



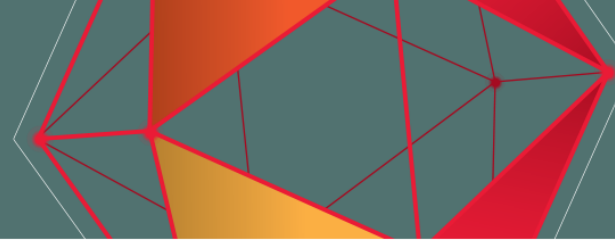
INDEPENDENT GAMES
SUMMIT

Foolproofing the Controls for 'What Remains of Edith Finch'

Evan Rogers (@evanmakesgames)
Gameplay Programmer for Giant Sparrow

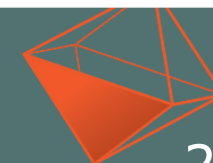
GDC

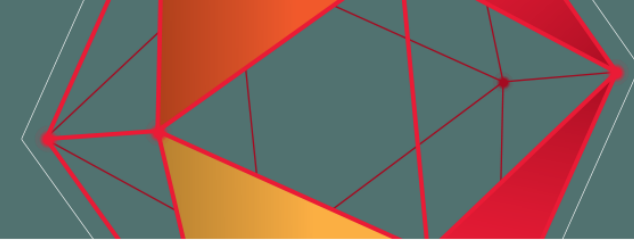
GAME DEVELOPERS CONFERENCE® | MARCH 19-23, 2018 | EXPO: MARCH 21-23, 2018 #GDC18



Collaborators

- Ian Dallas
- Chris Bell
- Chelsea Hash
- Ben Esposito
- Shawn Kuang
- Josh Sarfaty
- Jonathan Hamel
- Michael Kwan
- and me!





“Fun”

- Discovering what you can do without being told
- Feeling in control
- Performing your role in the story





Discoverability is hard

What Remains of
**Edith
Finch**

Left Stick: Look
Objective: Look Down

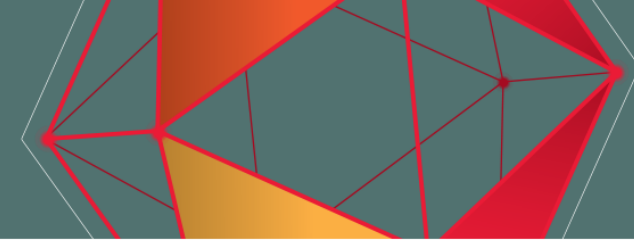




Where is the player's attention?

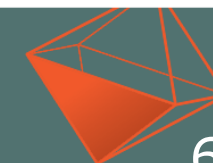
- Music
- Text
- Voice
- Sound Effects
- Art

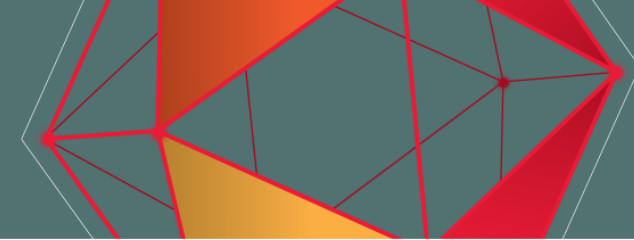




Goals for Controls

- Easily **discoverable**
- Require minimal **attention**
- Feedback **directly** matches input
- Maintain intended **pacing**
- Look **natural**
- Leave the player some **freedom**

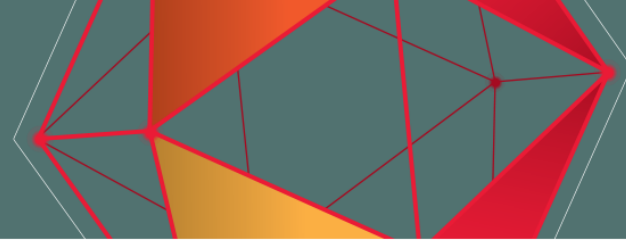




How do we measure success?

- Our own impressions
- Friends and family
- Paid play-testers
- Watching screens, hands, and faces.
- Fresh descriptions of their feelings/reactions





Case 1: Fish Chopping

His mind began to...

