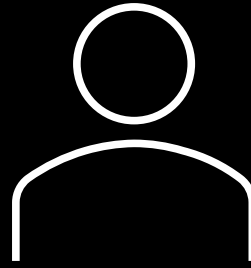


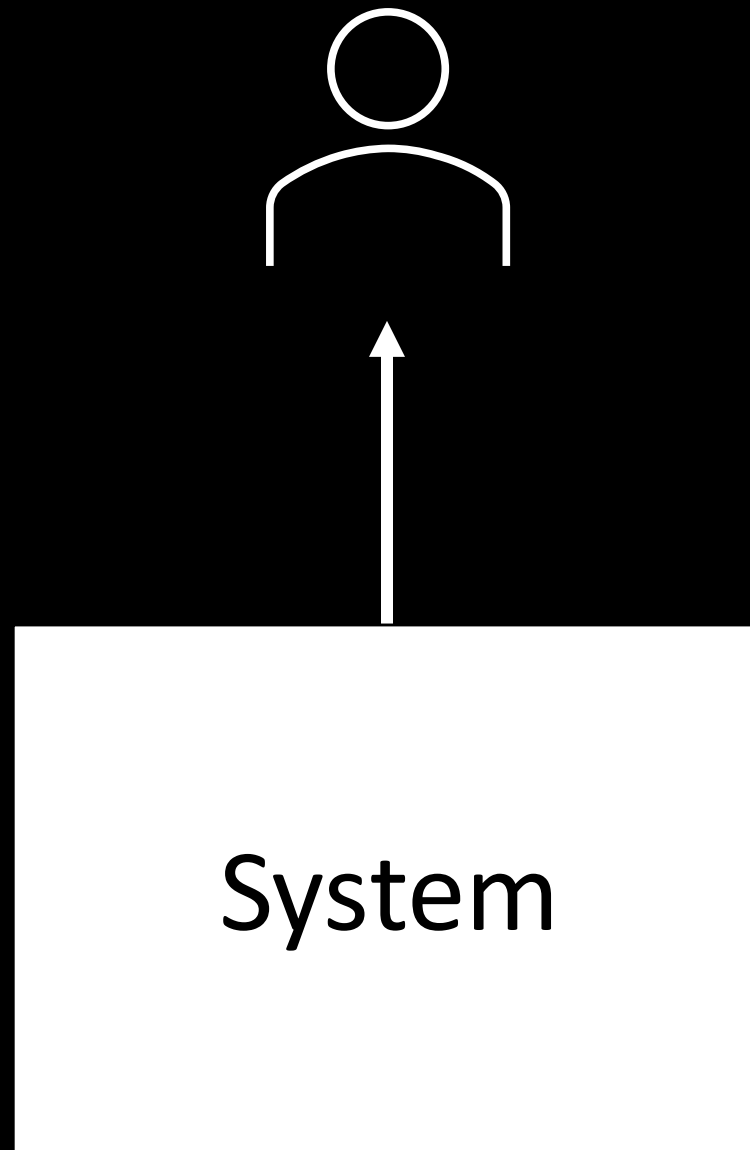
Undo – so you want to rewrite
history?

