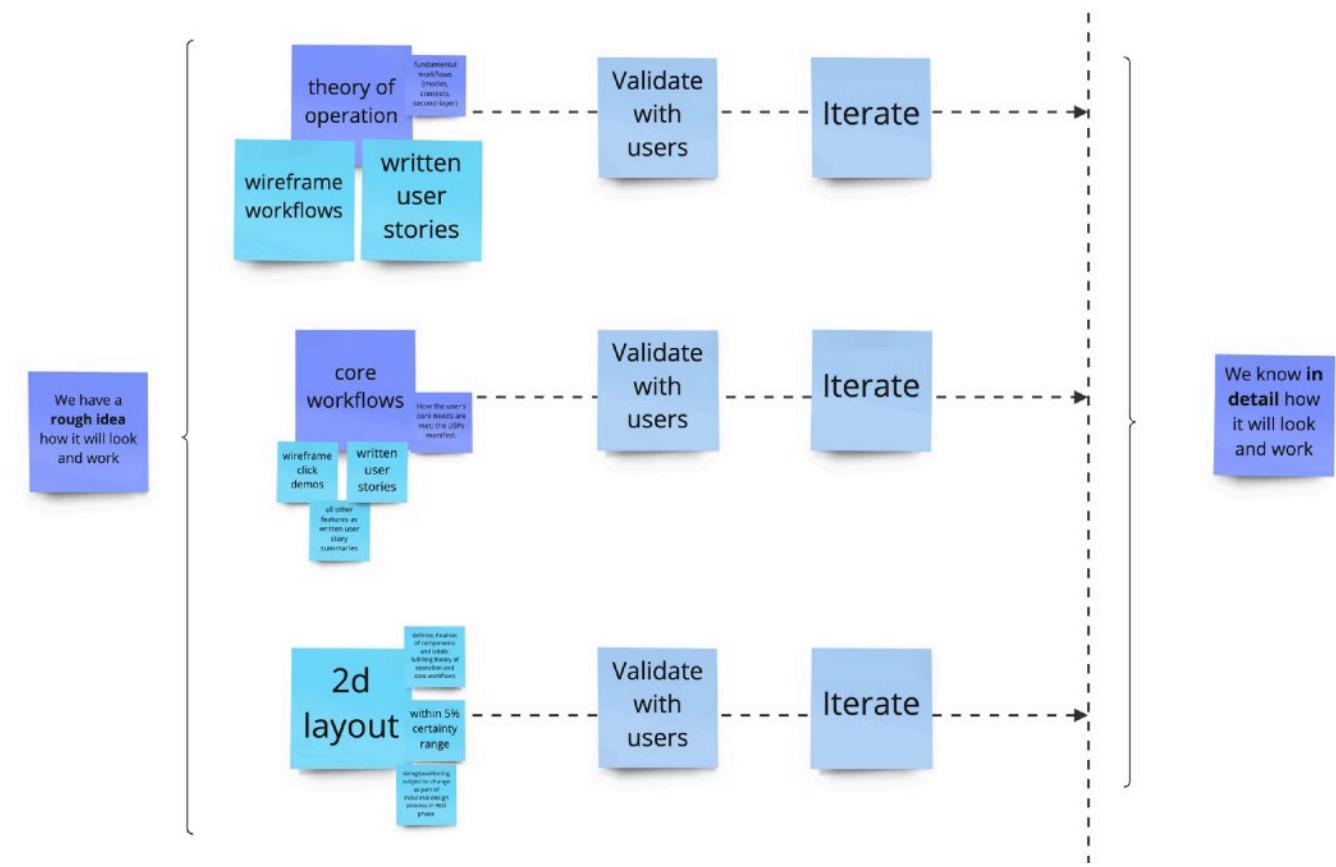


# HW/SW Product/UX Design @ Native Instruments

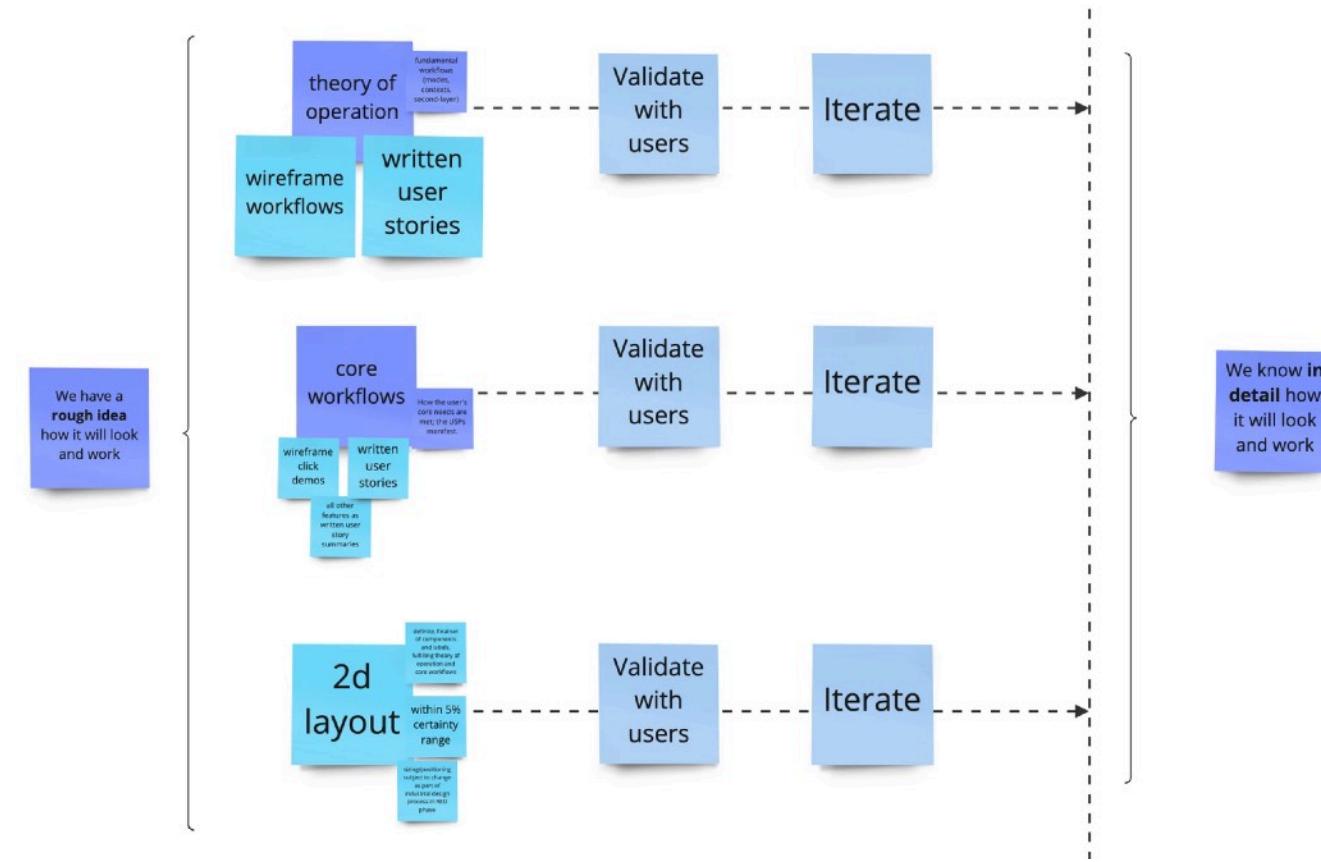
Ant Orant x reMarkable 2023

(Product context) MASCHINE is an all-in-one music production and performance system