Left Stick: Move Character

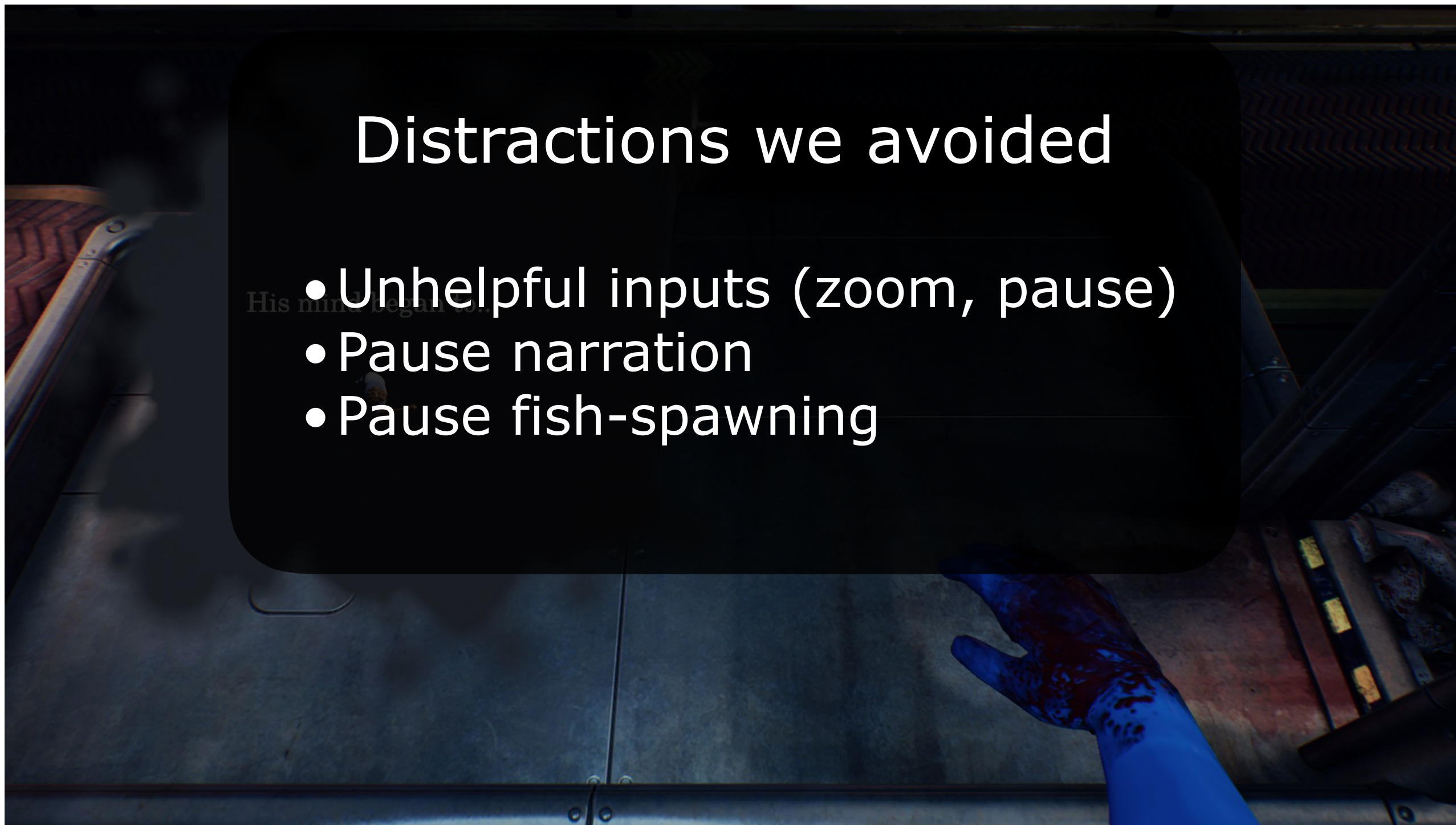
Right Stick: Move Hand

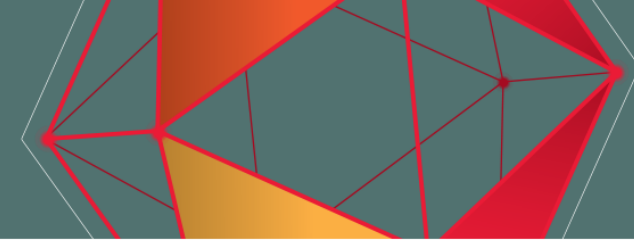




Distractions we avoided

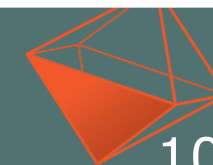
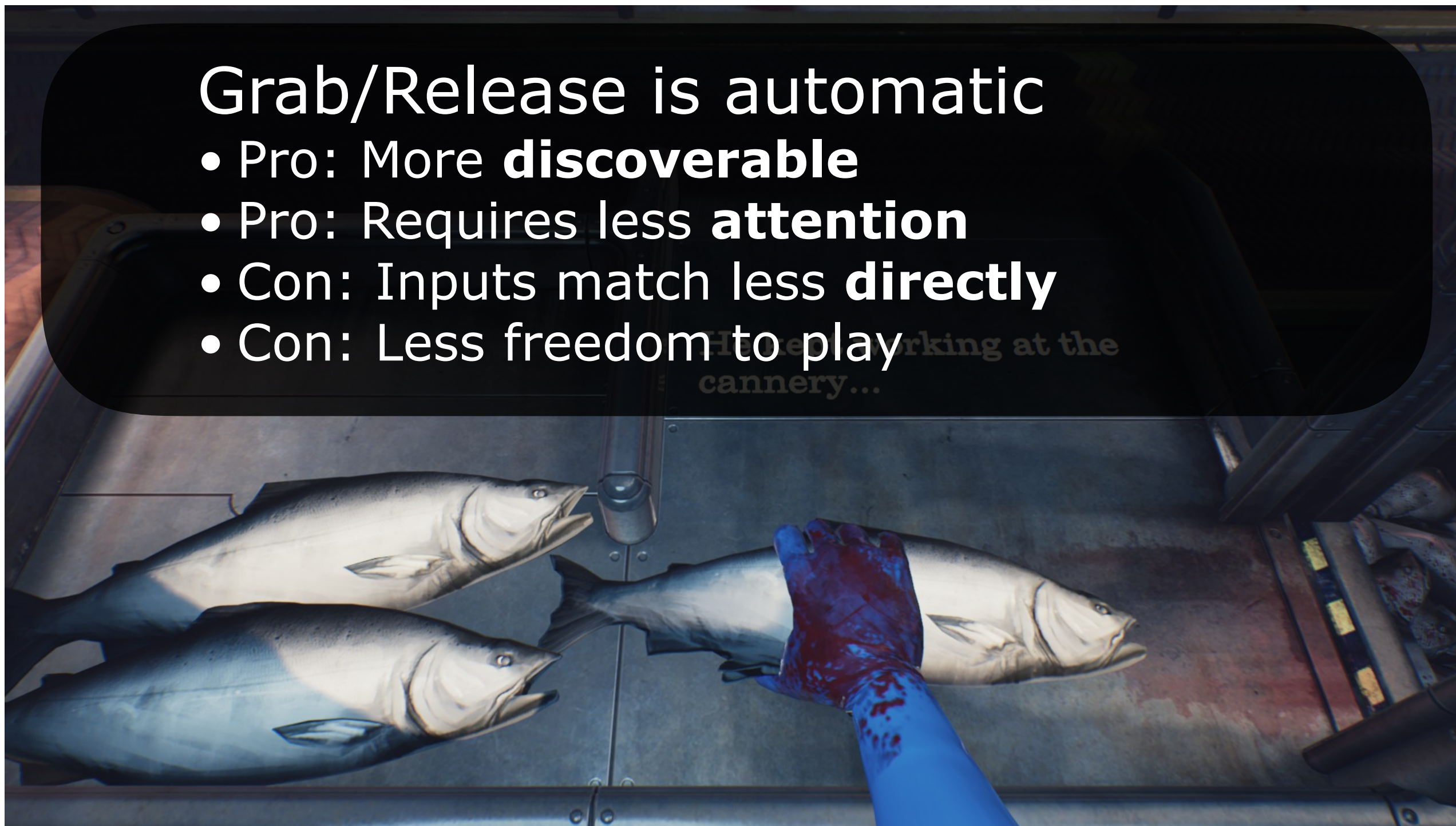
- Unhelpful inputs (zoom, pause)
- Pause narration
- Pause fish-spawning