Pieter Herroelen

System



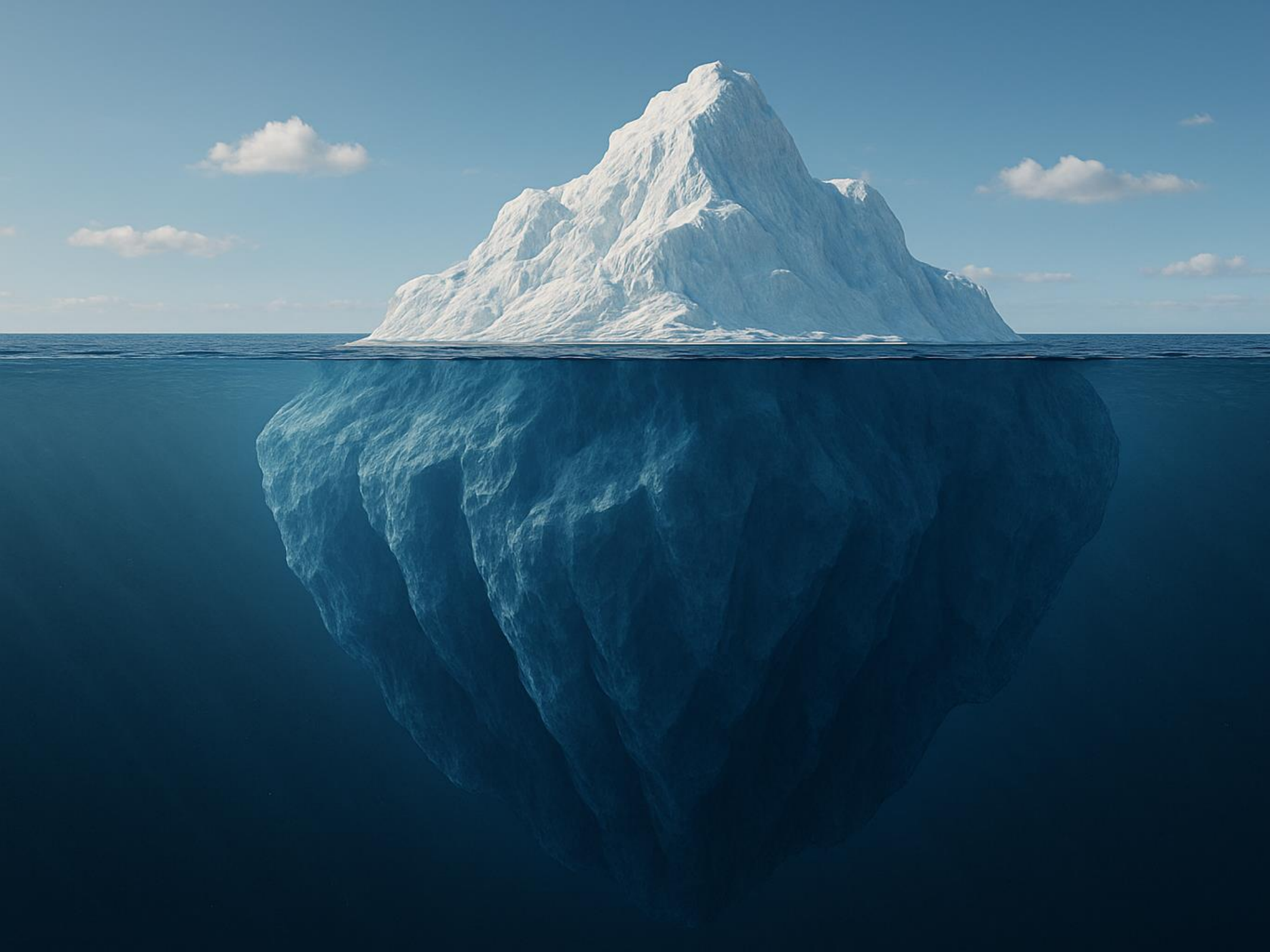
System



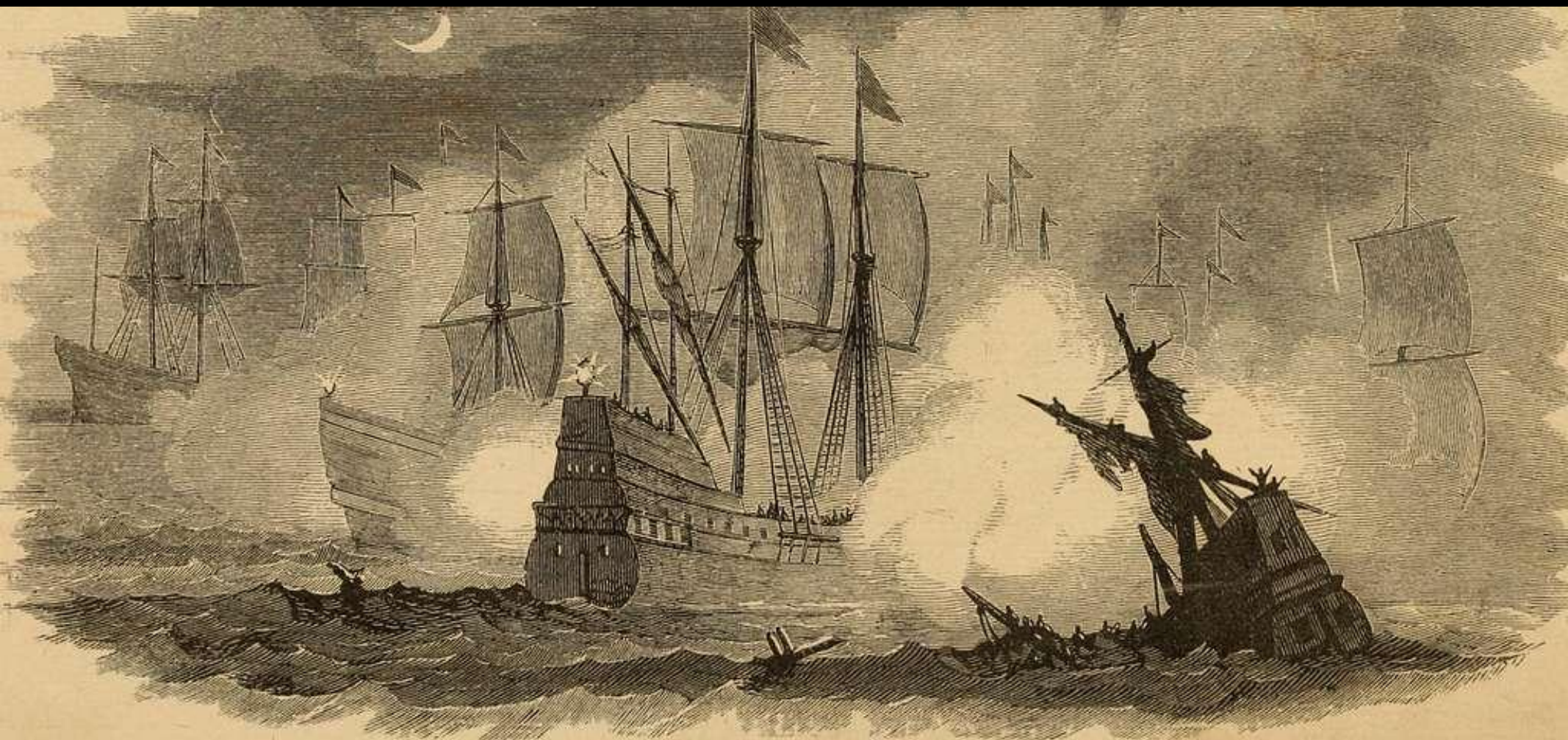


A close-up photograph of a black puppy lying on a light-colored, textured carpet. The puppy's head is resting on the carpet, and it is looking directly at the camera with large, wide, and pleading eyes. The puppy's fur is short and black. The background is slightly blurred, showing more of the carpet and a dark surface in the distance.