# 1. Product concept ideation roadmap

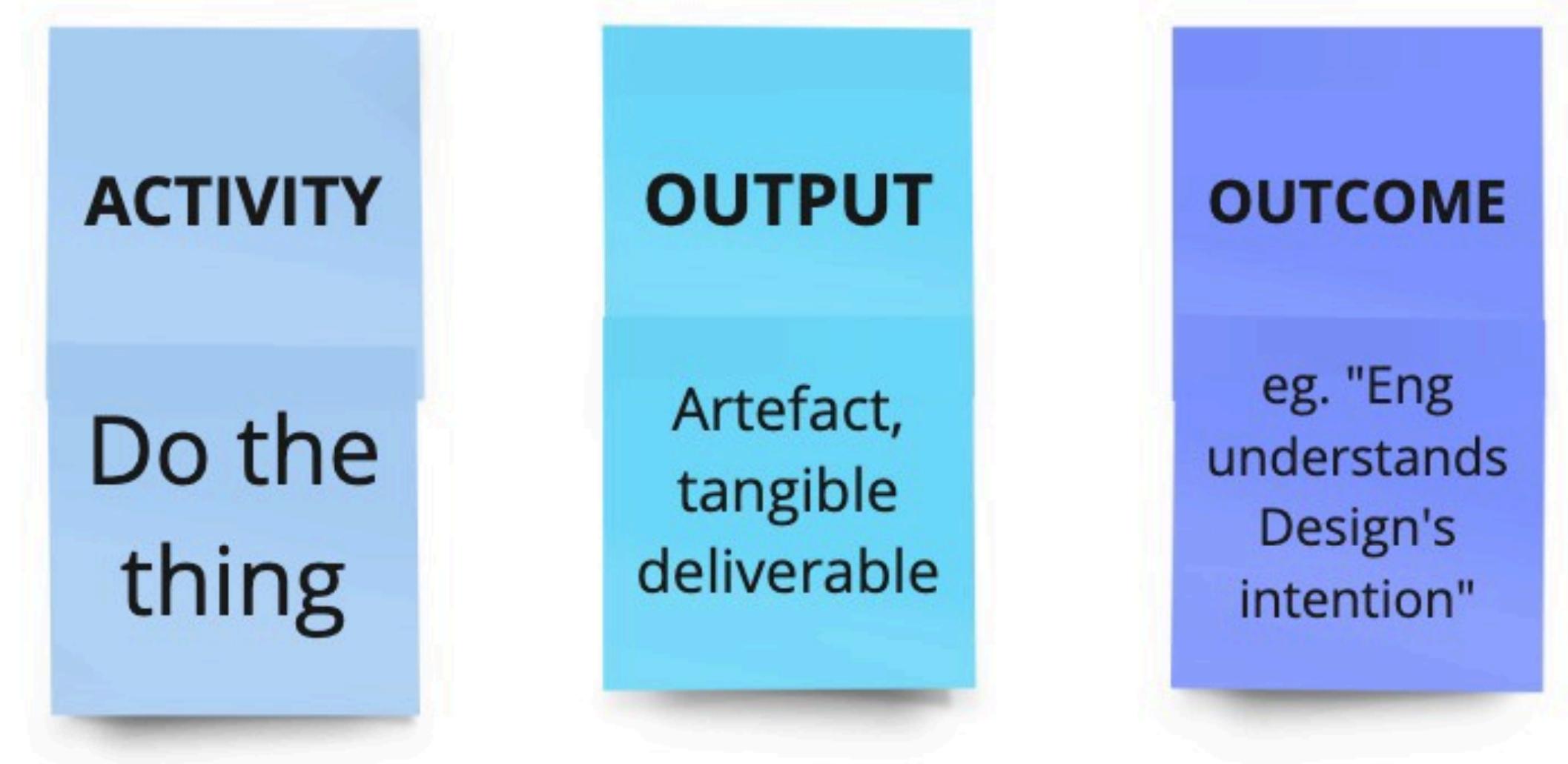


With the Product team concluding an improvised, engineering-centric ideation phase, about to begin work on the next product, the designers needed to define and sequence the key milestones in order to deliver a strong concept within a much tighter deadline.

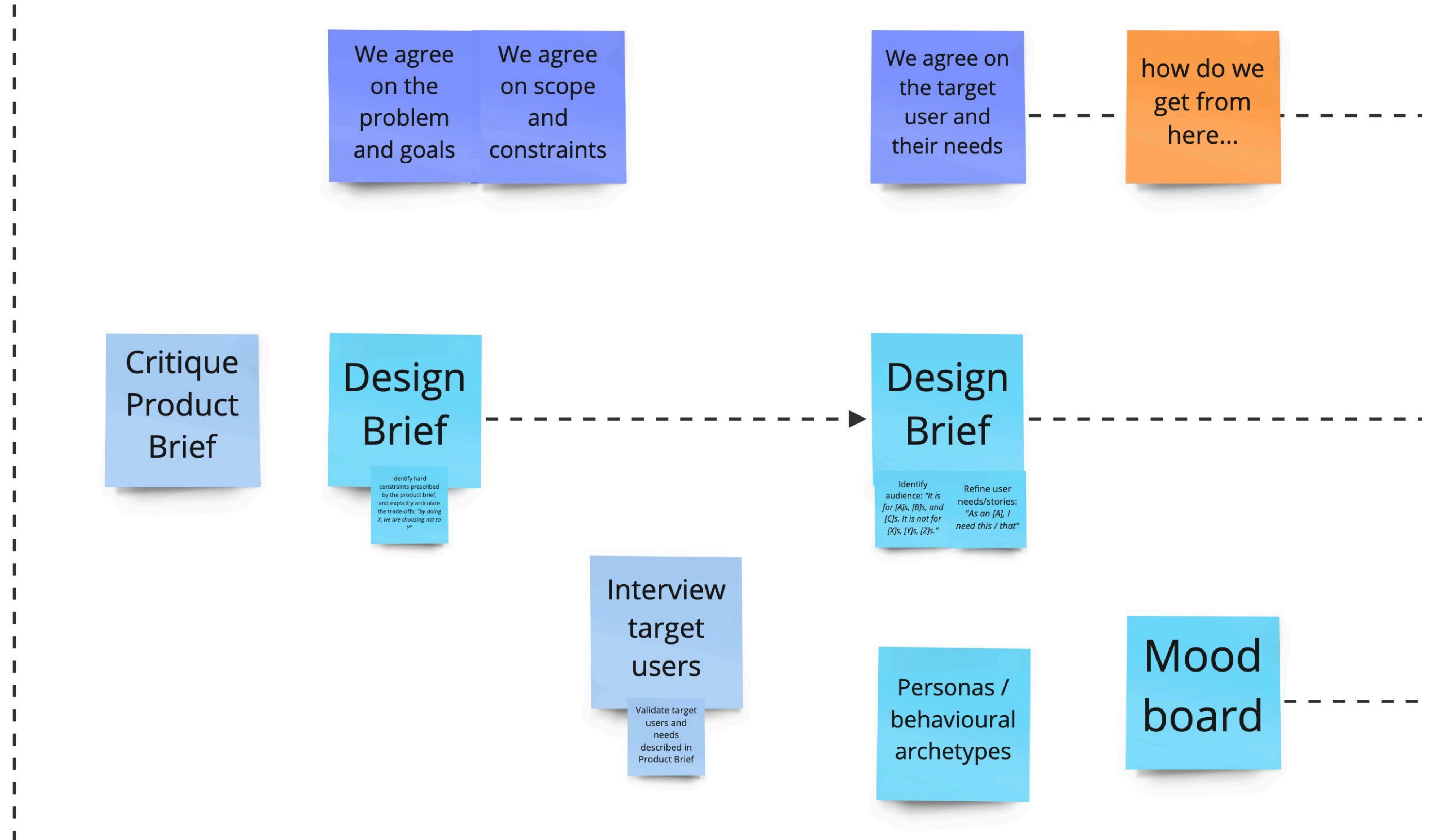
I reviewed assets and communication from the previous cycle, identified the core artefacts and activities, then grouped and ordered them chronologically.

The Design team entered the next cycle with clear priorities and realistic goals.

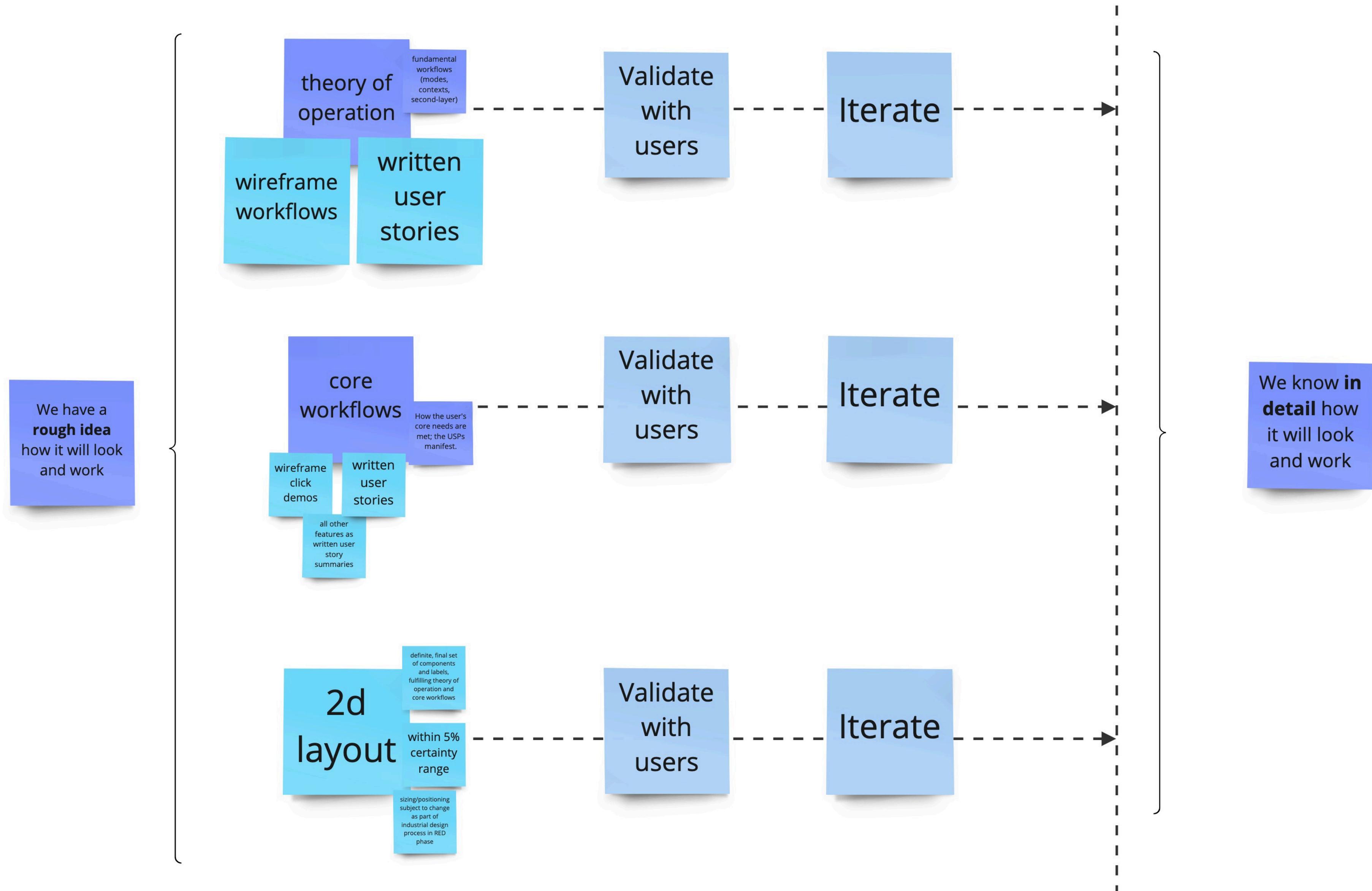
“Outcomes over output”



