

NANO DUNGEON

Deconstructing Roguelike Development
with JavaScript & Phaser

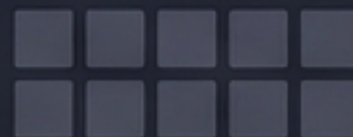
Based on 'Roguelike Development with JavaScript' by Andre Alves Garzia

 The Player

Hp: 13

Mp: 1

Ap: 1



 A Dangerous Monster

 A Dangerous Monster

 A Dangerous Monster

 A Dangerous Monster

 A Dangerous Monster

A Dangerous Monster was
killed.

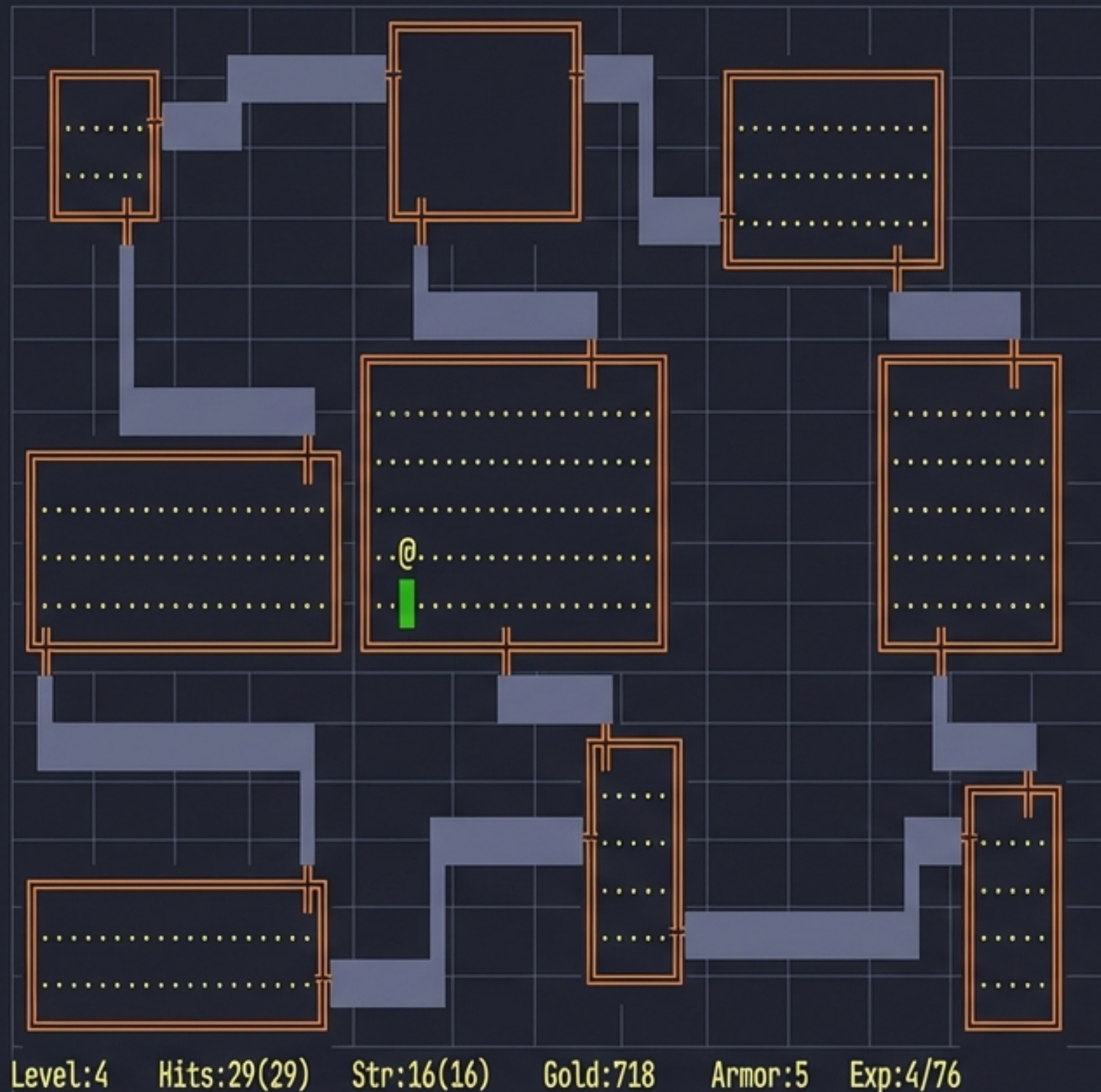
The Player does 1 damage to A
Dangerous Monster

A Dangerous Monster does 1
damage to The Player

A Dangerous Monster was
killed

The Player does 1 damage to A
Dangerous Monster

A Dangerous Monster does 1
damage to The Player



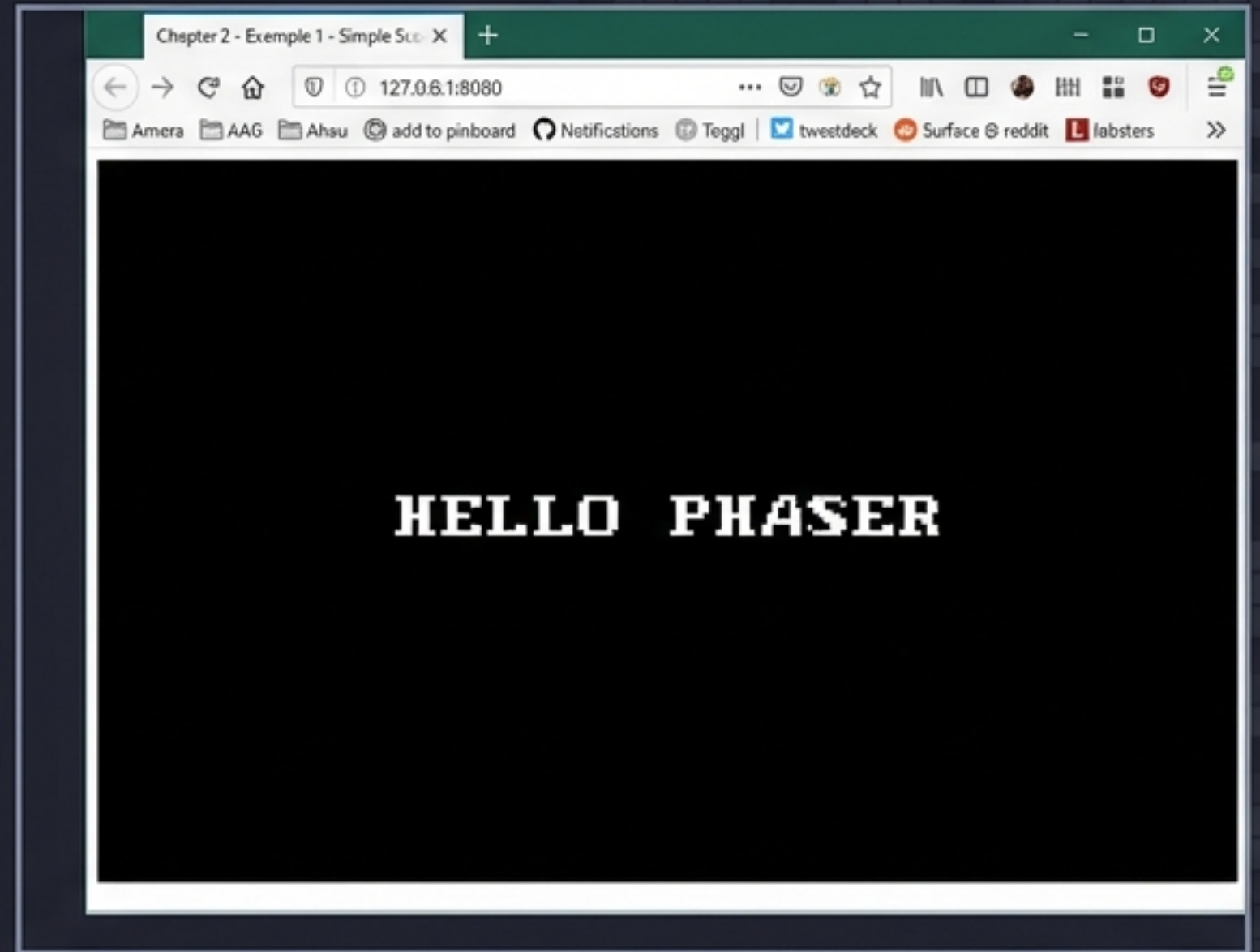
The Berlin Interpretation: 5 Key Pillars

- **Random Generation:** The world is new every run.
- **Permadeath:** No saving; death is final.
- **Turn-Based:** The world waits for you.
- **Grid-Based:** Everything exists on a discrete chessboard.
- **Resource Management:** Scarcity drives strategy.

The Tech Stack: Why Web?

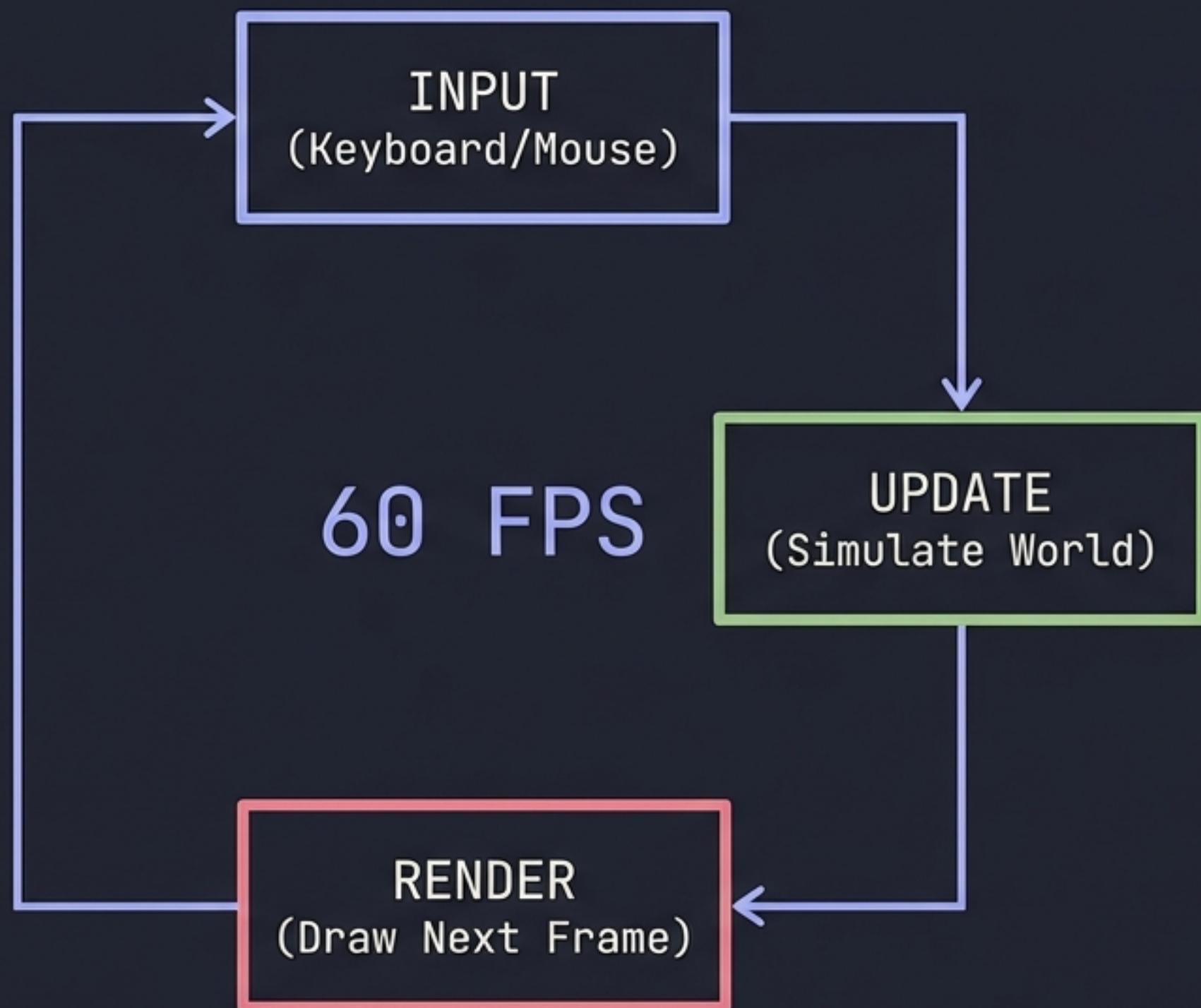
- ⇒ **Zero-Friction:** Runs in any browser.
- **Rapid Iteration:** Hot-reload with live-server.

“Always bet on JS.”



```
const config = {  
  type: Phaser.AUTO, // WebGL or Canvas  
  pixelArt: true,    // Crisp retro visuals  
  physics: { default: 'arcade' }  
};
```


The Heartbeat: The Game Loop



The Conflict:

Phaser runs at 60 frames per second (Real-time), but a Roguelike moves one step at a time (Turn-based).

We must enforce patience on the engine.

