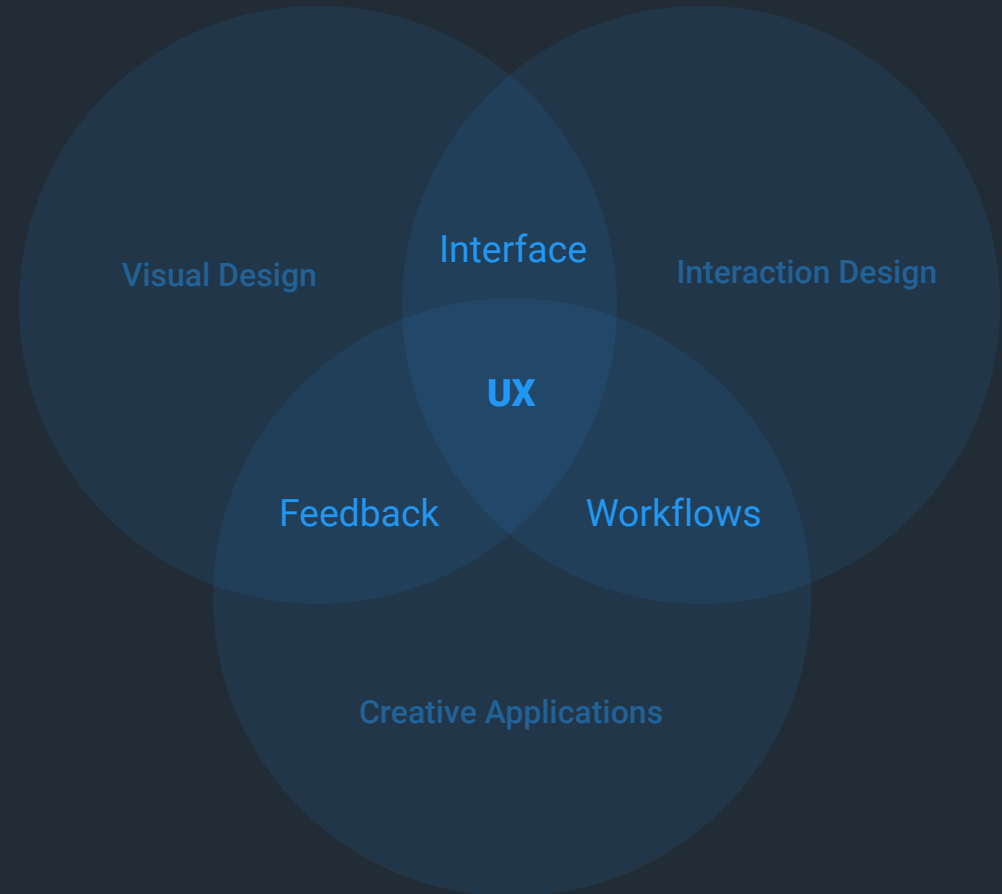


3 common mistakes in
tools that hurt creativity
- and how to fix them

@NikolineUX

Nikoline Høgh

User Experience Designer at Unity



How do you **enable creativity?**

| What does it mean
to be **creative**?



How do you **enable creativity**?

One way to look
at it is that..



What does it mean
to be **creative**?

It's a mix of
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1. Creativity requires **flow**

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| What is **flow**?

A state in which a person feels challenged but productive

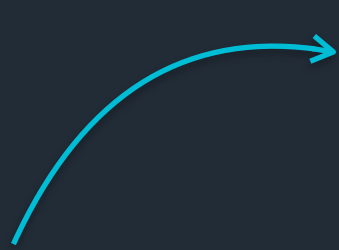


*Mihaly Csikszentmihalyi (≈ “Chee-Sent-Mi-Hai”)

1. Creativity requires flow*

What is **flow**?

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Flow **feels enjoyable**

"I'm in the zone"



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You **lose track of time**

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What **breaks** flow?

Badly designed tools
interrupt people when
they are working

People lose focus when
they **switch context**
frequently

What **breaks** flow?



Badly designed tools **interrupt** people when they are working

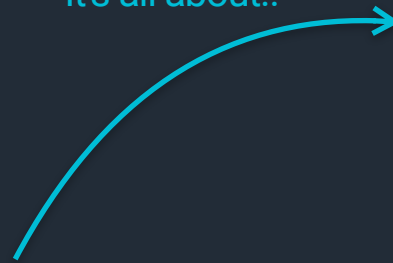
People lose focus when they **switch context frequently**