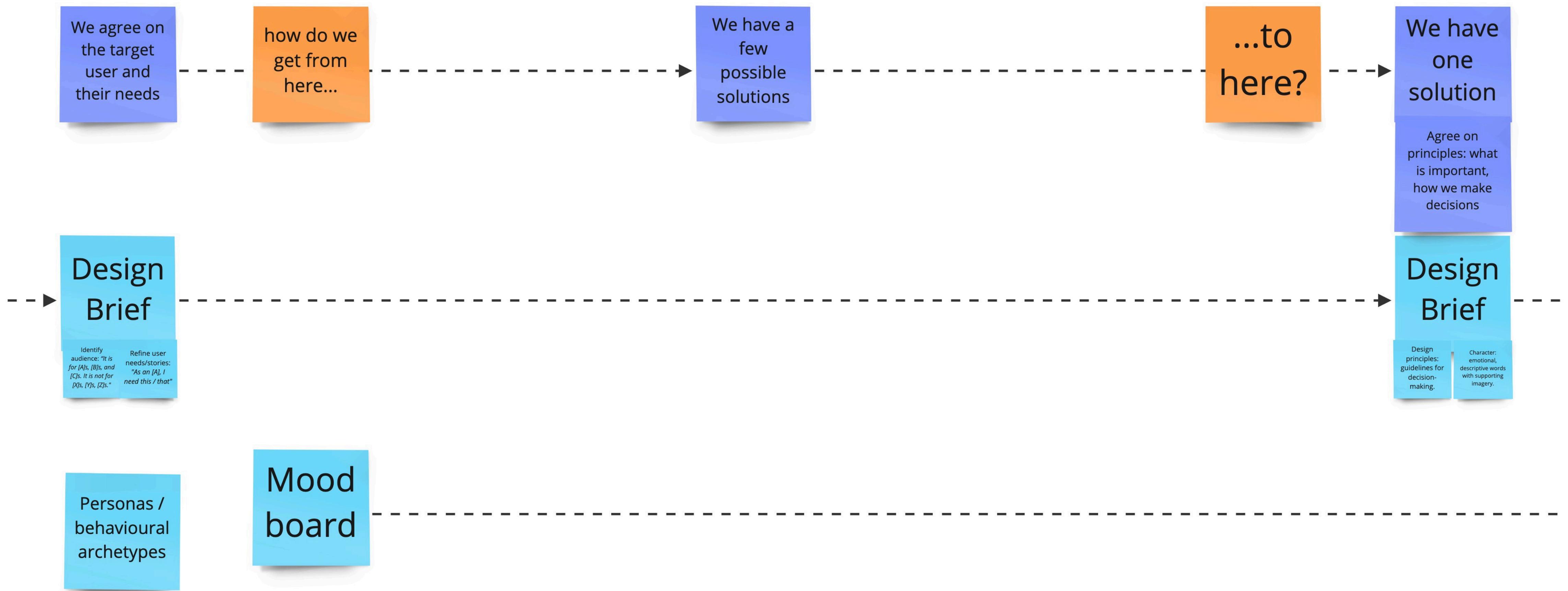
# Kickoff.....