Anatomy of a Scene

PRELOAD

```
this.load.spritesheet(..., 'phaser/sv3.png" .png');
```

CREATE

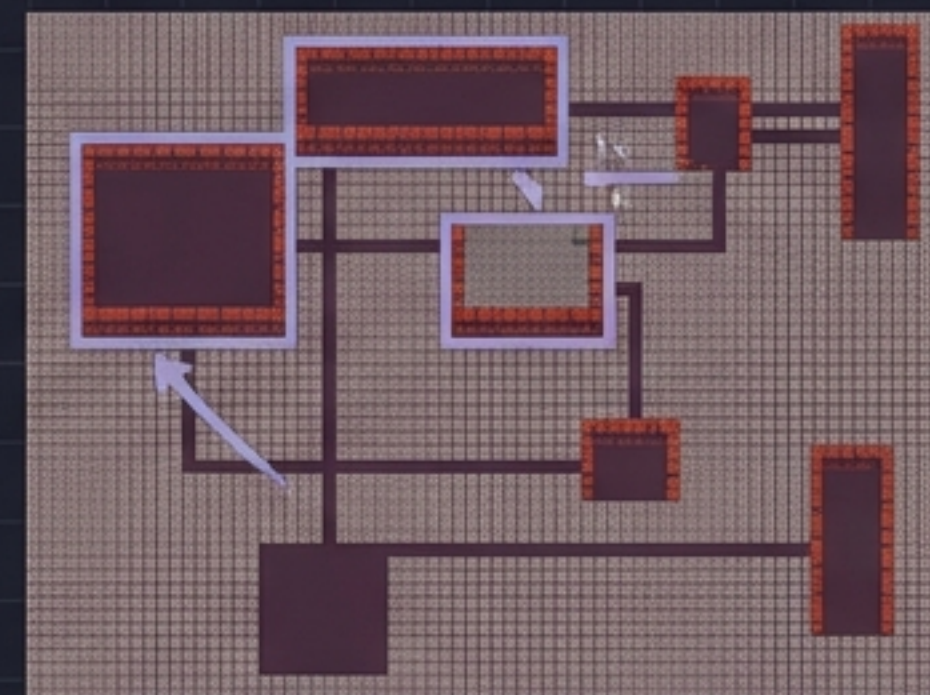
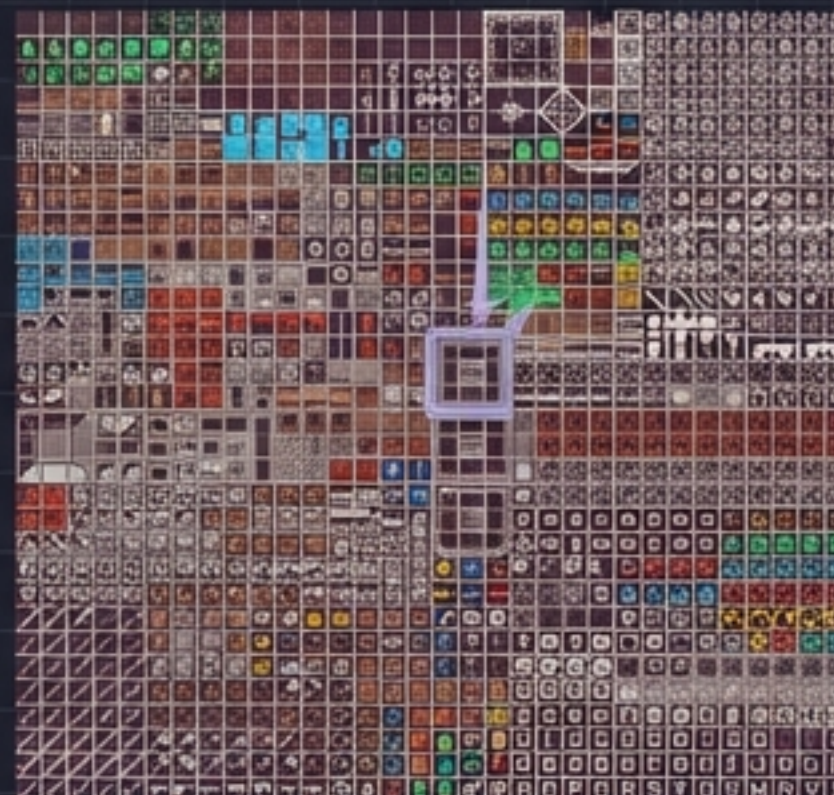
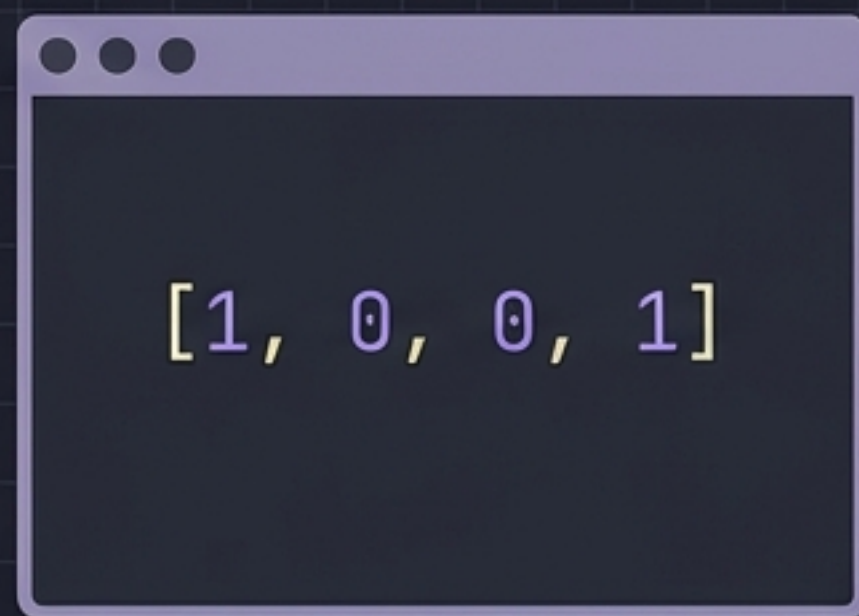
```
this.add.sprite(..., 2, color 60, );
```