Bad tools distract users by showing **irrelevant information and options**

How to **fix it?**

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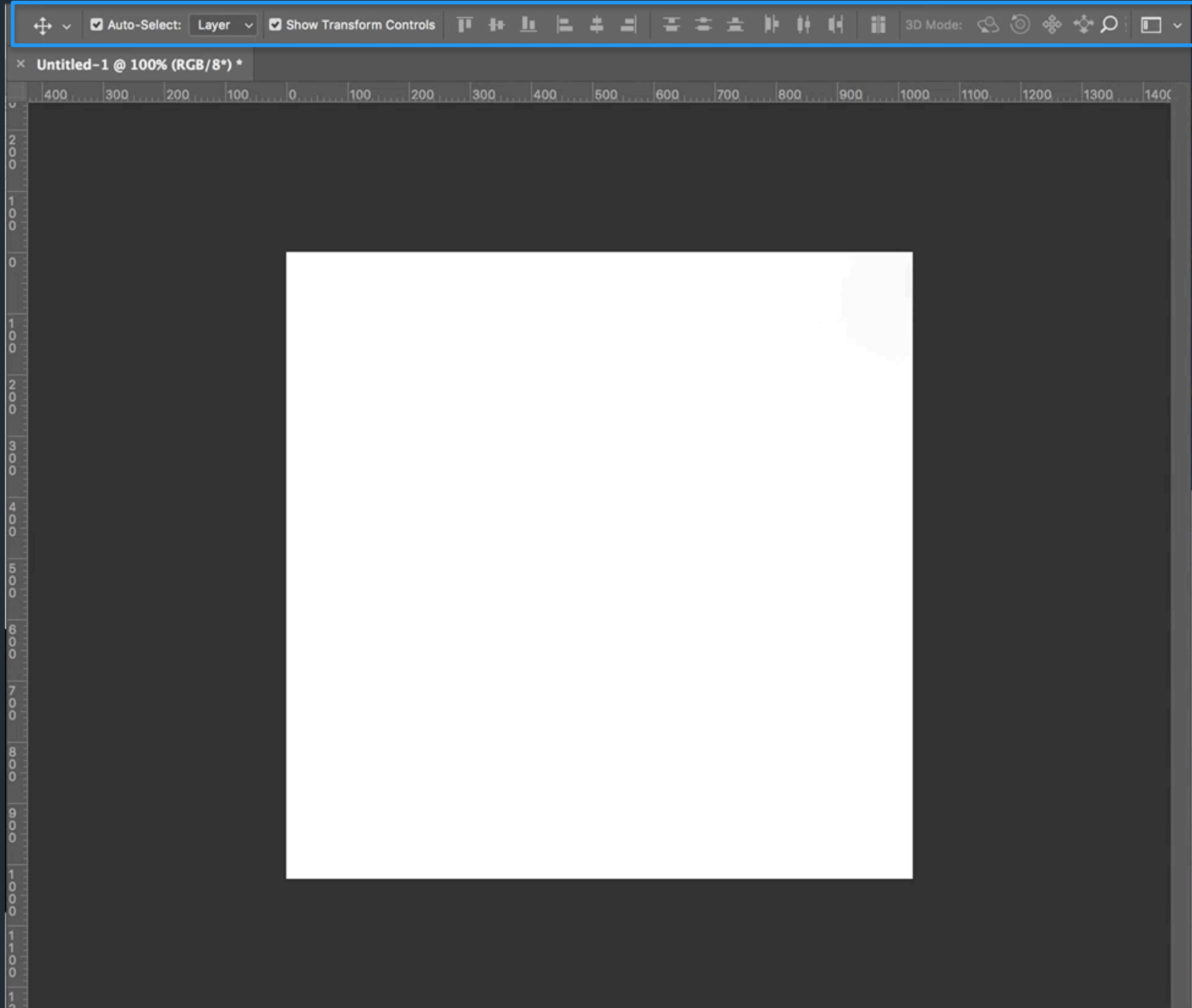
It's all about..



