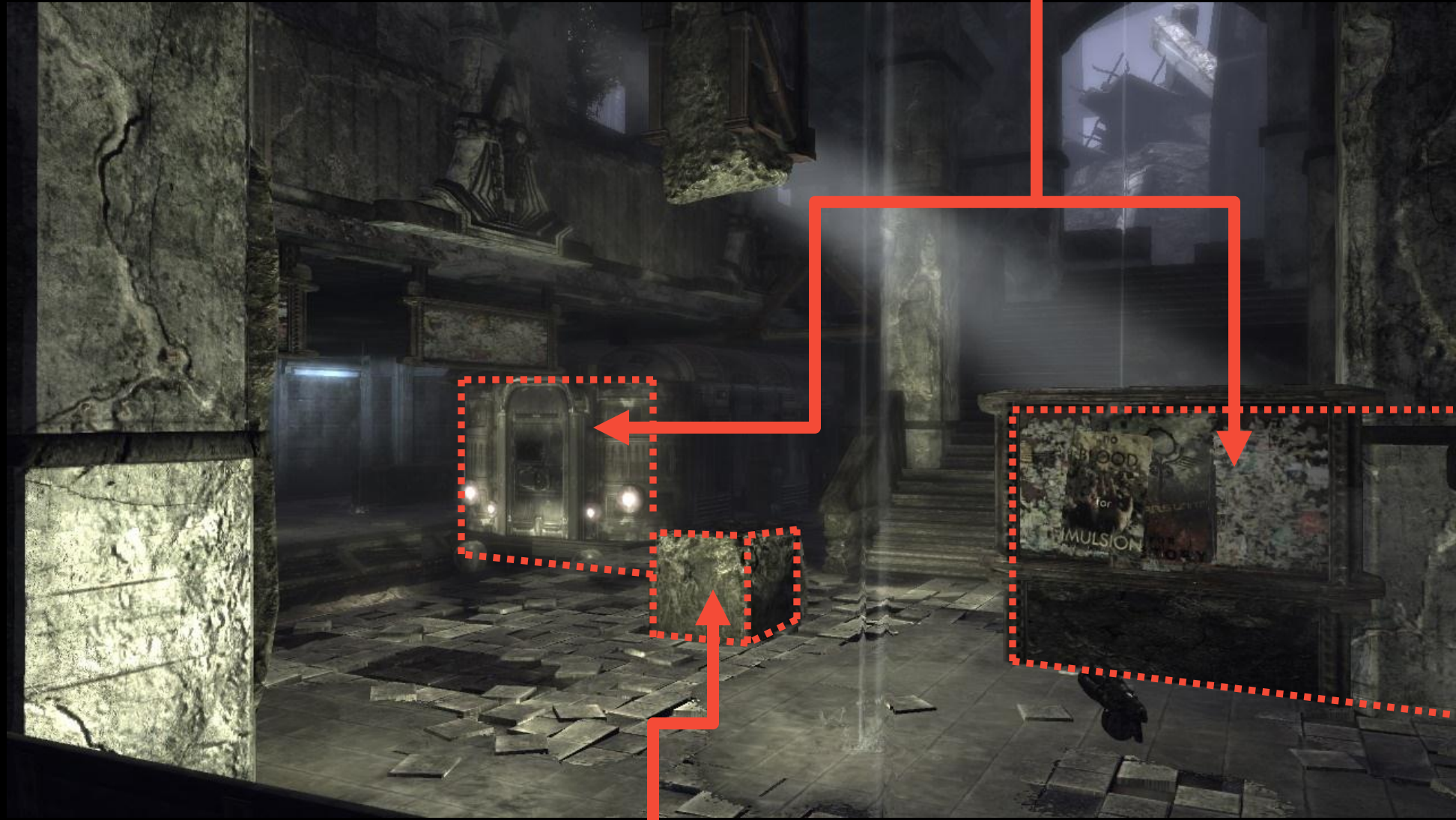




Layout is a Statement

- Invite and Encourage Player Behavior
- Layout is a powerful statement about what your game is, and how you suggest players best enjoy it.

Standing Cover



Crouching Cover

Level Flow

- Flow: The Rhythm at which a player moves through and experiences a level
- This is very much tied up with Layout and Pacing
- Flow will underscore and enforce overall pace of the game



SKIRTING THE ISSUE

Getting inside the statue without direct violence.

1 I get the first few guards killed by firing wildly in their direction, then running back to the UNATCO death-bot at the docks when they chase me.

2 Two guards facing each other – always tricky. I toss my crowbar at the wall behind them, they turn to see where the sound came from, and I scamper off.

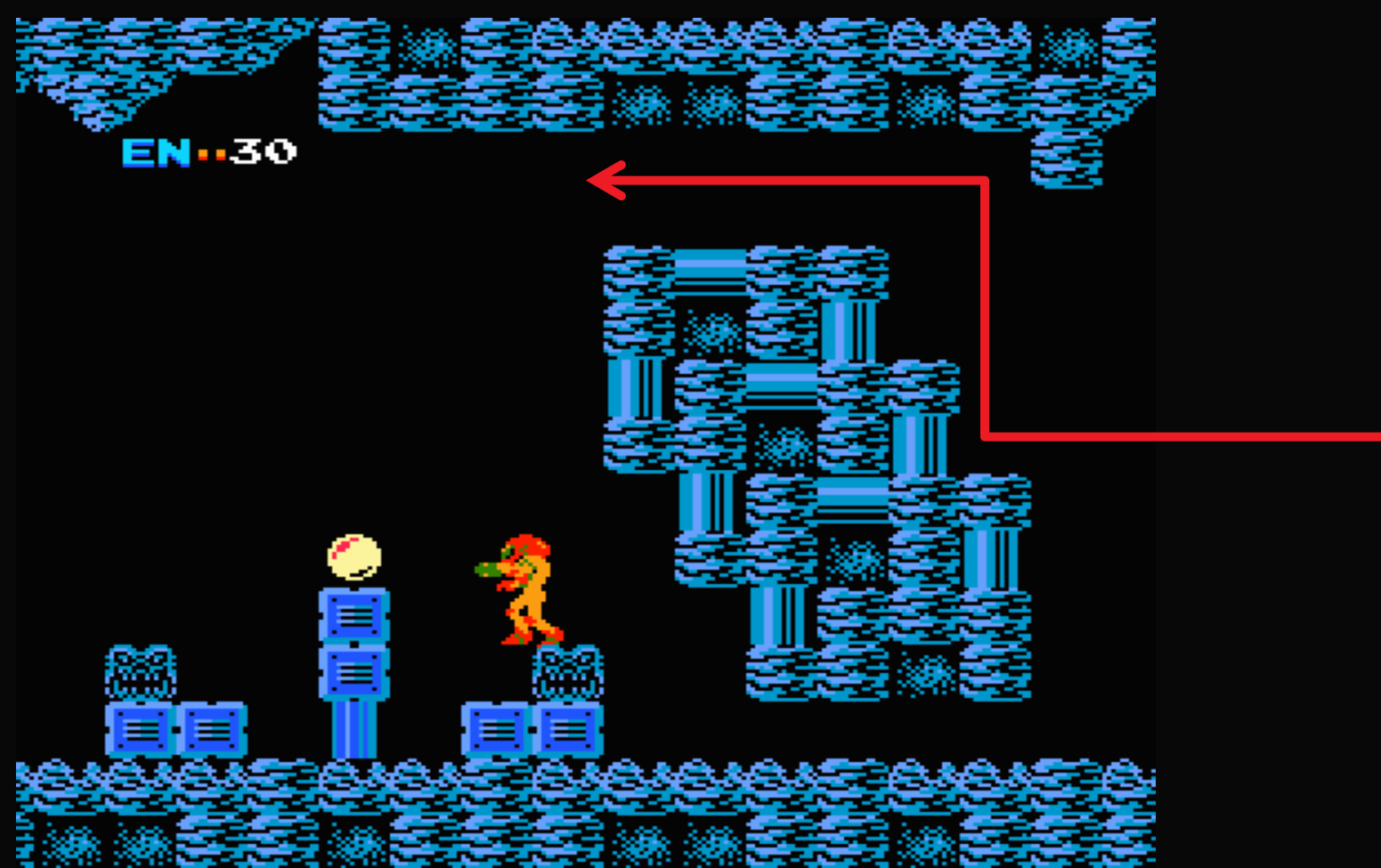
5 And I'm in! But I forgot about Gunther, locked up downstairs. I sneak all the way down, log in to the security console by his cell, and that's where this story starts.

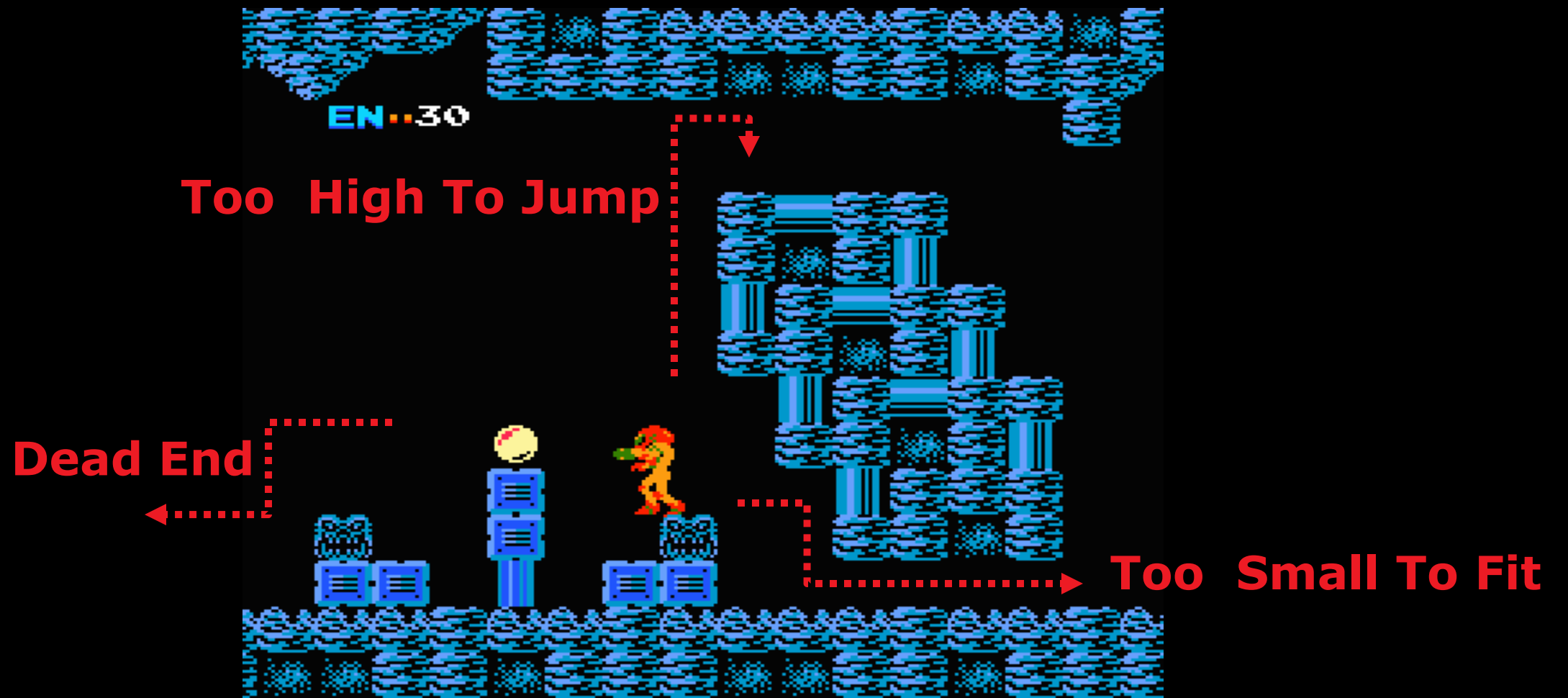
4 A thug: tougher than your standard NSF guard. While he's not looking, I reposition an inexplicably placed TNT crate to shoot when he passes it. Blam, boom.

3 This guy's alone but right in my way. I stun him with the Riot Prod, and leave him gibbering there on the spot while I climb up the boxes to the Statue base.