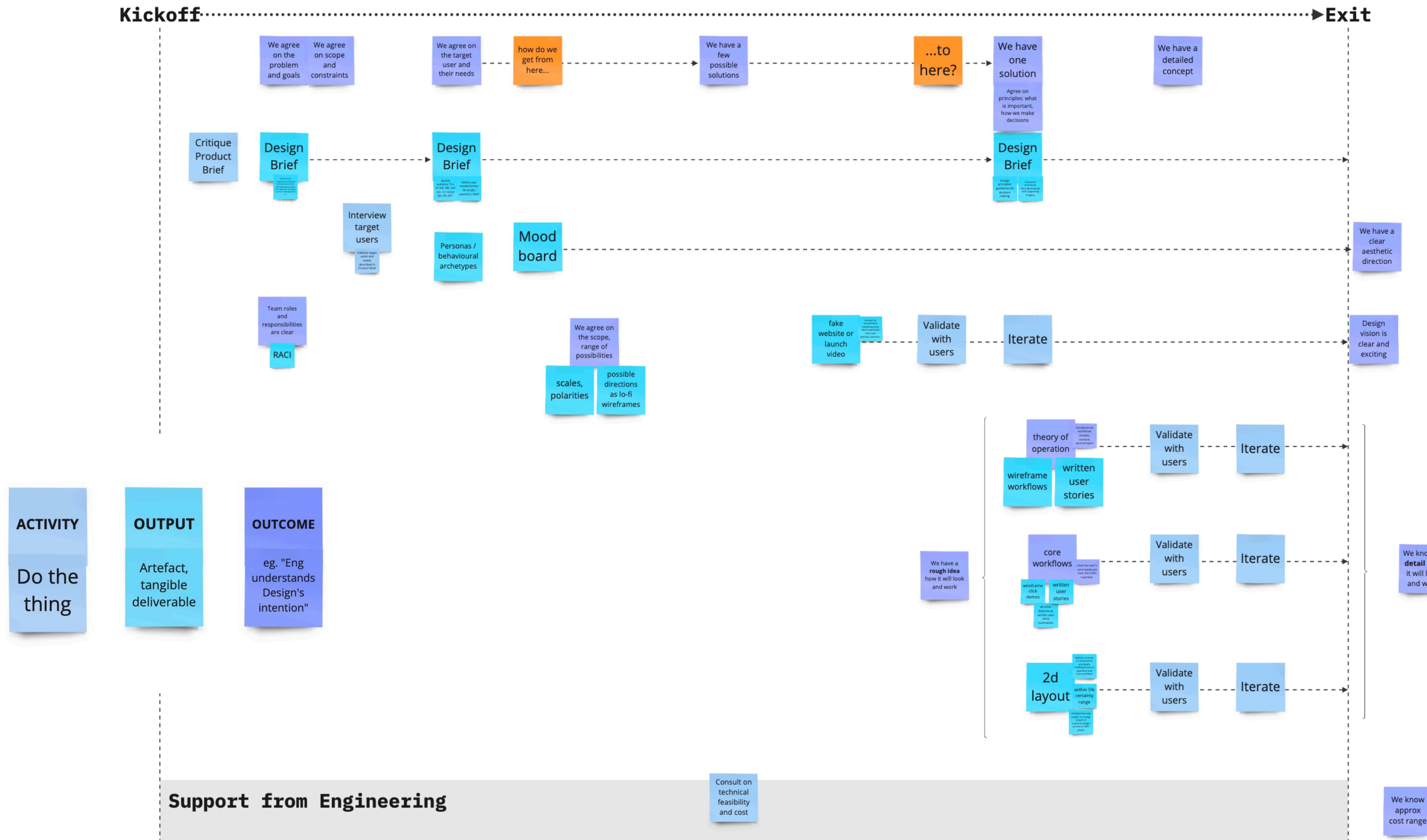
## Iterative shaping of core concept

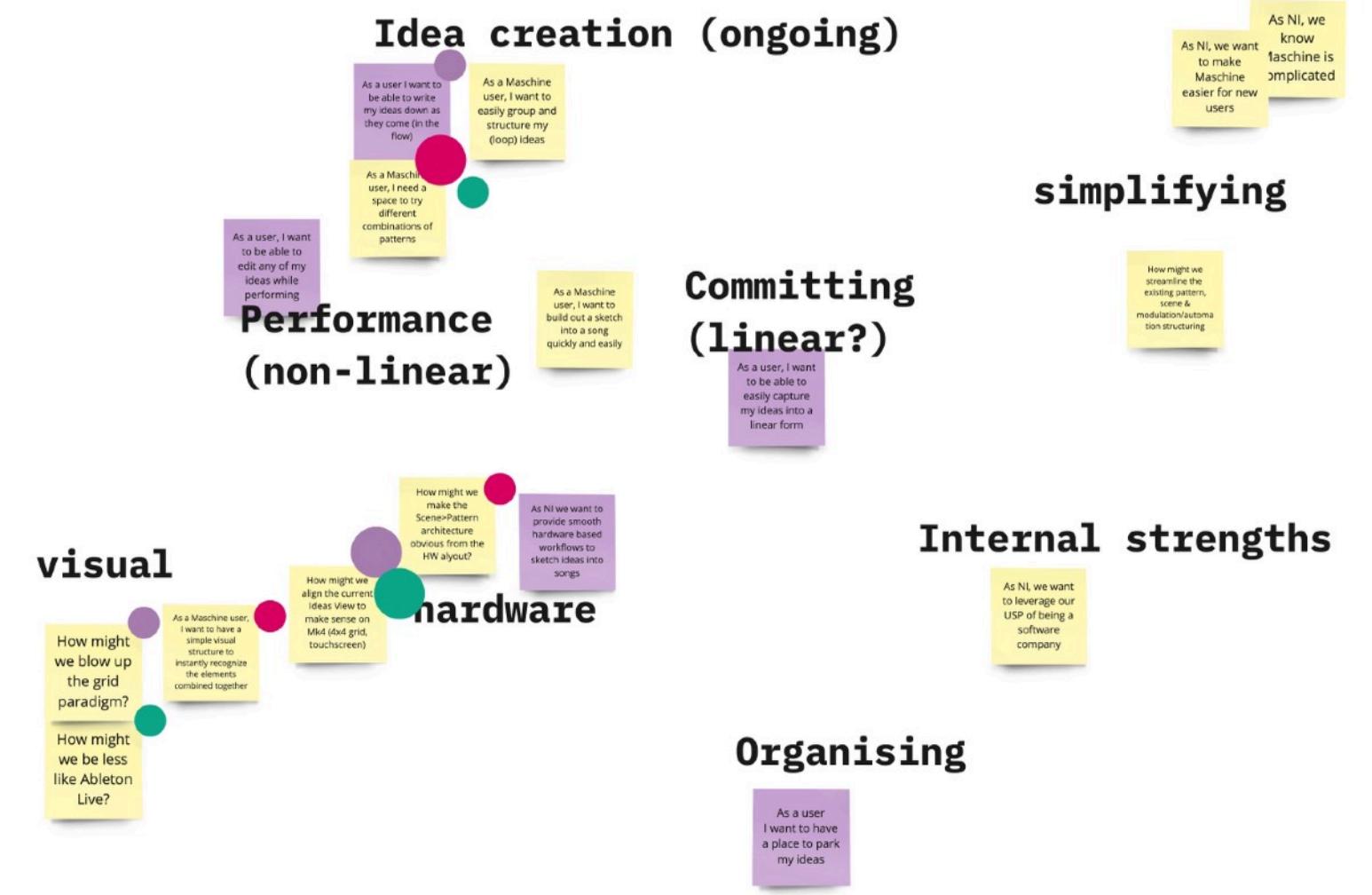


## Mapping conceptual development

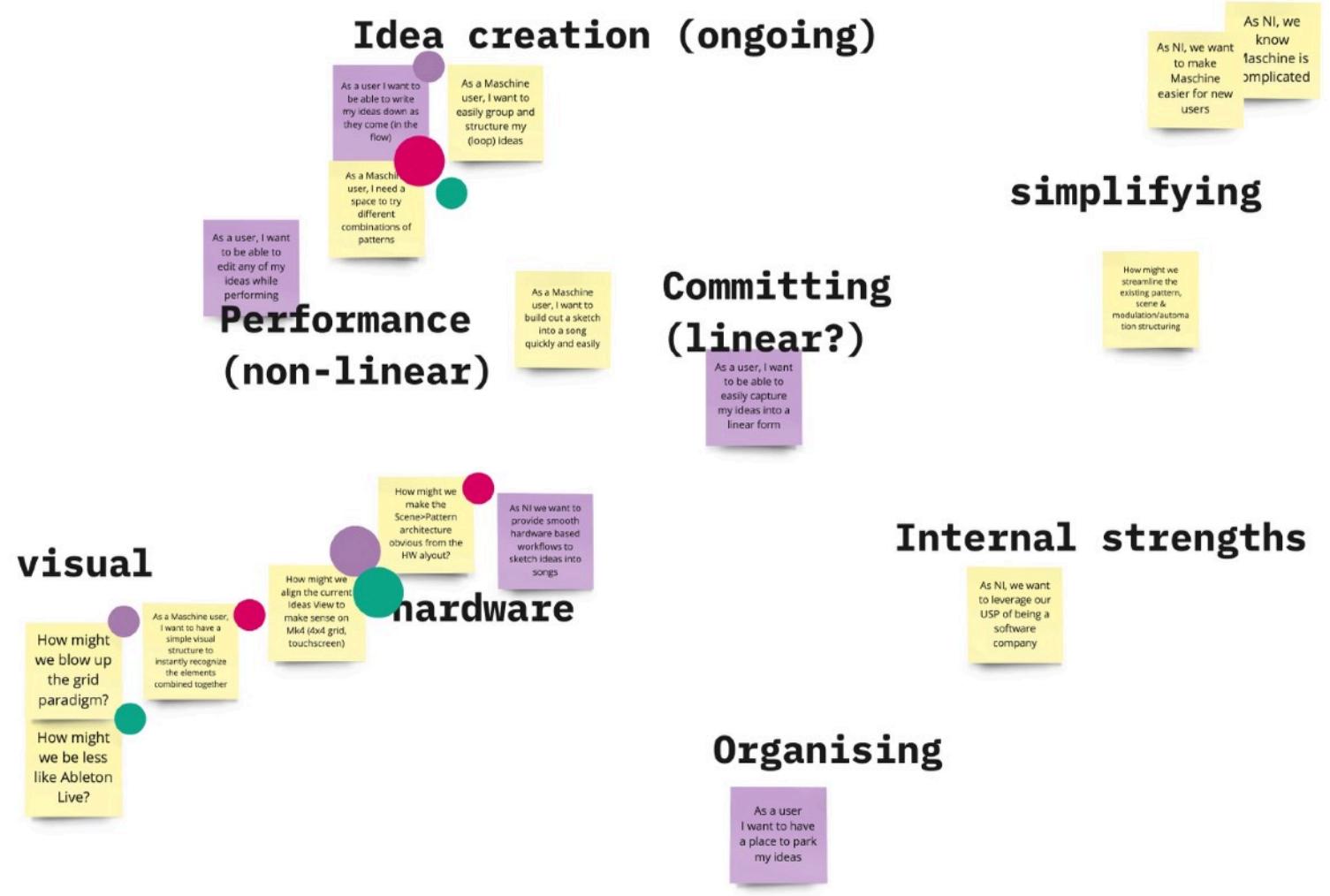


# The entire concept ideation phase





## 2. “Ideas” view exploration sprint



Approaching ideation exit with a long wish-list of features and limited engineering resources, the team informally identified the “Ideas” feature as a critical UX improvement, but with a lack of clarity around scope, effort and feasibility.

I led a two-day workshop with key product team members, with the goal of capturing and structuring the various concerns, advocacy, and technical considerations, then quickly exploring the range of possible changes.

The problem context and detail were documented in a shareable format, with potential solutions shaped and scoped, prioritised by confidence and effort, leading to a clear decision.

## Problem space exploration

**visual**

How might we blow up the grid paradigm?

How might we be less like Ableton Live?

**hardware**

As a Maschine user, I want to have a simple visual structure to instantly recognize the elements combined together

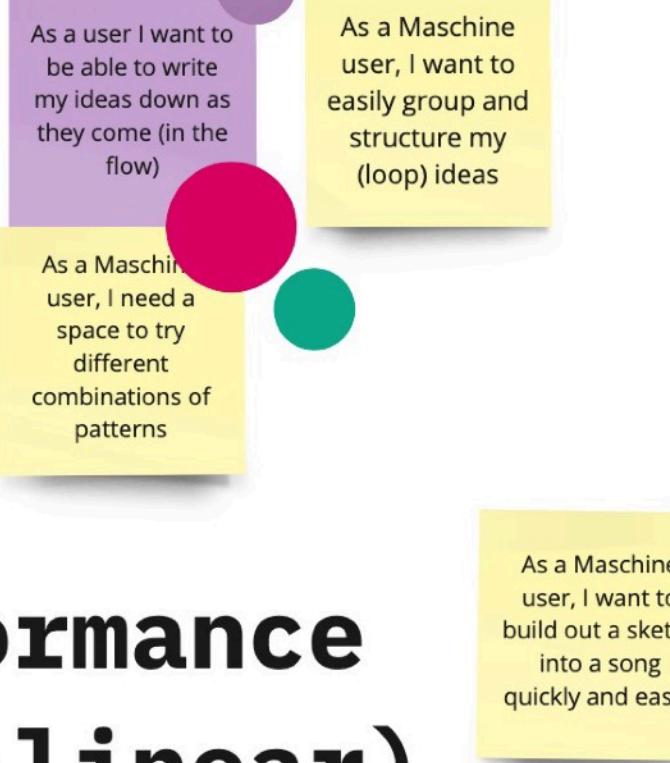
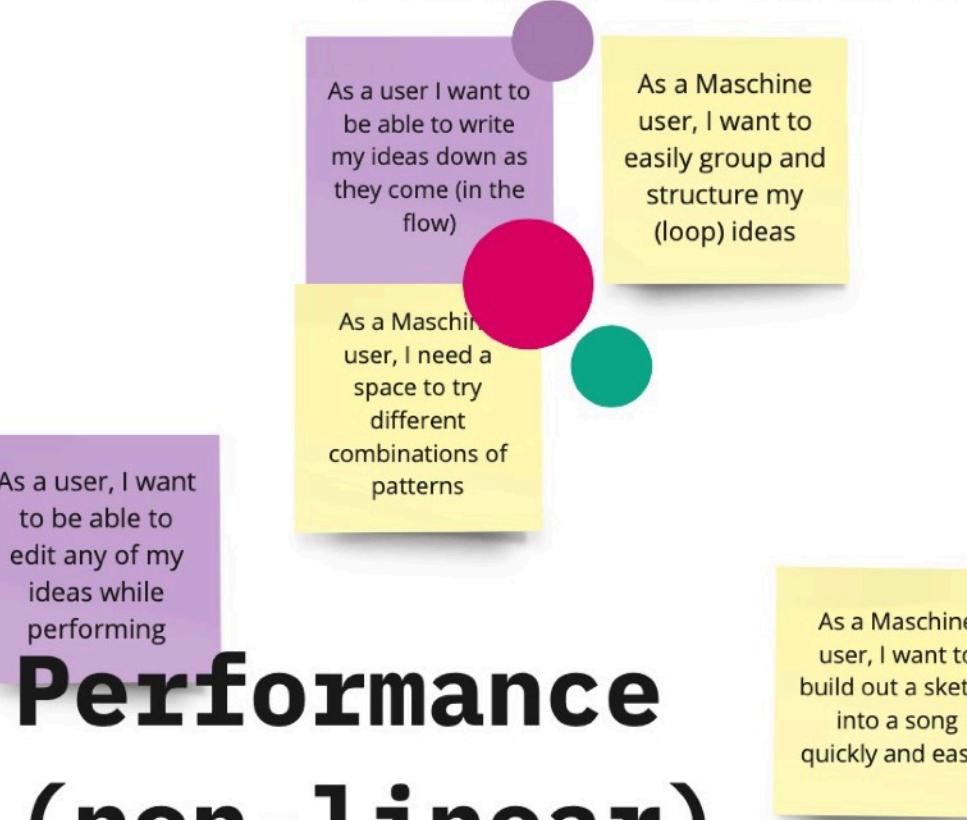
How might we align the current Ideas View to make sense on Mk4 (4x4 grid, touchscreen)

How might we make the Scene>Pattern architecture obvious from the HW alyout?

