

LITTLE
NIGHTMARES

Creating a “Physical” Character

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Our First TWO Original Games!





LITTLE

NIGHTMARES



LAUNCH TRAILER

CHILDHOOD FEARS

Little Nightmares

Small (ish) Project

- 20 developers
- 18 months production

Player Character (Six)

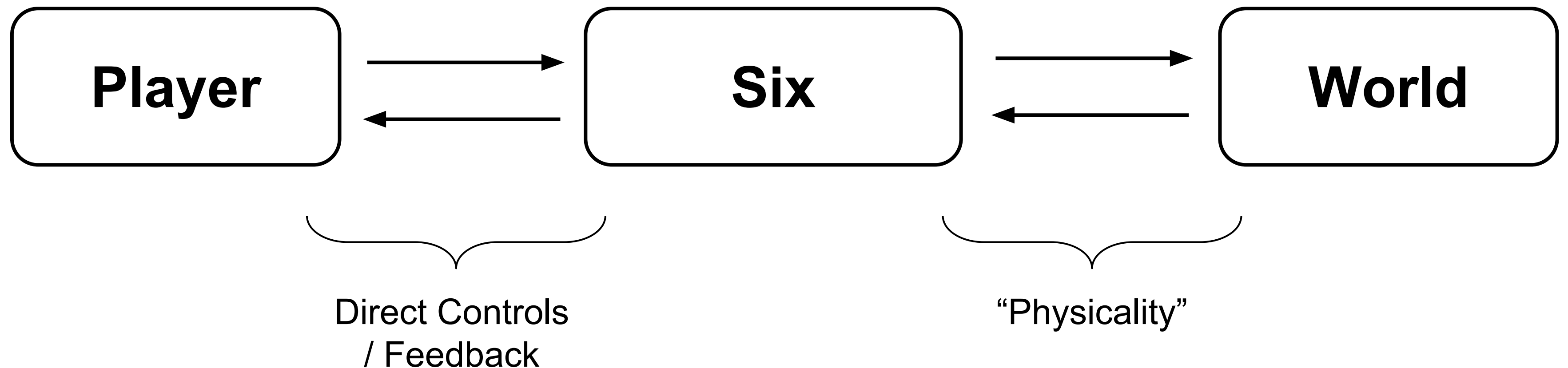
- 1 coder / 1 animator
- Tech art, audio, design support
- A lot of autonomy in the team