Layout As Teacher

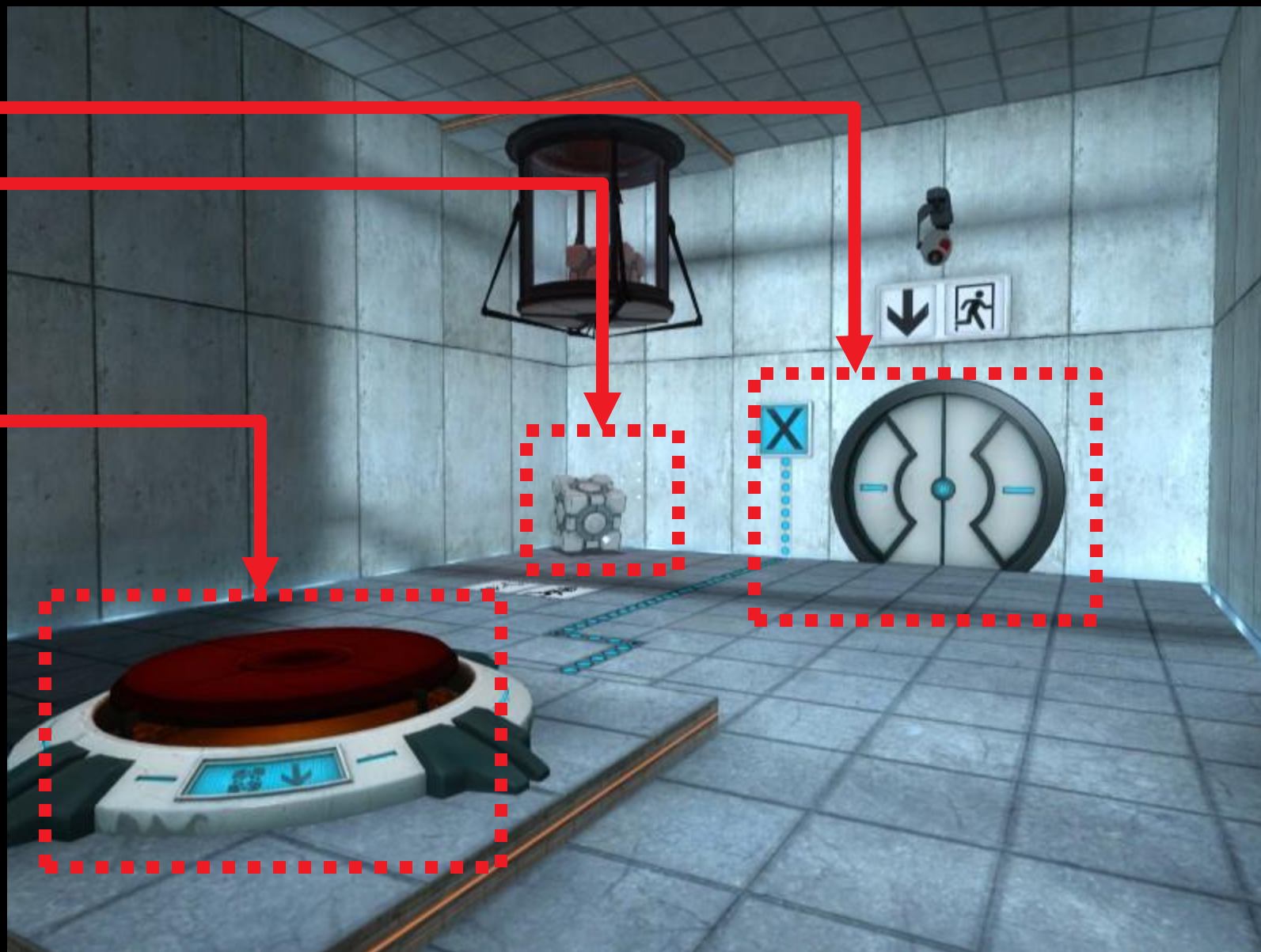
- Layout can be an effective, natural tutorial
- Create scenarios in which player must use a specific, core technique to advance







Locked Door
Weighted Cubes
Pressure Plate



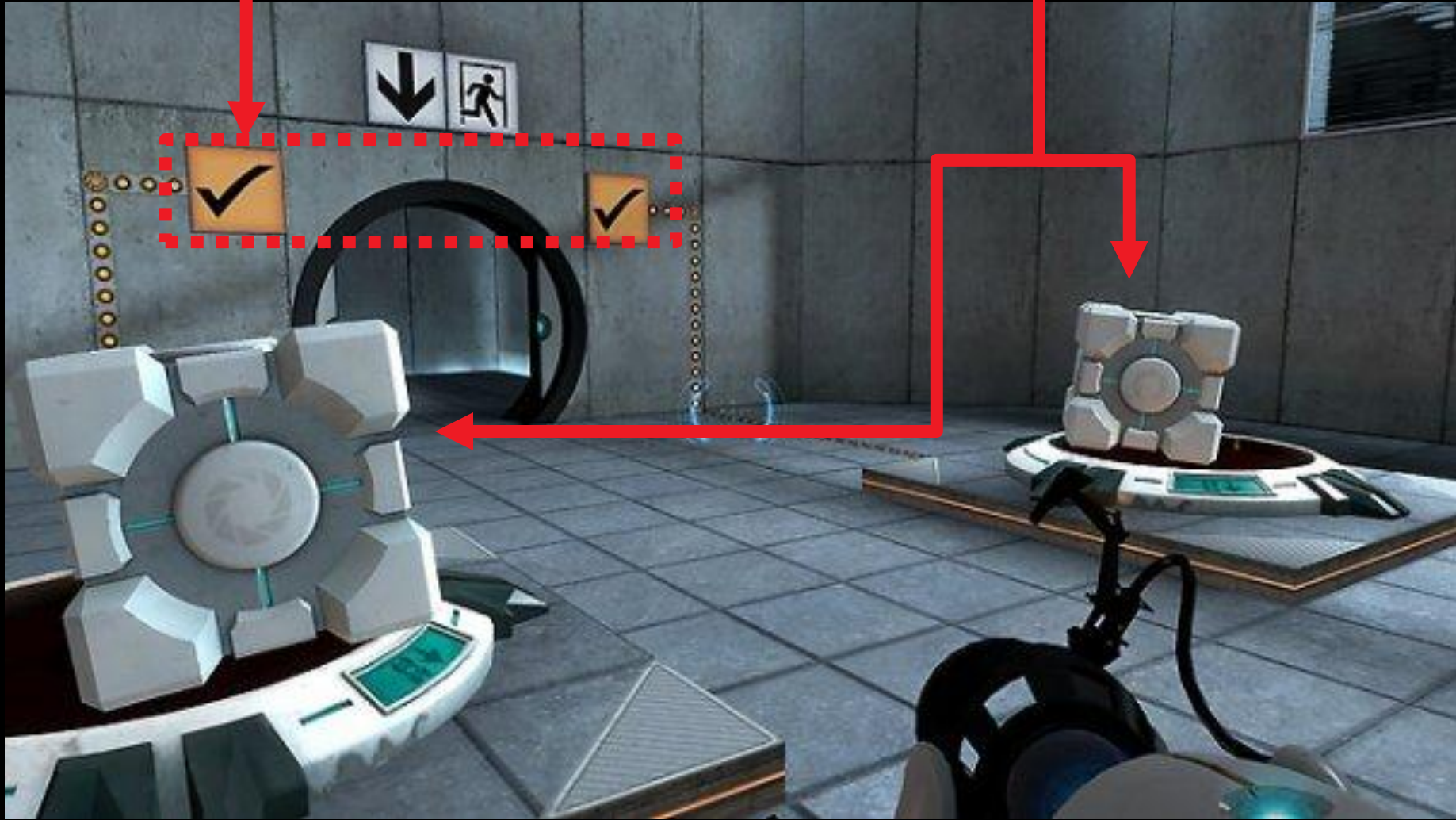


**Weighted Cube
+ Pressure Plate
Door Opens!**

Layering

- Introduce Rules/Mechanics in Isolation
 - Remove Distractions
 - Remove Challenges
- Layering Duress
 - Physical Circumstance (Layout)
 - Combine w/Mechanics (Such as Enemies)
 - Time Pressure (Use Sparingly)