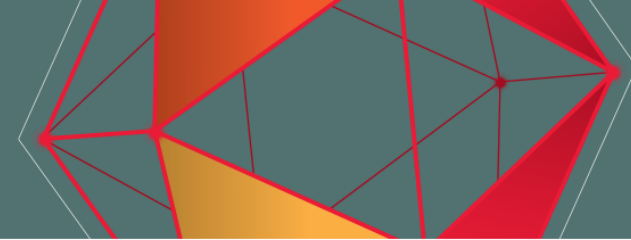




Grab/Release is automatic

- Pro: More **discoverable**
- Pro: Requires less **attention**
- Con: Inputs match less **directly**
- Con: Less freedom to play





Identify goals

He'd feel his way about

Goal 1

Goal 3

Goal 2





Correct directional error

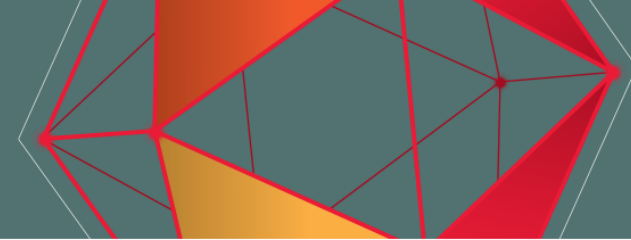
Player Input

Input Error

Input to Goal

Goal





Correct timing errors

Inputs don't matter inside here





Fish-Chopping: What didn't work?

- Gestures
 - Pro: Requires less **attention**
 - Pro: Looks more **natural**
 - Con: Feels less **direct**
 - Con: No **freedom** to play
- Map input to position instead of velocity
 - Pro: Motion more **directly** maps to player thumb
 - Con: Too fast. Must compromise **naturalness** or **directness**
 - Con: More **attention** to control
- Map horizontal input to an arcing path
 - Pro: Looks more **natural**
 - Con: Feels less **direct**





Case 2: Swingset

Left Stick: Left Leg

Right Stick: Right Leg

Objective: Swing both in unison



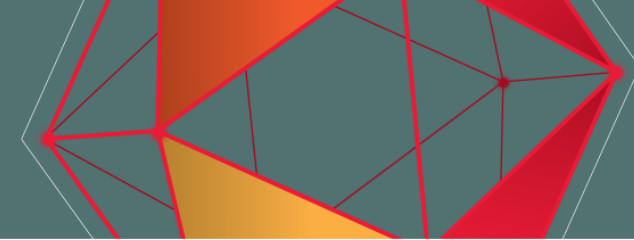


Limited feedback using one input

- Good: Indicates partial mastery
- Bad: Mistaken for total mastery

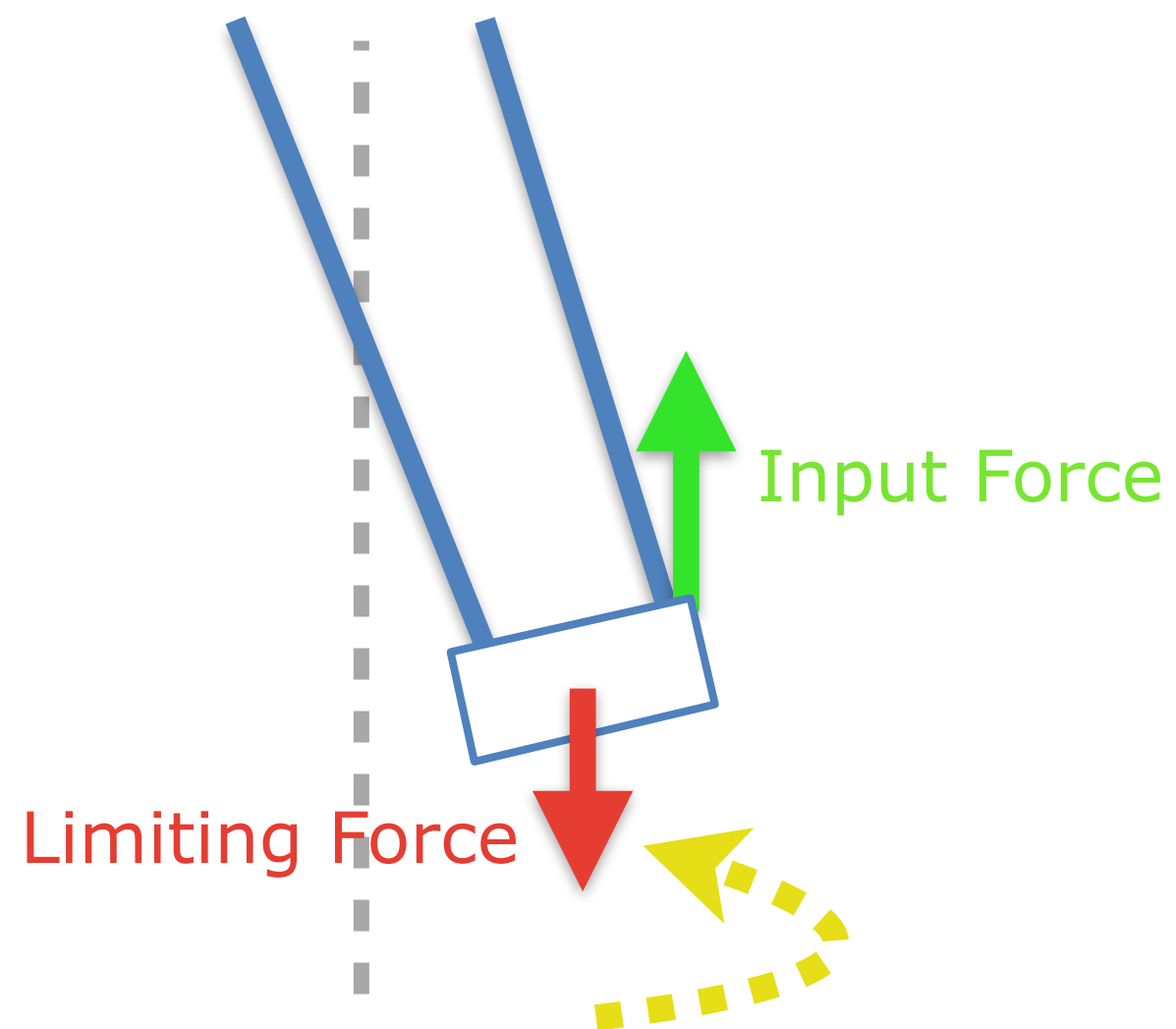
*My brother said he'd die before he
ate another mushro And he did.*