As NI we want to provide smooth hardware based workflows to sketch ideas into songs

## Performance (non-linear)

## Idea creation (ongoing)



## Organising

As a user I want to have a place to park my ideas

## Internal strengths

As NI, we want to leverage our USP of being a software company

As NI, we know Maschine is complicated

As NI, we want to make Maschine easier for new users

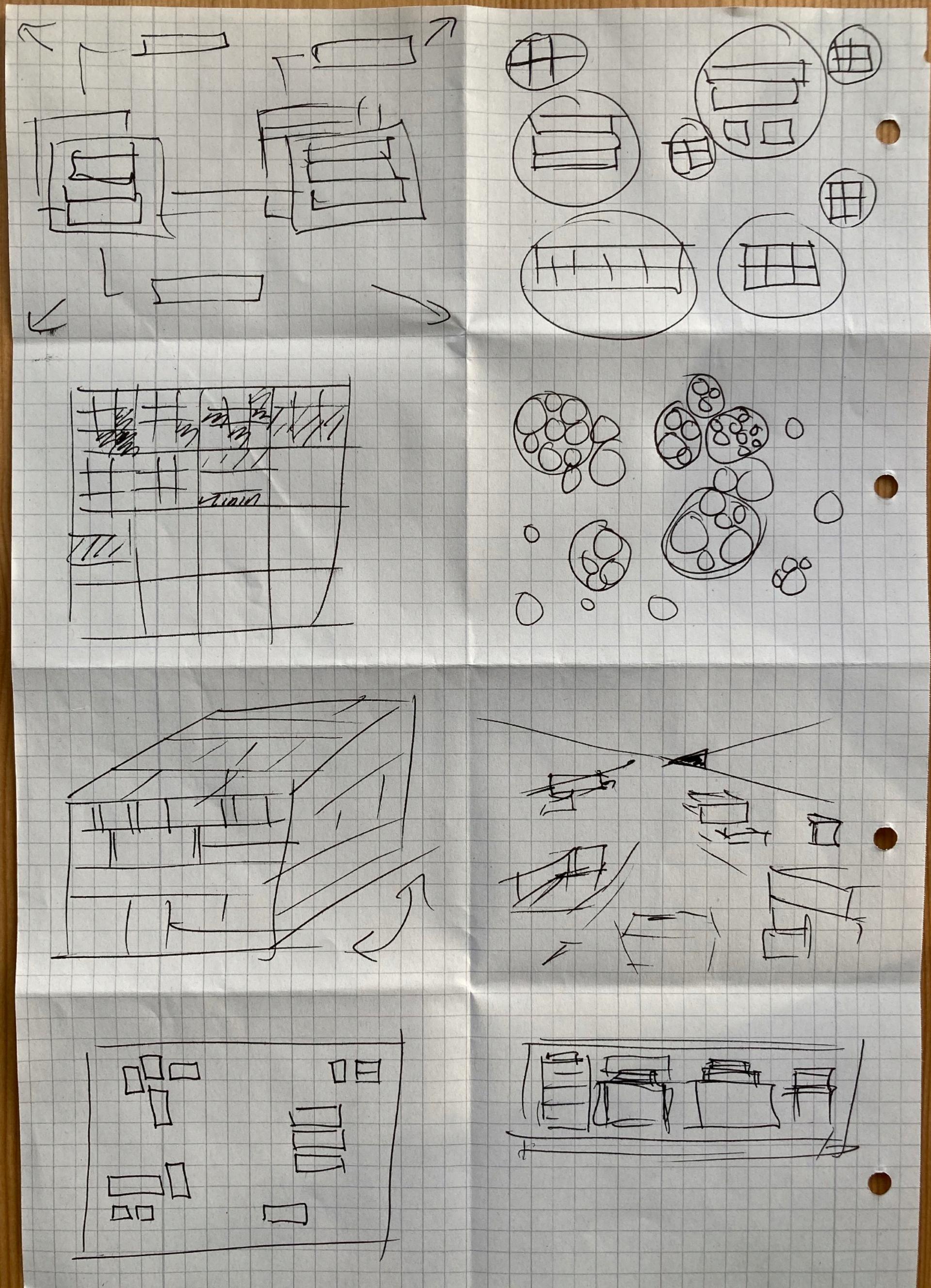
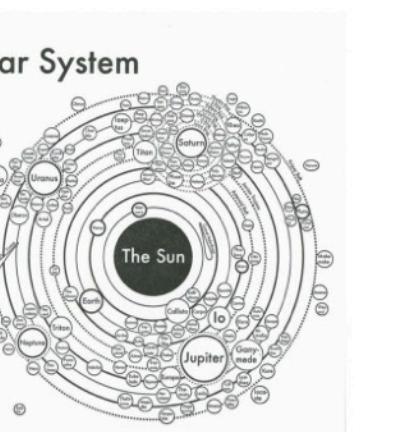
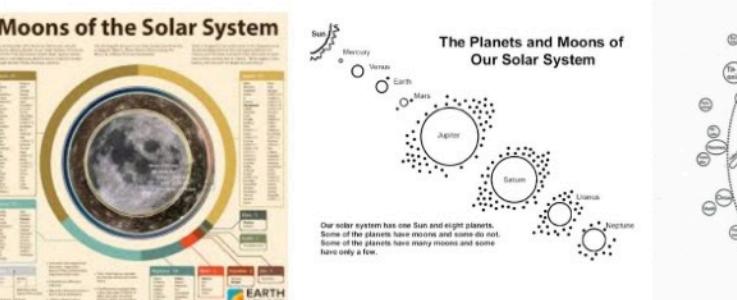
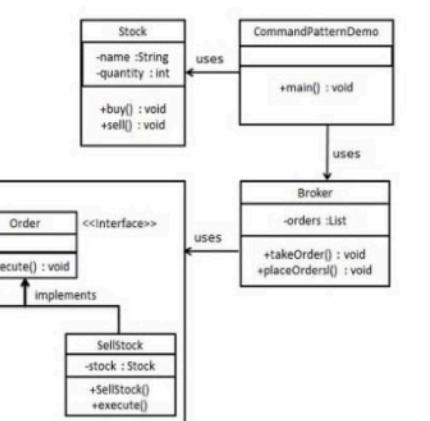
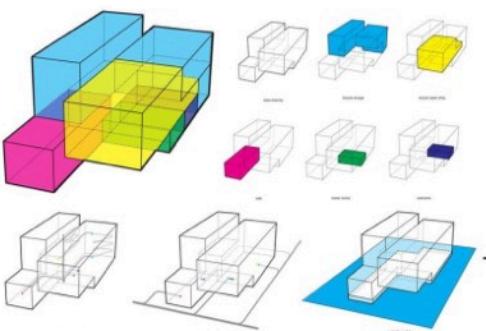
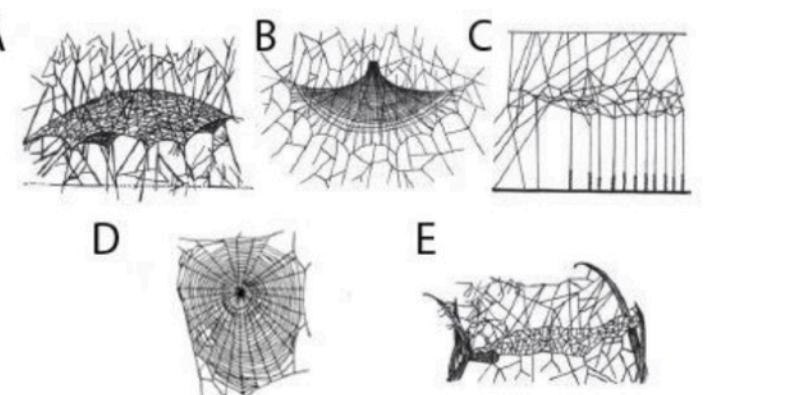
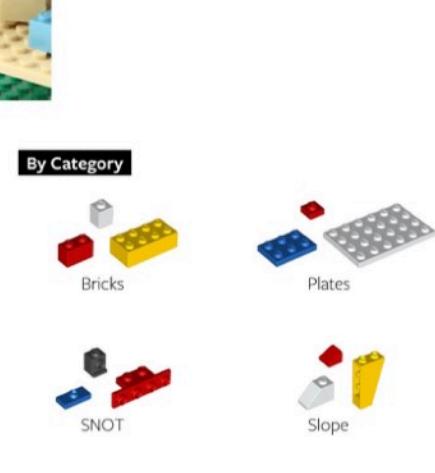
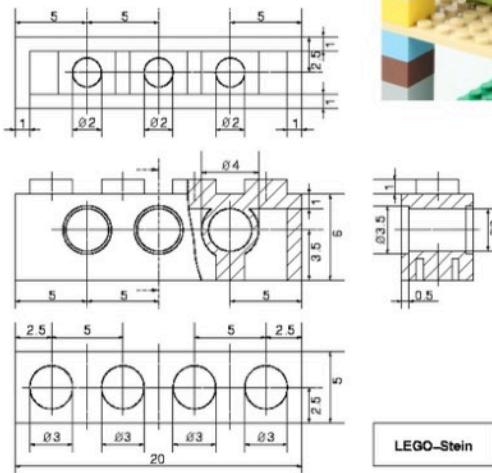
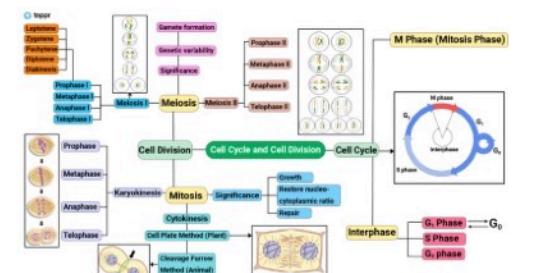
## simplifying