**Requires
Two**

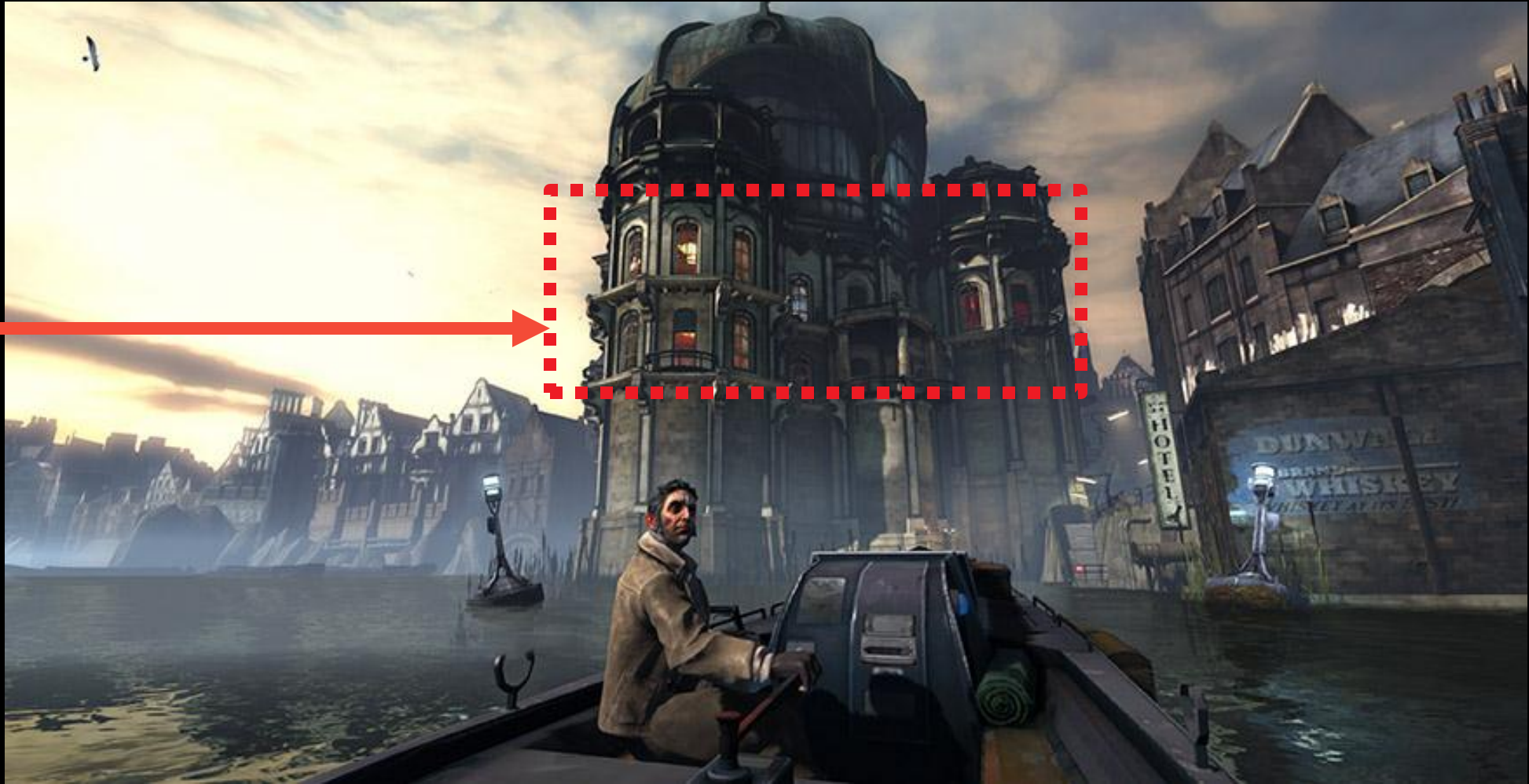


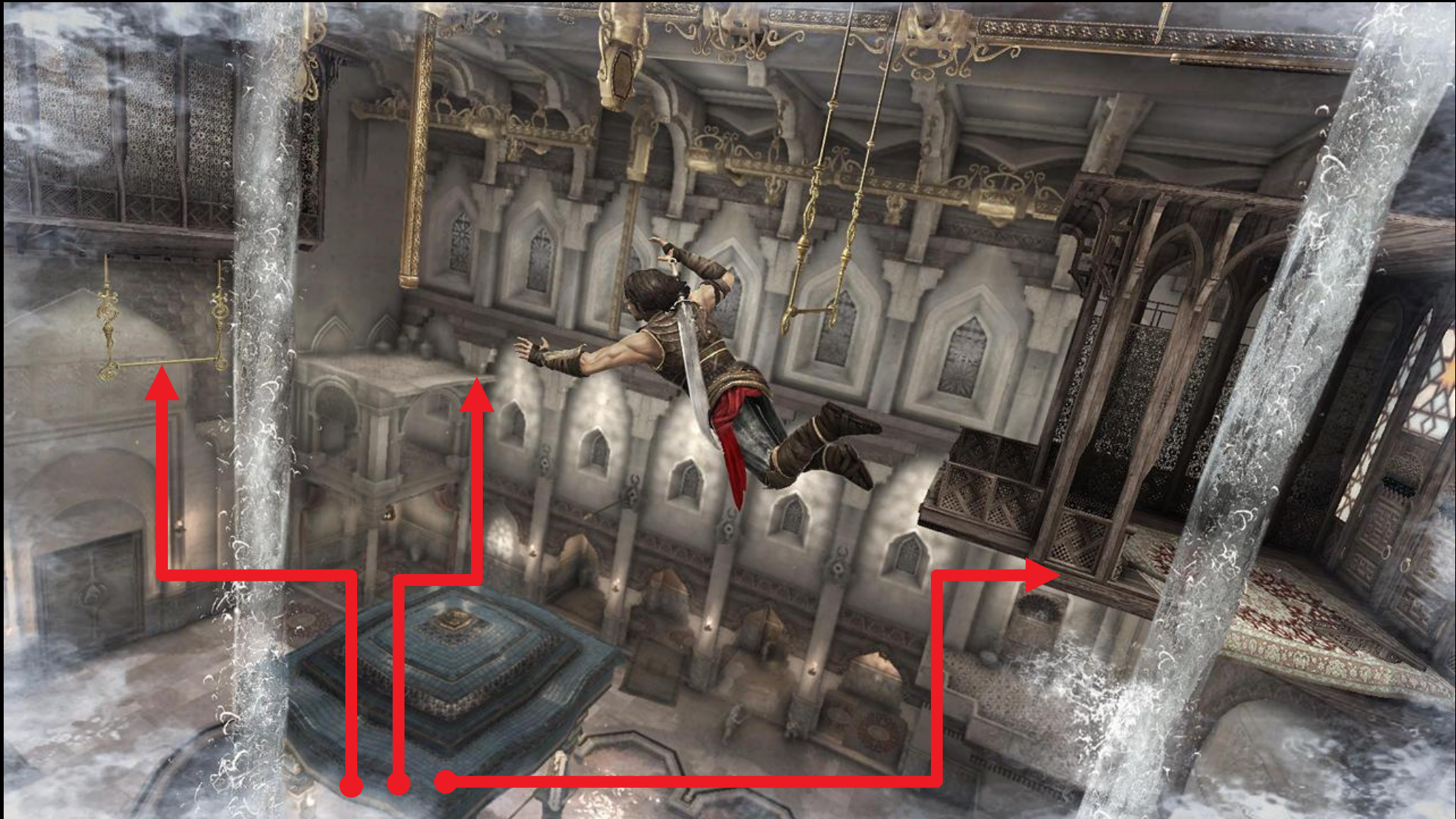


Layout as Preview

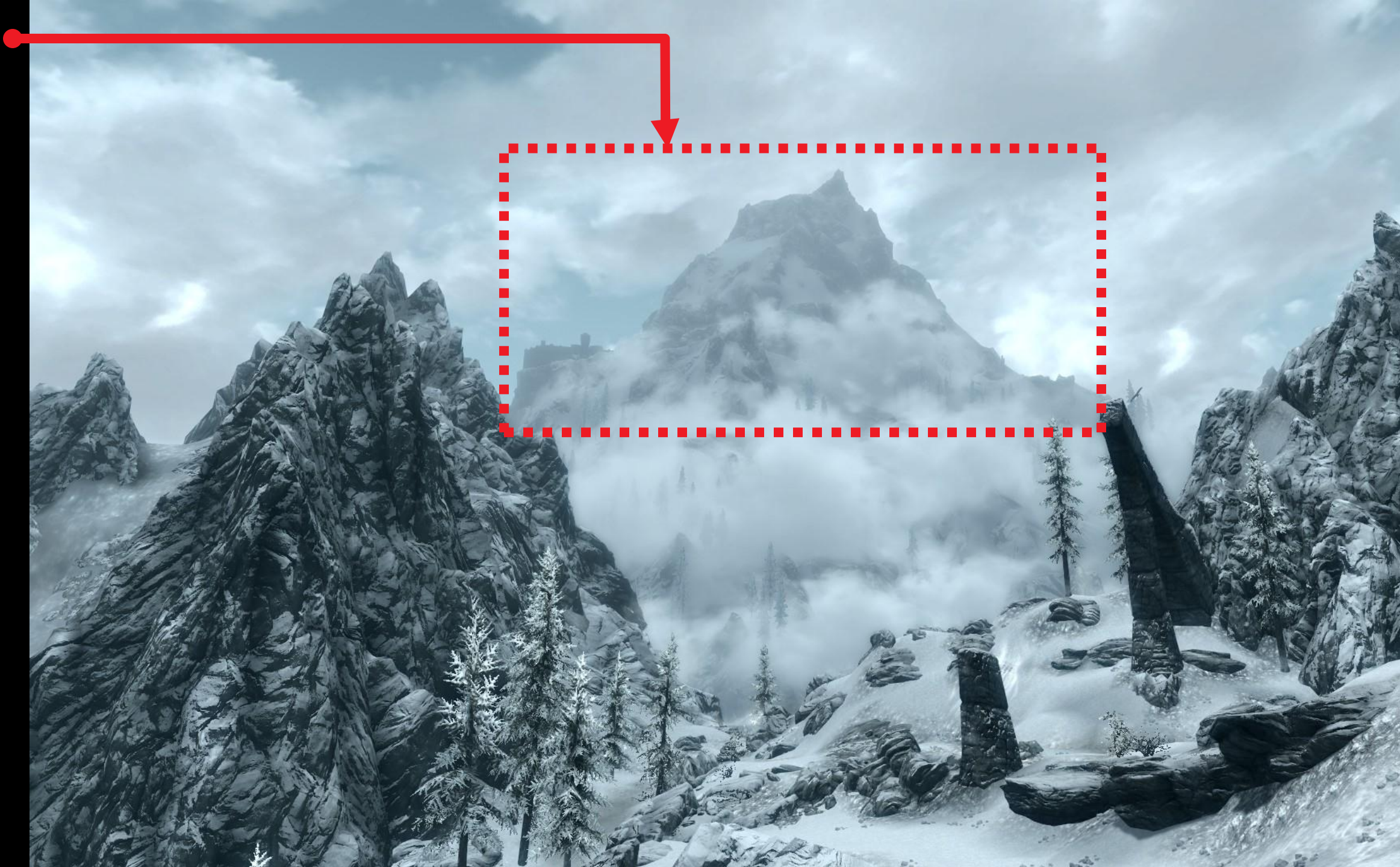
- Show currently-inaccessible areas
- Telegraph Gameplay Expectations
- Draw on Desire to explore

● Playable Area





**Playable
Route**

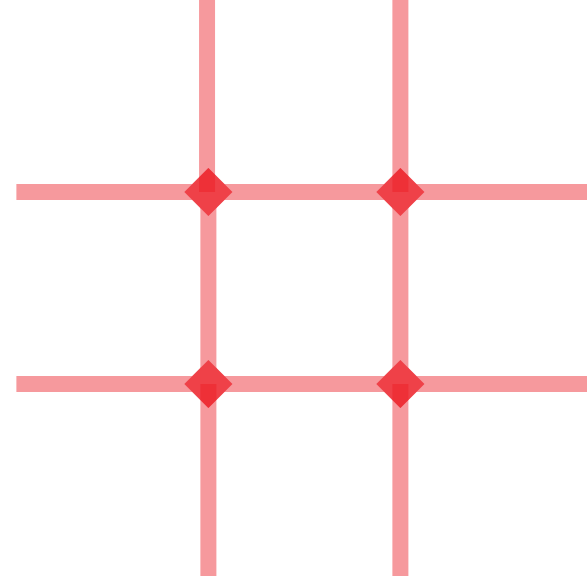


Layout as Composition

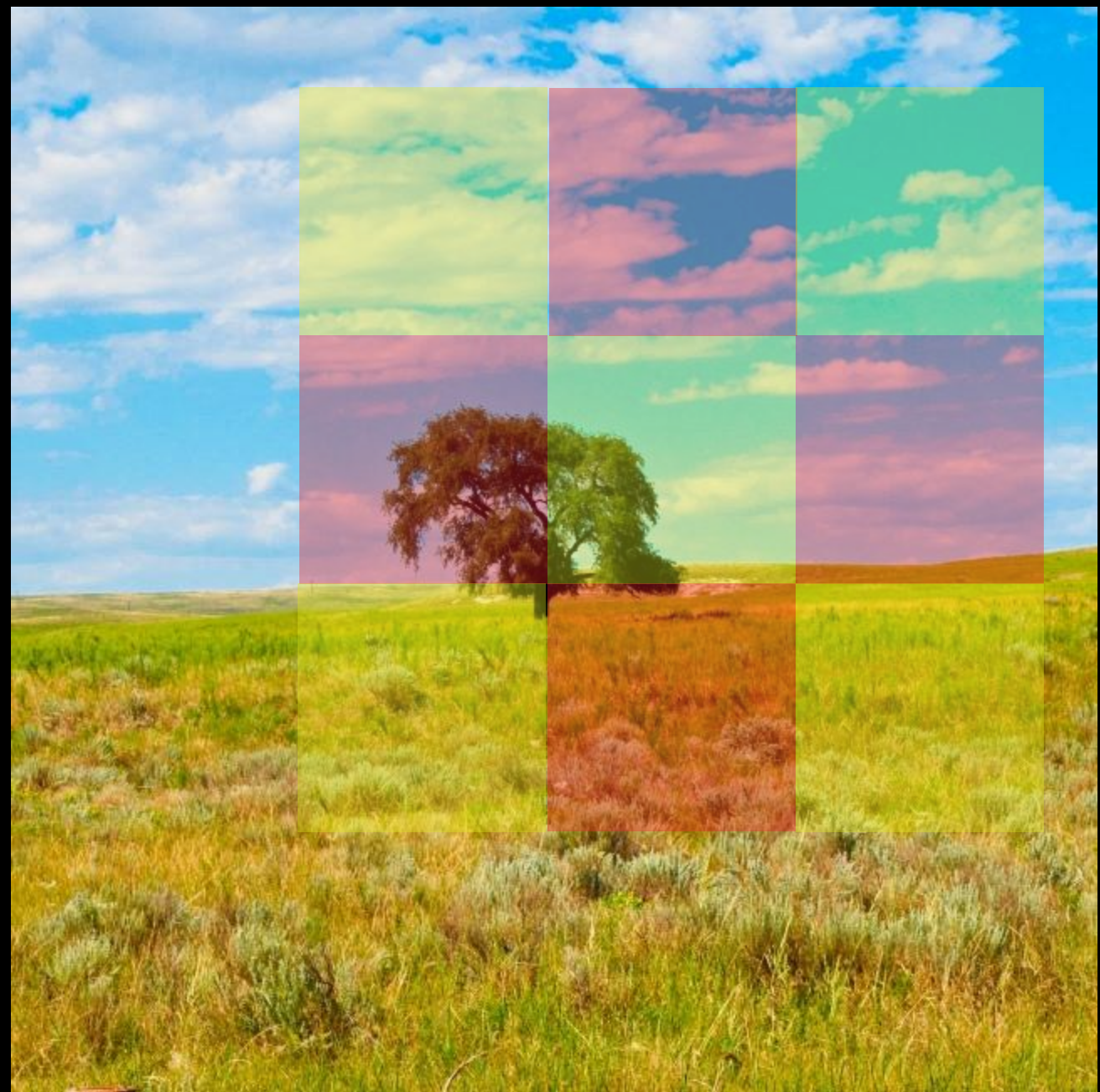
- Good Level Designers can be terrible at painting a picture...
- But great at composing one.
- Rules of Visual Composition Apply to Level Design

Rule of Thirds

- In Visual Art, it's a guide for framing elements within a composition
- In layout, serves as a loose guideline
- Useful for composing reveals
- Emphasize Planes of Play
- Tool for avoiding symmetry



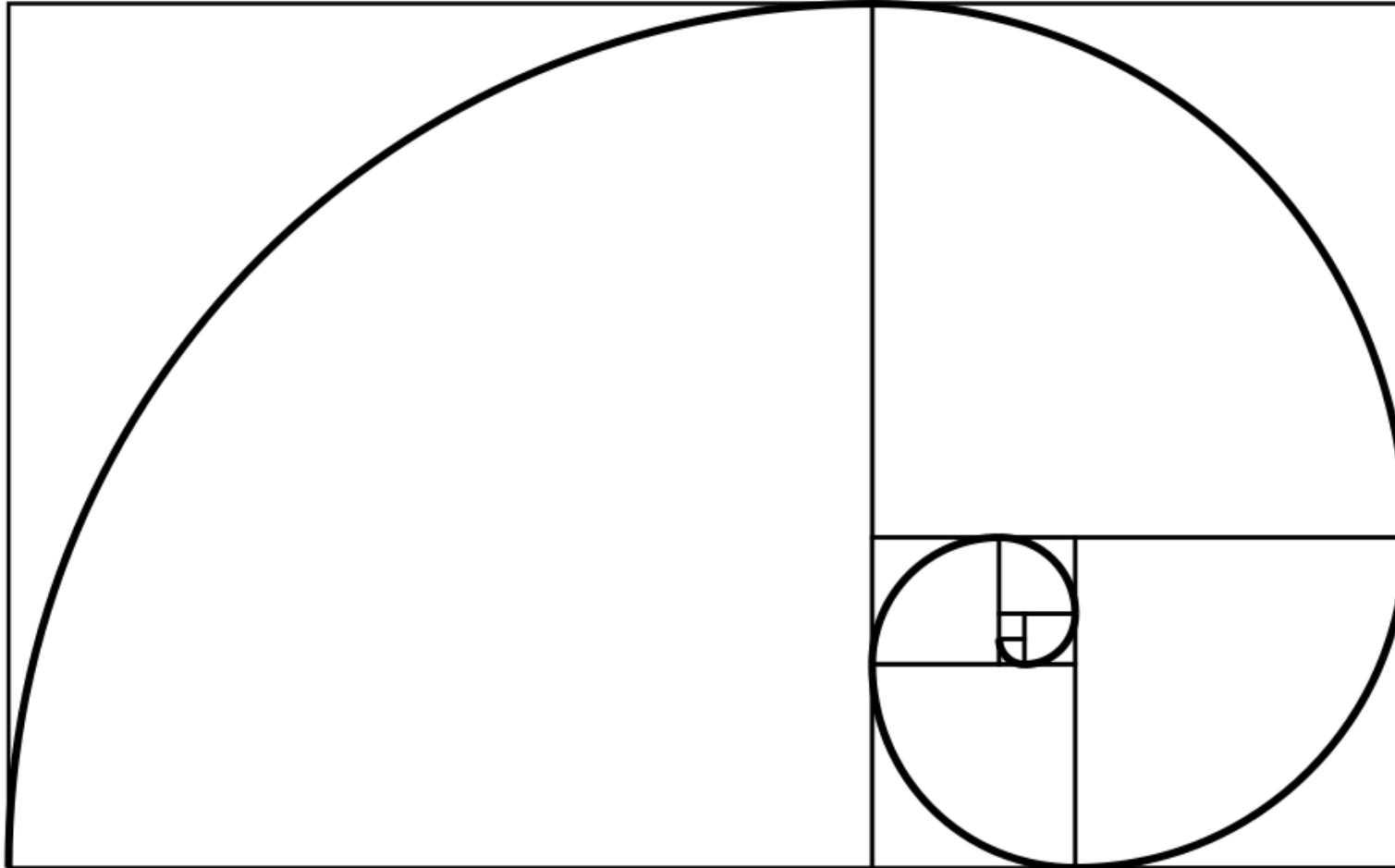






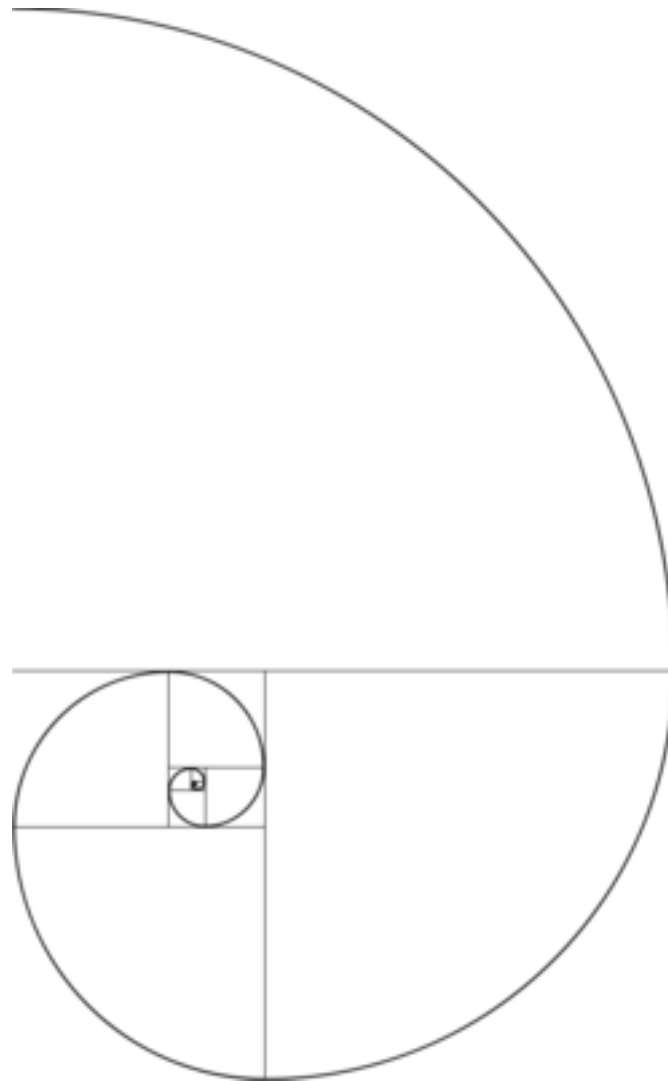
Fibonacci Sequence

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144...