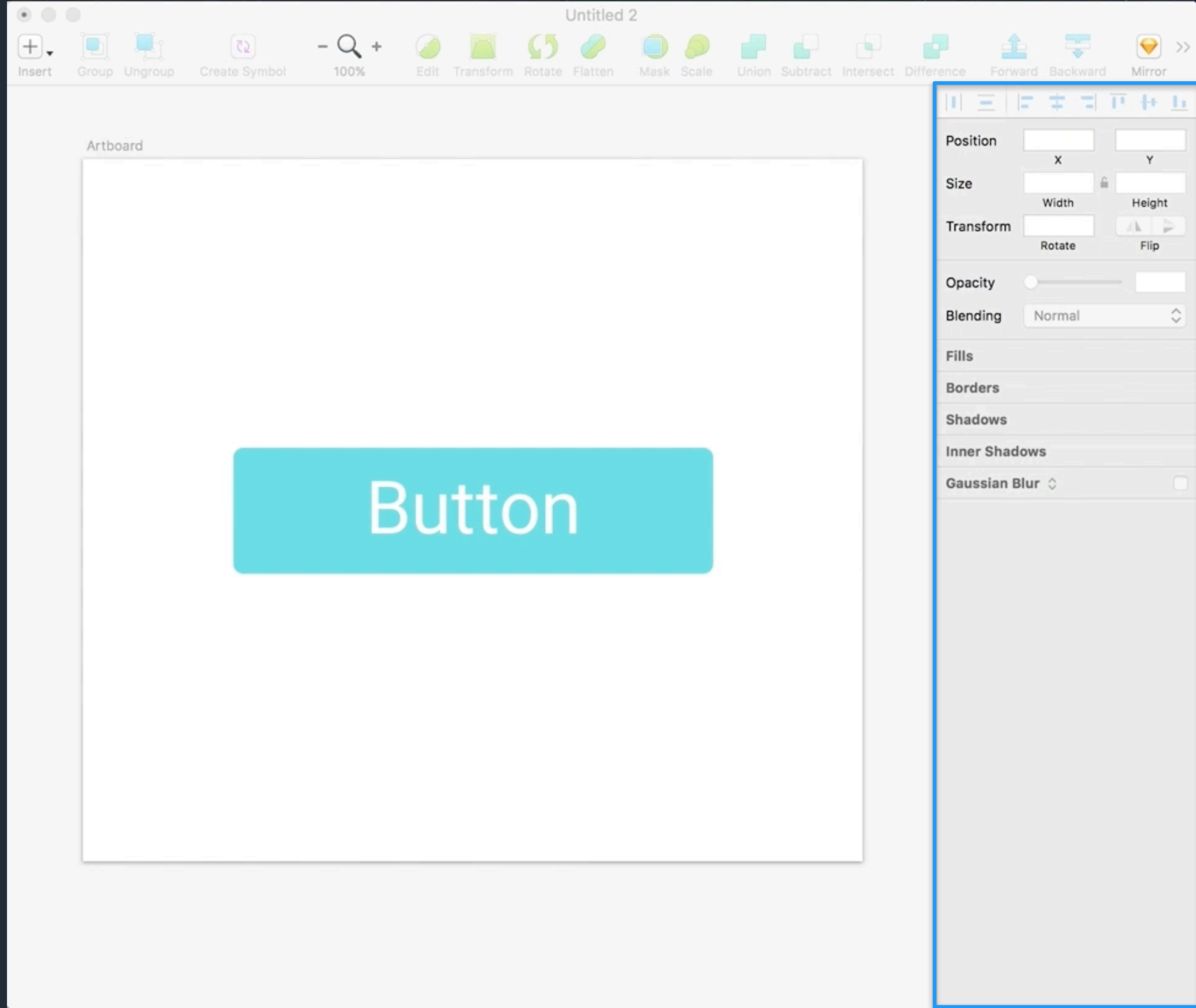
Allowing people to stay
in context



Tool based context



Selection based context



Application modes

Adobe Lightroom CC 2015
Get started with Lightroom mobile ▶

Library | Develop | Map | Book | Slideshow | Print »

▼ Navigator FIT FILL 1:1 1:8

▼ Catalog

All Photographs	117
All Synced Photographs	0
Quick Collection +	5
Previous Import	89

▼ Folders +

MACINTOSH HD	185 / 999 GB
▶ Copenhagen	9
▶ NestePrefabs_prot...	19
▶ Website	89

▼ Collections +

Filter Collections

▶ Smart Collecti...

▼ Publish Services +

Library Filter: Text Attribute Metadata None Filter

Histogram ▼

Original Photo

Custom Quick Develop

Keywording

+ Keyword List

Default Metadata

Comments

Import... Export...

Sort: Capture

Sync Metadata Sync Settings

1 2 Quick Collection 5 photos / 1 selected / Aiko_3.png Filter: Filters Off

2. Creativity requires **divergent thinking**

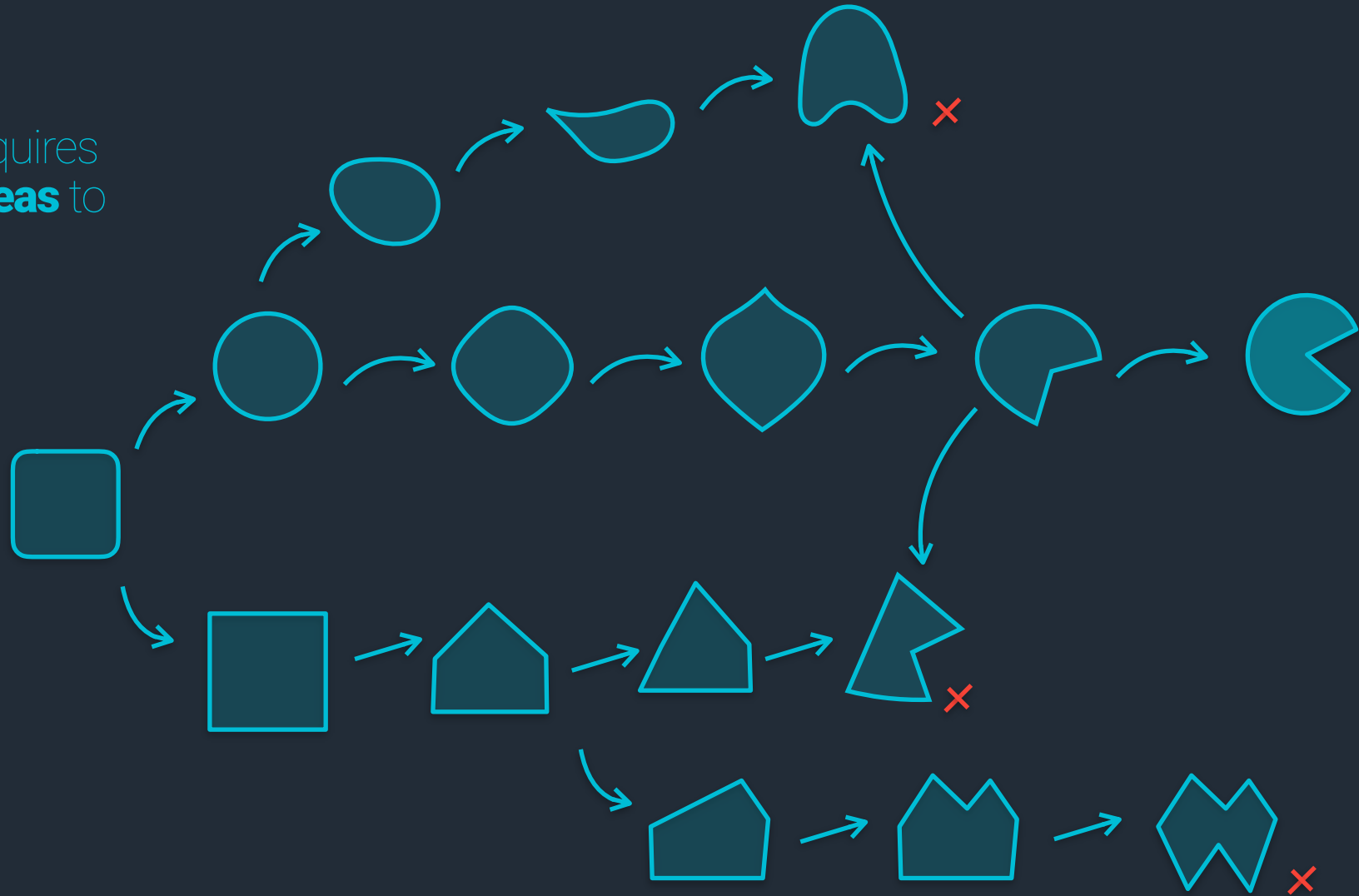
2. Creativity requires **divergent thinking**