How might we streamline the existing pattern, scene & modulation/automation structuring

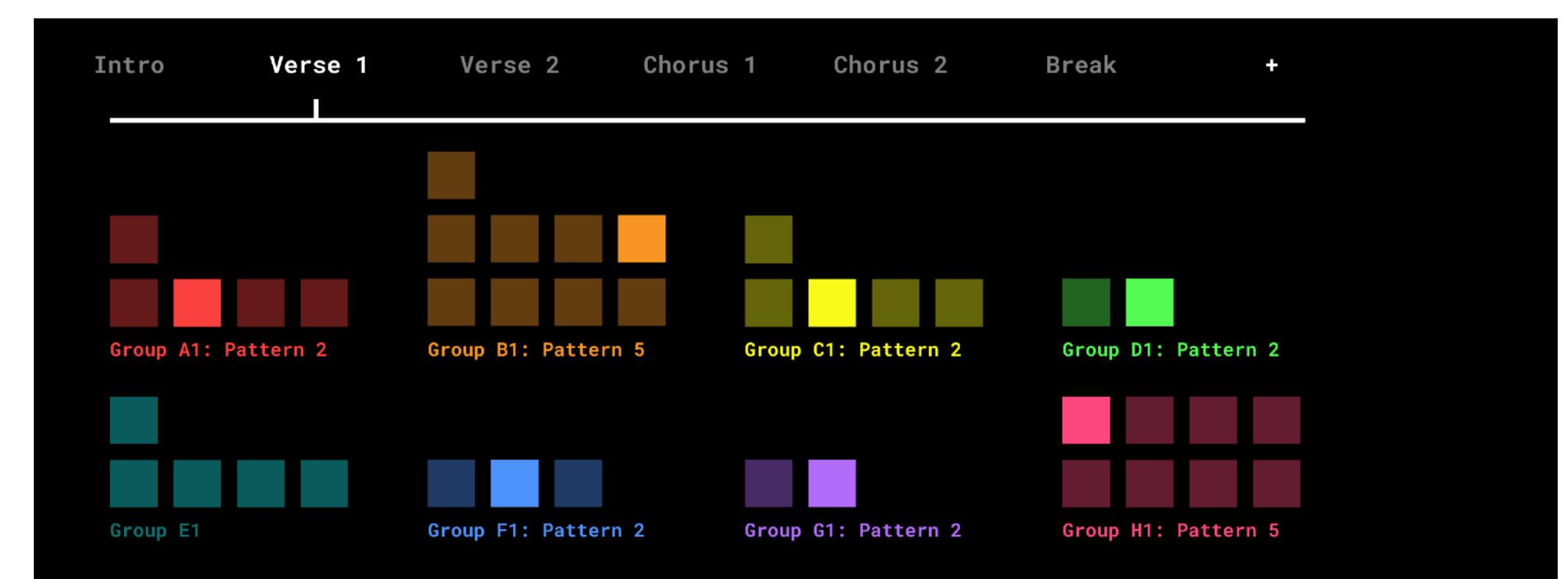
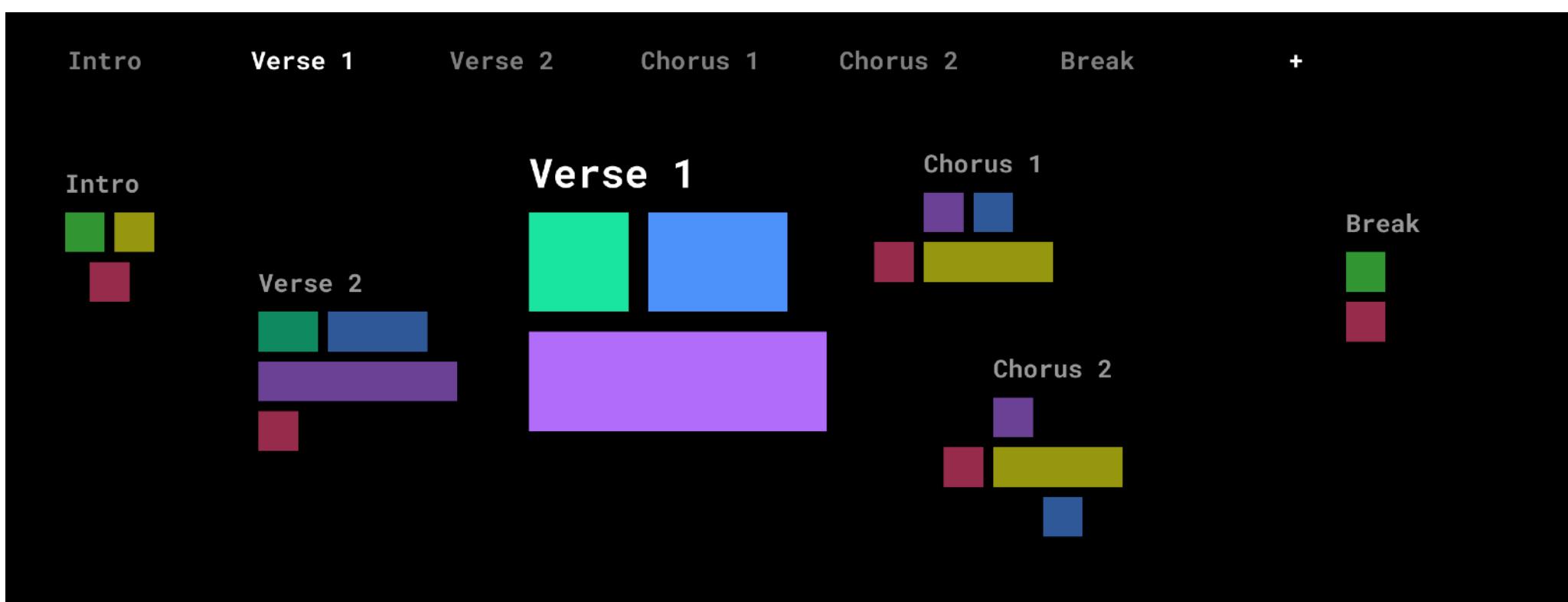
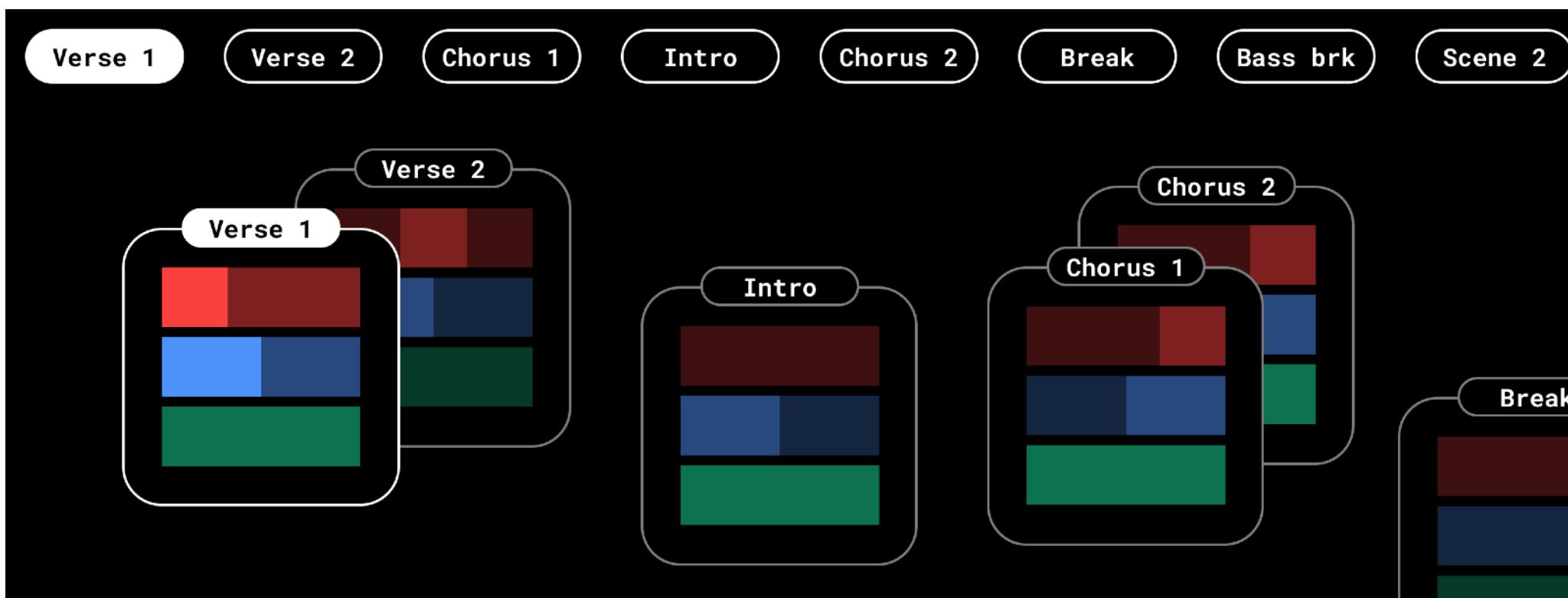
## Committing (linear?)