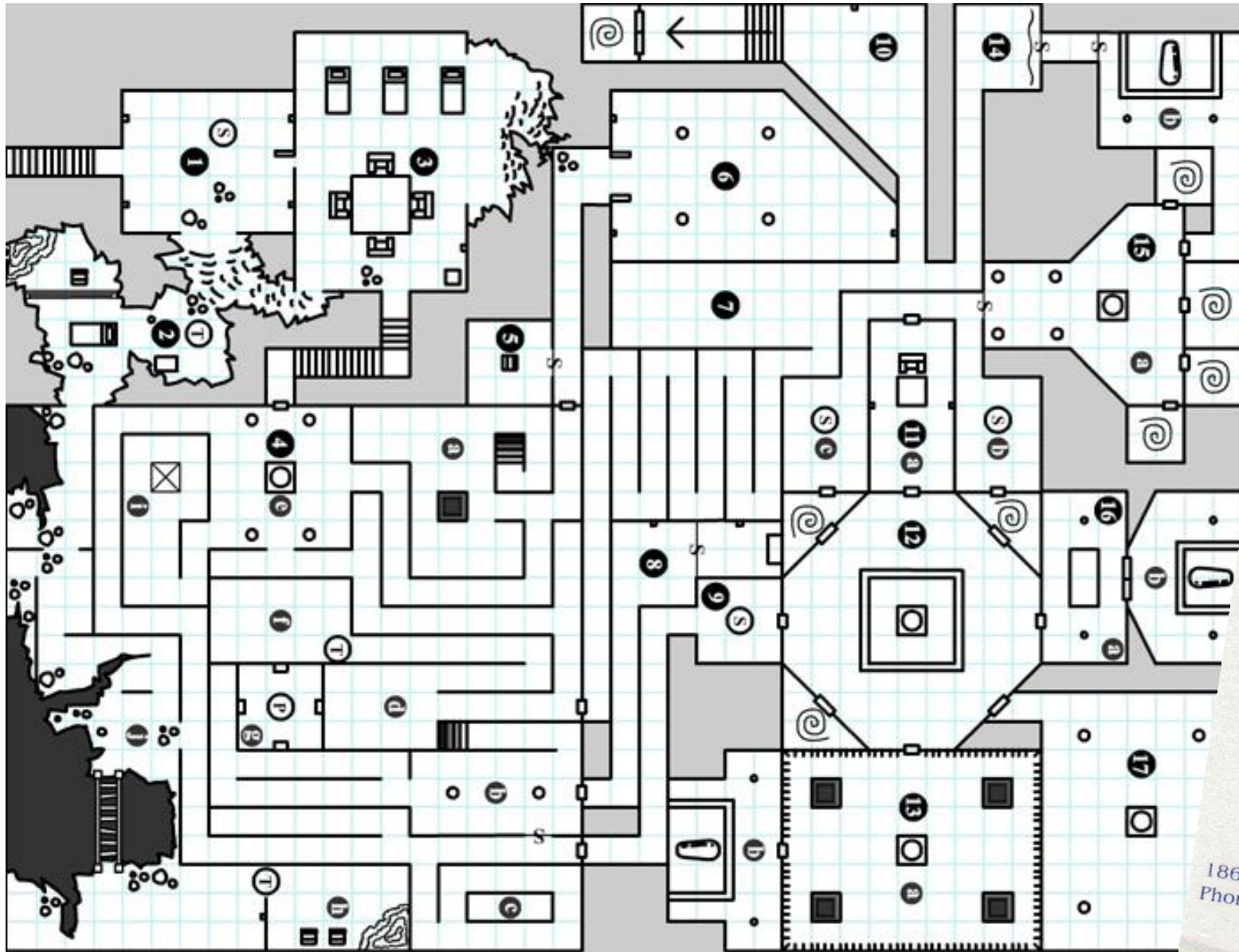
Applications of Fibonacci

- Visual Reveals
- Planes of Play
- Potential Pacing Usefulness
 - Handy Yardstick for analysis
 - Less so as a planning tool



APPROACHES TO LAYOUT

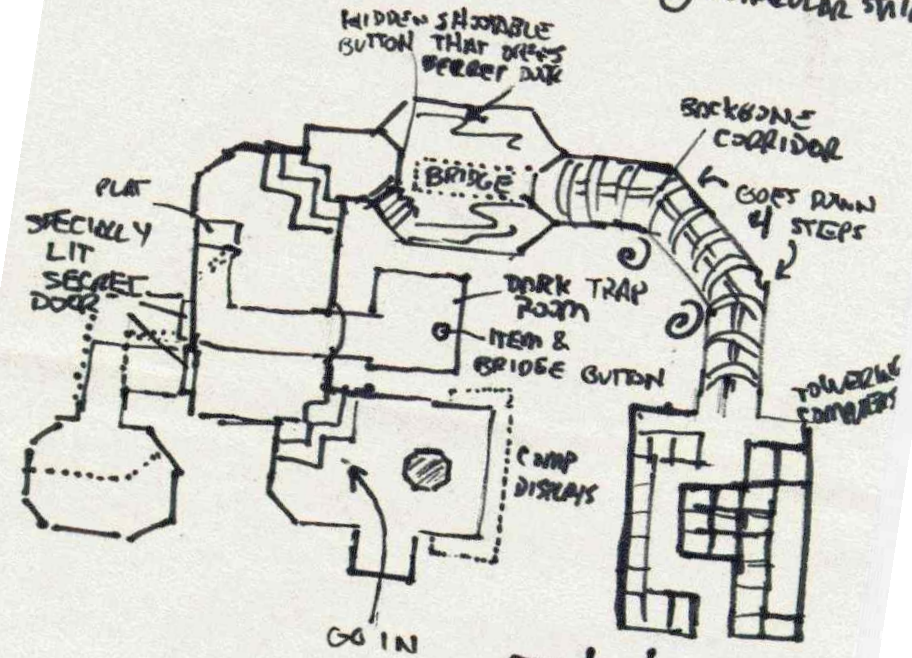
Paper Planning



from the desk of

John Romero
Project Specialist

⊙ = CIRCULAR STAIRS



JBASE 1

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Paper Planning

- + Familiar & Comfortable
- + Rapid and Flexible
- Difficult to Express 3D space
- Disposable

Graybox Blockout

Counter-Terrorists : 0
Terrorists : 0

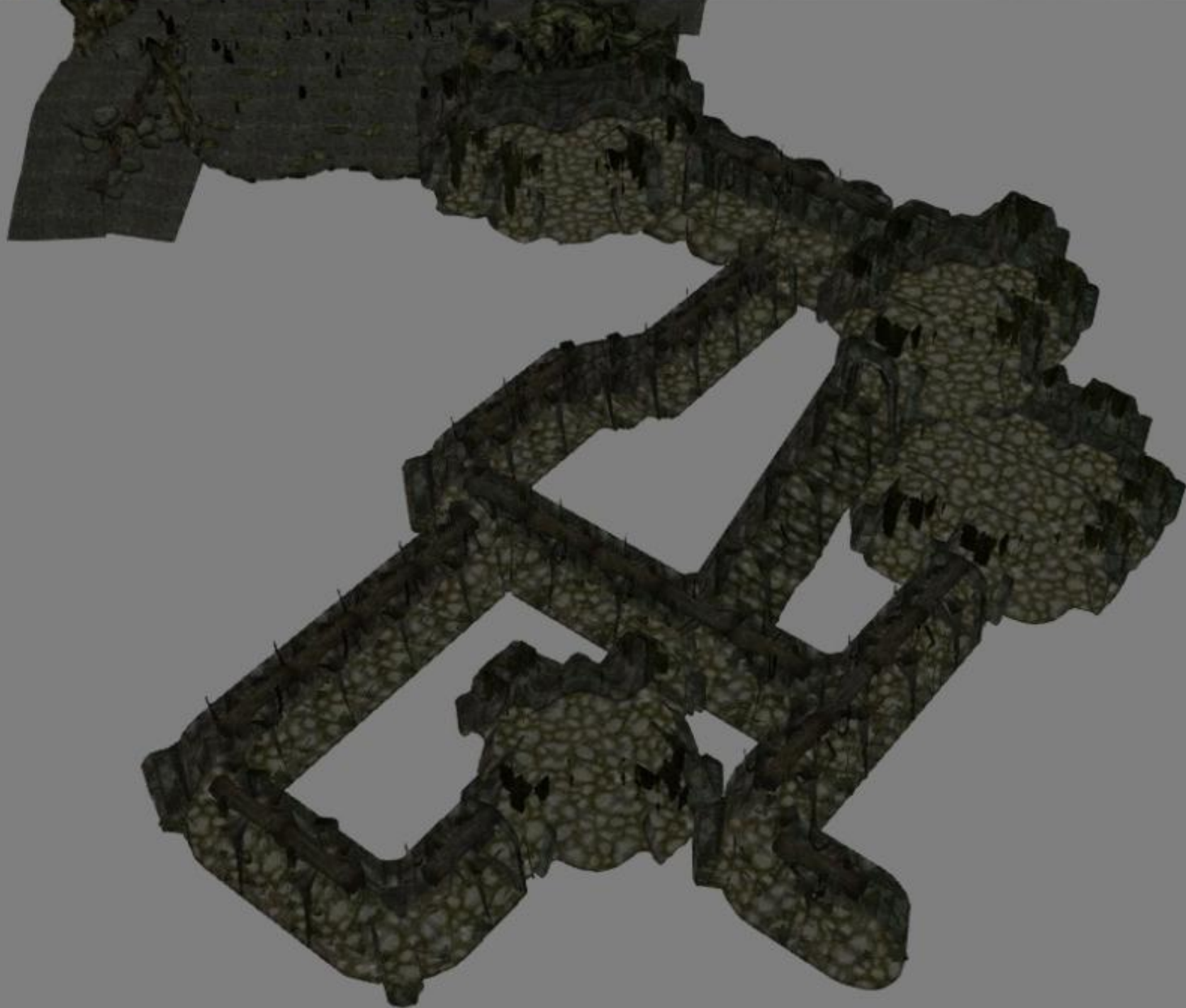
Map: aim_devtex_hdri_11
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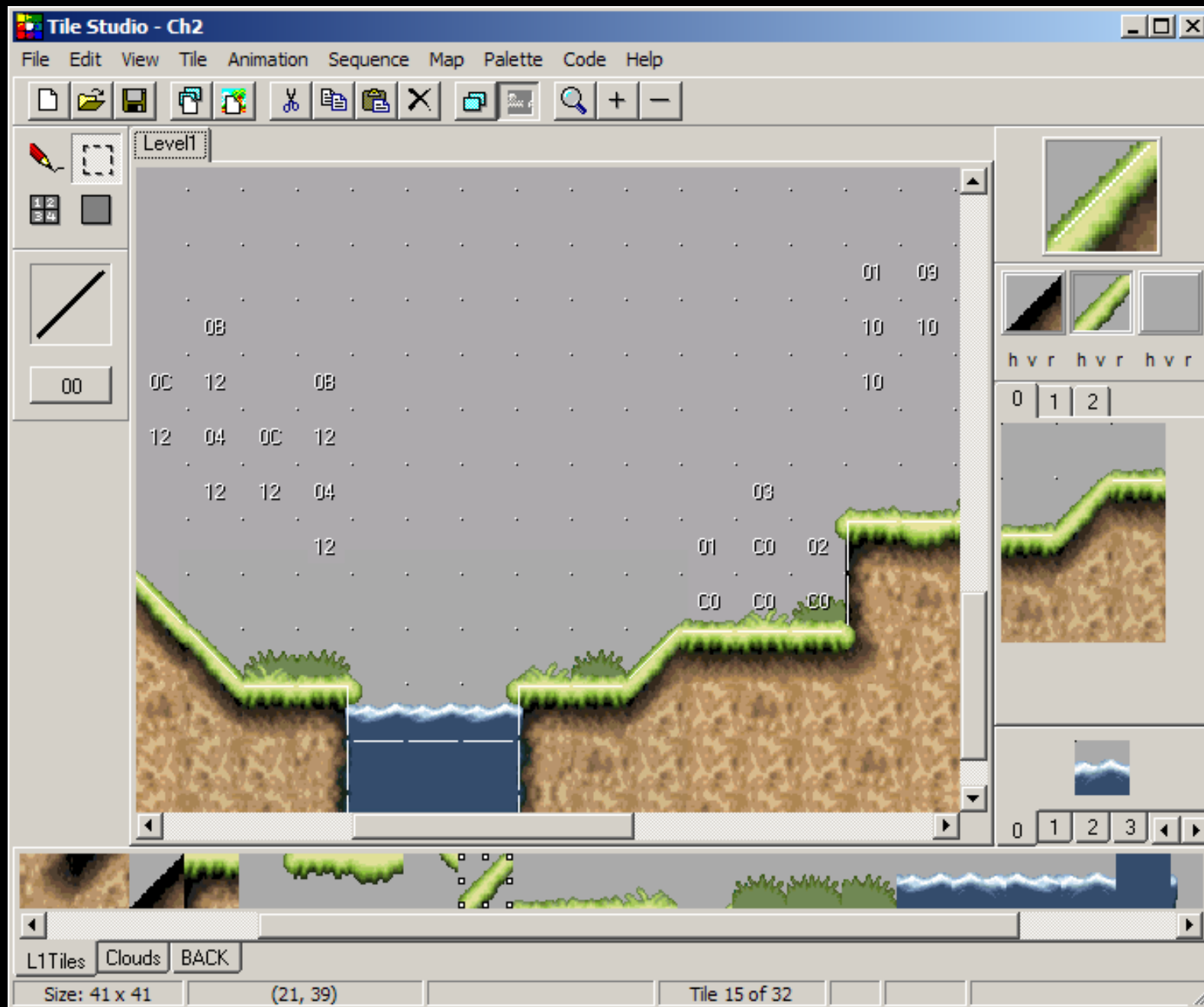