UPDATE

```
if (input) {  
  move()  
}
```

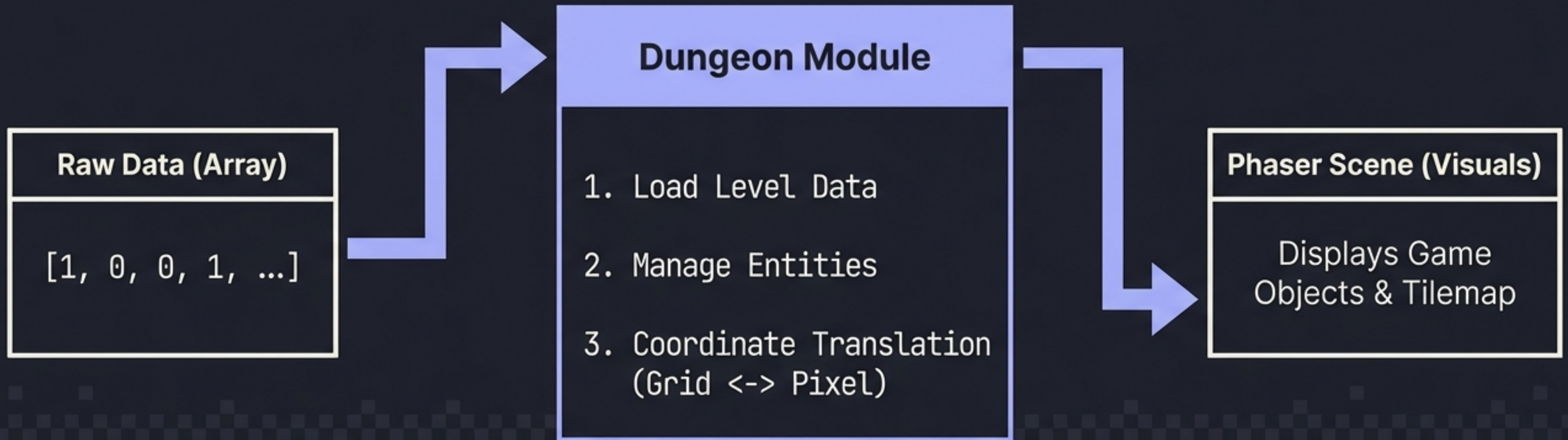
The Phaser
Scene Class

The Grid is the World

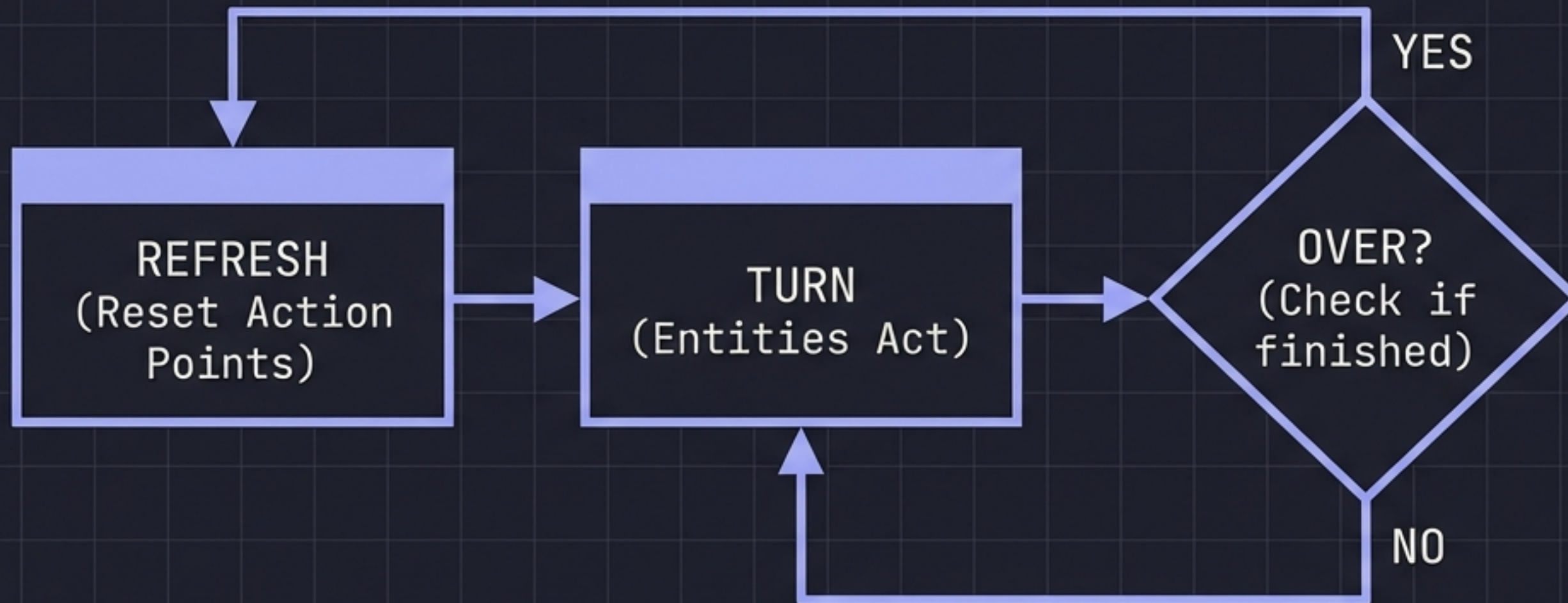


Data + Assets = Tilemap

The Architect: The Dungeon Manager



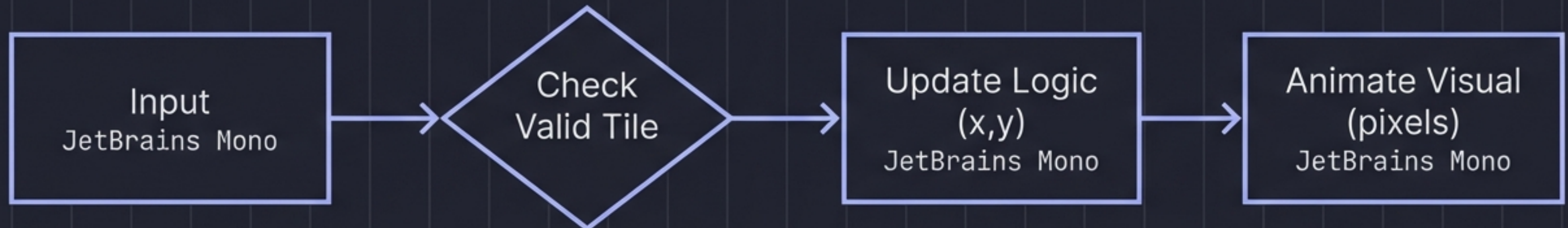
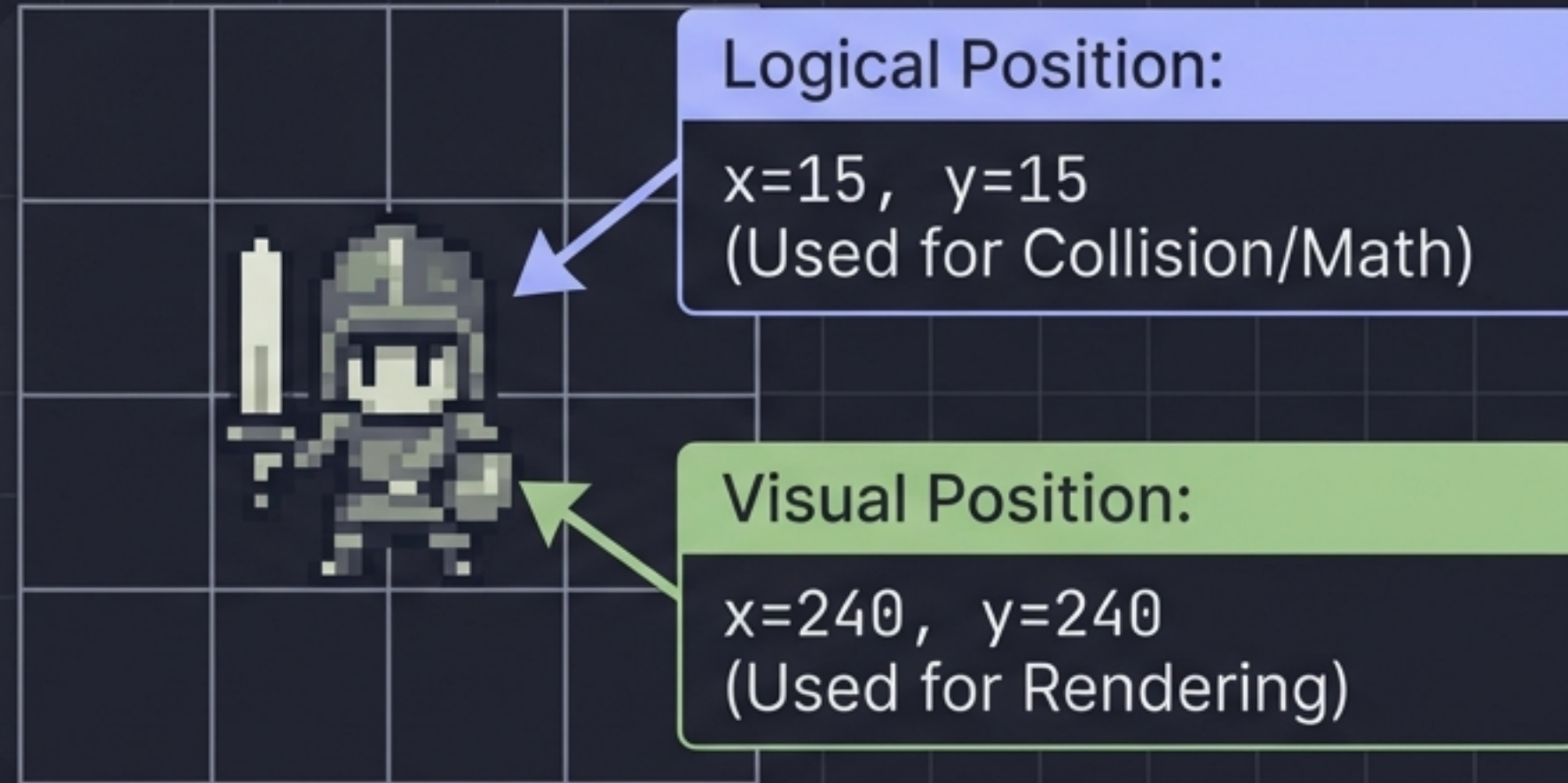
Controlling Time: The Turn Manager



The Debounce:

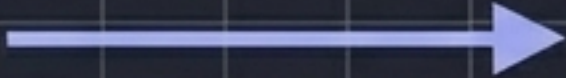
A **150ms** delay is added between **inputs** to prevent the player from accidentally sprinting across the map.

The Protagonist: Grid vs. Pixel



Smooth Operator: Tweens & Animation

Teleport vs. Glide



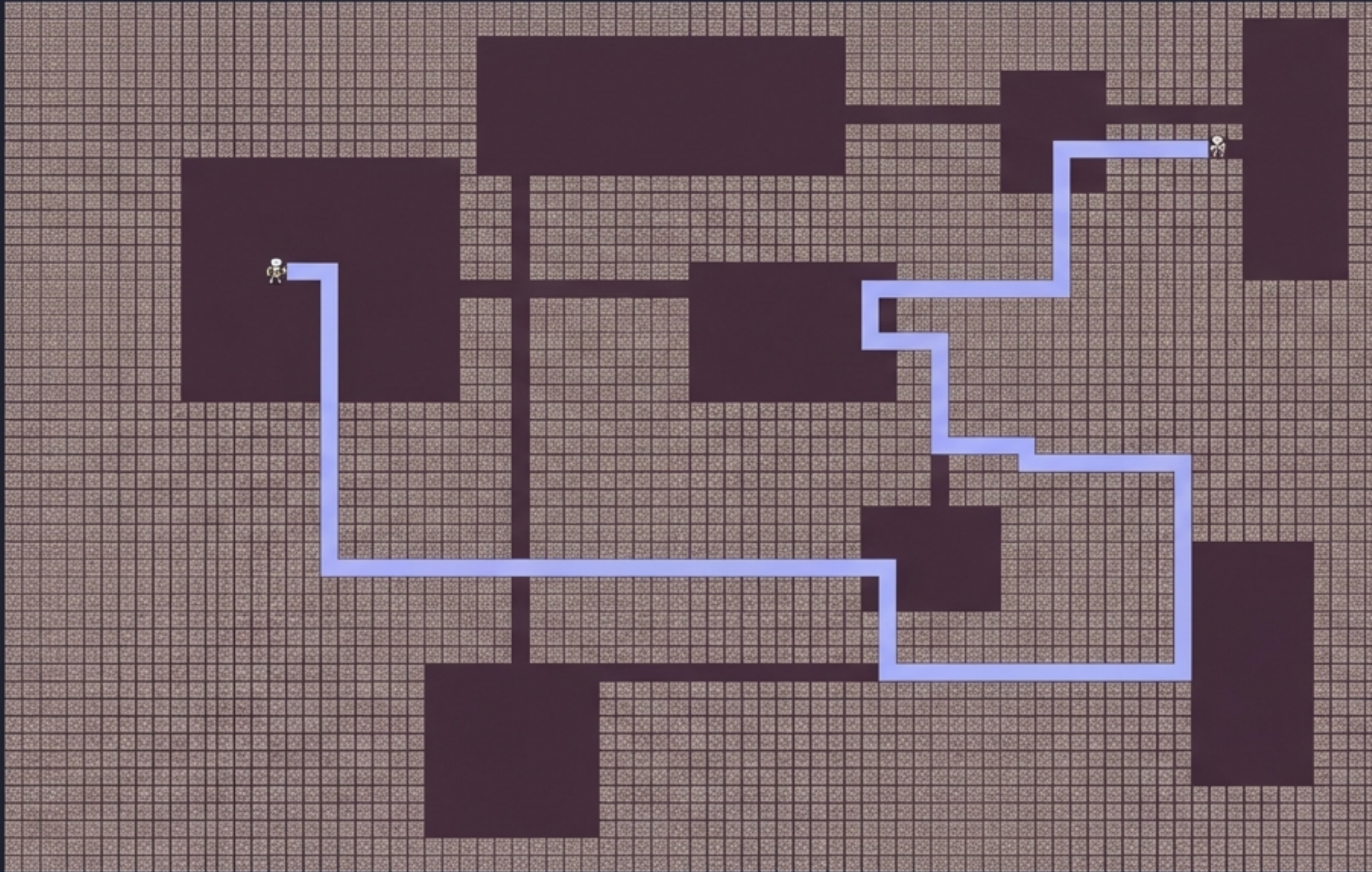
Instant Update (Jarring)



Tweened Movement (Fluid)

```
this.tweens.add({  
  targets: entity.sprite,  
  x: newX,  
  y: newY,  
  duration: 200, // 200ms glide  
  ease: "Power2"  
});
```