As a user, I want to be able to easily capture my ideas into a linear form

# Exploration, benchmarking, rapid ideation



# UI exploration



Outcomes scoped, prioritised by team confidence and effort

# Ideas View Design Sprint

# Outcomes

User benefit	Next steps / action items	(time needed for one person to build a detailed pitch or testable prototype)	"I think this will be a significant improvement to the product"
<h2>Small improvements we can test now</h2> <p>Change the axes of the Ideas view? Groups are horizontal rows, Scenes are columns</p>  	<p>Ideas view is easier to understand(?)</p>	<p>hi-fi screen design test on MK3/+ possible to create intuitive mapping to 4x4 pads? How do I change a Pattern?</p> <p>We might not need to show the Groups (names) in the trigger area if dedicated Group buttons on the interface against "Machine 1" usability problems, pattern playback, timeline appearance.</p>	<p>Adrien Ant Marcus</p> <p>1d [1.5d]</p>
<p>Take Scenes slightly off the grid?</p> 	<p>Difference between coloured Scenes and coloured Groups is clearer.</p>	<p>How will this look in Machine desktop software? hi-fi mockups of MK3+ screens UI / Lumen check-in</p>	<p>2 days</p> <p>2 days</p> <p>3 3</p>
			<p>[7]</p>
			<p>1d [1d]</p> <p>1 day 1 day</p> <p>2 3 2 3</p>
			<p>[6]</p>

**Let's try these quickly**

# Significant improvements requiring deeper exploration

**Distinguish Scenes visually from Groups and Patterns:**  
Take Scenes **further off the grid**:




**Distinguish Scenes visually from Groups and Patterns:**  
Take Scenes **more into the grid**:



**1.5w** [6]

1 weeks 2 weeks

3 2 1

1w [4]

1 weeks 1 week

2 1

what are the limits of feasibility?  
would these visual changes be better applied to Lock States?

does it make Scenes more intuitive?

how does it look in Maschine Desktop?

spatial arrangement  
circles/clustering  
geometric shapes (triangles etc)  
naturalistic forms

how will this work without touch?  
fits brand aesthetic?  
how to mirror on HW layout  
what are the elements, ingredients?  
fits brand aesthetic?  
what are the elements, ingredients?

how does focus/position/scroll work?  
how are shapes formed? (logic)  
stick with rows-columns or try orbiting, clustering?  
does colour have a meaning?  
does colour have a meaning?

Distinction of Scenes from Patterns and Groups is clearer  
Maschine universe is visually more interesting  
Loosens double meaning of colour

will pads have multi LEDs?  
How (roughly) would shapes be formed?  
does it make Scenes more intuitive?  
How will multi-coloured pads look? Muddy?

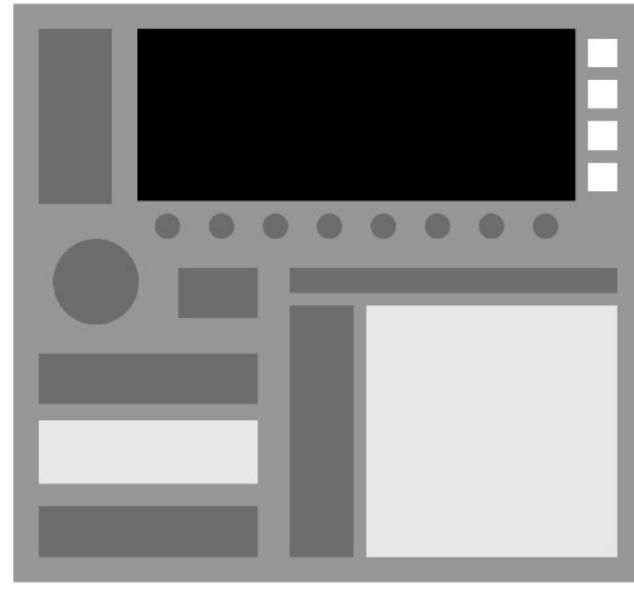
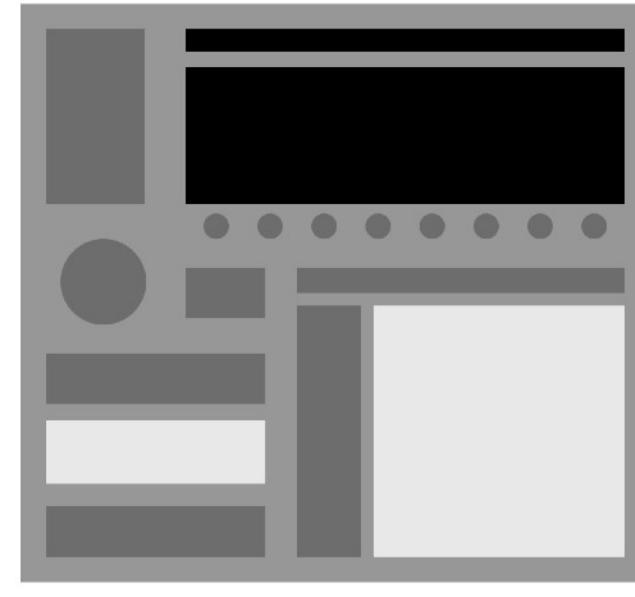
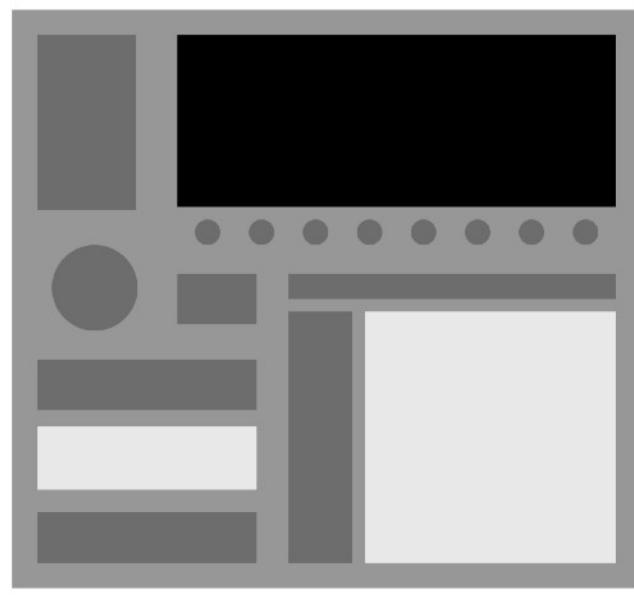
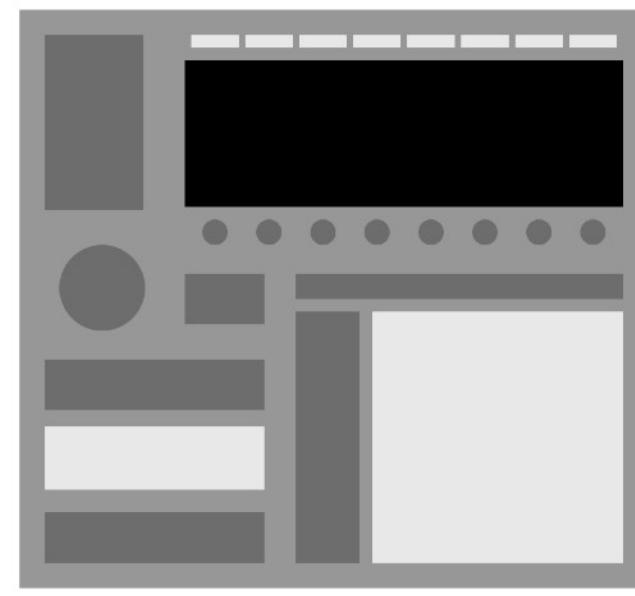


3. Lean feature/workflow discovery:  
Context menu / OPTION button

With the Product team close to finalising a concept, committing to a new hardware layout with significant changes to core interactions, an engineer (and power user) strongly advocated for a change to the navigation and organisation of features which would drastically simplify the workflow architecture and improve discoverability.

The topic appeared abstract to people with less hands-on experience using the product. I took on the task of channeling the engineer's advocacy, validating the perceived problem and shaping the proposed solution, aligning the potential value with the essential product story.

We turned disparate conversations into impactful, shareable artefacts, and convinced the wider team to commit to the feature.



## What?

The Context Menu is a third layer of access to functionality (after direct and SHIFT)

Conceptually, it's similar to a right-click on a computer, or a long-press on an iPhone: it gives me access to functionality which isn't directly accessible from the main interface.

## Background

Maschine has two layers of functionality: the main/top layer "direct access", and the Shift layer.