We tend to think of the creative process as **linear**



2. Creativity requires **divergent thinking**

Innovation often requires **many divergent ideas** to be explored



**Divergent thinking
is reduced when..**



We are **worried about losing work** or making mistakes

**Divergent thinking
is reduced when..**



```
graph LR; A[Divergent thinking is reduced when..] --> B[We are worried about losing work or making mistakes]; A --> C[When undo doesn't work or saving is a risky operation we do less explorations to avoid the risk of messing up..];
```

We are **worried about losing work** or making mistakes

When **undo doesn't work or saving is a risky operation** we do less explorations to avoid the risk of messing up..

Divergent thinking is reduced when..

A central text block on the left, 'Divergent thinking is reduced when..', has three curved arrows pointing to three separate text blocks on the right. Each block is enclosed in a light blue rounded rectangle with a vertical line on the left side. The first block discusses 'worrying about losing work or making mistakes', the second discusses 'undo doesn't work or saving is a risky operation', and the third discusses 'worrying about system stability'.

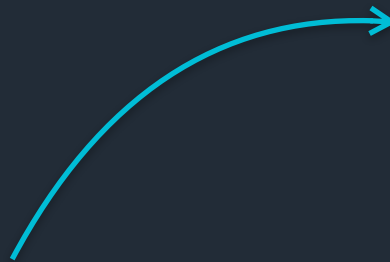
We are **worried about losing work** or making mistakes

When **undo doesn't work or saving is a risky operation** we do less explorations to avoid the risk of messing up..

Worrying about system stability makes us conservative and less likely to try new things