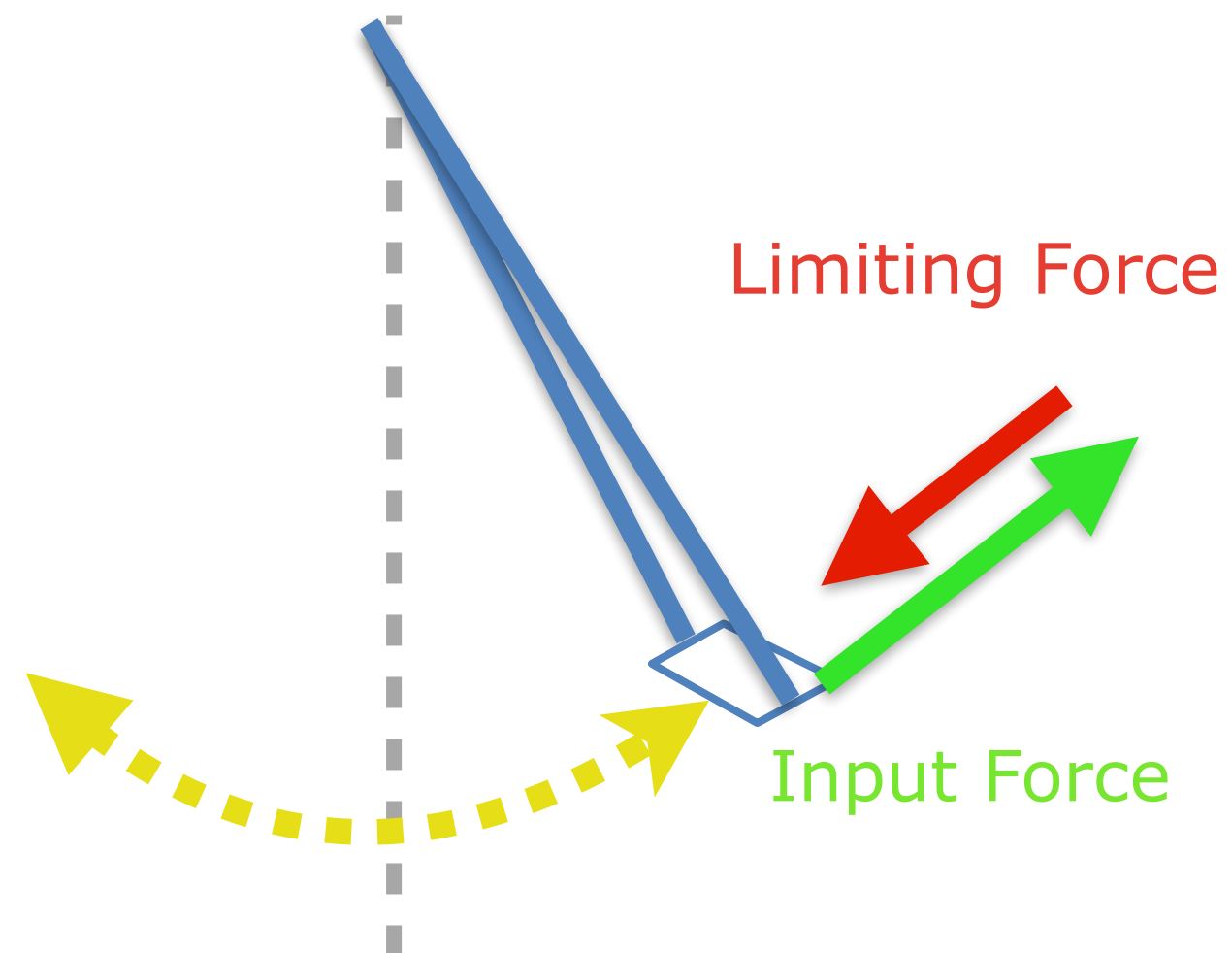


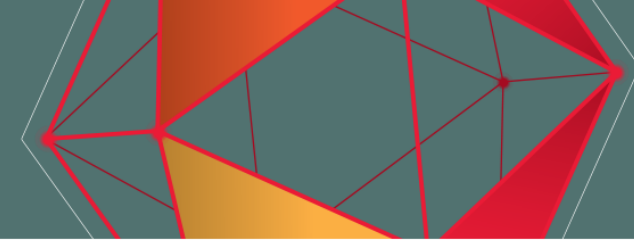
Limited feedback using one input

Forward View

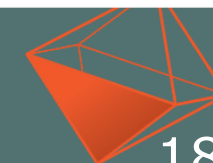
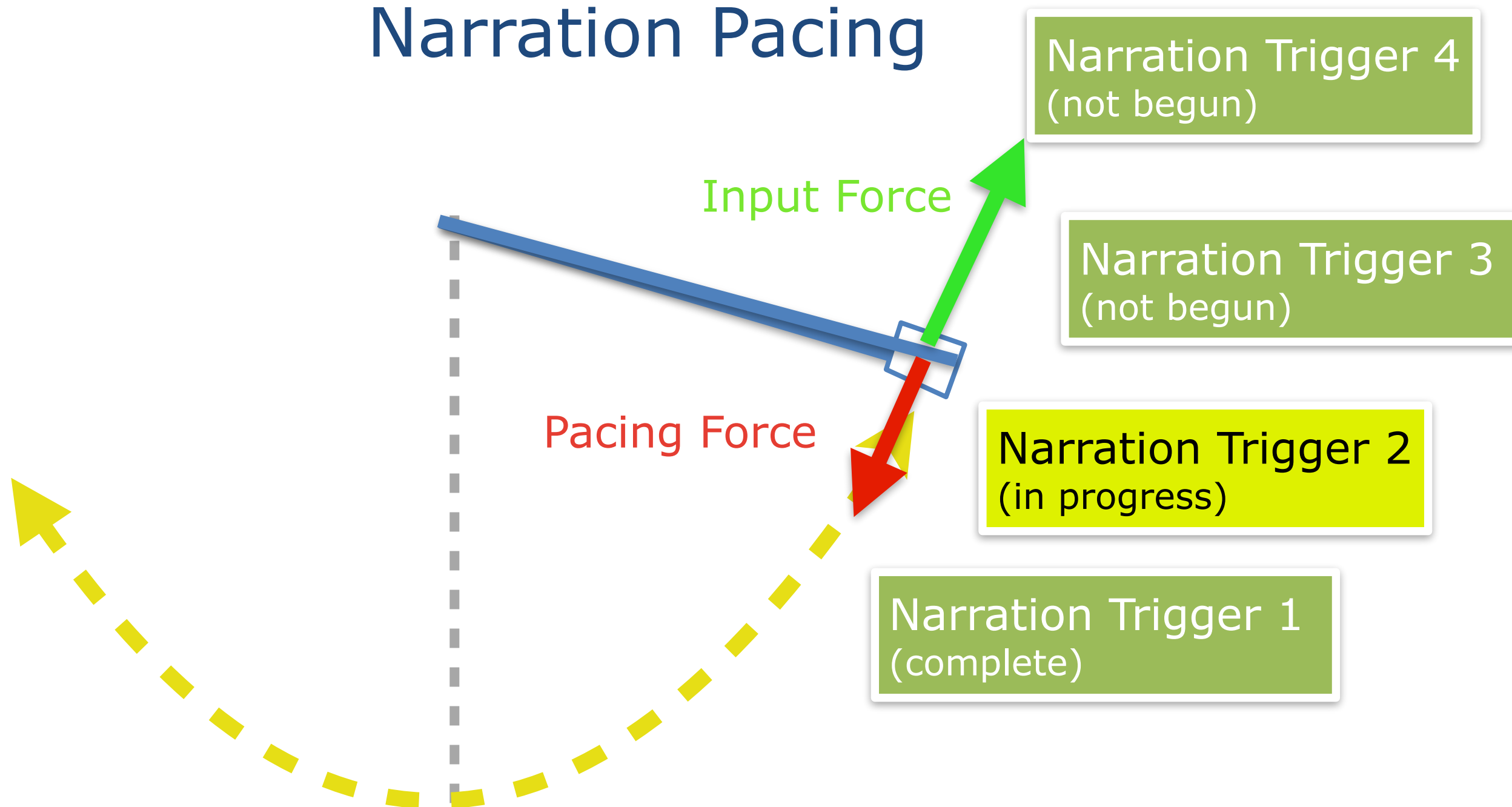