The Conflict: AI & Pathfinding



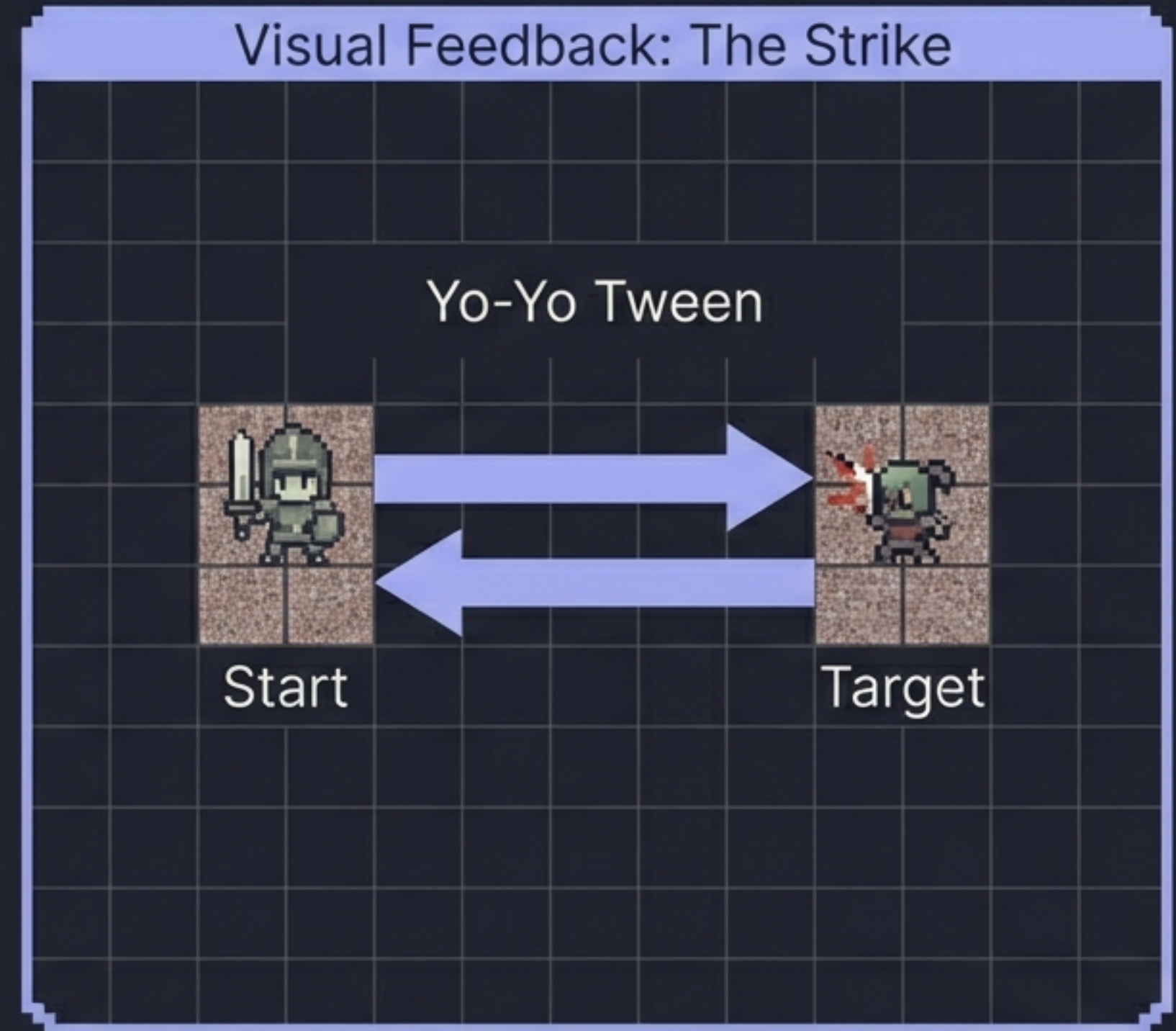
The Loop

1. Calculate path to Player (A* Algorithm).
2. If `Distance > 1`:
Move one step closer.
3. If `Distance = 1`:
ATTACK.

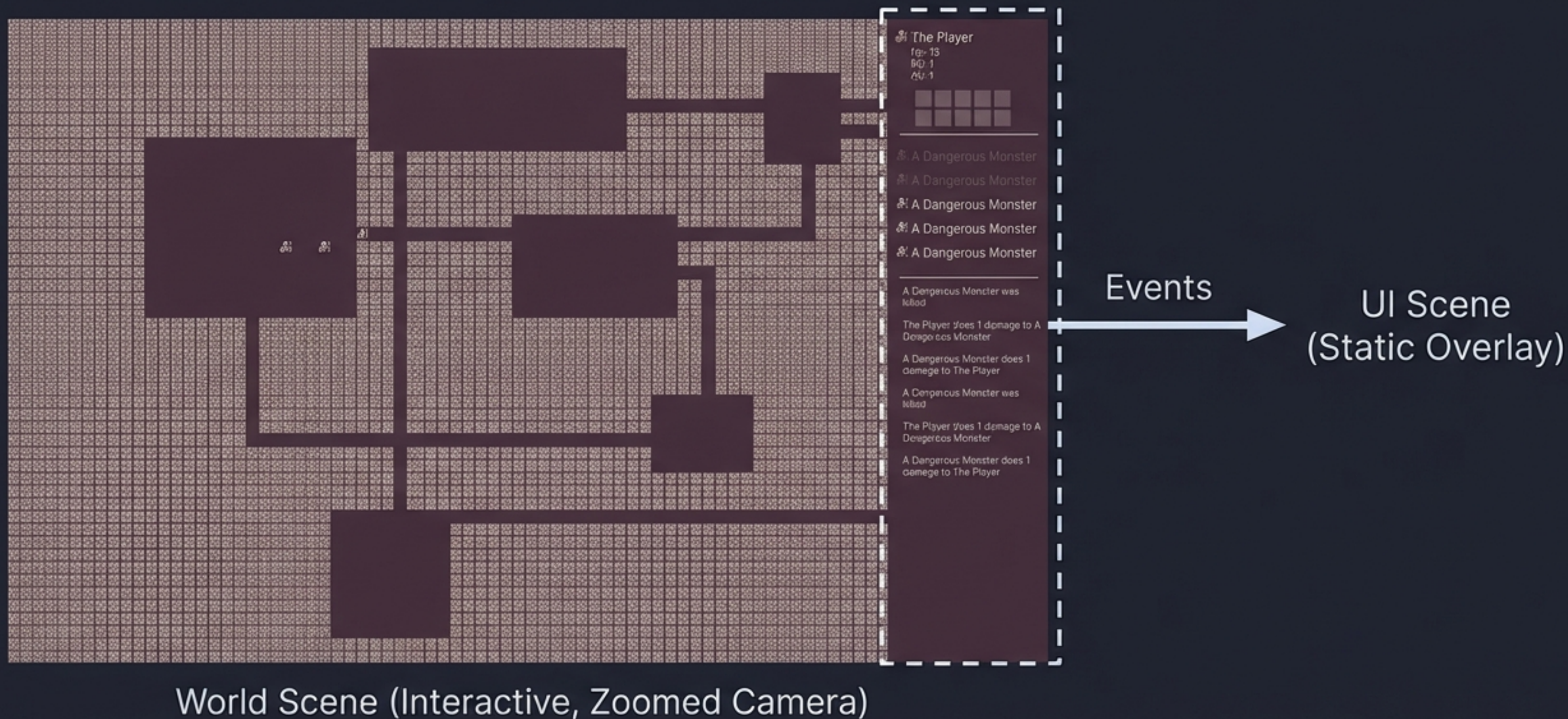
Combat & Permadeath

The Stakes

- ❖ Movement Points (**MP**):
To walk.
- ❖ Action Points (**AP**):
To strike.
- ❖ **Permadeath**: If $HP \leq 0$,
Reload Game.



The Overlay: Scene Stacking



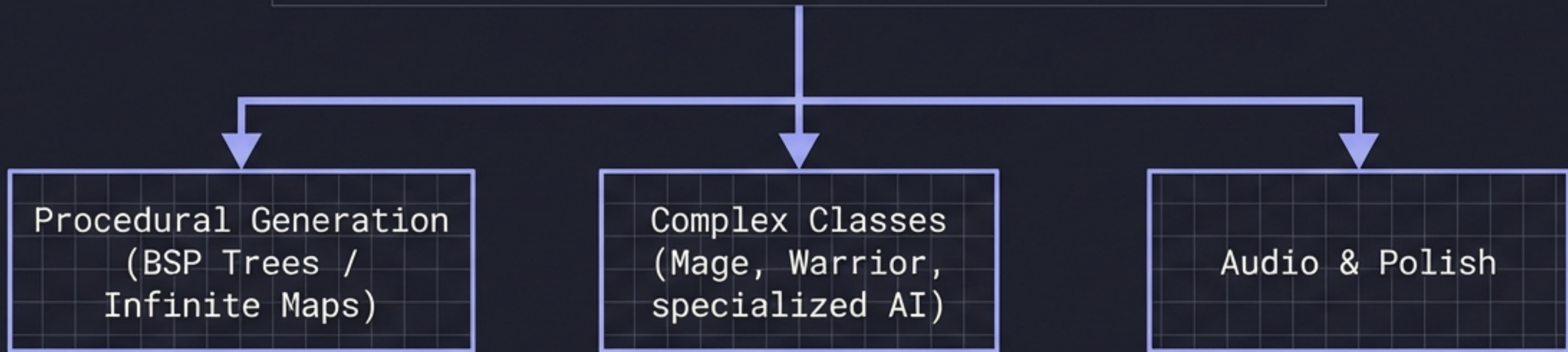
Loot & Inventory



- **Items are Entities:** They exist in the world logic.
- **Equip Logic:** Toggles 'active' flag.
- **Impact:** Active items modify the 'Attack()' calculation.

Beyond the Static Map

The Skeleton is Complete.



"Your journey starts when you change the code."

MAKE YOUR OWN TWINE GAMES!



**A guide to interactive storytelling,
adapted from the work of Anna Anthropy.**

Tip: Start
with a
simple
story!

Everyone Makes Games



**Designer Games
(Corporate)**

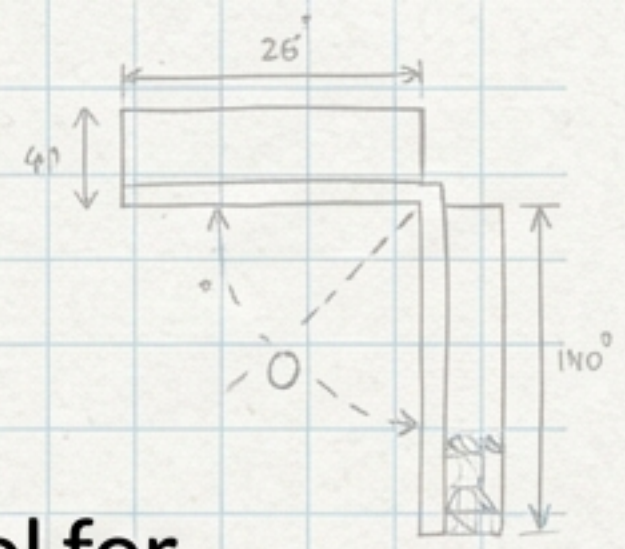
VS



Folk Games

Games aren't just commercial products; they are folk art. Like Tag, they evolve as players ask, 'What if we changed the rules?' They are windows into other worlds that we build together.

The Tool: What is Twine?



Interview with a Cat:
Twine Basics



Twine is a **free**, open-source tool for telling interactive, non-linear stories.



Think of it as a digital '**Choose Your Own Adventure**' book.



It uses **Hypertext**: highlighted words that transport you instantly to a new page.

Do you need to code?
NO. If you can type words, you can make a game.

Getting Started: The Pinboard

The image shows a screenshot of the Twine website interface, which is designed to look like a corkboard or pinboard. The interface includes a sidebar on the left with a '+ Story' button, a main workspace with various cards (Notes, Stories, Storylet flow), and a 'Create a new story' dialog box. Annotations with numbered circles and arrows guide the user through the initial steps: 1. Go to twinery.org (arrow to the browser address bar), 2. Click +Story (arrow to the sidebar button), and 3. Name your story (e.g., 'Interview with a Cat') (arrow to the dialog box input field). A callout box on the right states: 'The interface is your desk. Treat it like a physical workspace.' The entire interface is set against a light blue grid background.

1 Go to twinery.org

2 Click +Story

3 Name your story (e.g., 'Interview with a Cat')

The interface is your desk. Treat it like a physical workspace.

The Building Block: The Passage

Untitled Passage

Double-click this
passage to edit it.

A Passage =
A Room in your House
(or a Page in your Book)

When you type your first word, the ghost
text vanishes. You are now the architect.

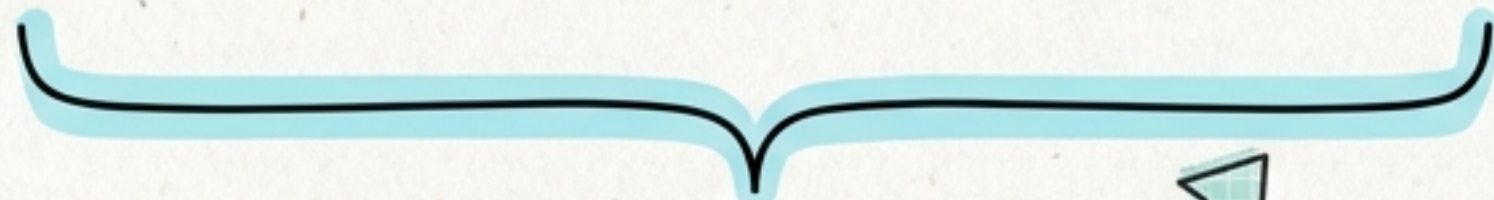


The Magic Syntax: Linking

The Container.



[[What does "meh" mean? → Meh]]



THE HOOK:

What the player sees.



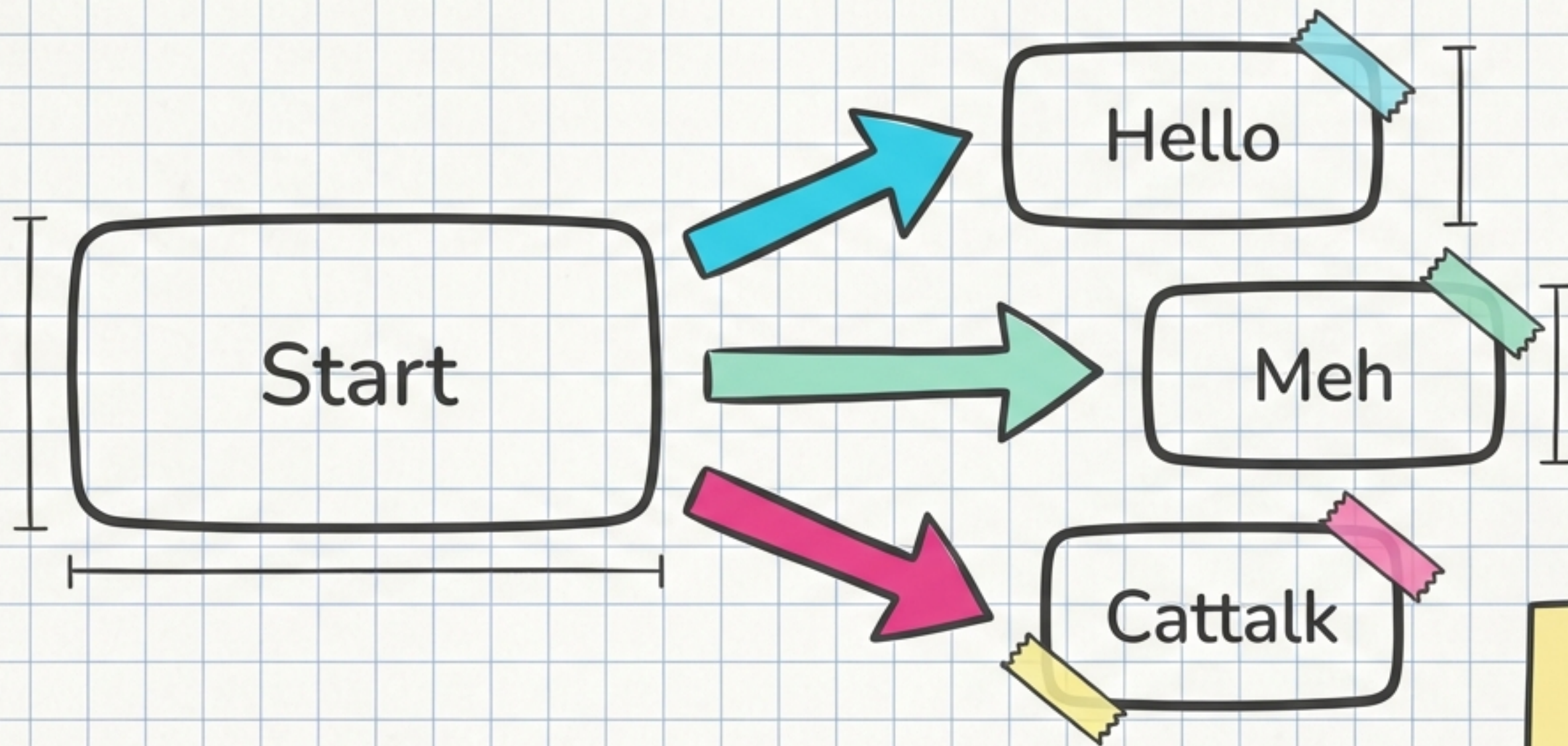
THE DESTINATION:

The room they travel to.