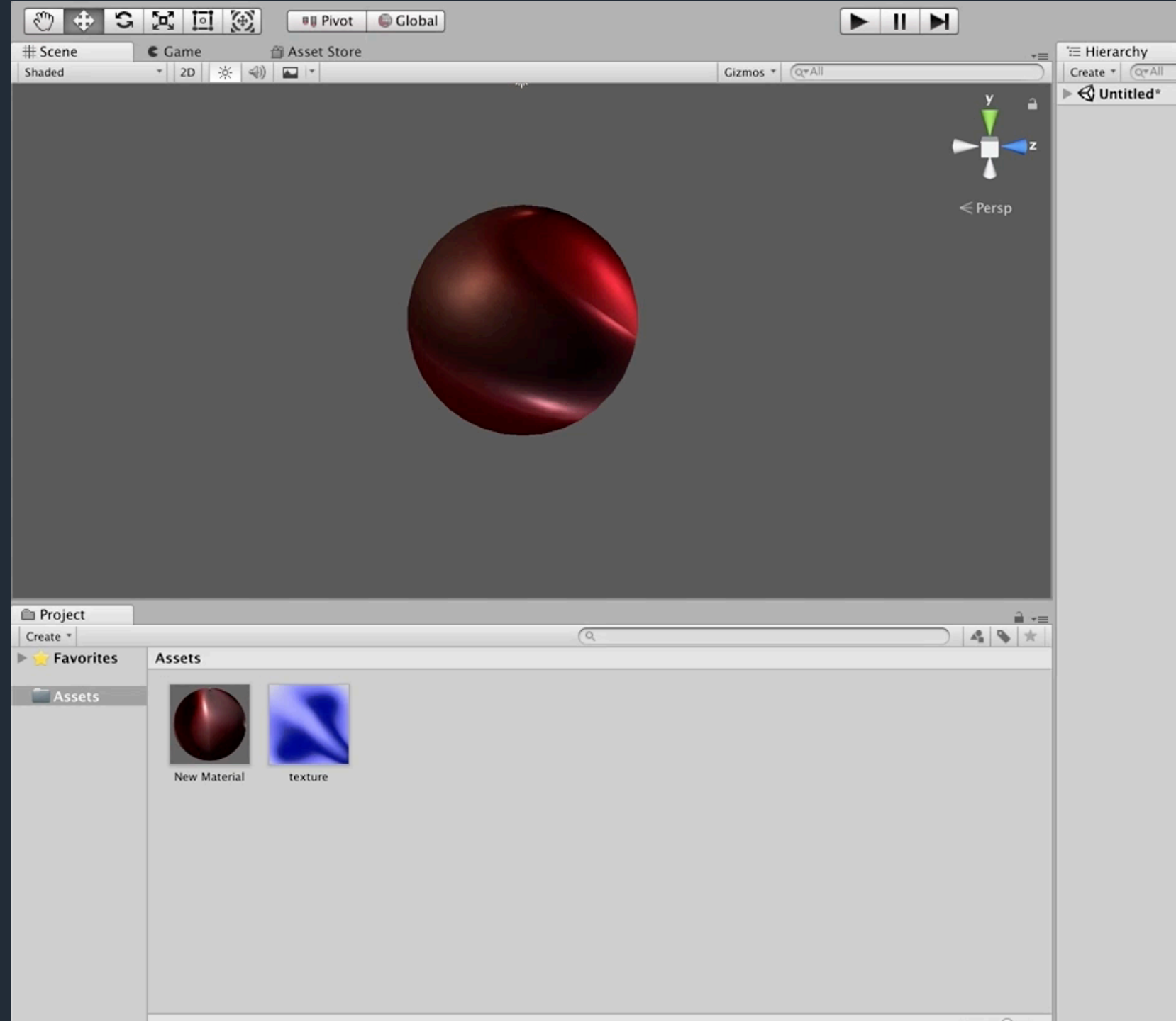
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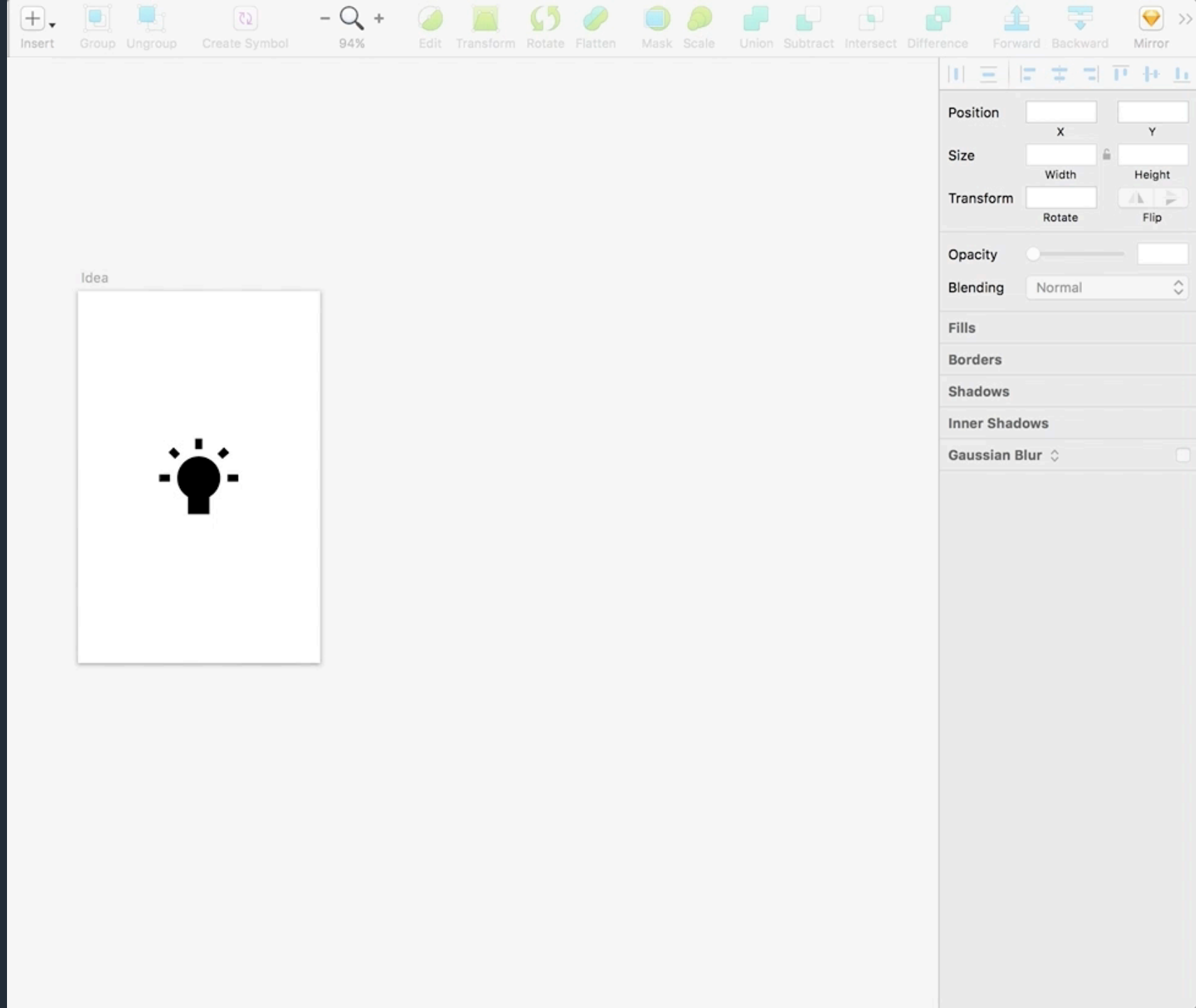