Main Character Vision

Connecting the Player to the World

- Focus on the “feel”
- Empathy through mechanics







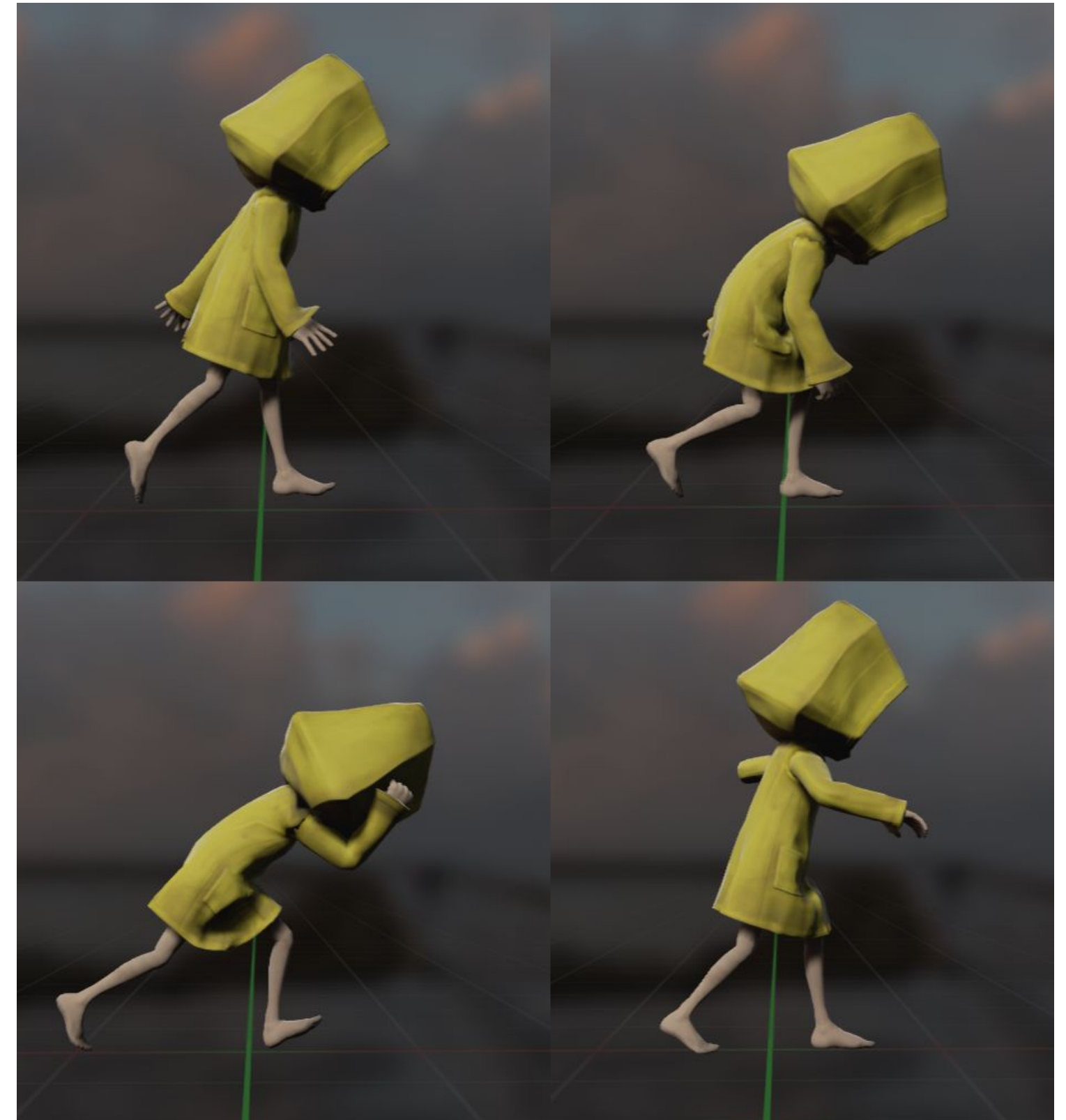
Reacting to the World

Adding Variety

- Easiest way to add character reaction