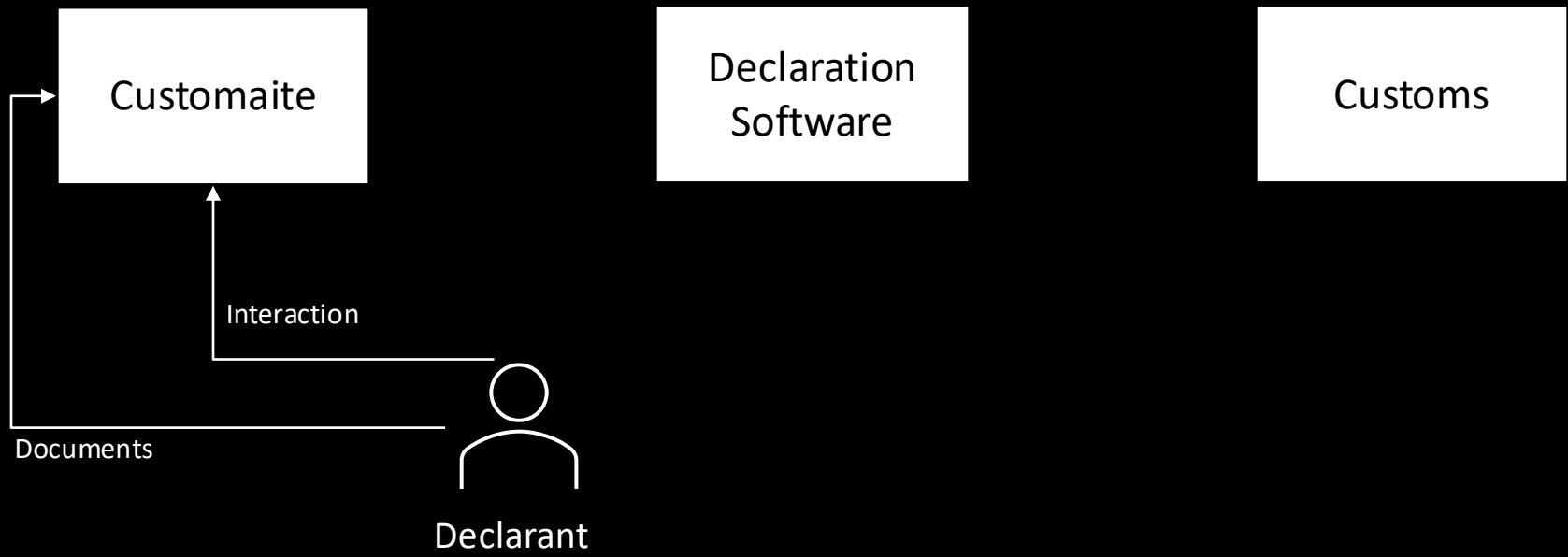
Undo please?