Make the system
**dependable and
consistent**

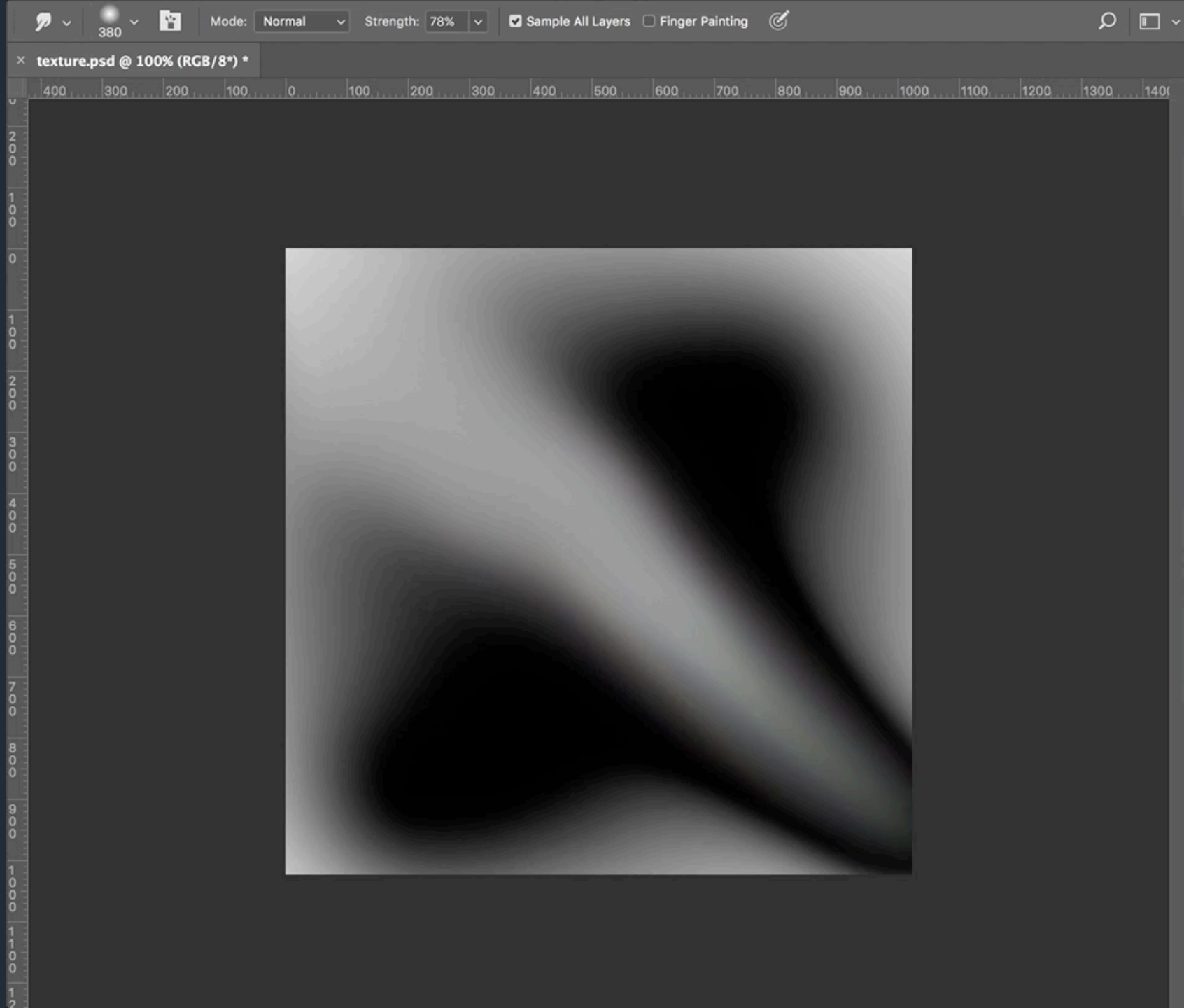
Warn the user (!)
when actions can't
be undone



Find ways to let the user **compare** ideas



Let the user **save**
states



Allow branching

graphs/PingPon

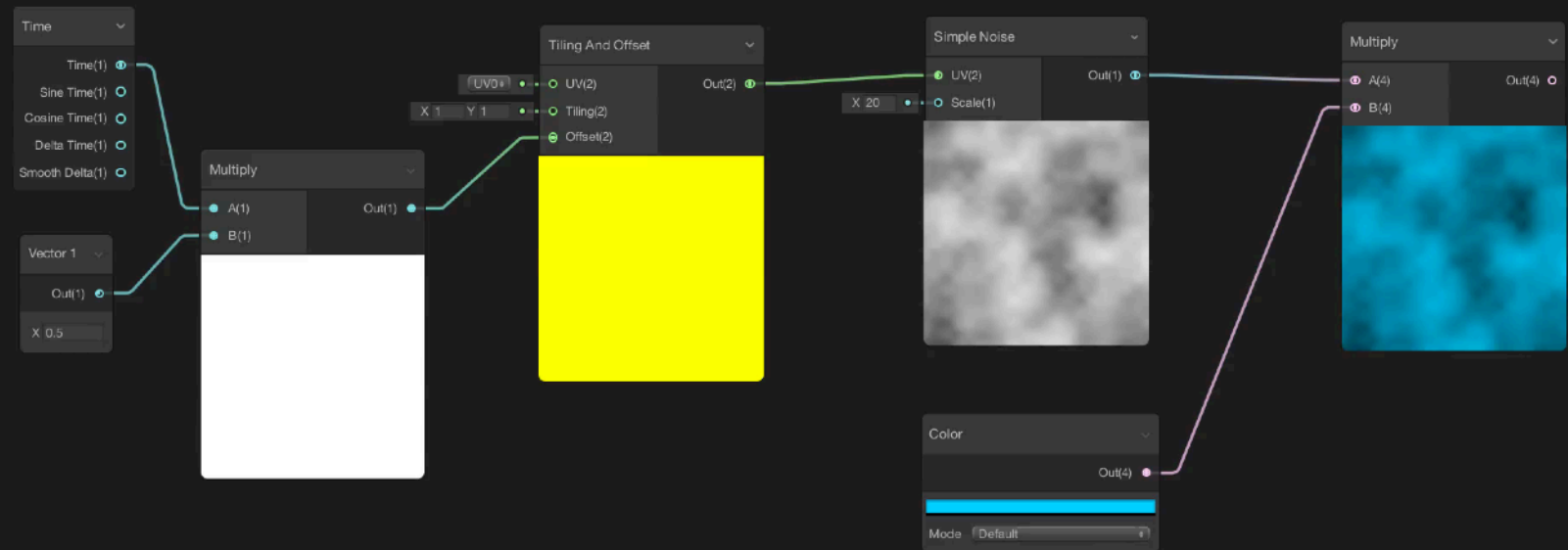
Save Asset Show In Project

graphs/PingPon +

Blackboard

0 Texture

Default Ho



3. Creativity relies on **fast iteration**

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An iteration loop is the time it takes from the user to **make a change** to their work **and observe it**, then decide if they want to keep it