Weaving the Web

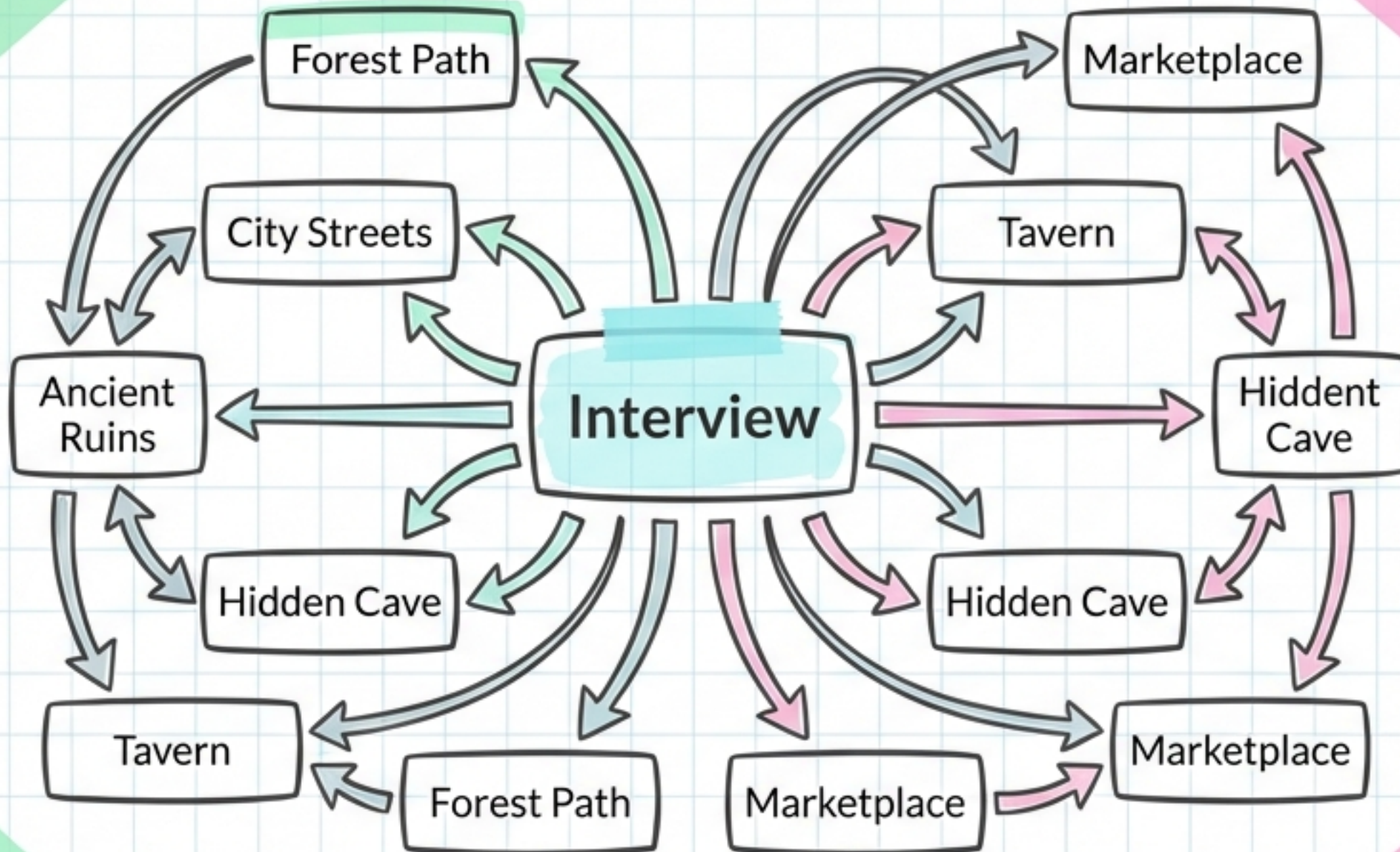


Magic! When you type a link like `[[Hello->Hello]]`, Twine automatically creates the new passage for you.

Pro Tip

Finish writing your current passage before running off to fill the new ones!

Branching Paths & The Hub



The Hub Structure:
Create a central “Table of Contents” passage.
Allow players to explore different branches and loop back to the center. This lets them explore in any order.

Pro Tip

Think of your Hub as the player's home base for their journey!





Design Technique: The Menu Choice



Which creature will you choose for your journey?

[[Ride a magic dragon->DragonRide]]
[[Ride a magic fruit bat->BatRide]]



The Menu:

Best for decisive moments.
Placing links in a list invites comparison.

Design Technique: Environmental Exploration

A huge chandelier tinkles over your head. The pillows on the couch are embroidered. Beautiful candles are twinkling in every corner.

Exploration:

Place links **inside** sentences to encourage looking around. The player lingers in the room rather than rushing the plot.

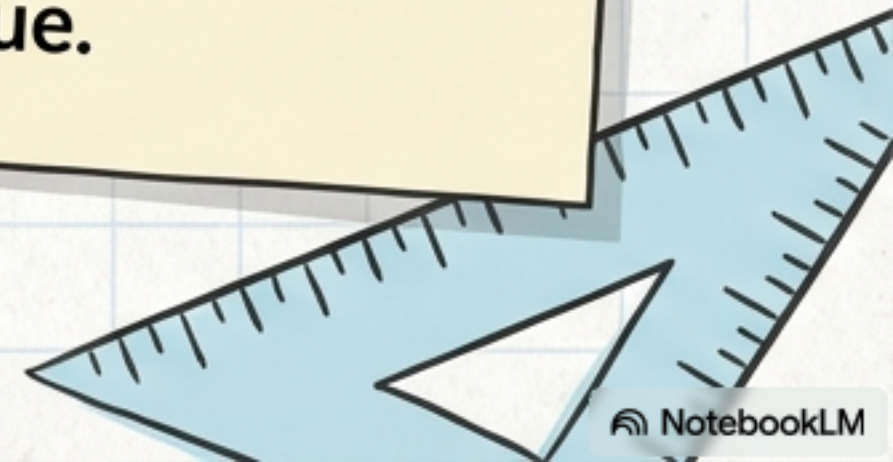
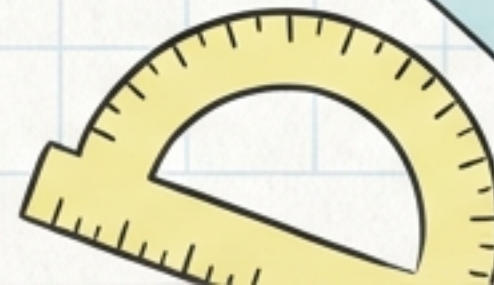
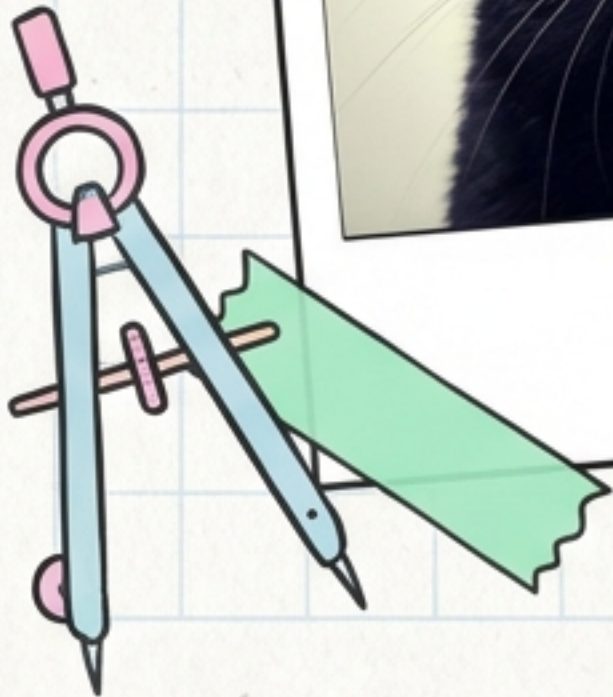
Pro Tip: This technique makes the world feel richer and more interactive, perfect for mystery or exploration-heavy games!

Engagement: Secrets & Rewards



0_0

Hide secrets to reward curiosity.
In 'Interview with a Cat', you only see this photo if you ask **one specific, persistent question**. Make every player's path unique.



The Bug Hunt



Toolbox



**Start
Passage**

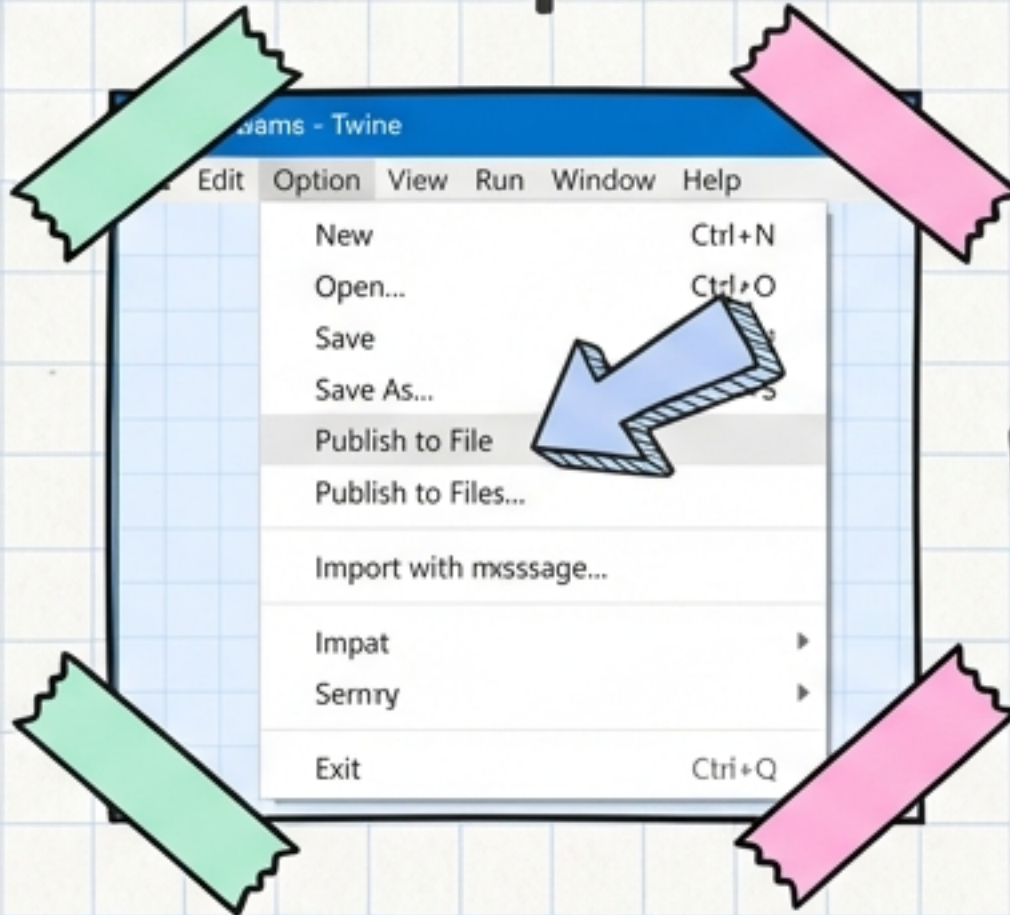


**Enter
Debug View**

Bugs are mean little creatures that mess up your buttons.
Use "Debug View" to rewind time, check your links, and squash them.