Graybox Blockout

- + Playable Fast
- + Minimize Distracting Context
- Tech Heavy

Kit Roughing





Kit Roughing

- + 1:1 relationship w/Final Space
- + Very Quickly Playable
- Requires Art
- Rigidity

Iteration is Key

- No Matter What Your Preferred Approach:
 - Keep yourself Flexible
 - Constantly Re-evaluate layout
 - Test, Observe, Test, Observe, Change
- Layout is the Bedrock of your Level
 - So take time to get it right

LAYOUT TEMPLATES

Straight-On





PLAYER 2

CREDITS 3

PRESS THE MOVE BUTTON



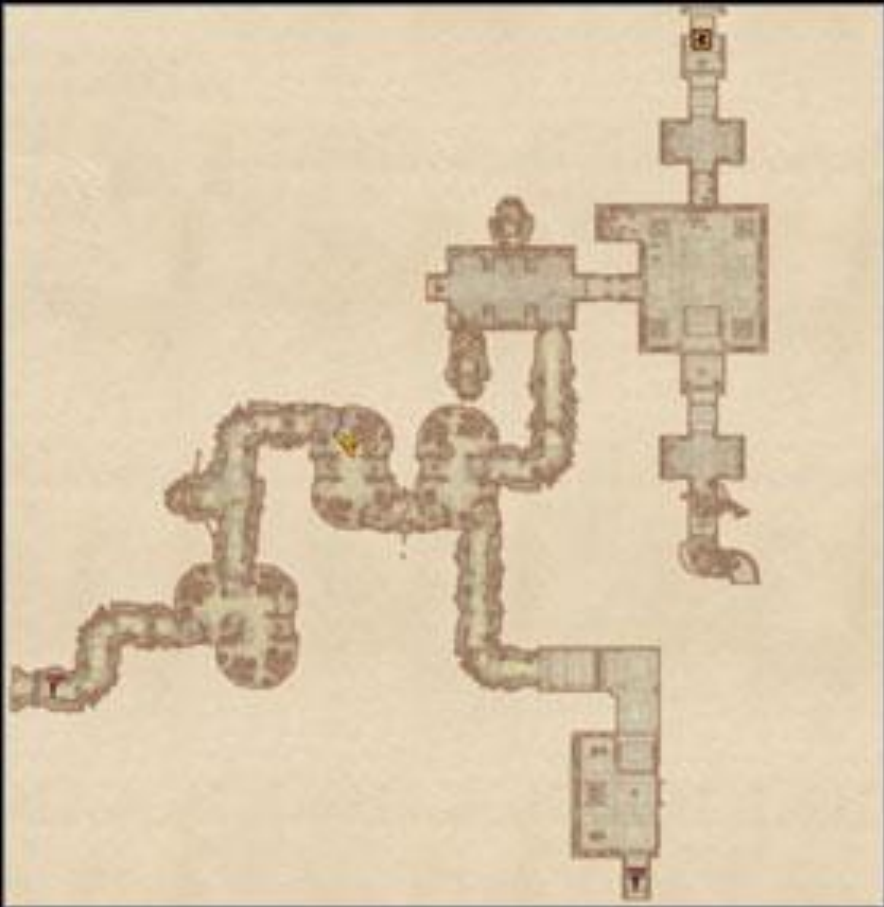
Straight-On

- Little Player Choice Available
- Disposable: Little Replay Value
- + High Level of Authorship
- + Very Little Waste



Re-Tread





Re-Tread

- + “The Oblivion Problem”
- + Difficult to make Re-Tread Interesting
- Few Reusable Options/State Changes

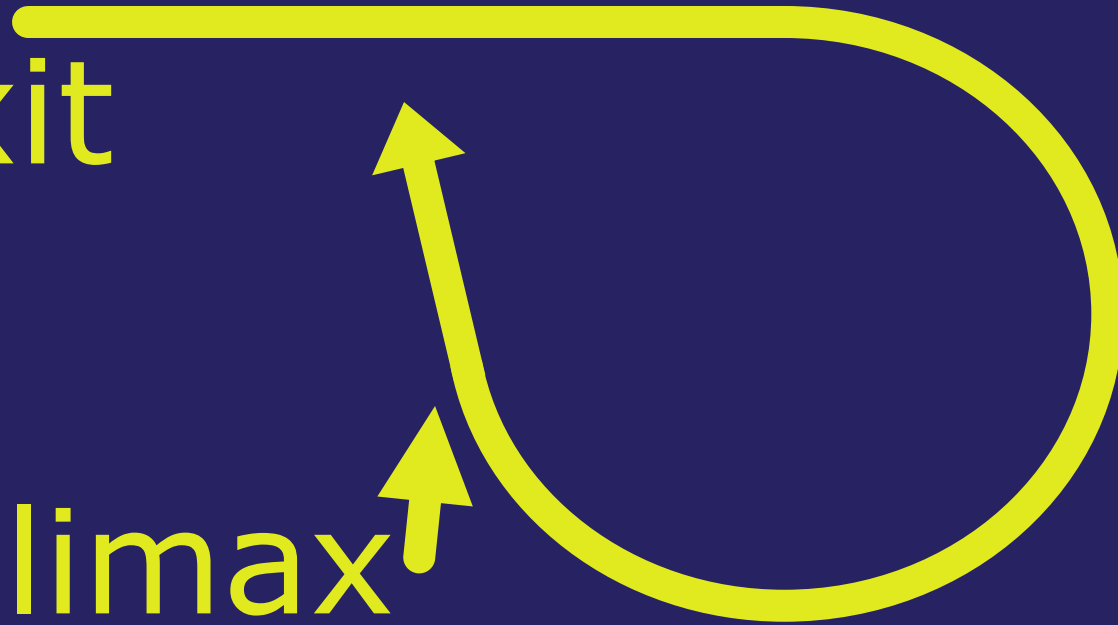


One-Way Loopback

Enter

Exit

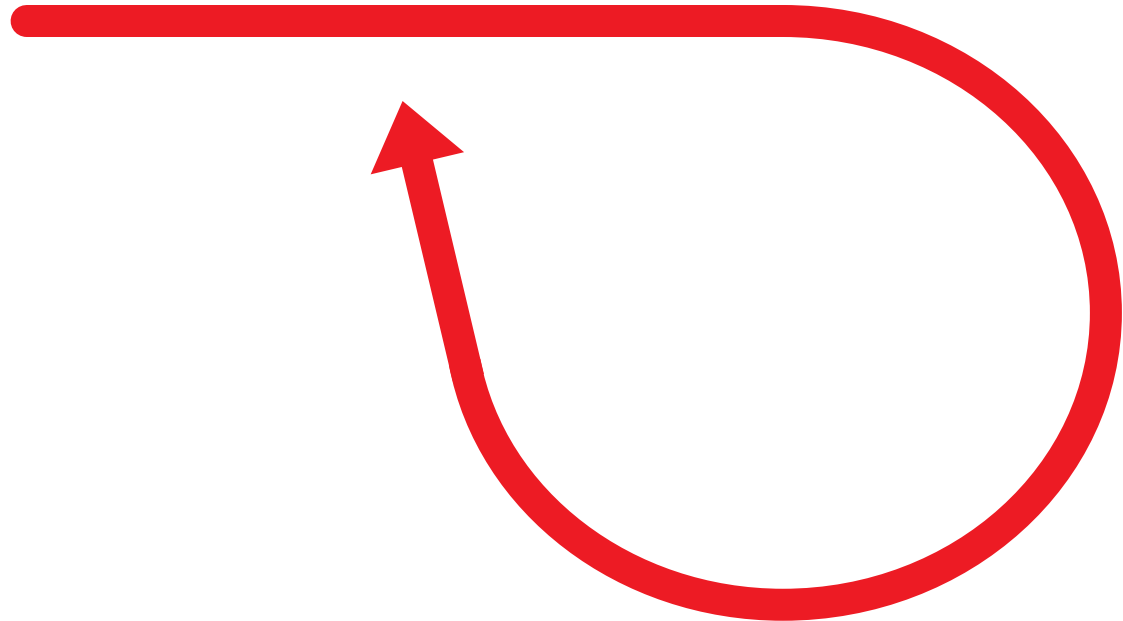
Climax



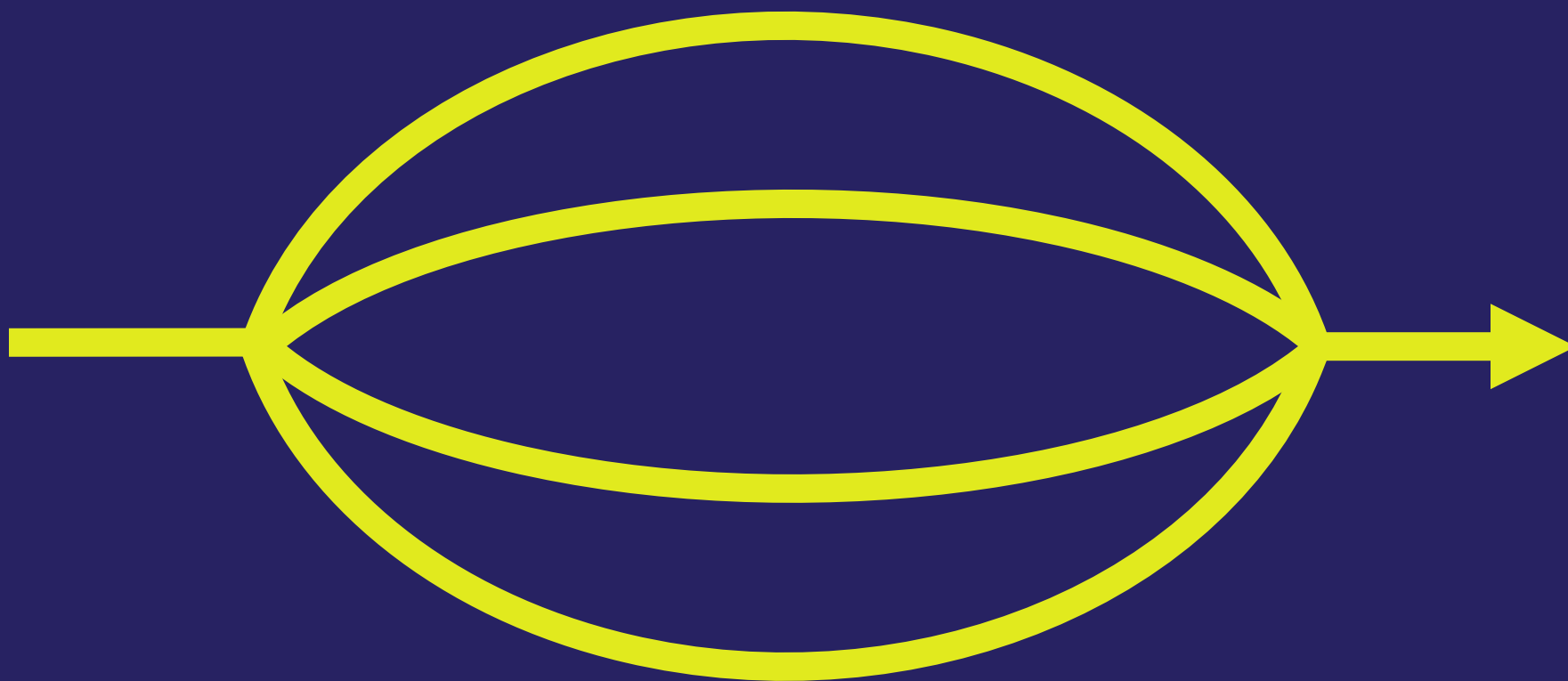


One-Way Loopback

- Minimizes the Re-Tread Problem
- Choosing Meet Point is Tricky
- Can Seem Contrived