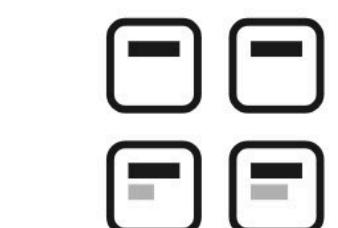
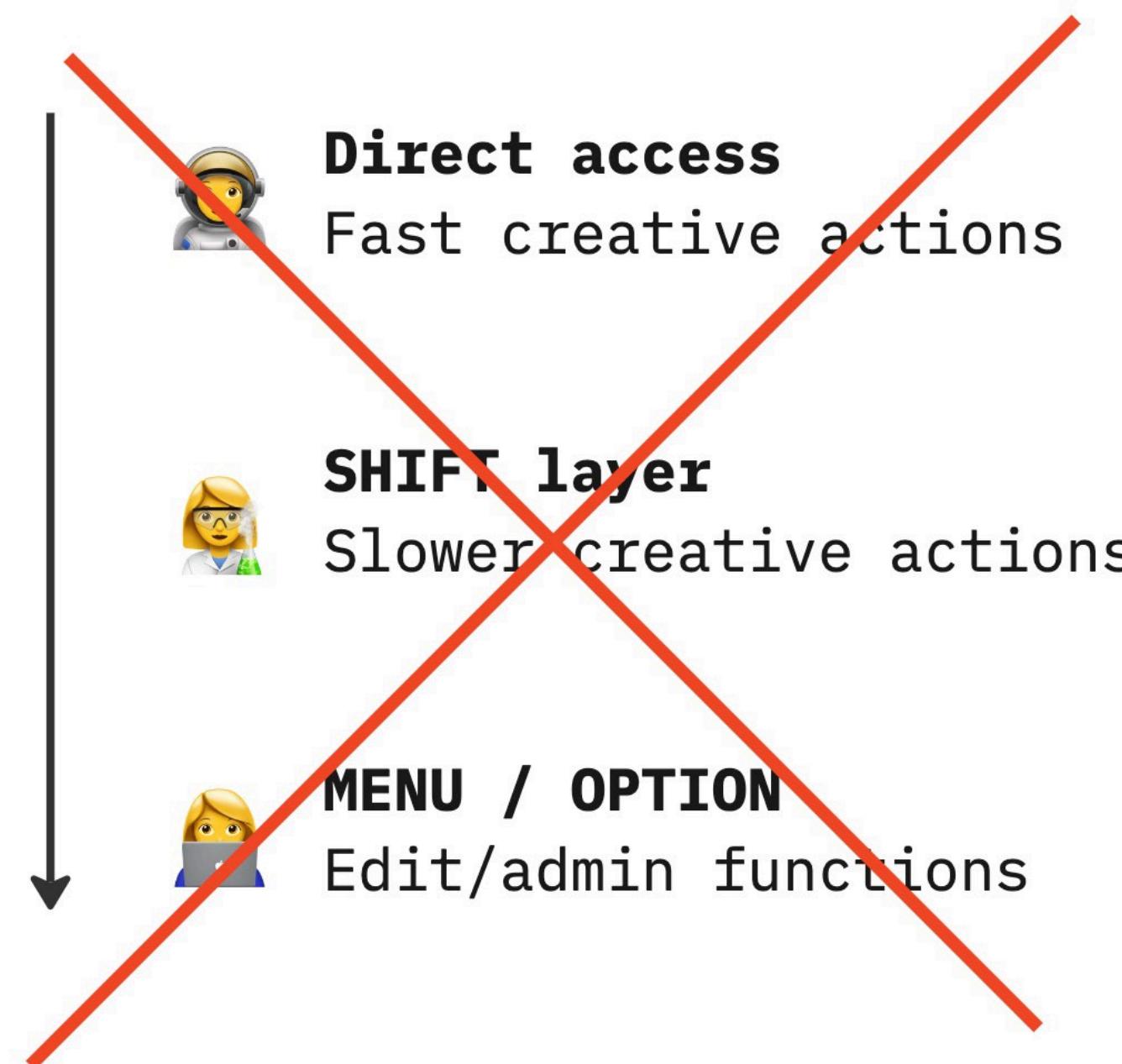
Generally, each hardware button corresponds to...

- a *view* (Ideas, Settings, Scene, etc)
- a *mode* (Pitch, Perform, Keyboard, Step, etc)
- or a *global action* (Play, Rec, etc)

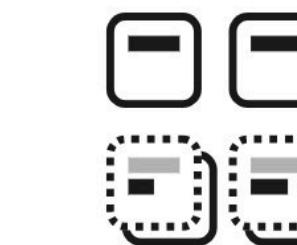
For every View and Mode there are specific actions or settings. These are accessible on the eight soft buttons above the screen.

## Why introduce a Context Menu?

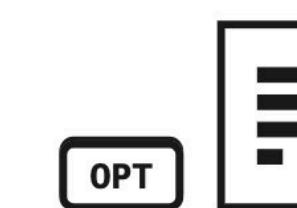
1. Some hardware buttons are only used for global settings (eg. Swing). If only set or adjusted once or twice per project, they don't require direct access - they'd more logically live under project settings. These **hardware buttons could be removed or assigned to more creative functions**.
2. Some views could logically be merged into other views (eg. Channel: Input/Output into Mixer view, and Groove into Plugin view). This would **simplify the architecture** (less views) and **free up hardware buttons** for more creative functions.
3. We only have maximum 16 slots per View/Mode for contextual functionality.  
(ie. screen buttons: 8 direct access, 8 shift layer).  
Both creative/flow actions and more admin functions exist in these slots, and the placement is inconsistent. A context menu would be the default location for all non-creative/non-flow actions, opening up the **soft buttons for only creative/flow actions**, with consistent placement.



**Direct access controls**  
Core actions and workflows



**SHIFT layer**  
Alternative button-specific functionality

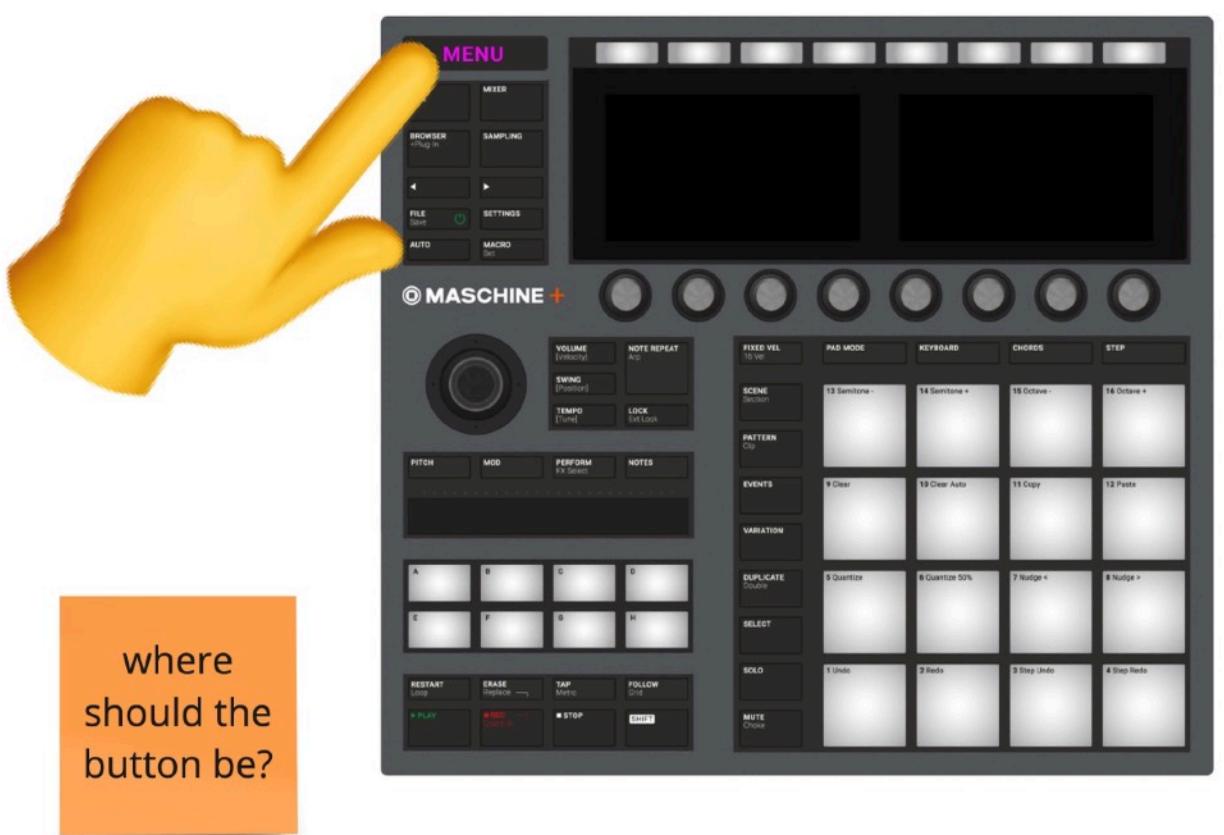


**OPTION**  
All other functionality, organised by View

## How do I open the Context Menu?

### Option 1:

Press a [MENU] button  
(we add a new button)



means heavy commitment to Context Menu feature.

muscle memory

### Option 2:

Press a combination of (existing) buttons

SHIFT + Select?



saves us from heavy commitment to Context Menu feature

should be close for one-hand operation



muscle memory

natural progression from Shift layer

### Option 3:

Touch the screen

Two/three-finger tap?  
Swipe from edge/corner?



relies on touchscreen

could be an additional way, as well as button(s)

## Proposal 2023-05-27

In a nutshell / as a user:

- I press SHIFT to access secondary functionality of hardware buttons and screen buttons.
- I press OPTION to access further functionality and settings relating to the current View.

Decision / commitments at this point:

- We keep the SHIFT layer and button.
- We call the context menu OPTION.
- The OPTION layer functionality is View-specific (not element specific).
- We **do** add a new hardware button for OPTION, but add a SHIFT function to a nearby button (propose: Select)

Known open questions / work to do / rabbit-holes:

- UI (at design-system level) for OPTION layer.
- Structure of OPTION list - vertical/horizontal, groups, nested, etc.
- Use/role of touch interactions for OPTION layer.
- How does current focus (eg. Scene, Pattern) respond to or influence OPTION-layer functionality.
- Make second-layer functionality more visible/discoverable in general, across the design system (concerns Kontrol also).
- Press-and-hold might also be a viable interaction to activate the OPTION layer.
- We still need to list the extended functionality and settings for each View.
- We are not yet sure exactly what the consequent structural changes will be.





Thanks !

Detail/case studies on request  
→ ant @ ajo.design