Publishing: It's Just a File

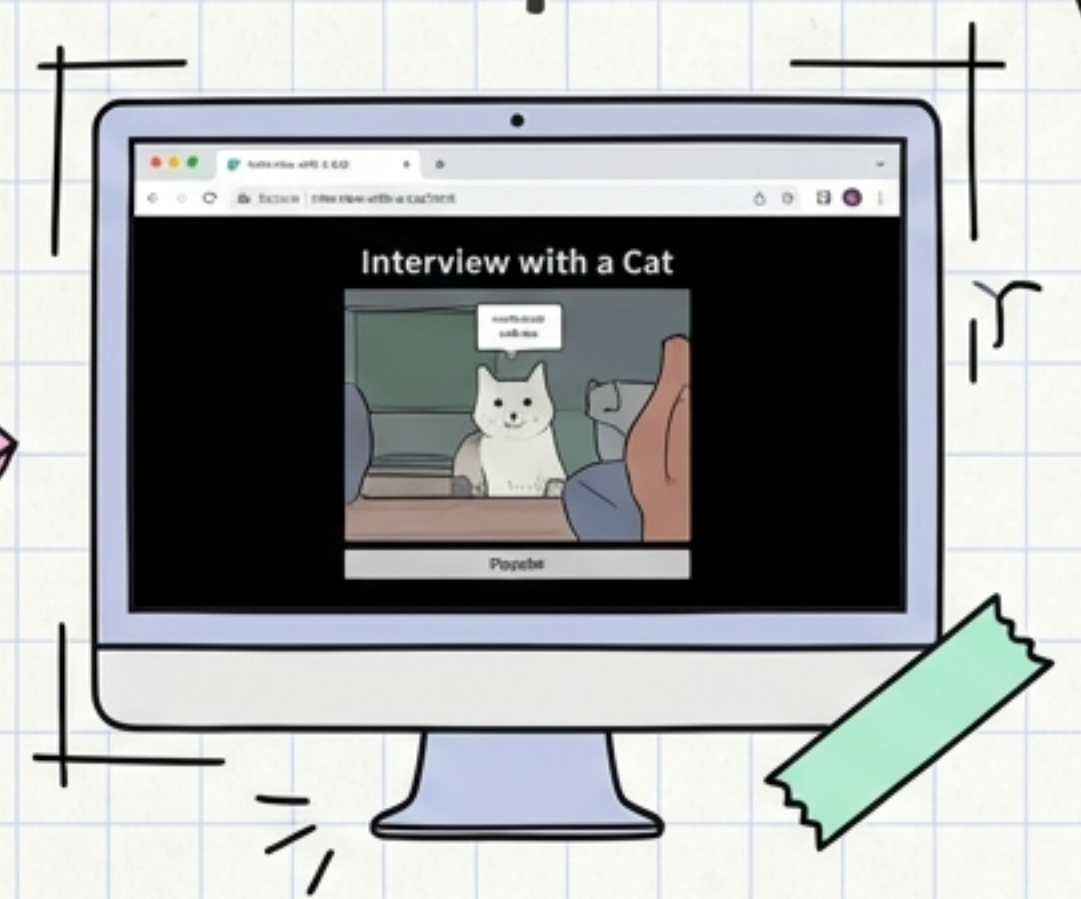
Step 1



Step 2



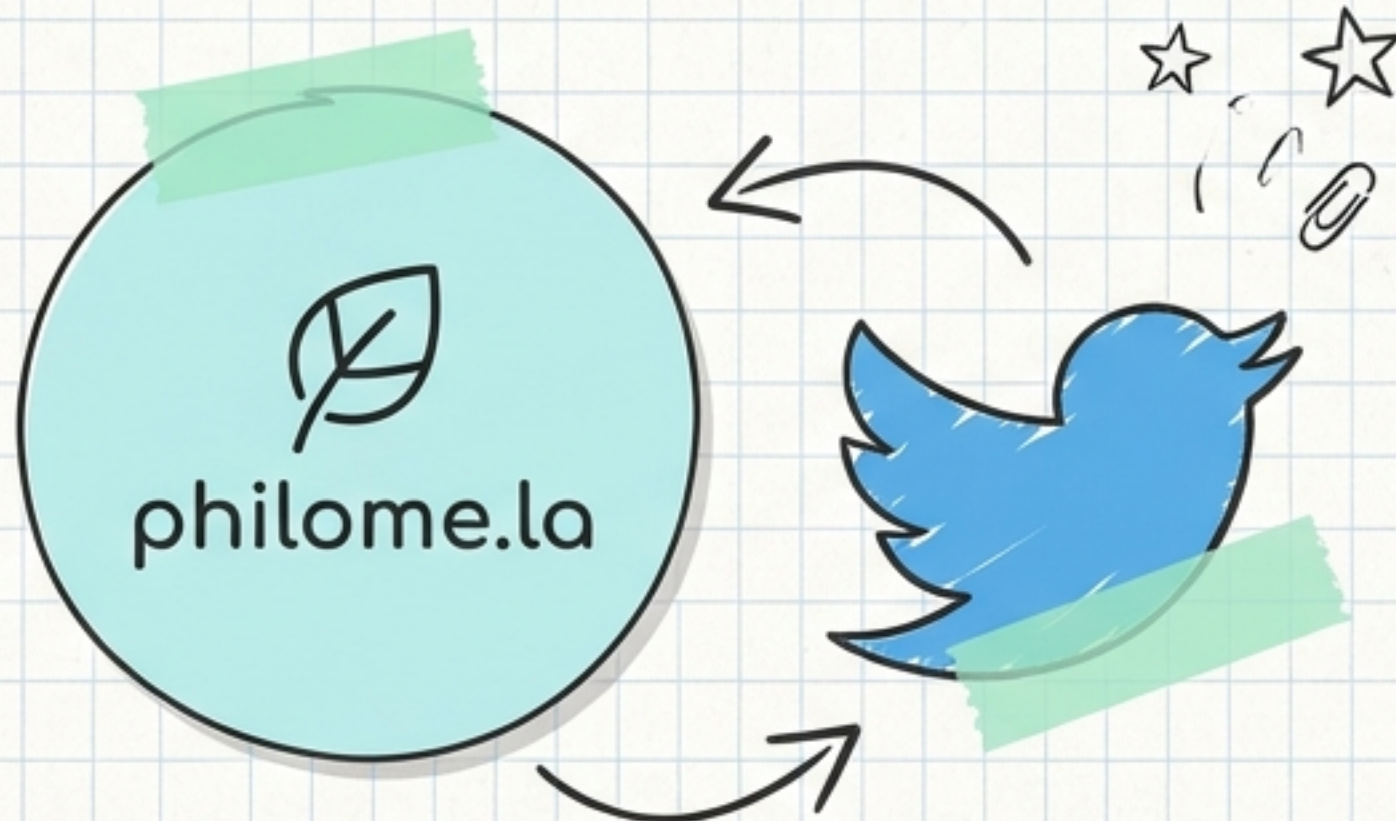
Step 3



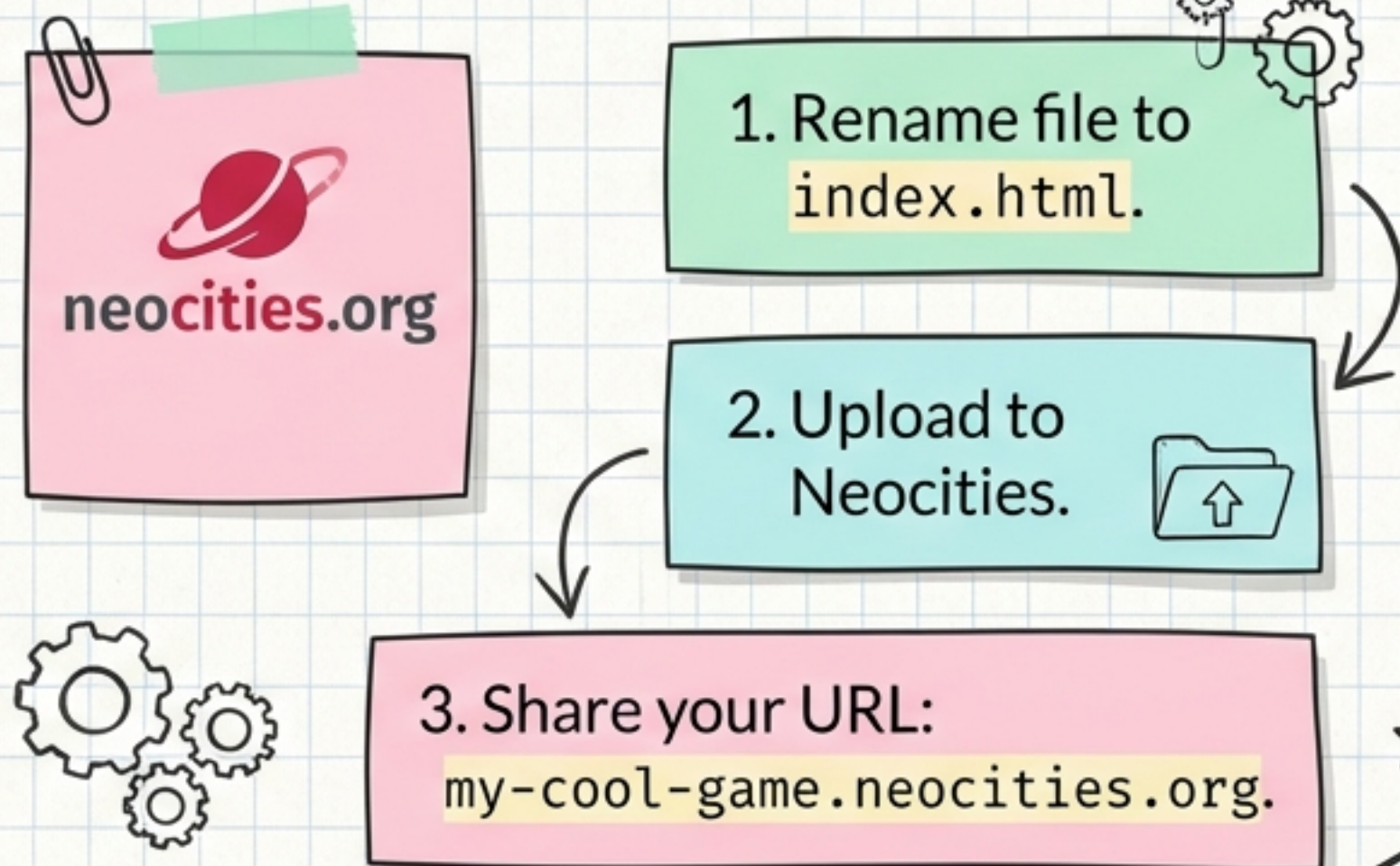
Twine creates a standard HTML file. It lives on your computer, but it IS a webpage. You can email it to a friend and they can play it instantly.

Hosting Your Game Online

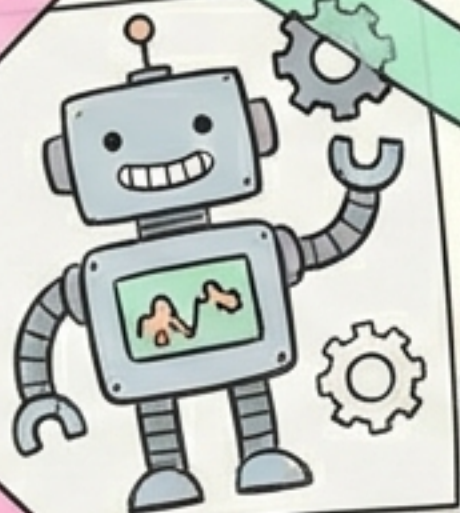
Quick & Easy Fredoka One



Custom Home Fredoka One



Your Turn



robot



weird
dream
cloud



funny
story
book

"Don't let anyone tell you otherwise. Start small. Big ideas grow like towering castles, but rarely do they get finished."



Thematic Integration in Board Game Design

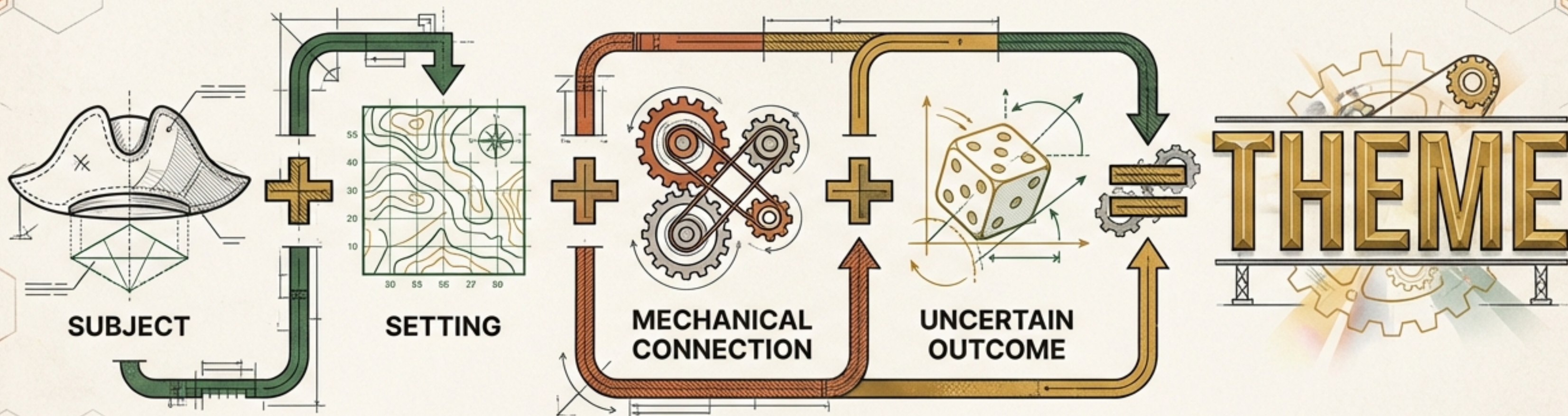
Knitted Narrative into Mechanics



"Theme is not just the art on the box—it is the structural promise made to the player."

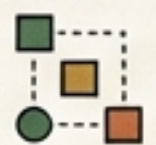
Based on the work of Sarah Shipp

THERE IS A SYSTEM, NOT A COSTUME



THE STORY

If the outcome is **scripted**.



THE ABSTRACT

If **mechanics** don't connect to the subject.

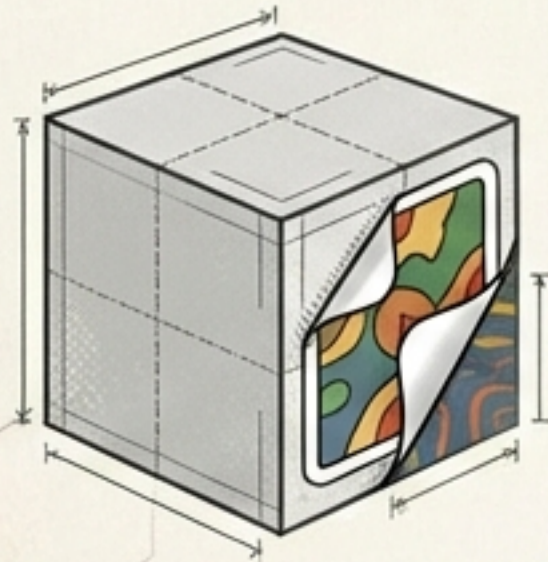


THE GAME THEME

Requires the **uncertainty** of play to drive the narrative.

THE INTEGRATION SPECTRUM

LAYERED
(Pasted-On)



Theme developed separately.
Connection points feel
inorganic.

Example: *Love Letter*.

KNITTED
(Integrated)



Mechanics are motivated
by the theme. Developed
simultaneously.

Example: *Everdell*.

Goal: A unified weave where mechanics
provide the emotional experience.

THEME MUST EXIST IN THE BONES

GAME ANATOMY

LAYER 1: CORE GAMEPLAY

The raw mechanics, rhythm, and tension. Theme starts here.

LAYER 2: BAKED-IN ELEMENTS

What players must touch and see: Board, Icons, Components.

LAYER 3: OPT-IN ELEMENTS

Flavor text, lore, meta-play. Can be ignored.

CRITICAL INSIGHT: You cannot rely on Layer 3 to carry the weight of your theme.

THE CENTRAL THEMATIC METAPHOR

Designing for the Intended Player Experience.