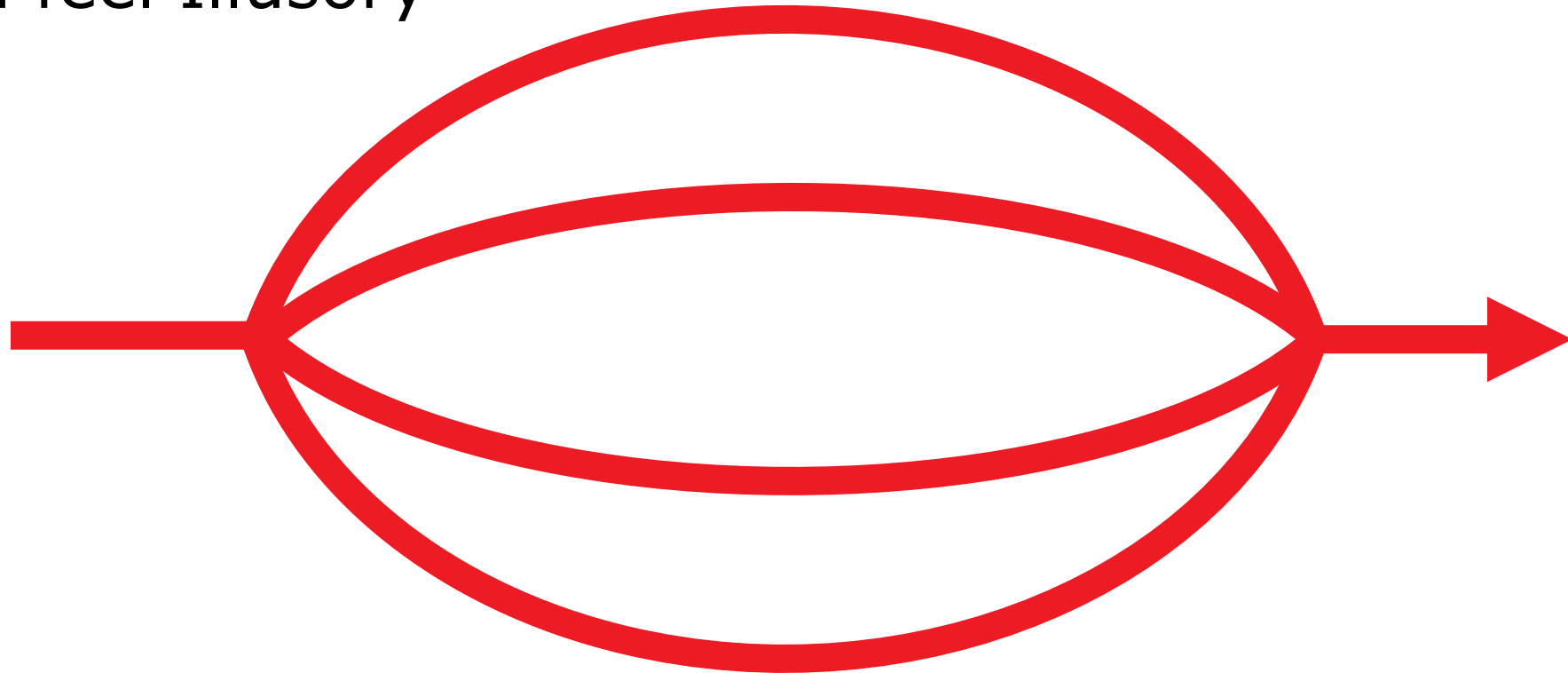
Branching Chokepoint





Branching Chokepoint

- + Good Emphasis on Player Choice
- + Scope Control: Chokepoint & Edge Cases
- Choices can feel Illusory



Swiss-Cheese Approach



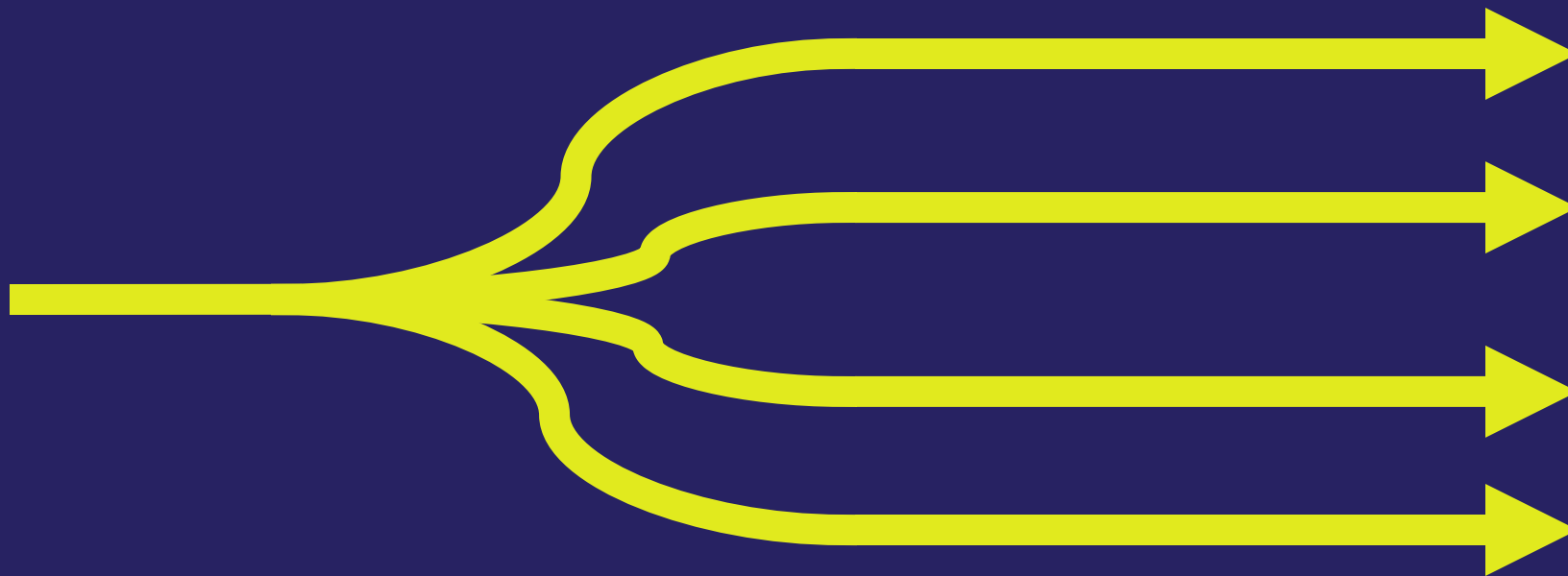


Swiss-Cheese Approach

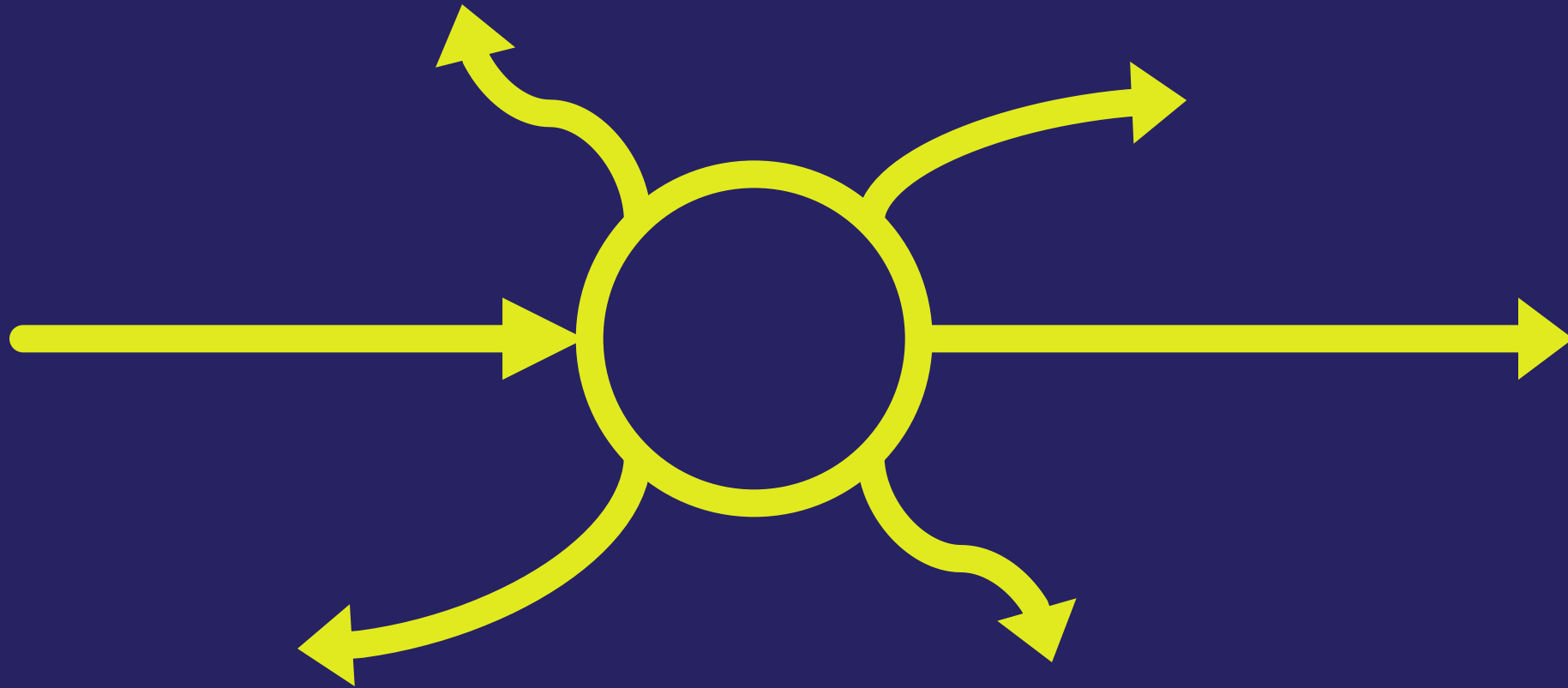
- High Emphasis on Player Choice
- Less Design Control of early experience
- Scope Bloat: Handling multiple Paths



Branching Fractal

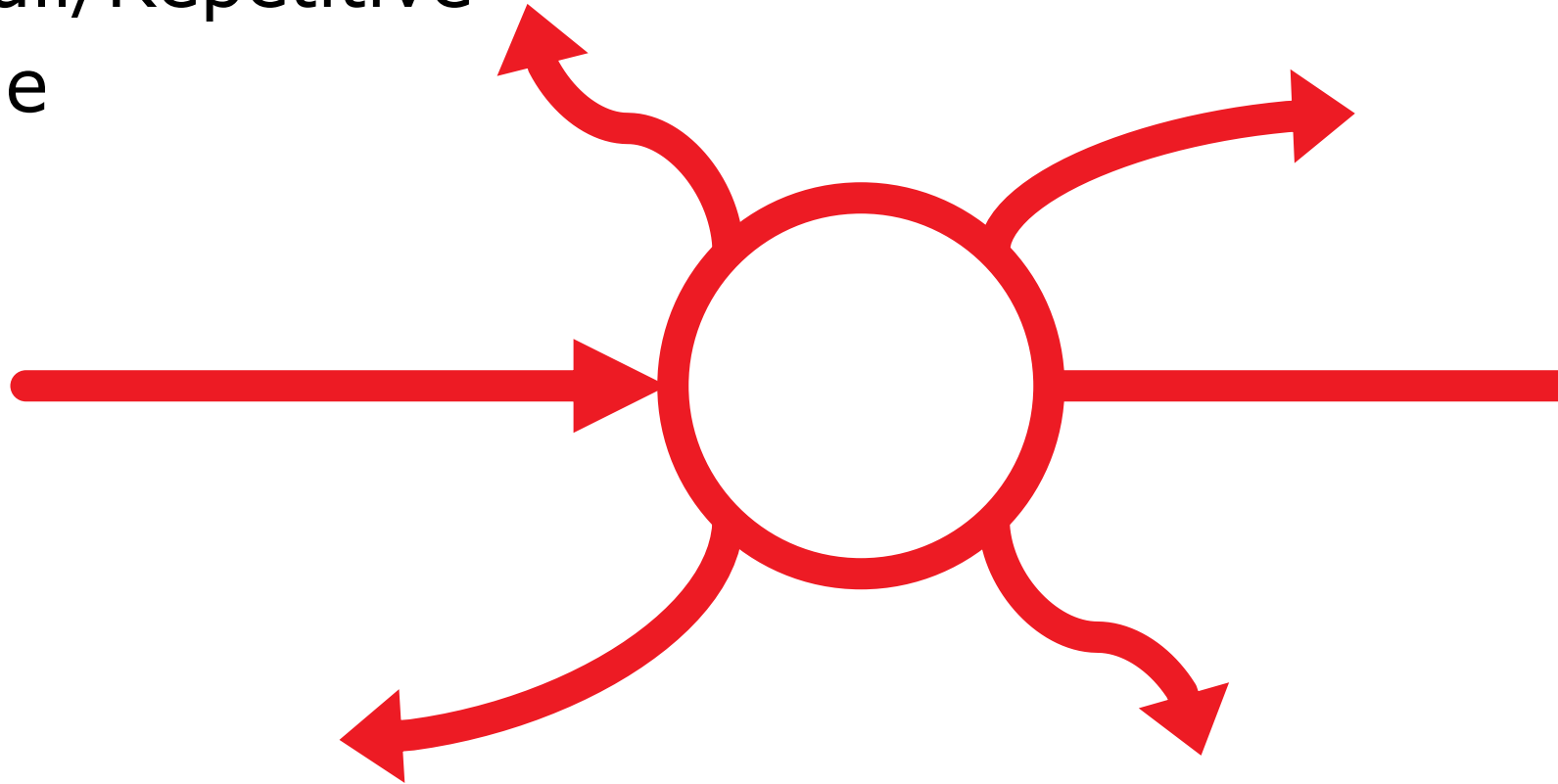


Hub and Spoke



Hub and Spoke

- Efficient: Highly Reused Hub Space
- Hub Can Become Dull/Repetitive
- Spokes Not Reusable