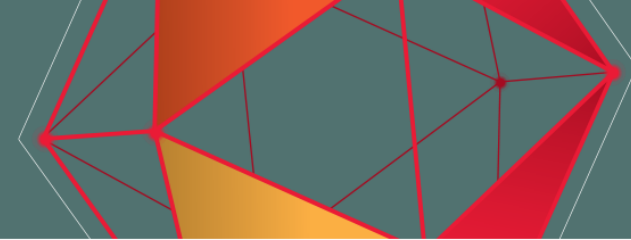
Side View



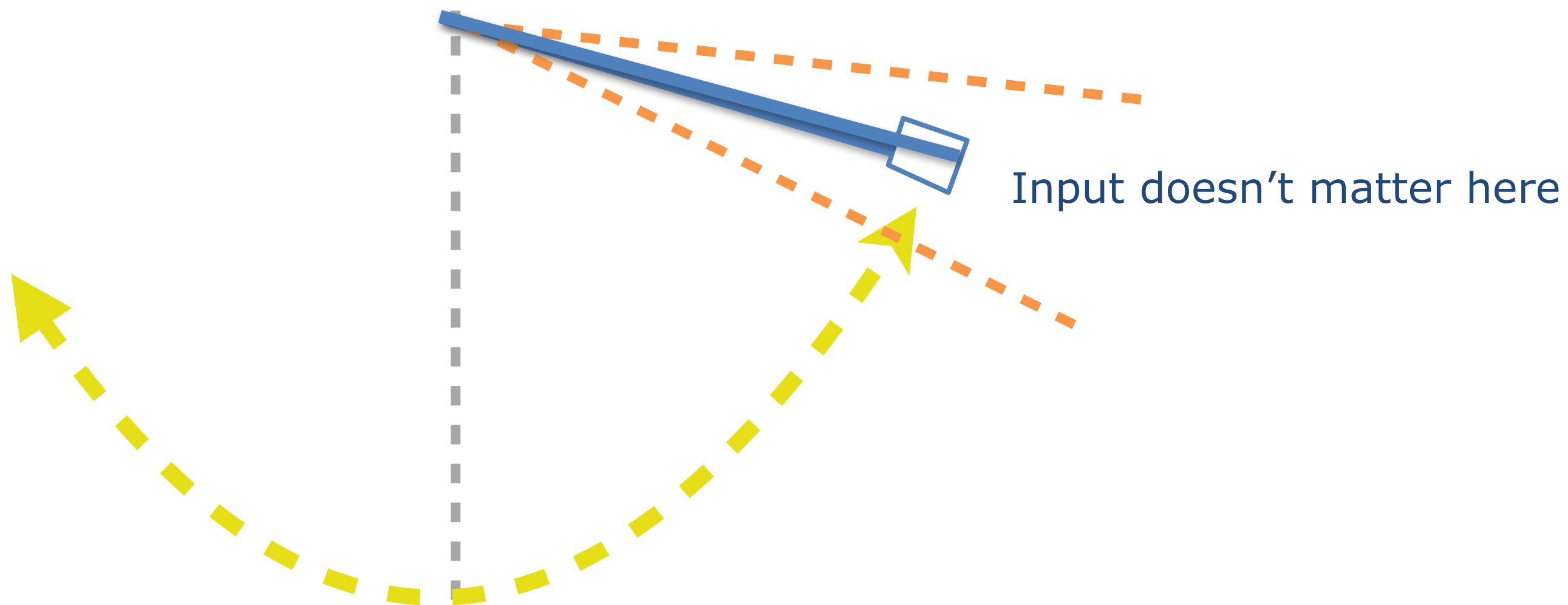


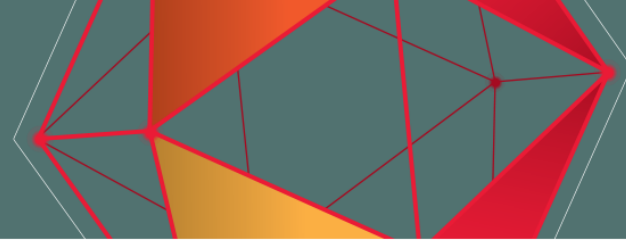
Narration Pacing





Correct timing errors