CASE STUDY: PALEO

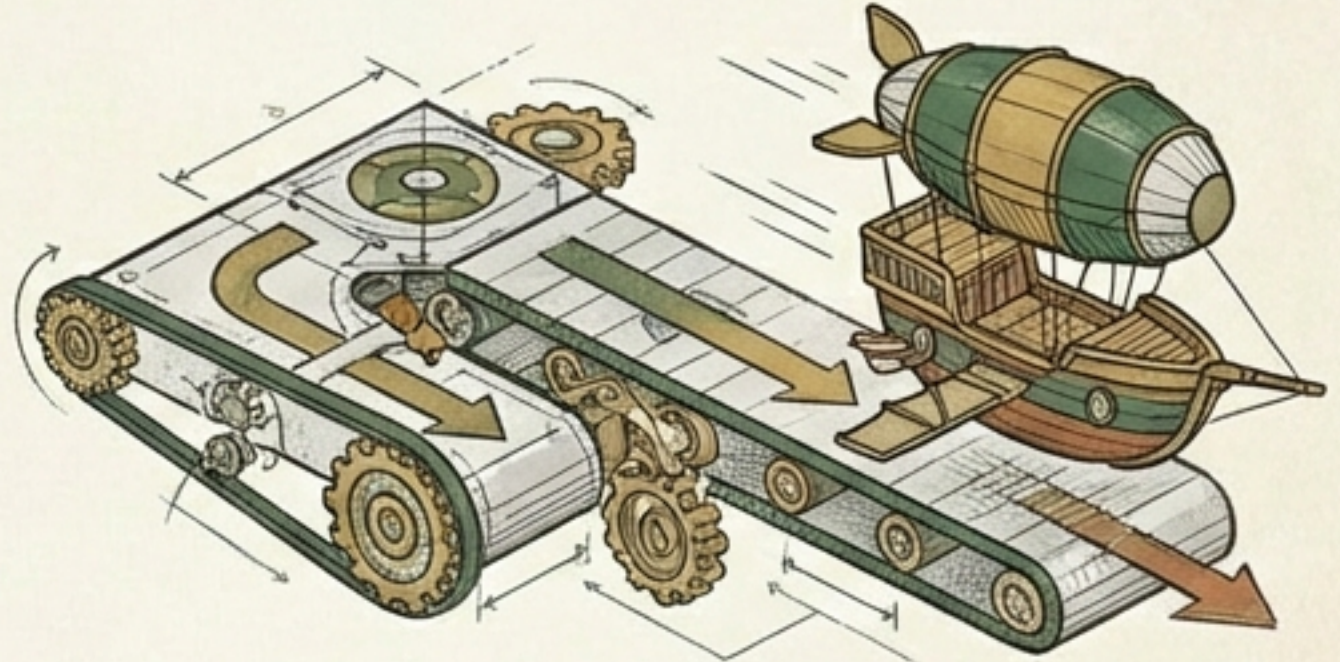
Metaphor: Struggle for Survival.



Mechanism: The card deck acts as a harsh environment that exhausts the players.

CASE STUDY: SOLENIA

Metaphor: Traveling Wonder.



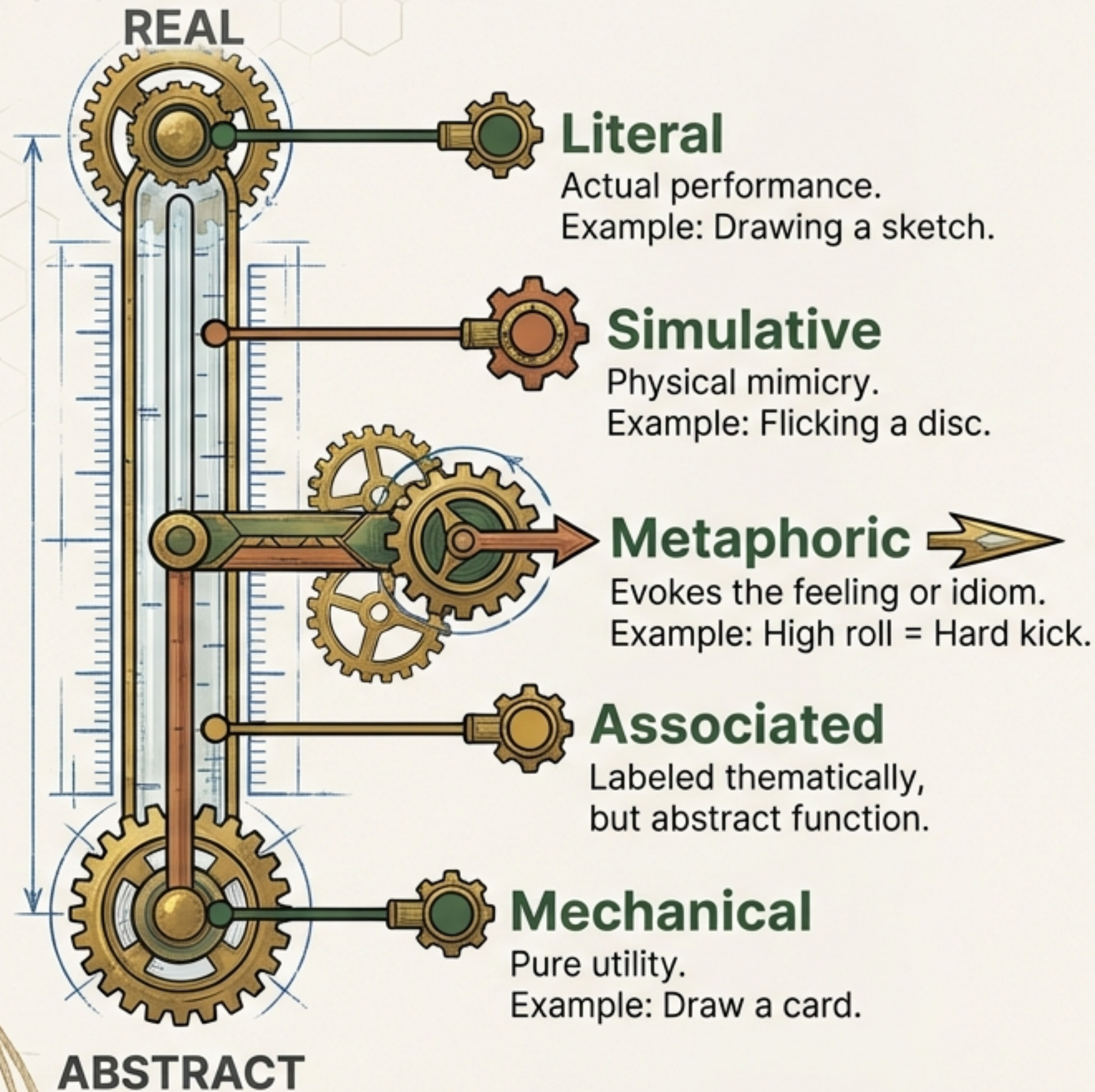
Mechanism: A sliding board creates the illusion of infinite distance.

The metaphor acts as the 'North Star' for design decisions.

THE SHAPE OF THE STORY.



THE SPECTRUM OF THEMATIC ACTIONS



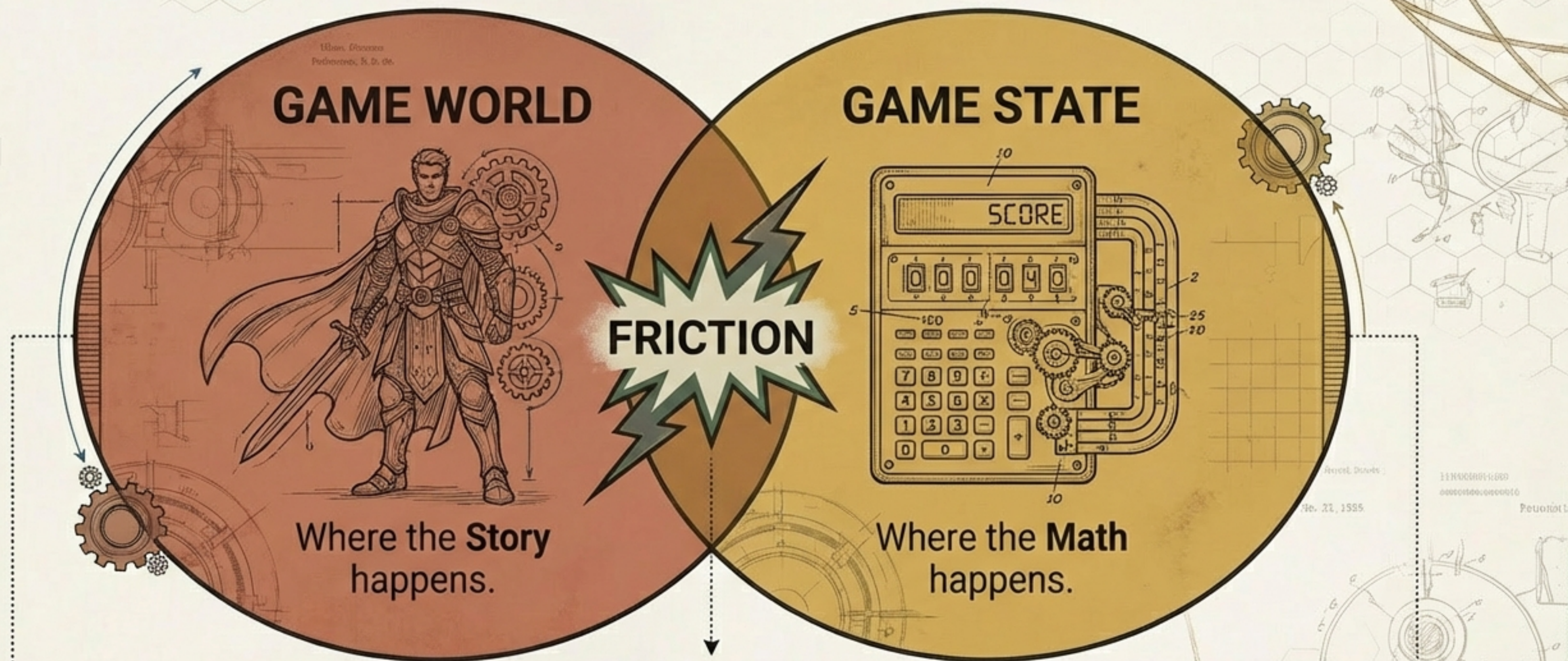
THE DESIGN GOAL: STRIVE
FOR EVOCATIVE ACTIONS.

ACTION CATEGORIES & GOALS

Every mechanic must answer a thematic “Why?”



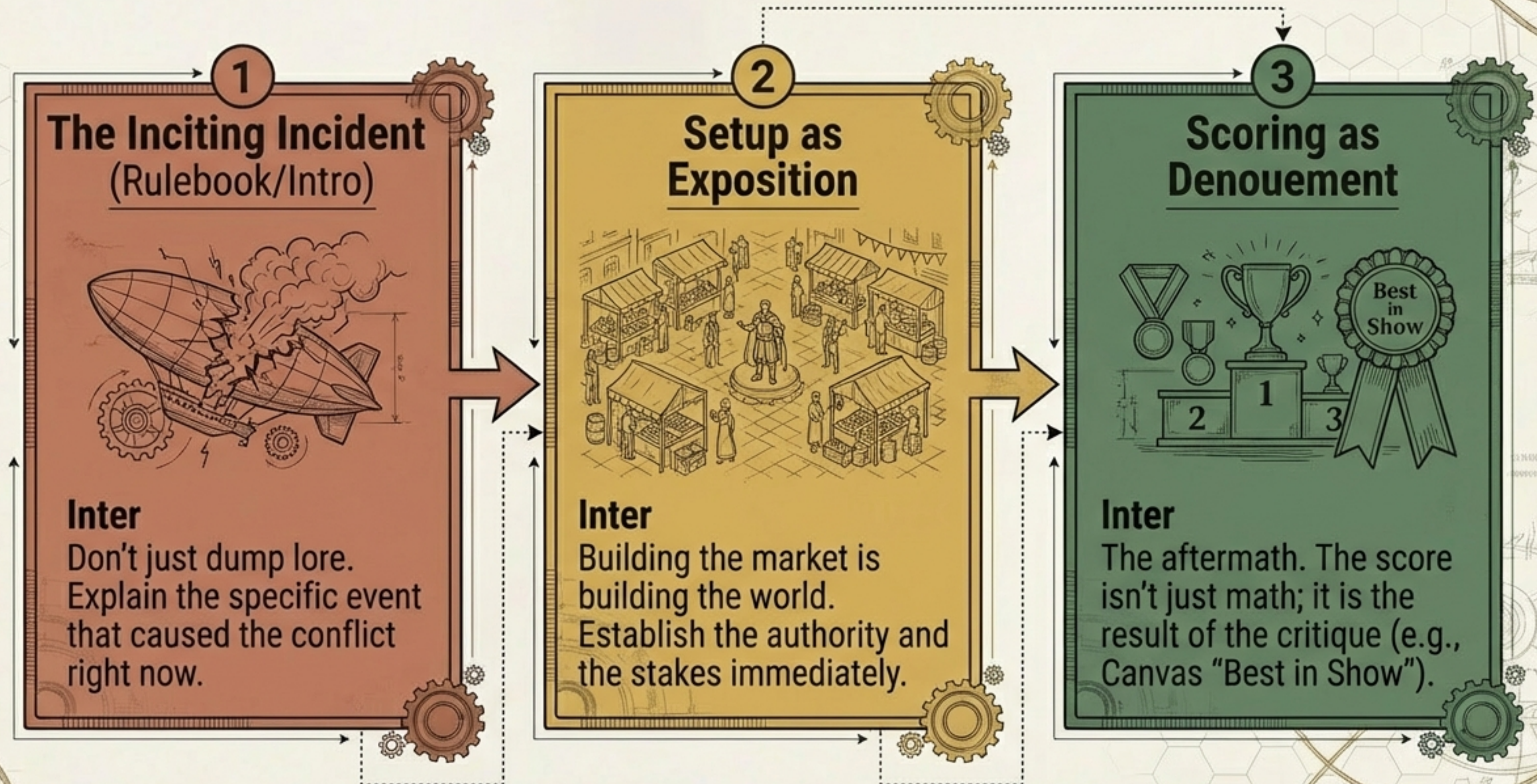
GAME WORLD VS. GAME STATE



THE SOLUTION ←

- ⚙️ **Thematic Upgrades:** Make stat boosts feel like motivated choices.
- ➡️ ⚙️ **Pauses:** Treat upkeep as narrative transitions, not interruptions.