Splinter Cell Double Agent

1. State Changes
2. Story Events
3. Time-limited Objectives

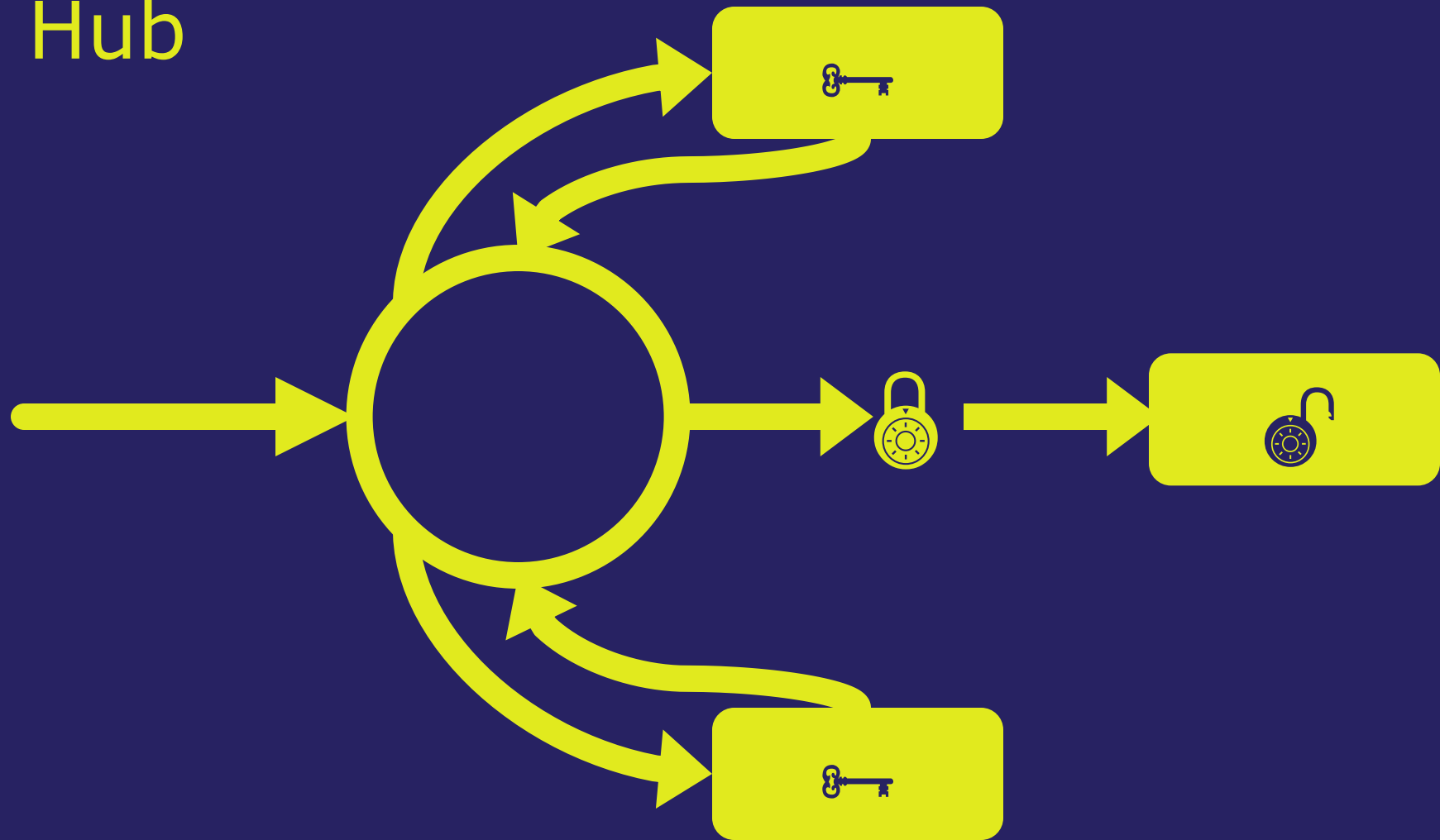


● Upload trojan to JBA server

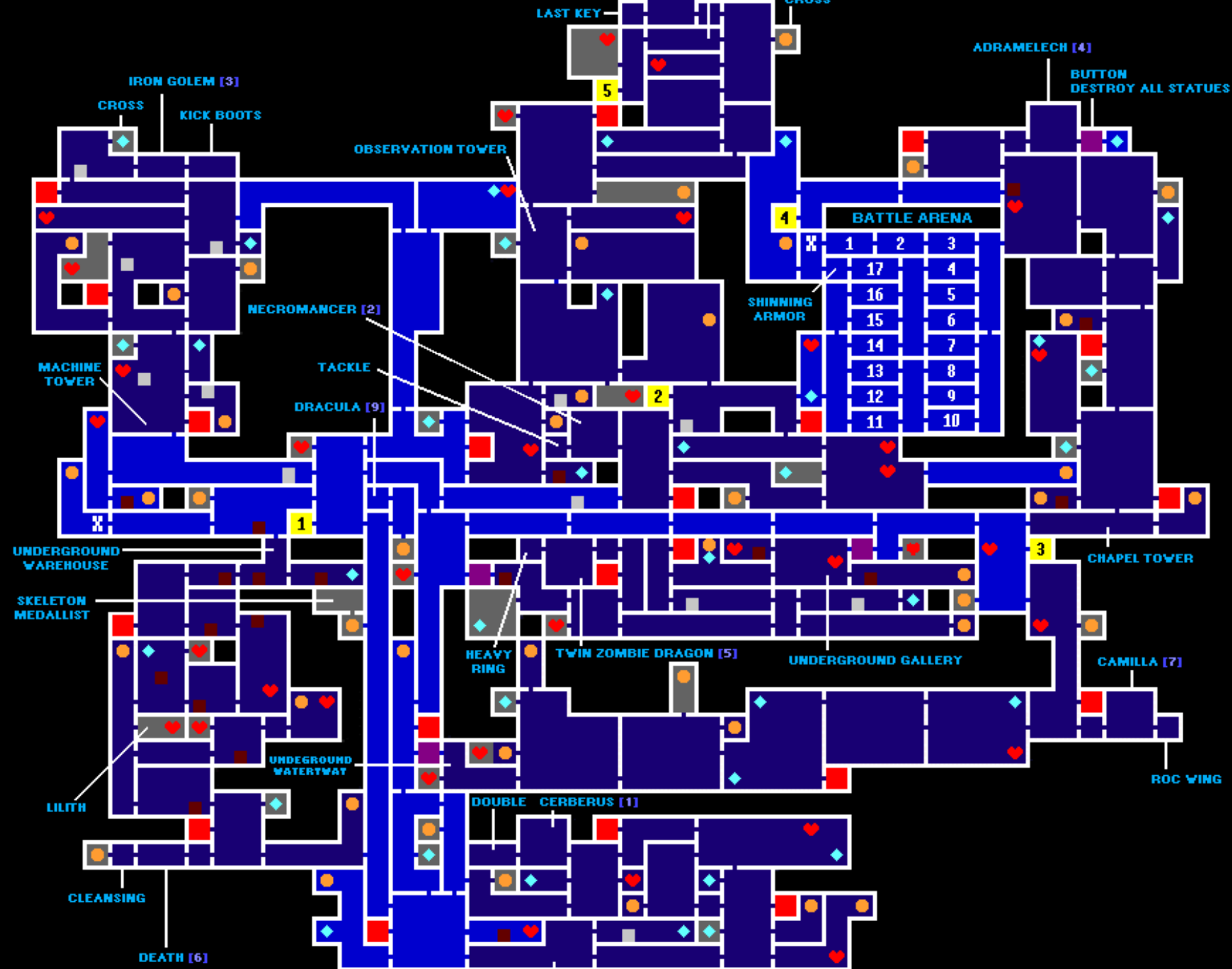
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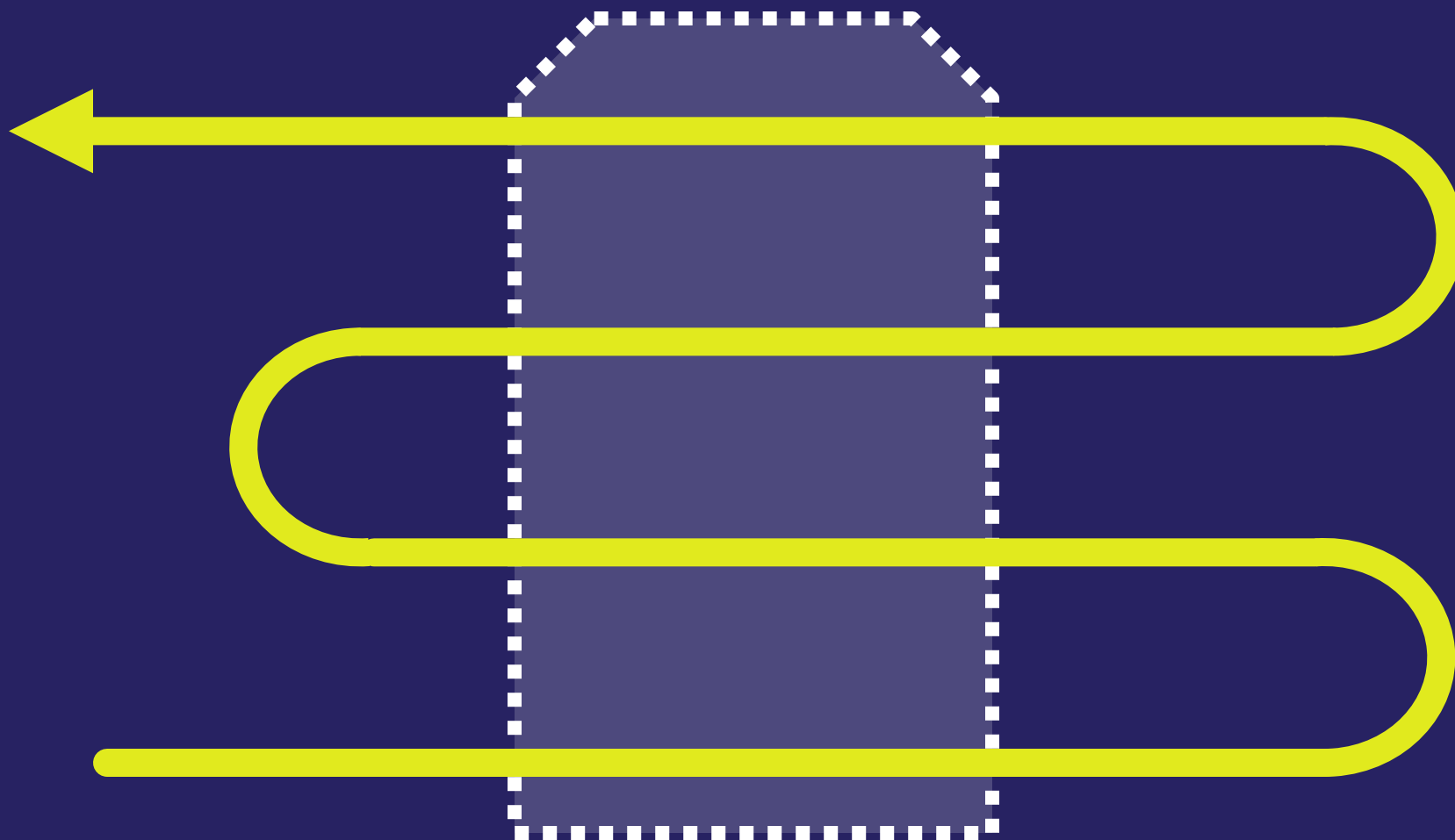
Gated Hub