- Requires a lot of animation

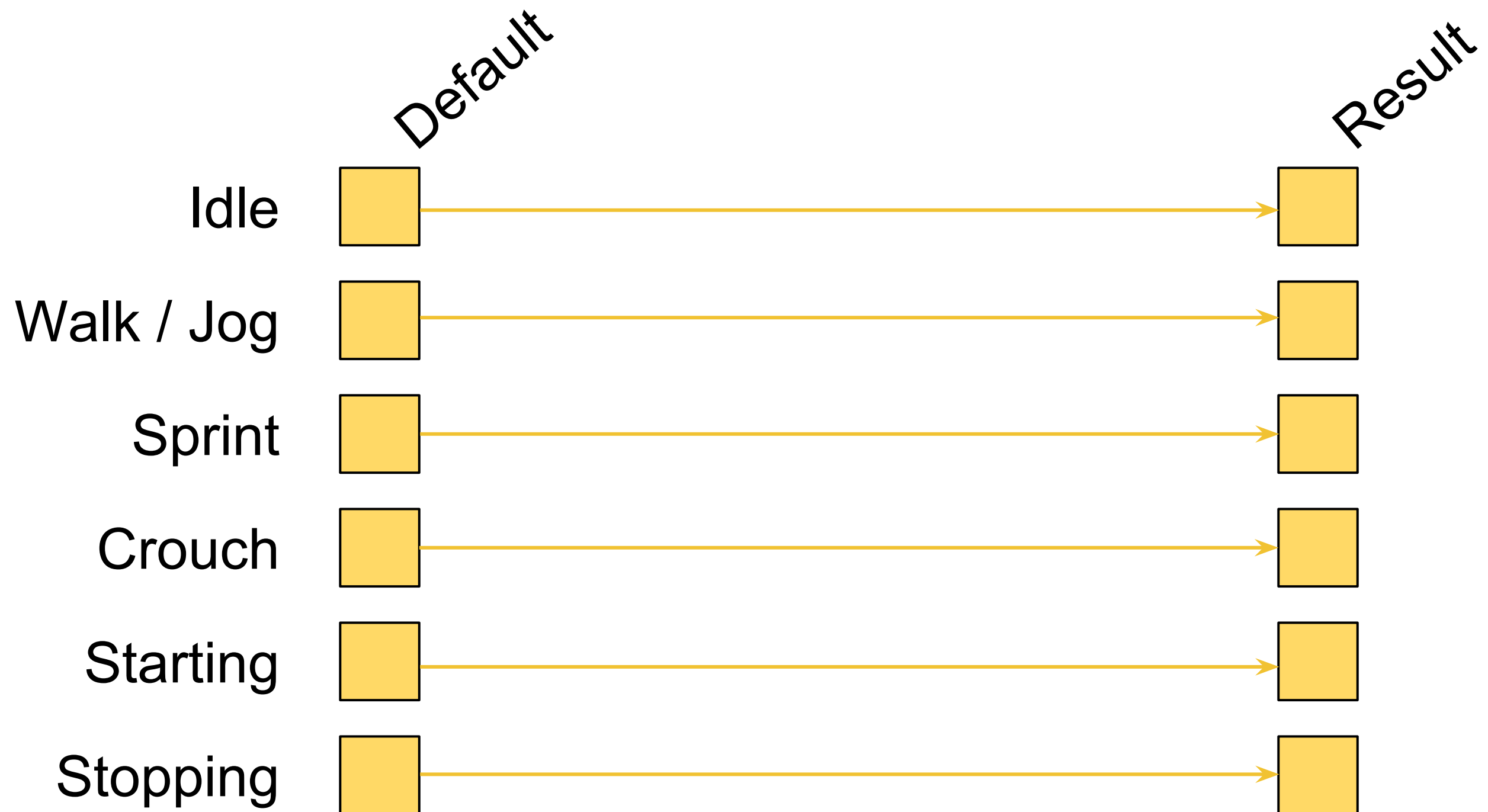
Example: Walking around

- Over 20 styles of locomotion
- System-based approach



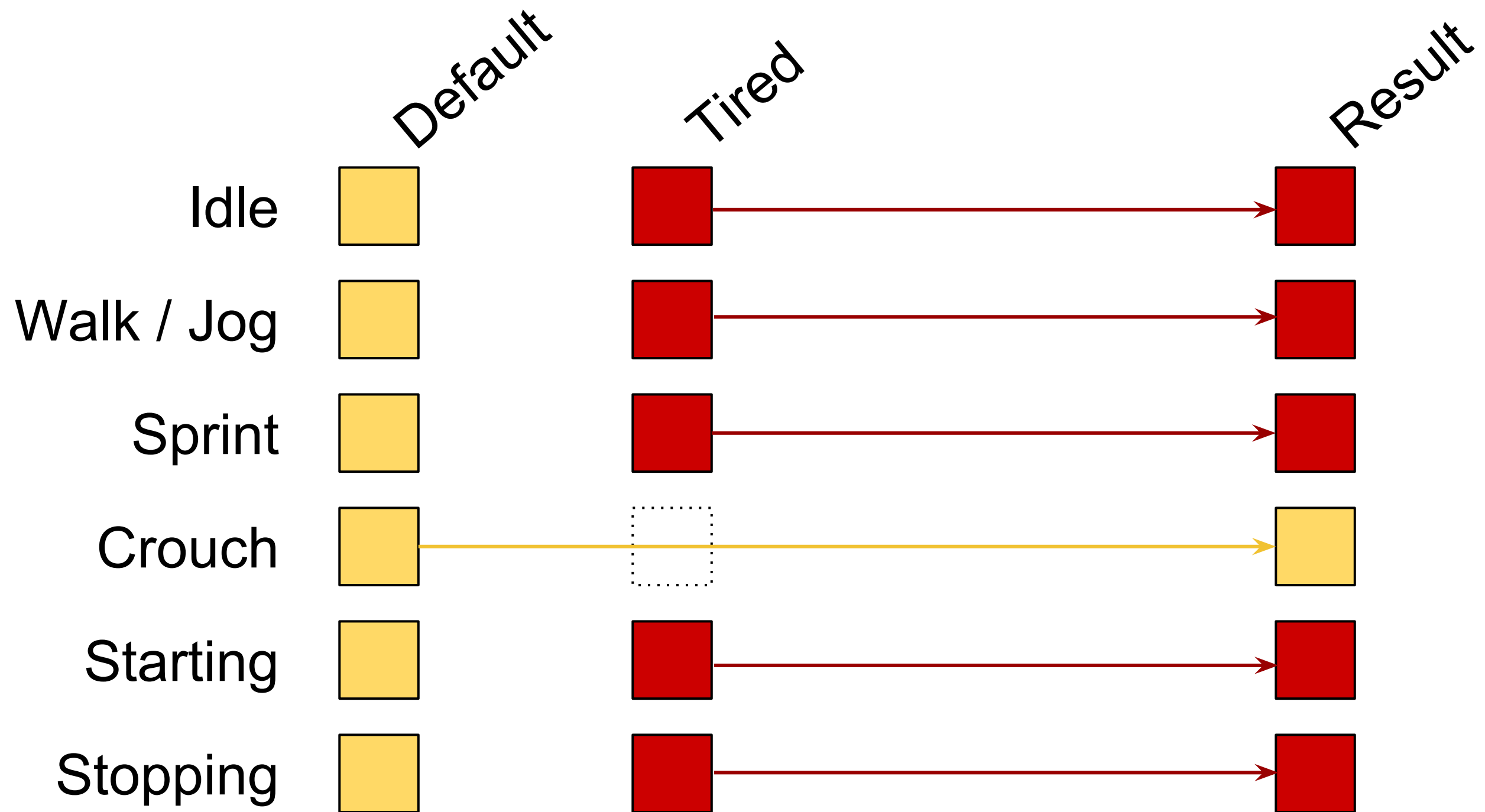
Reacting to the World

Locomotion Animation Overrides