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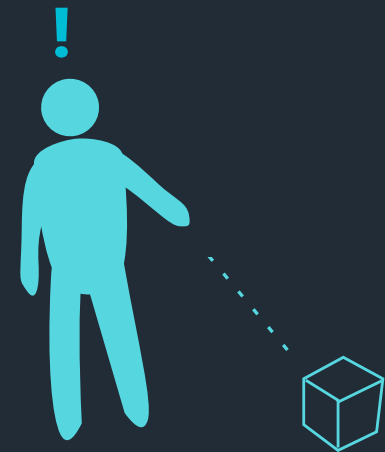


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An iteration loop is the time it takes from the user to **make a change** to their work **and observe it**, then decide if they want to keep it

Humans are actually pretty bad at judging their ideas without trying them out

The quicker we see outcomes the more iterations we can do



**Iteration time is
hurt when**



We make the user **wait**
for operations such as
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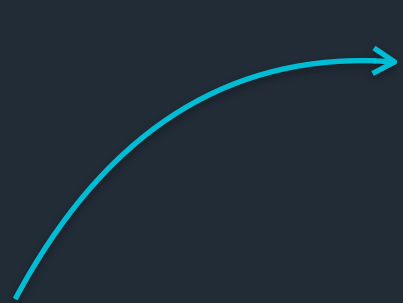


We make the user **wait** for operations such as **baking light, rendering, building the game**

When every-day tasks **require help from a team-member**

When people **cannot see the results** of tweaks and changes

How to **fix it?**

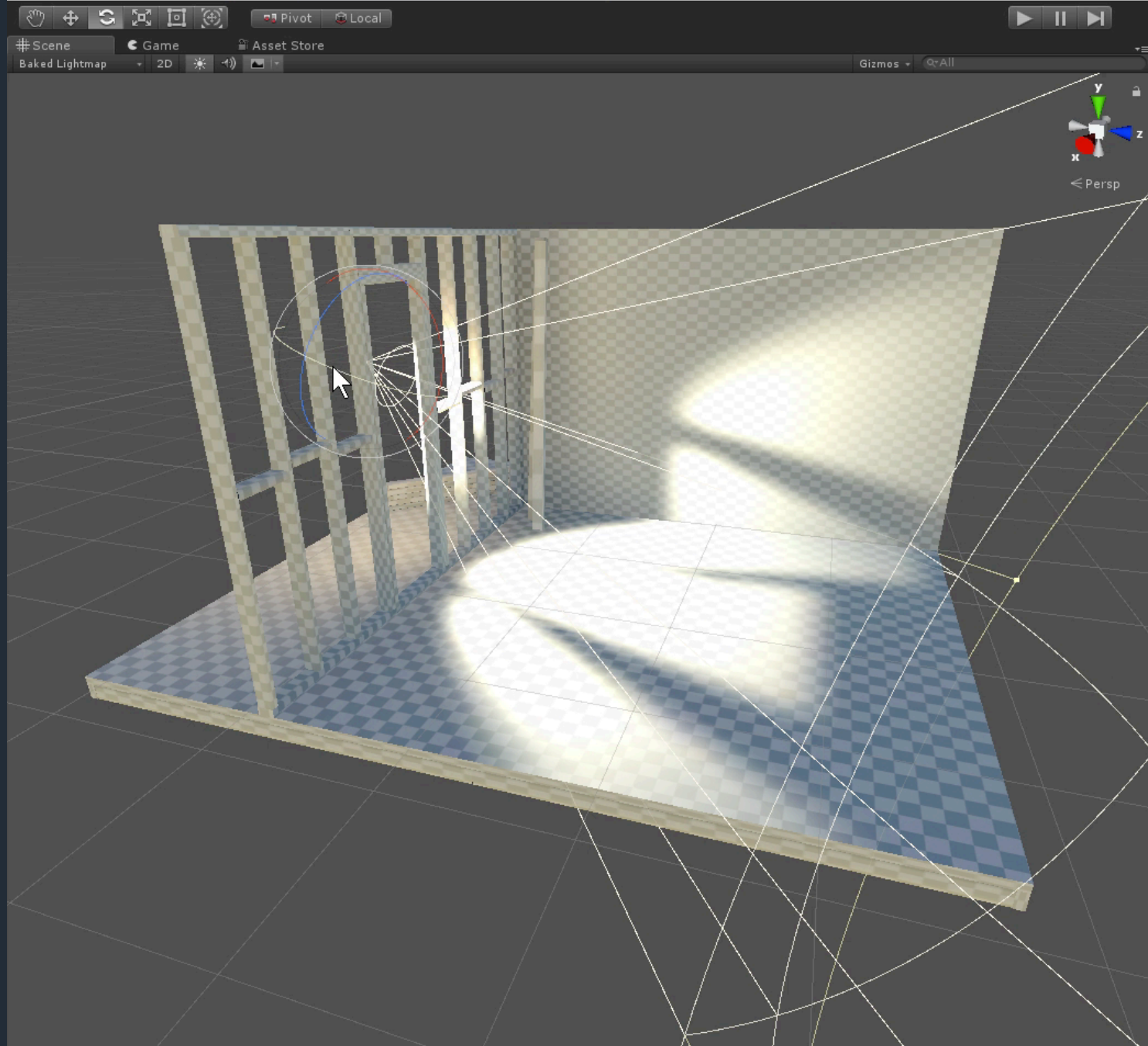


Speed up iteration
time

Let slow operations **run asynchronously**

The screenshot shows the Google Drive web interface. At the top, there's a search bar and a navigation menu. The main content area displays a list of files and folders. The 'Quick Access' section shows three recent sketches. Below that, a table lists various files and folders with their names, owners, and last modified dates.