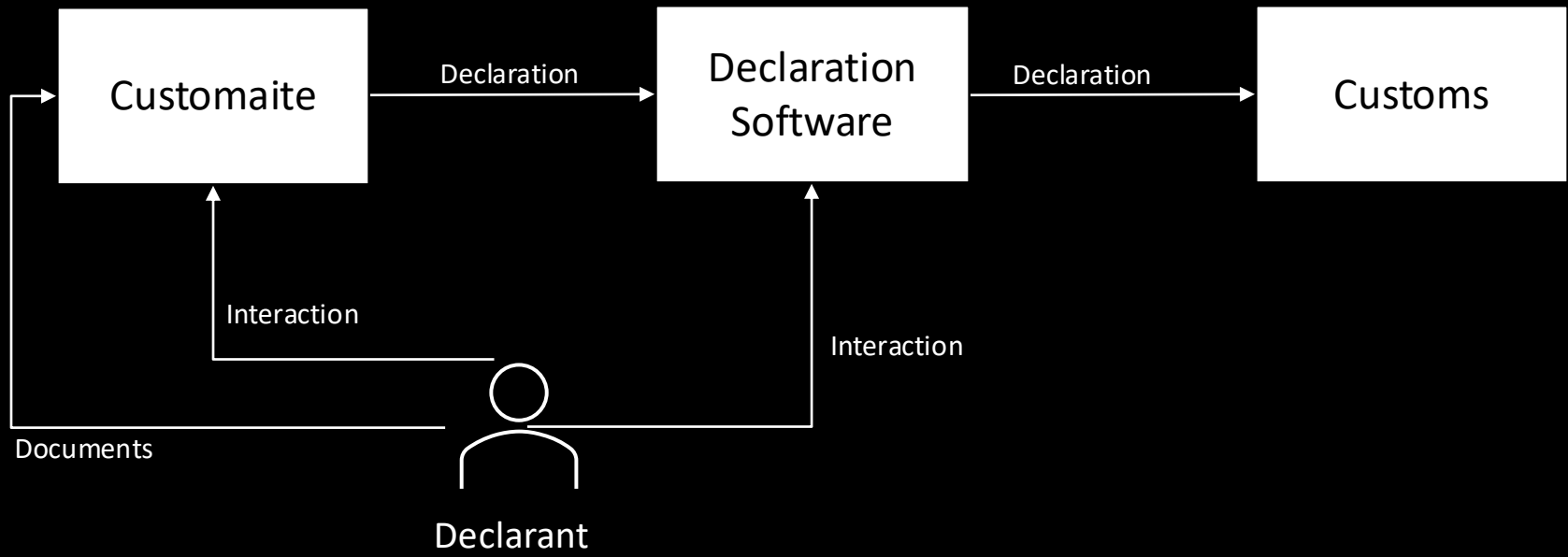


Pieter Herroelen









- Requirements
- Implementation
- Profit



- **Requirements**
- Implementation
- Profit

UX patterns for navigating time





1 of 2

Printer: EPSON231B1C (Epson Stylus NX...

Presets: Default Settings

Copies: 1

Pages: All

From: 1 to: 1

Paper Size: US Letter 8.50 by 11.00 inches

Orientation: Portrait Scale: 100 %

Print Settings

Media Type: Plain Paper / Bright White Paper

Print Quality: Normal

☐ Borderless

Expansion: Max

☒ Grayscale

☐ Mirror Image



PDF

Hide Details







Cancel

Print





Versions

Select	Version	Date	Changed By	Status	Comment	Actions
<input type="checkbox"/>	current (v. 55)	22 May, 2025				
<input type="checkbox"/>	v. 54	22 May, 2025				Restore · Delete
<input type="checkbox"/>	v. 53	21 May, 2025				Restore · Delete
<input type="checkbox"/>	v. 52	07 Feb, 2025				Restore · Delete
<input type="checkbox"/>	v. 51	10 Jan, 2025				Restore · Delete
<input type="checkbox"/>	v. 50	18 Dec, 2024				Restore · Delete



AUTODESK Fusion

Editable timeline

Timeline:

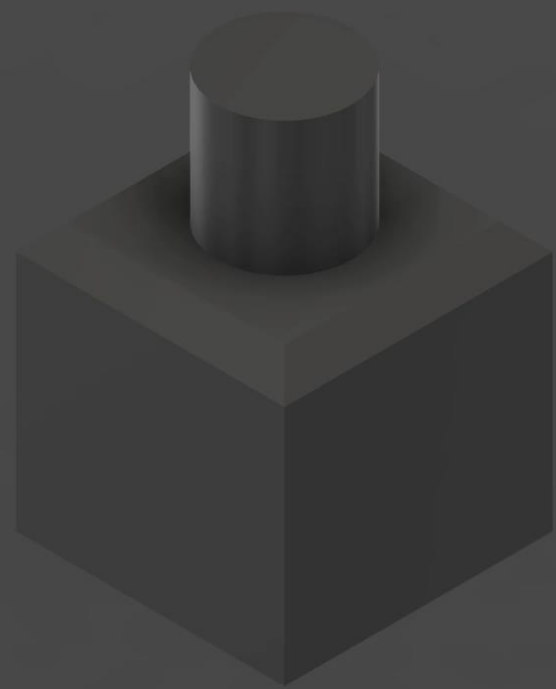
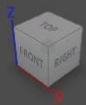
- Box created 20mm high
- Chamfered the top edge of the box
- Put a cylinder on top of the box

Then:

- Change the box to be 10mm high
- Remove the chamfer operation

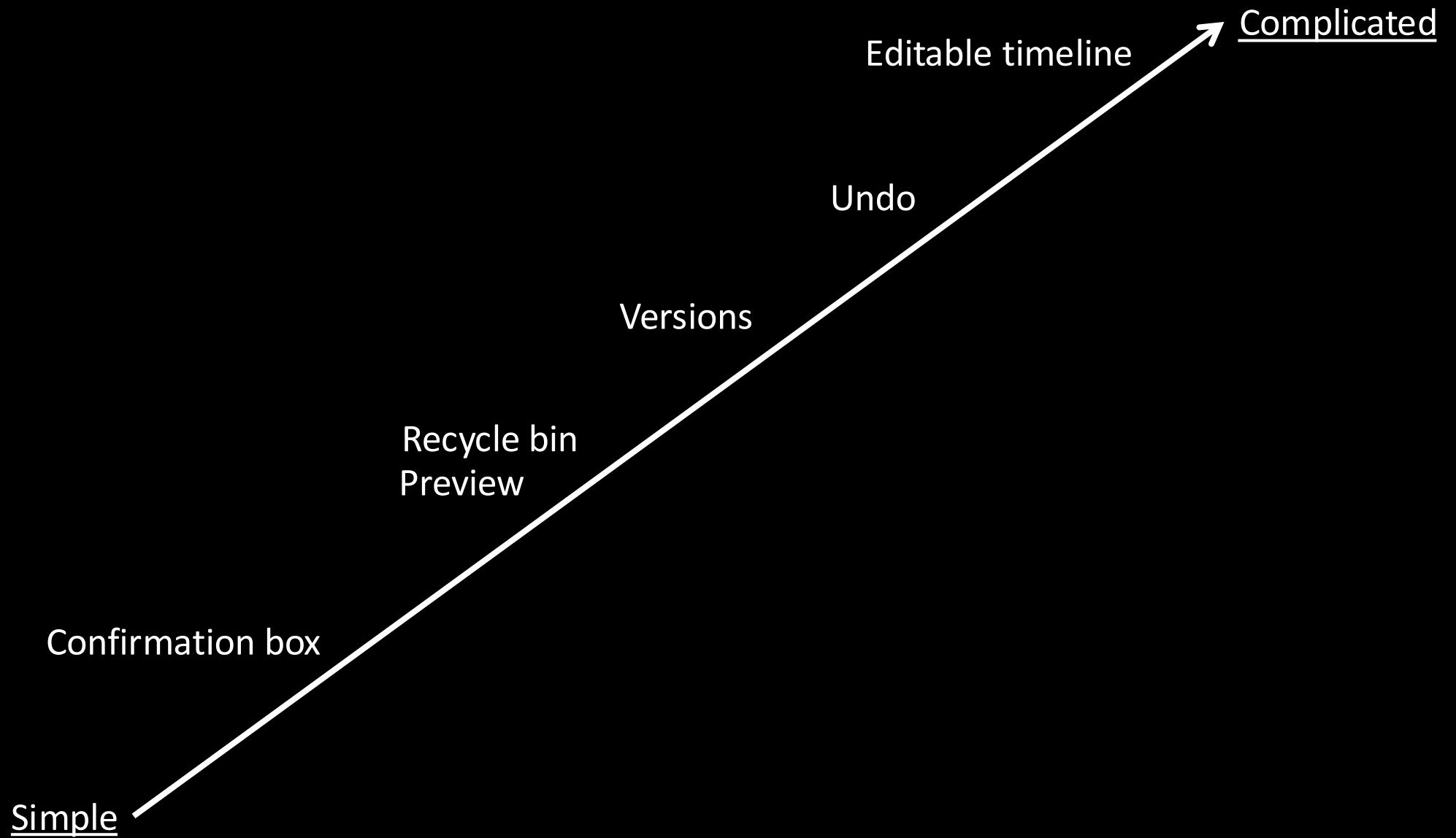
BROWSER