NARRATIVE FRAMING



Constructivist Editorial

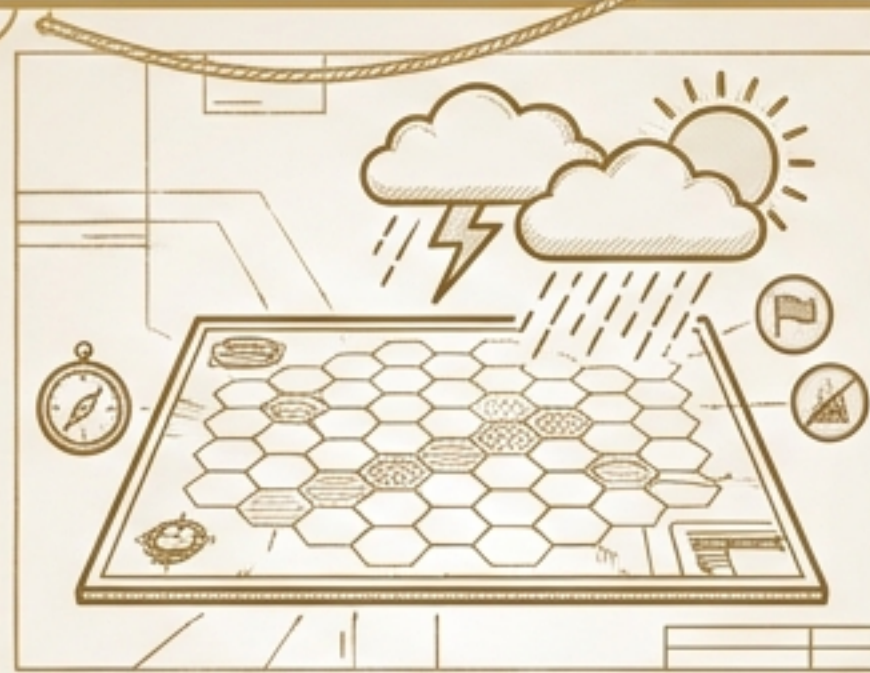
Building a Dynamic World

A static board is a puzzle. A dynamic board is a world.



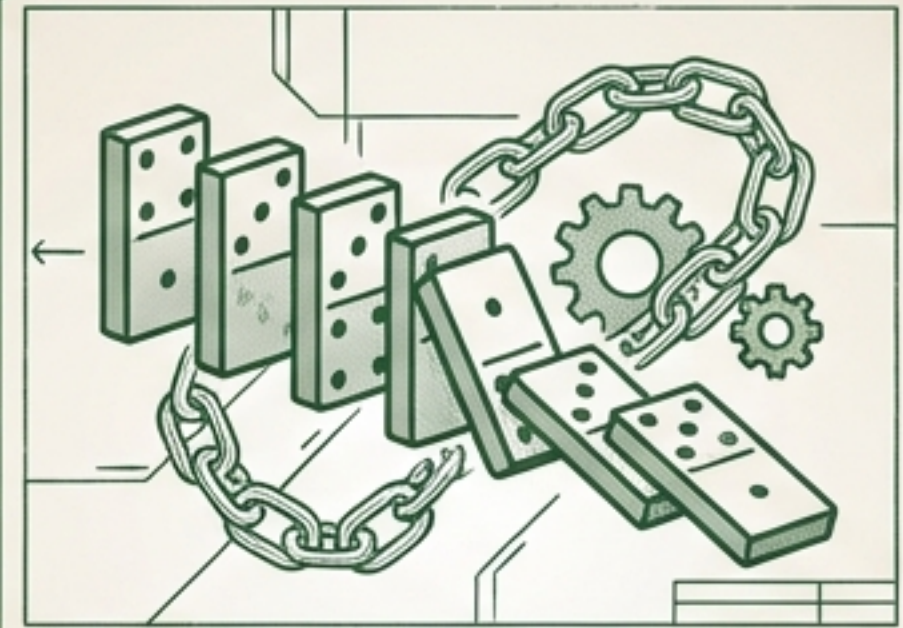
Progressive Goals

Objectives change as the game advances.



Persistent Effects

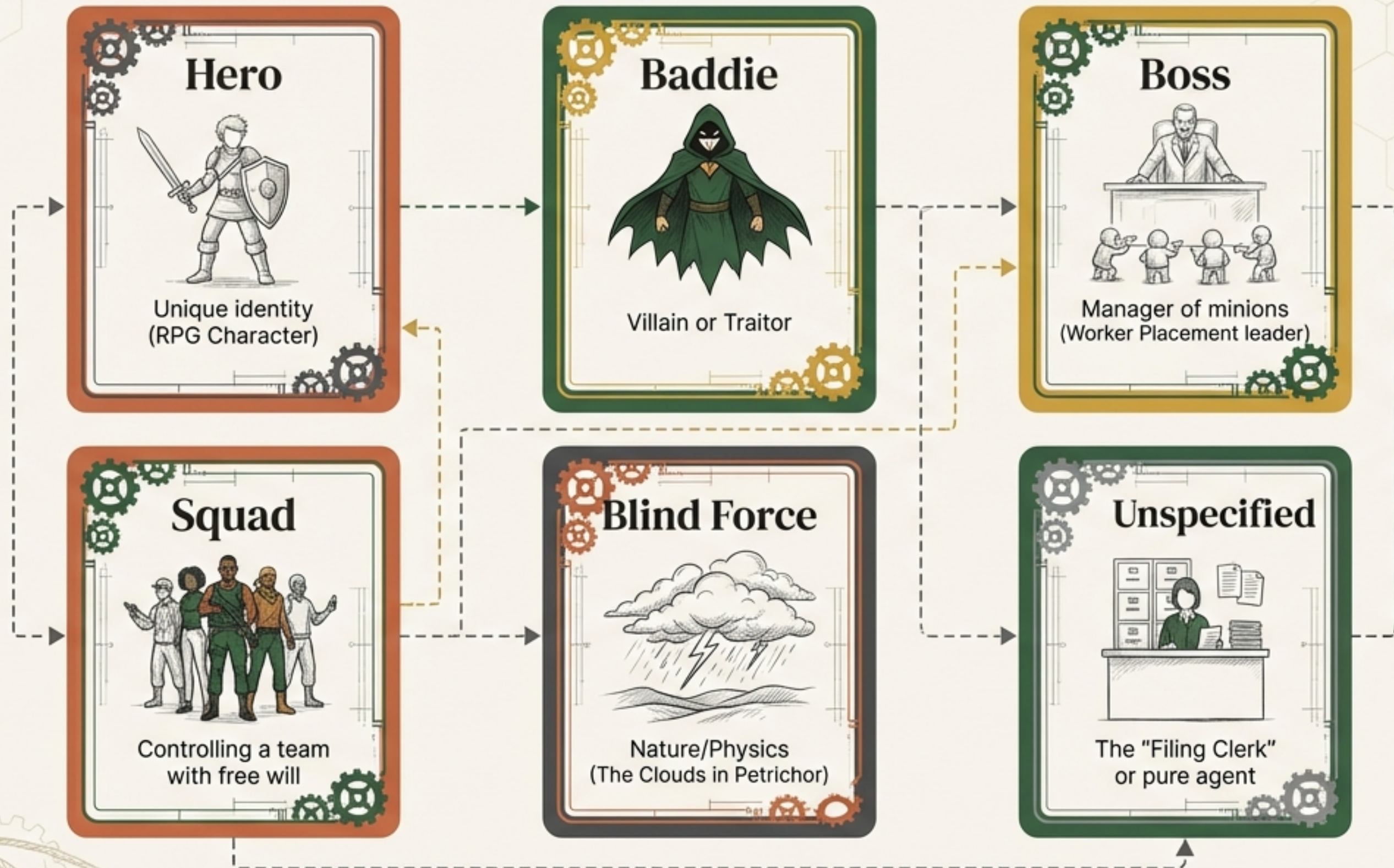
Outside forces (weather, politics) intrude on the math.



Compounding Elements

Resources and states react to each other, not just exist in silos.

Avatar Archetypes



The Ladder of Motivational Exchange

How deep is the player's connection?

Surface Level: "Pure Agent"

Playing only for the math.

Level 3: "Self-Insert"

"You are the customer."
Acting as yourself within the game's bounds.

Level 2: "Unseen Operator"

Puppet master; sacrificing units for the greater good.

Deepest Level: "Embodiment"

Adopting the character's personality and values. True roleplay.



Strategies as Personality

Mechanics ARE character traits.

The Turtle



Strategy: Defensive / Isolationist.
Trait: Paranoia.

The Rusher



Strategy: Speed / Efficiency.
Trait: Greed / Impatience.

The Politician

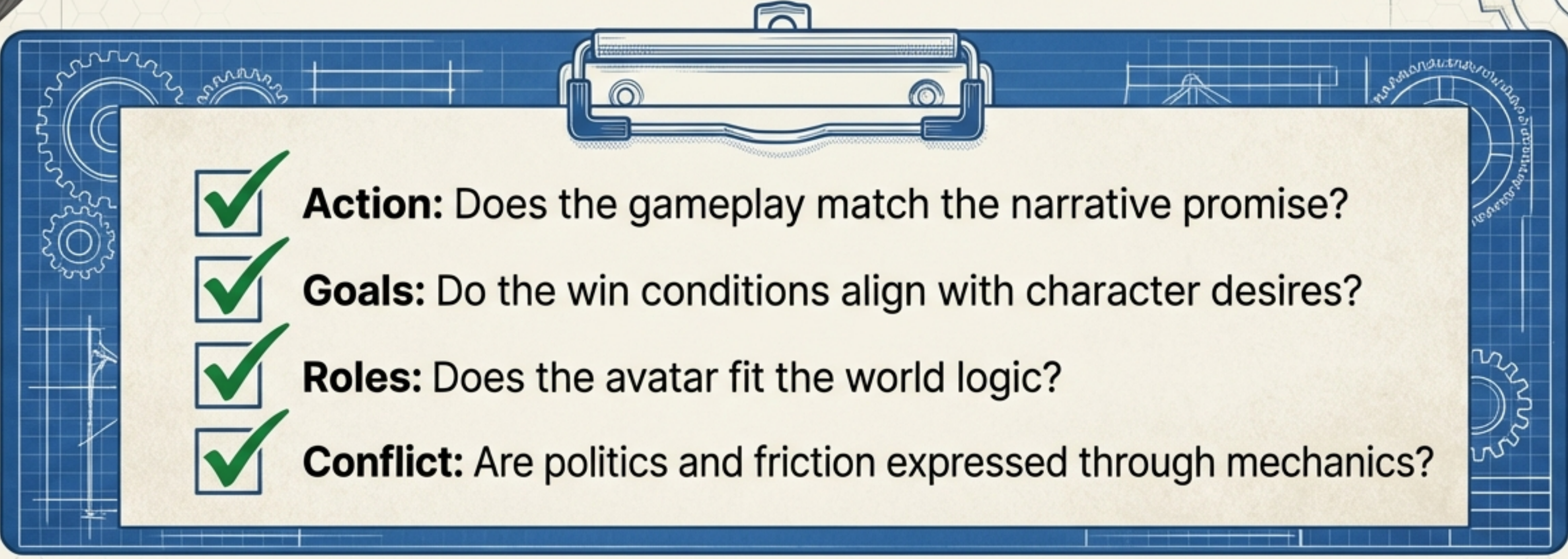


Strategy: Social Leveraging / Negotiation.
Trait: Charisma / Manipulation.



Design Tip: Think Sideways. Apply a non-trope agenda to a mechanic to create unique characters.

The Weaver's Checklist

- 
- ☒ **Action:** Does the gameplay match the narrative promise?
 - ☒ **Goals:** Do the win conditions align with character desires?
 - ☒ **Roles:** Does the avatar fit the world logic?
 - ☒ **Conflict:** Are politics and friction expressed through mechanics?

**Knit the thread.
Don't just layer the fabric.**

Source: Thematic Integration in Board Game Design by Sarah Shipp.