Name	Owner	Last modified
Misc old	me	Mar 11, 2015
Creativity in software design	me	Apr 22, 2015
User Test Guide	me	Dec 17, 2014
use_cases_landscape_wrapping.png	me	Nov 29, 2013
Usability Test - Iteration 3	me	Nov 21, 2017
Usability Problem (Responses)	me	Jul 27, 2015
Usability Problem	me	Jul 27, 2015



Inspector

Spot Light

Tag Untagged Layer Default

Prefab Select Revert Apply

Transform

Position X -0.009 Y 1.506 Z 0

Rotation X 18.498 Y 123.67 Z 11.934

Scale X 1 Y 1 Z 1

Light

Toggle default light editor

Features

Enable Shadows

Show Additional S

Shape

Type Spot

Range 5.76

Shape Cone

Spot Angle 78.9

Inner Percent 80

Max Smoothnes 1

Light

Use color tempera

Color

Intensity (Lumen) 1885

Mode Baked

Cookie Spotlight_Cookie

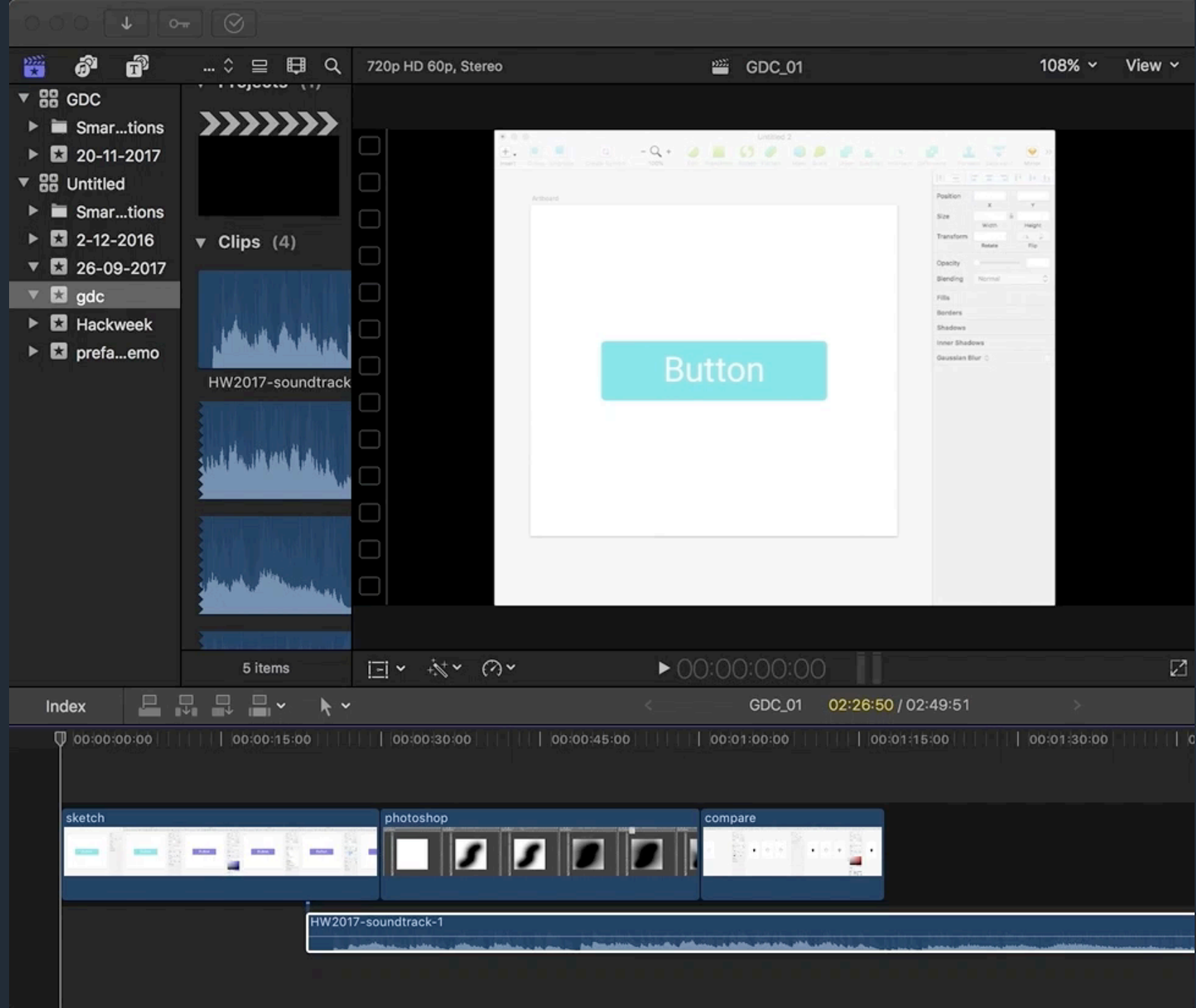
Shadows

Baked Shadow Re 0

Add Component

Render progressively

Generate Previews



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1 | Enable flow by **helping people stay in context**

2 | **Build stable systems that can be trusted** so that people feel safe to experiment

3 | **Place heavy operations in the background** and prioritise iteration time

And..

- 4 | Talk to the people
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Find their **creative
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Look for:

Context shifts
Instability
Iteration time

Thank you!