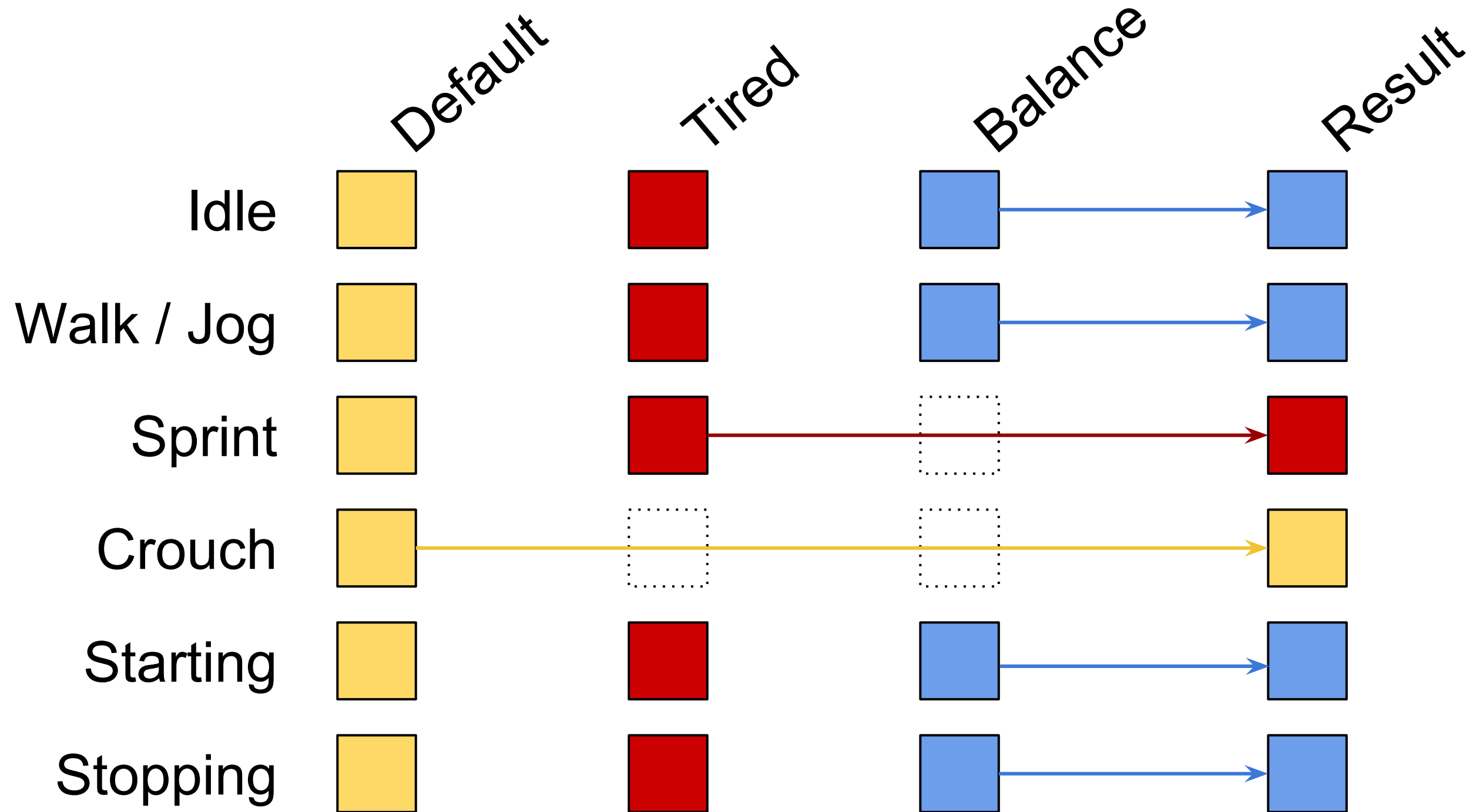
Reacting to the World

Locomotion Animation Overrides



Reacting to the World

Locomotion Animation Overrides



Reacting to the World

Responding to Environment

Re-use the locomotion system!