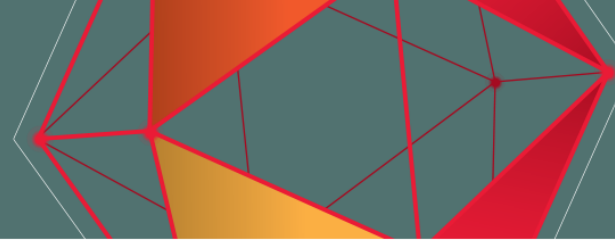




Case 3: Bathtub

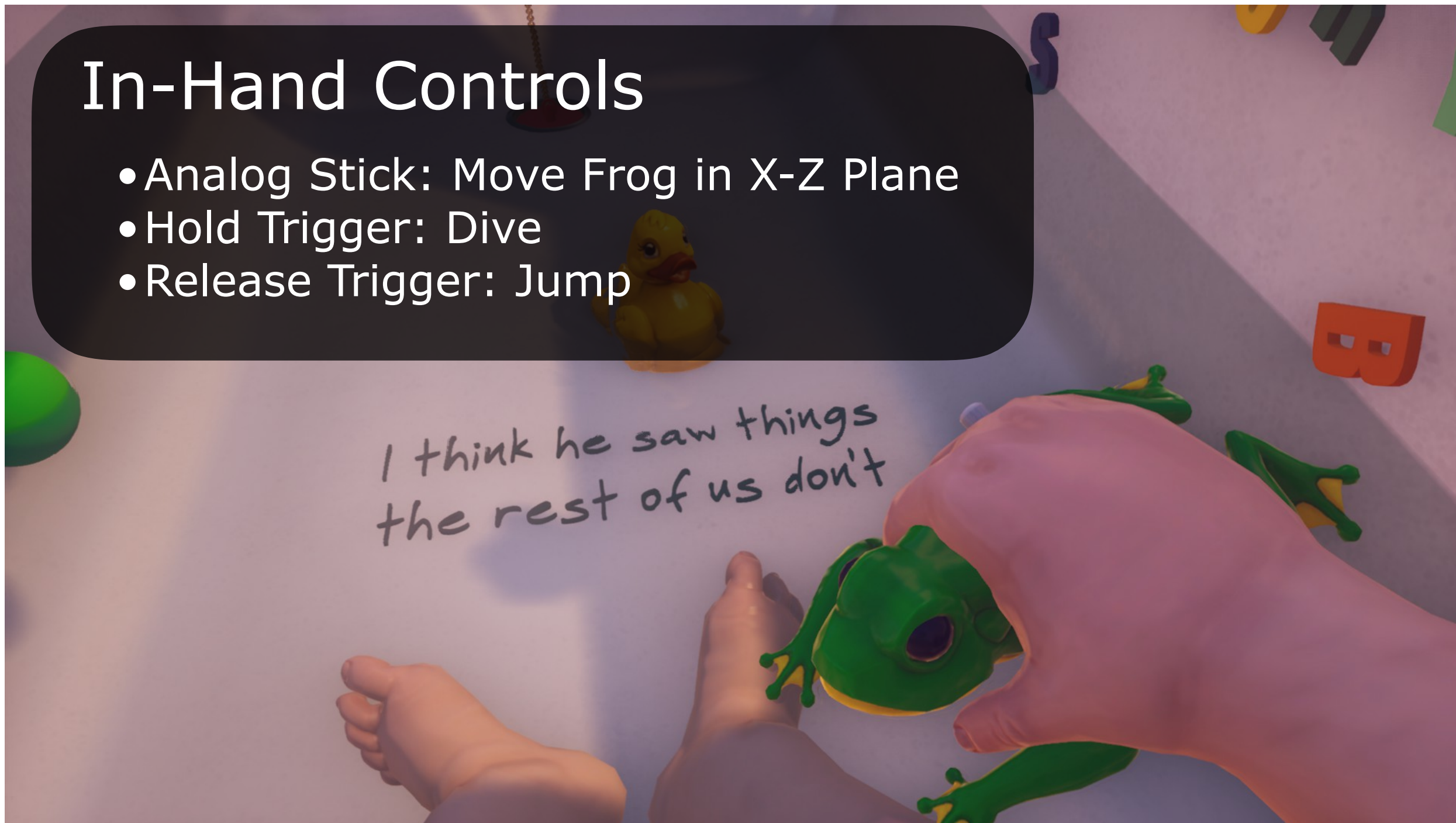
- Story depends on effortless, joyful gameplay
- Tragic premise makes player hypersensitive to frustration