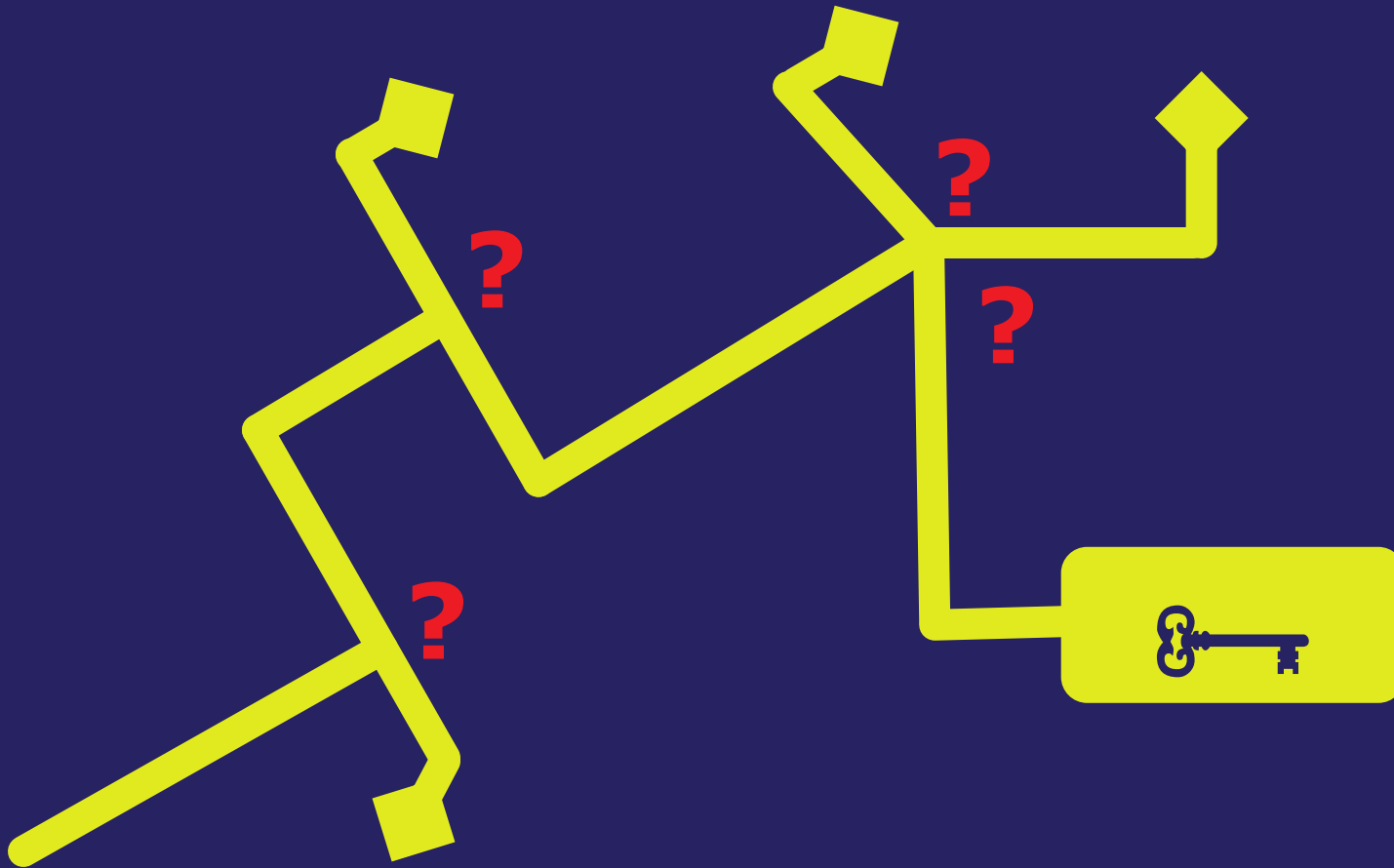


Pass-Through and Return

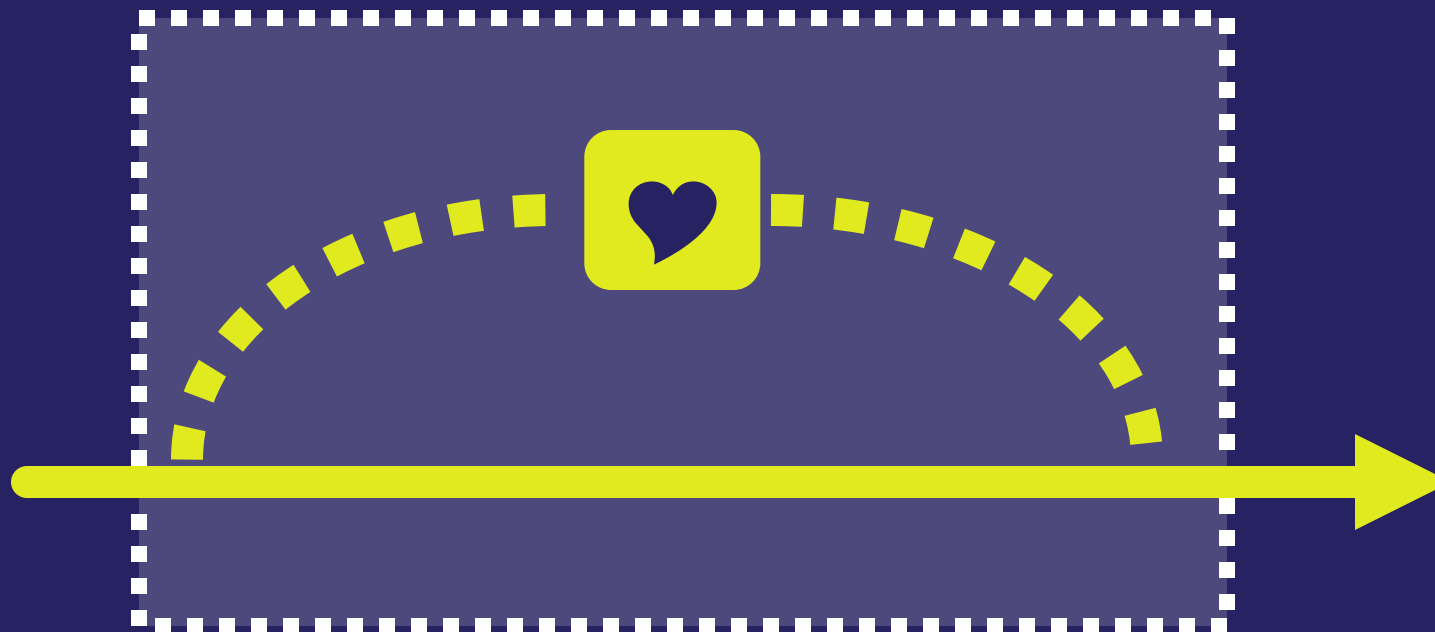


EVERYDAY LAYOUT TIPS

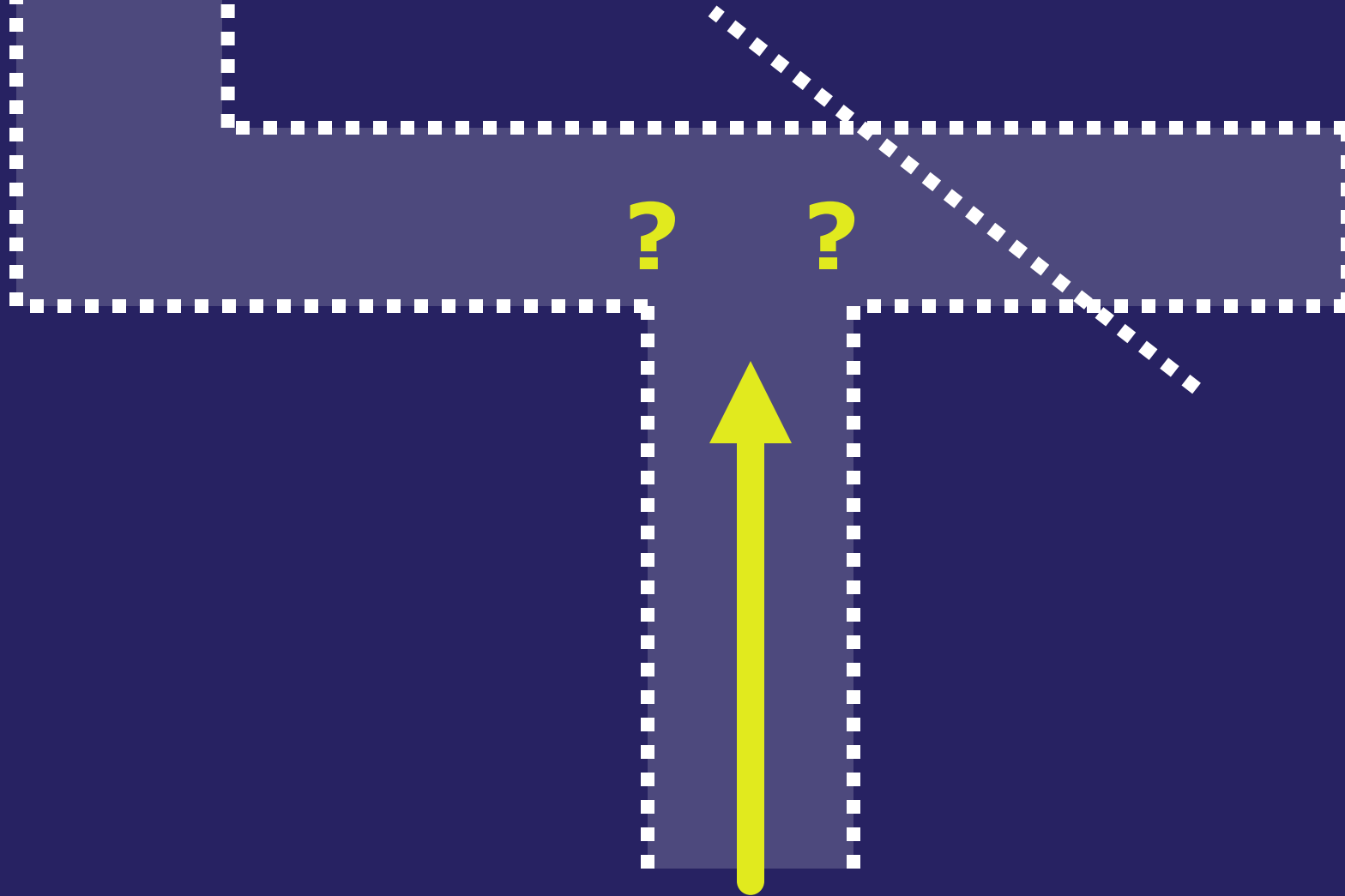
Decision Stacking



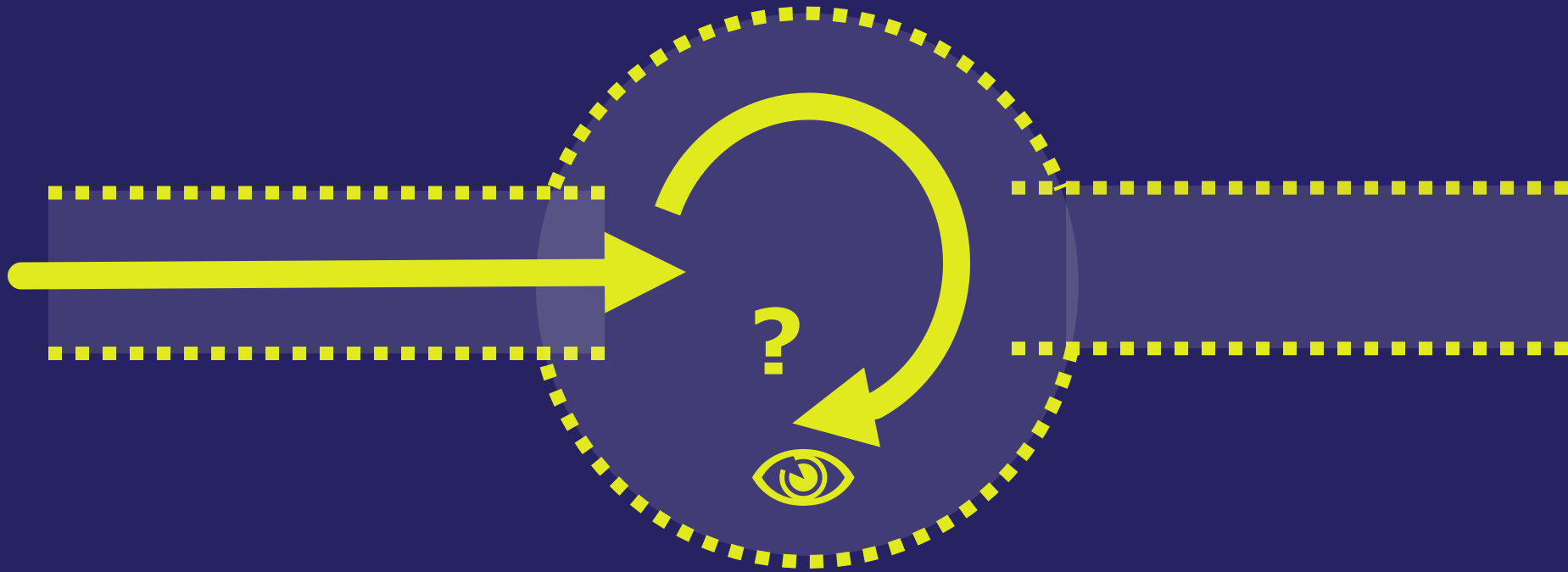
Pickups & Flow Disruption



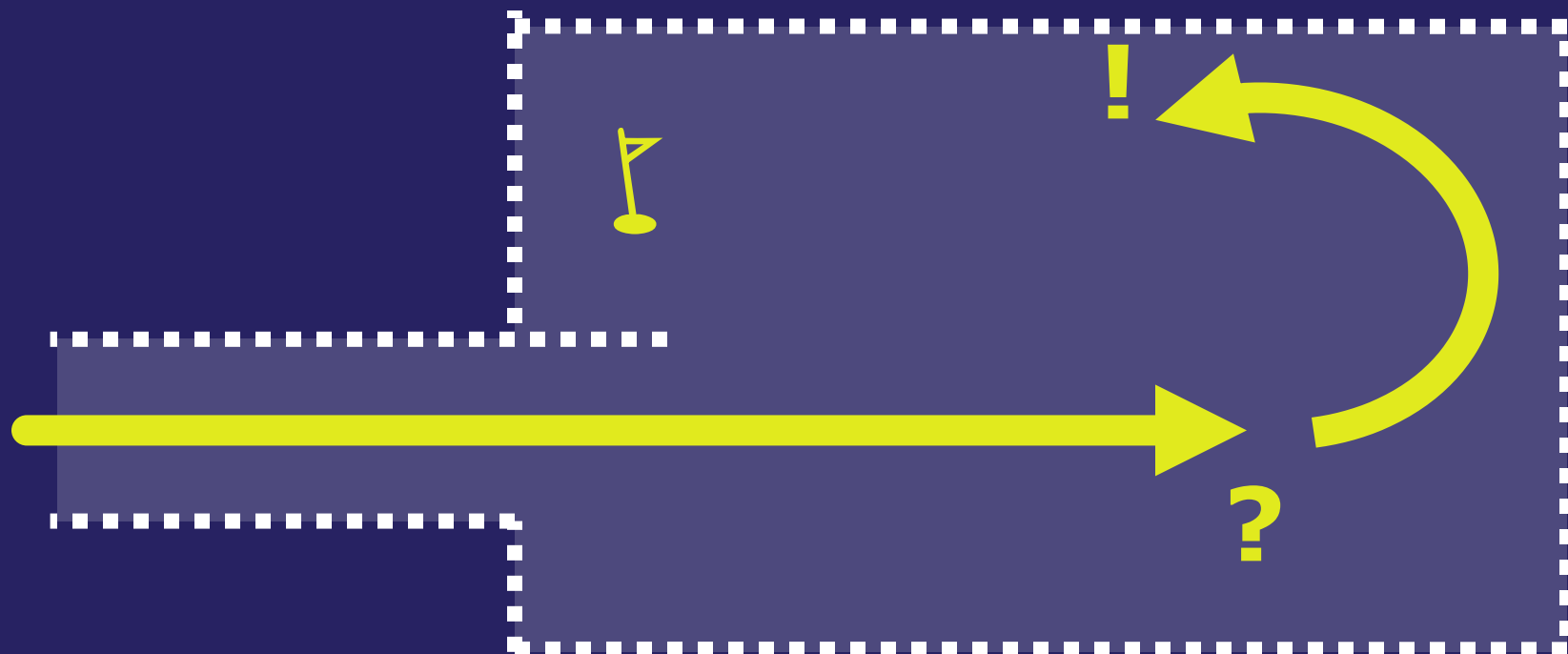
T-Intersections & Spillout



Mixing Bowls



Changed Perspective



Consistent Incline/Decline