- Stumbling
- Walk through shards
- Carrying







Without stumble



Reacting to the World

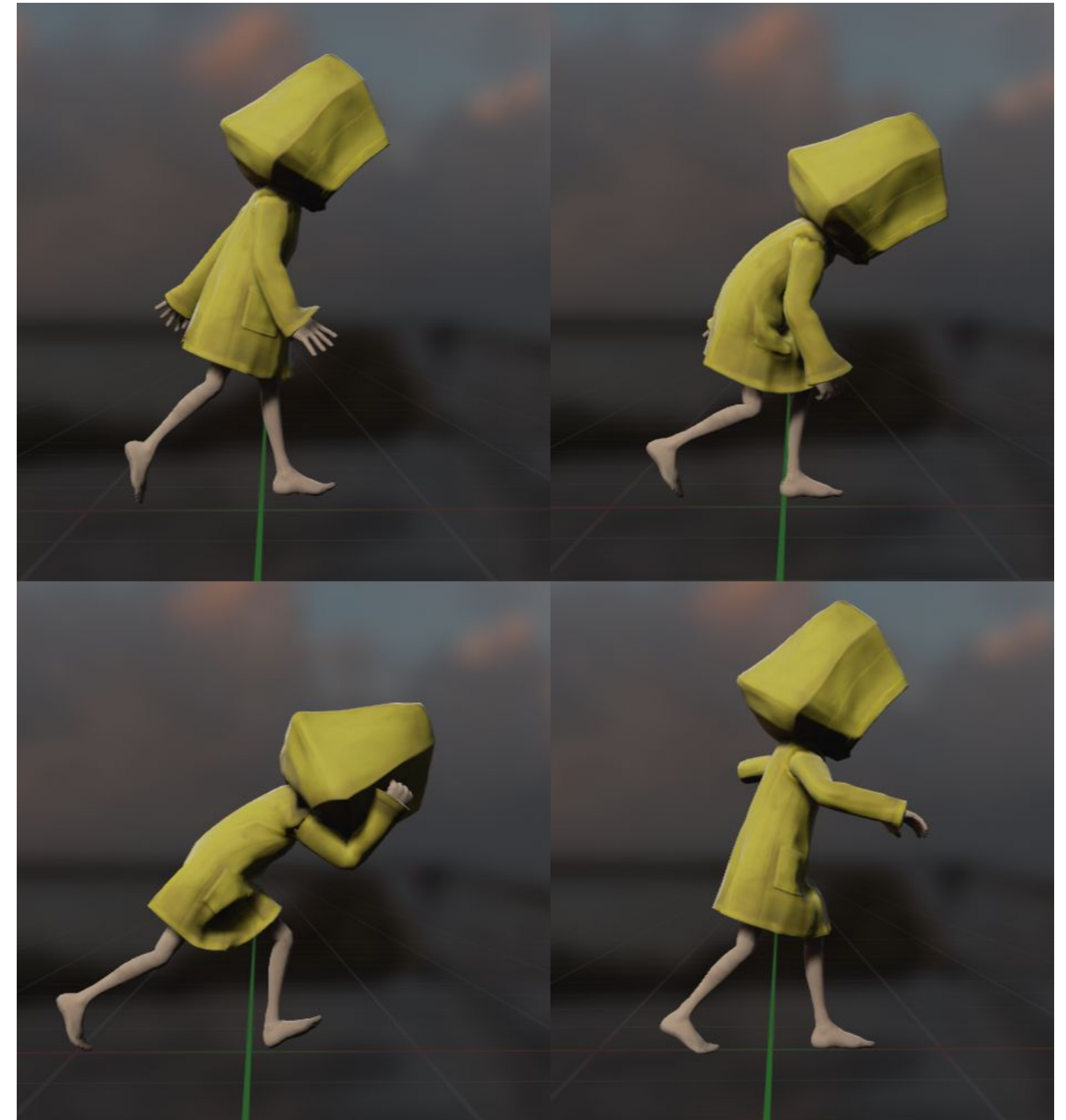
System / Data - Driven Animation

Pros

- Reuse code paths
- Polish much later into development
- Reduce interdependencies

Cons

- Requires initial set-up
- Restrictive
- Fine-tuning is much harder



Inverse Kinematics

What is IK?

Real-time solving of joint angles

- Modifies existing animations
- React to changes in the environment

IK in Little Nightmares

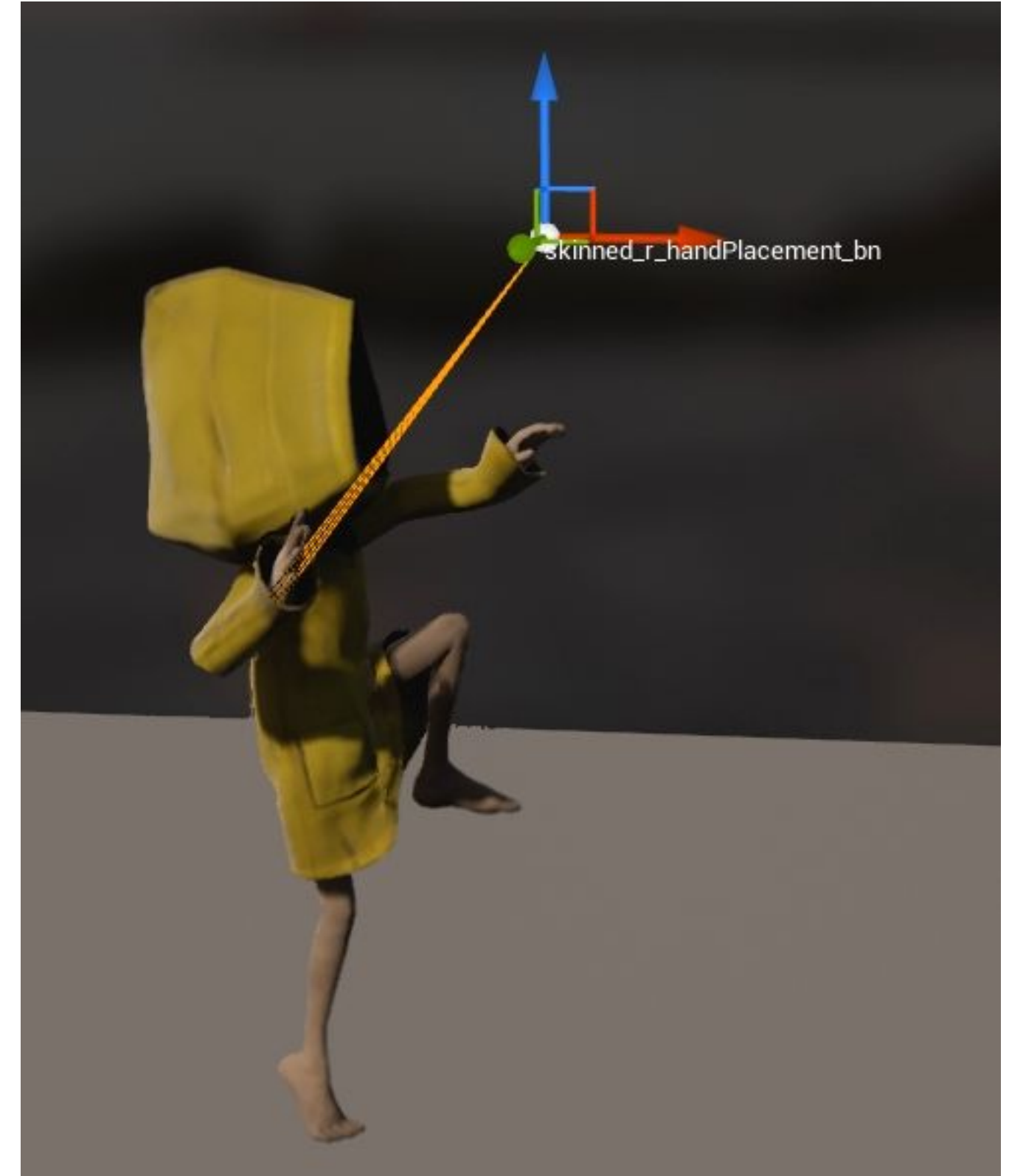
- IKinema - Full body solver
- Foot placement
- Grabbing objects of different sizes