In-Hand Controls

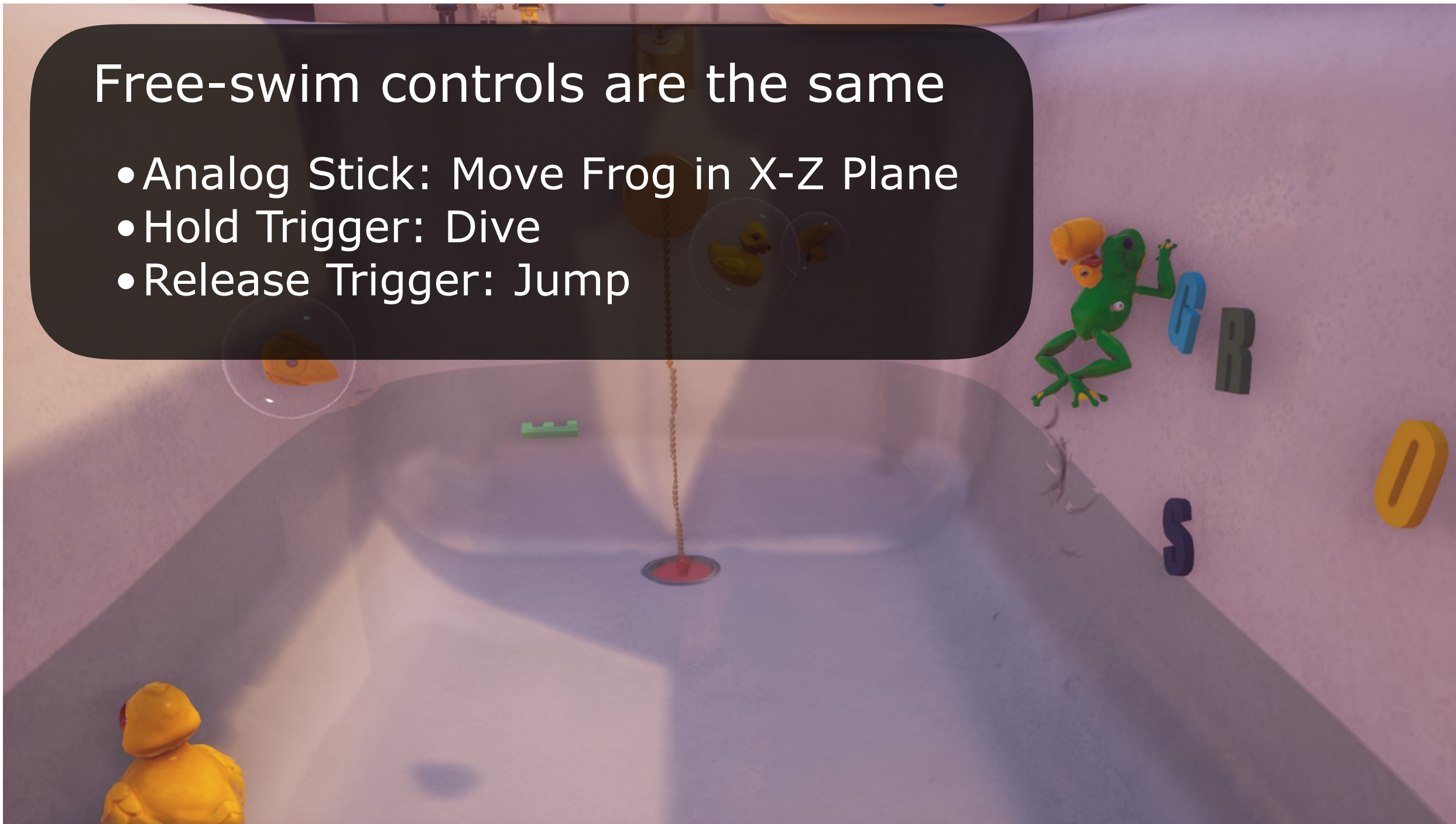
- Analog Stick: Move Frog in X-Z Plane
- Hold Trigger: Dive
- Release Trigger: Jump





Free-swim controls are the same

- Analog Stick: Move Frog in X-Z Plane
- Hold Trigger: Dive
- Release Trigger: Jump

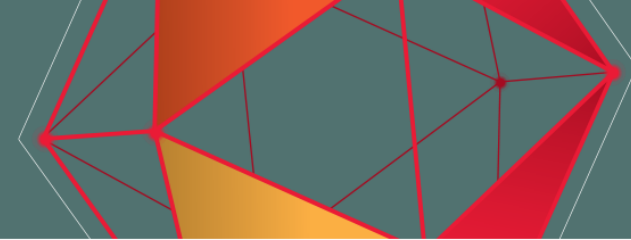




Depth is hard to judge

- Needs very generous goals





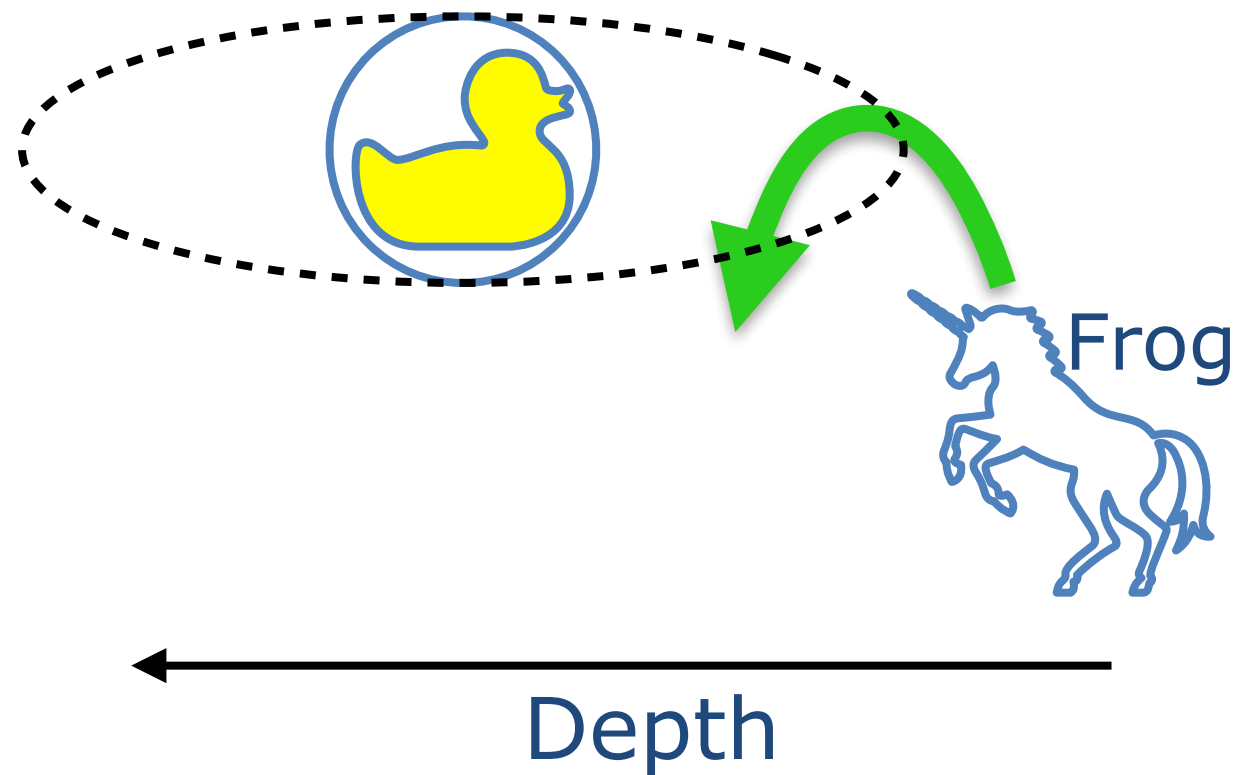
Goals can frustrate, but they're necessary