Inverse Kinematics

Auxiliary Bones

- Additional bones on each hand / foot
- Used as IK targets



Inverse Kinematics

Auxiliary Bones

- Additional bones on each hand / foot
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Animation Metadata

- Curves drive IK influence
- Root Motion
- Positional “fixup”

















Inverse Kinematics

Avoiding IK

- Looking at points of interest
- Pressing against walls
- Using layered / additive blending





Inverse Kinematics

Learnings

- Full body IK gives great results
- Takes a lot of tuning
- Cannot replace animations
- Always reduce the IK workload
- Some things better without



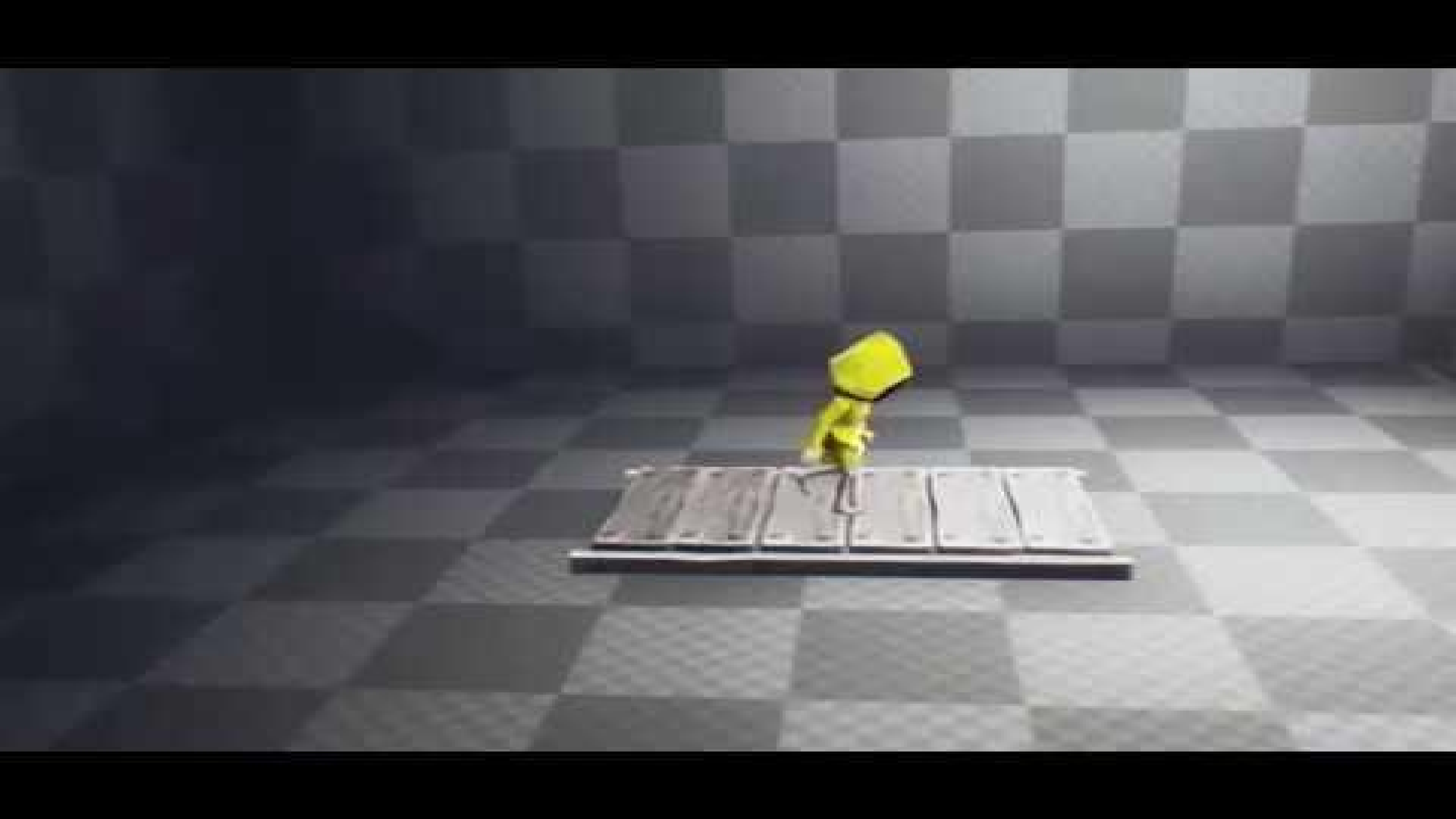
Reactions in the World

Custom Reactions

Tools-based Approach

- Provide generic tools
- Art / design can craft content









Reactions in the World

Custom Reactions

Tools-based Approach

- Provide generic tools
- Art / design can craft content

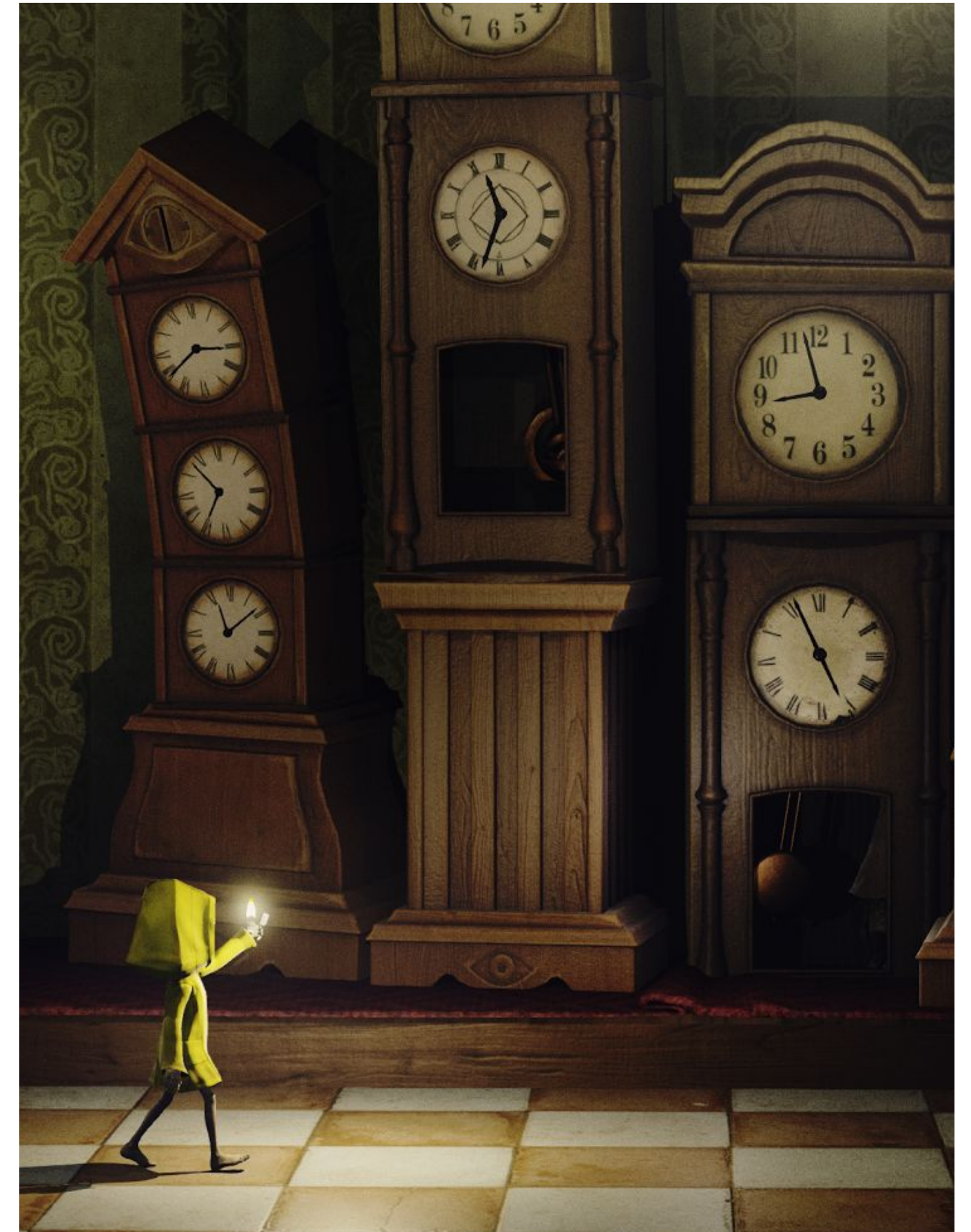
*If tools aren't easy-to-use,
people won't use them!*