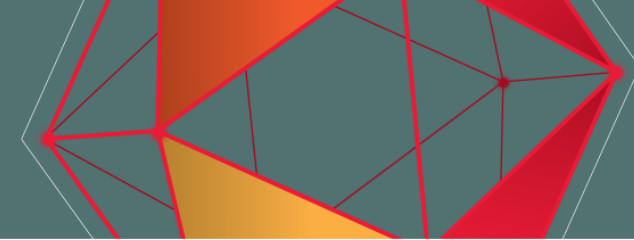
- Some players won't try without goals





Faking Collision in the Depth Axis





Frog Aim Assist

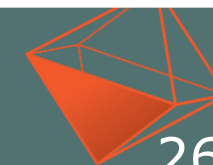
Input to Goal

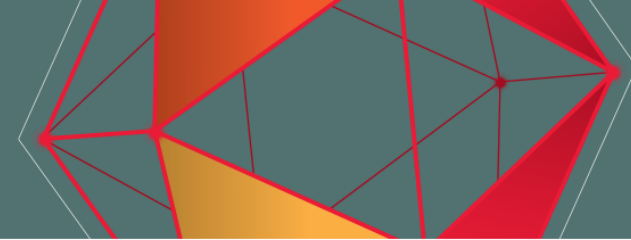
Player Input

Goal

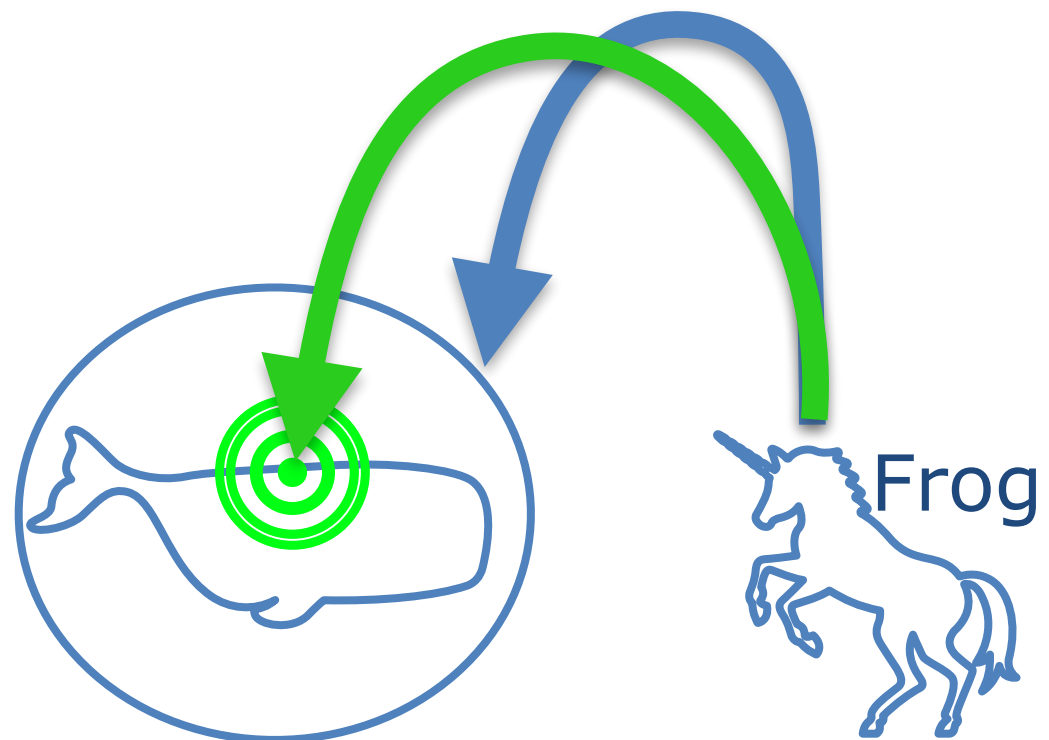
Input Error

Whatever it
was he saw...





Better Frog Aim Assist



Predicted Path vs Corrected Path

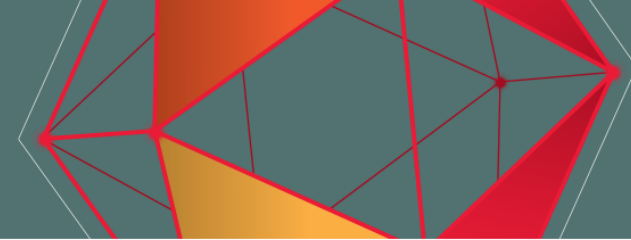




Review

- Easily **discoverable** - few inputs, remove distractions
- Require minimal **attention** - correct input errors
- Feedback **directly** matches input - correct errors discretely
- Maintain intended **pacing** - propel or drag motion
- Look **natural** - filter input (through velocity)
- Leave the player some **freedom** - allow for “wrong” inputs





Thanks!
I'm @evanmakesgames