Audio

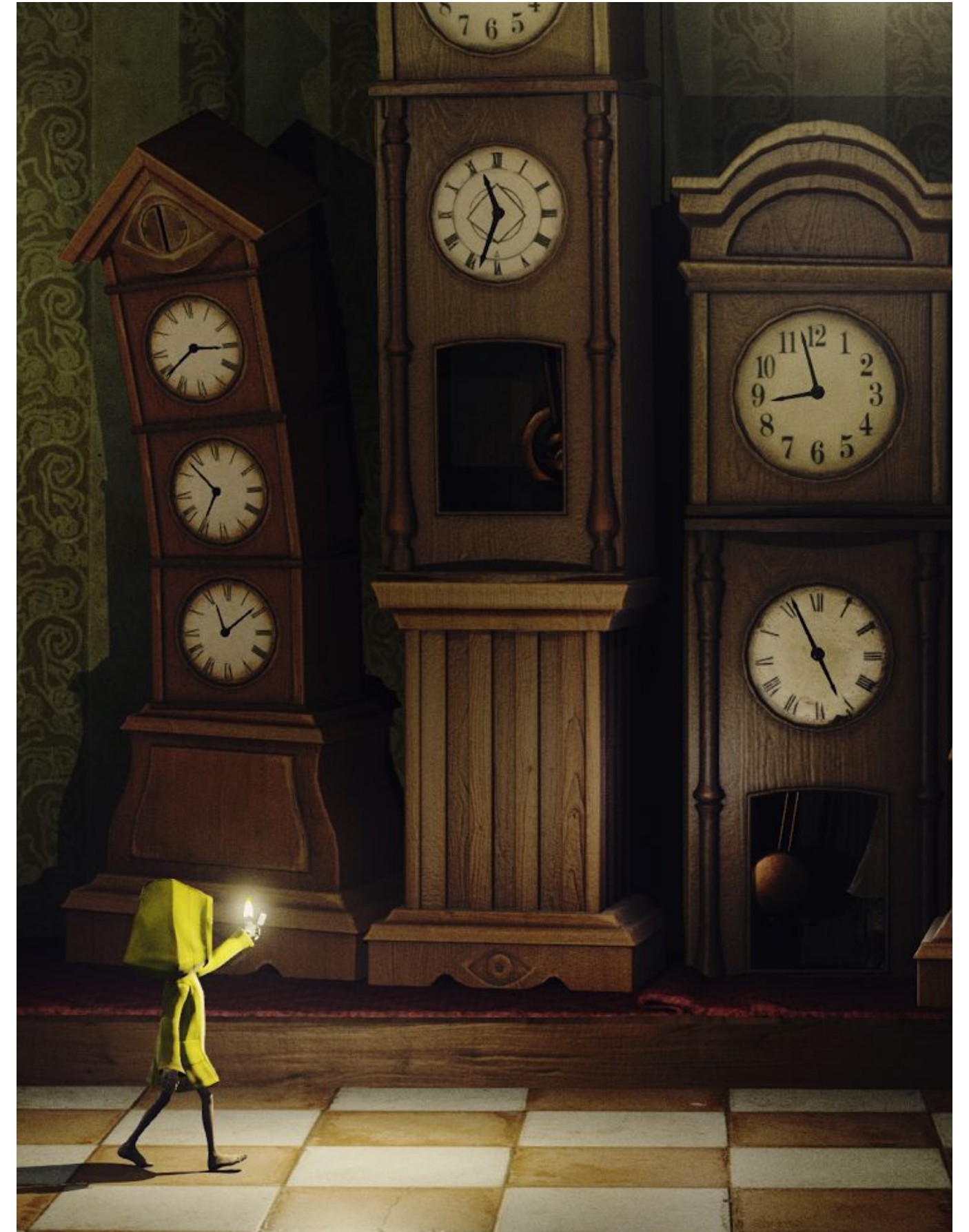
Audio is Essential

- Hugely underestimated
- Variety in audio adds physicality
- Things *look* better with audio



Audio Process for Six

- No audio in gameplay code
- Events + APIs for sound designers
- Give audio designers control
- Use coders for more complex systems



Creating a “Physical” Character

Summary

- Fake it - focus on the *feel*
- Dynamics and variation
- Reactions between character & world
- All the details add up
- Systems + crafted content



Want to Know More?

Tarsier Booth @ NGC

- Play Little Nightmares & Statik
- LN also at the Epic Booth

Little Nightmares AI Talk

- Hilda Lidén – AI Designer
- Friday 10:30 in Reykjavik



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