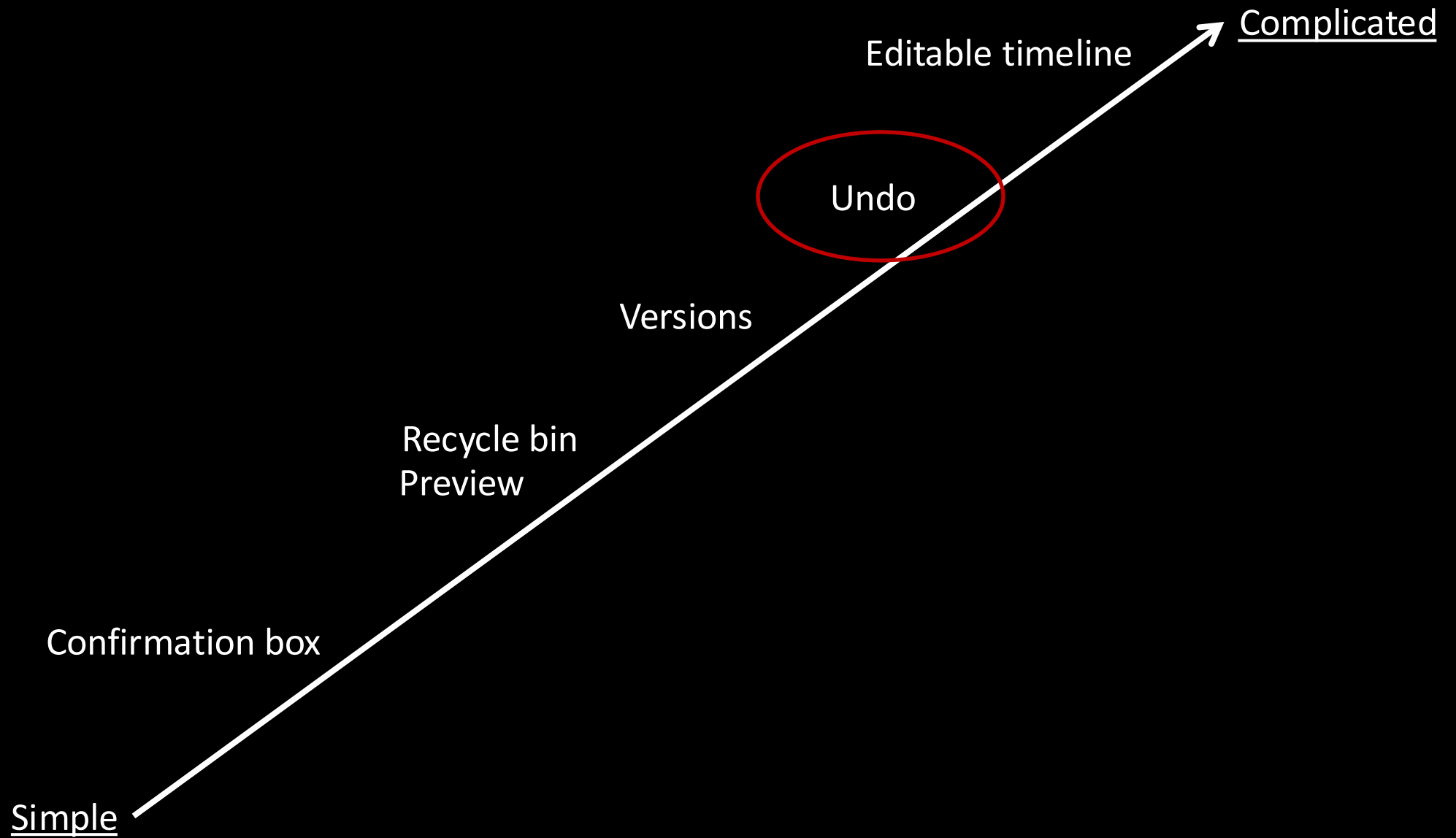
- Undo prez v1
- Document Settings
- Named Views
- Origin
- Bodies
- Body1



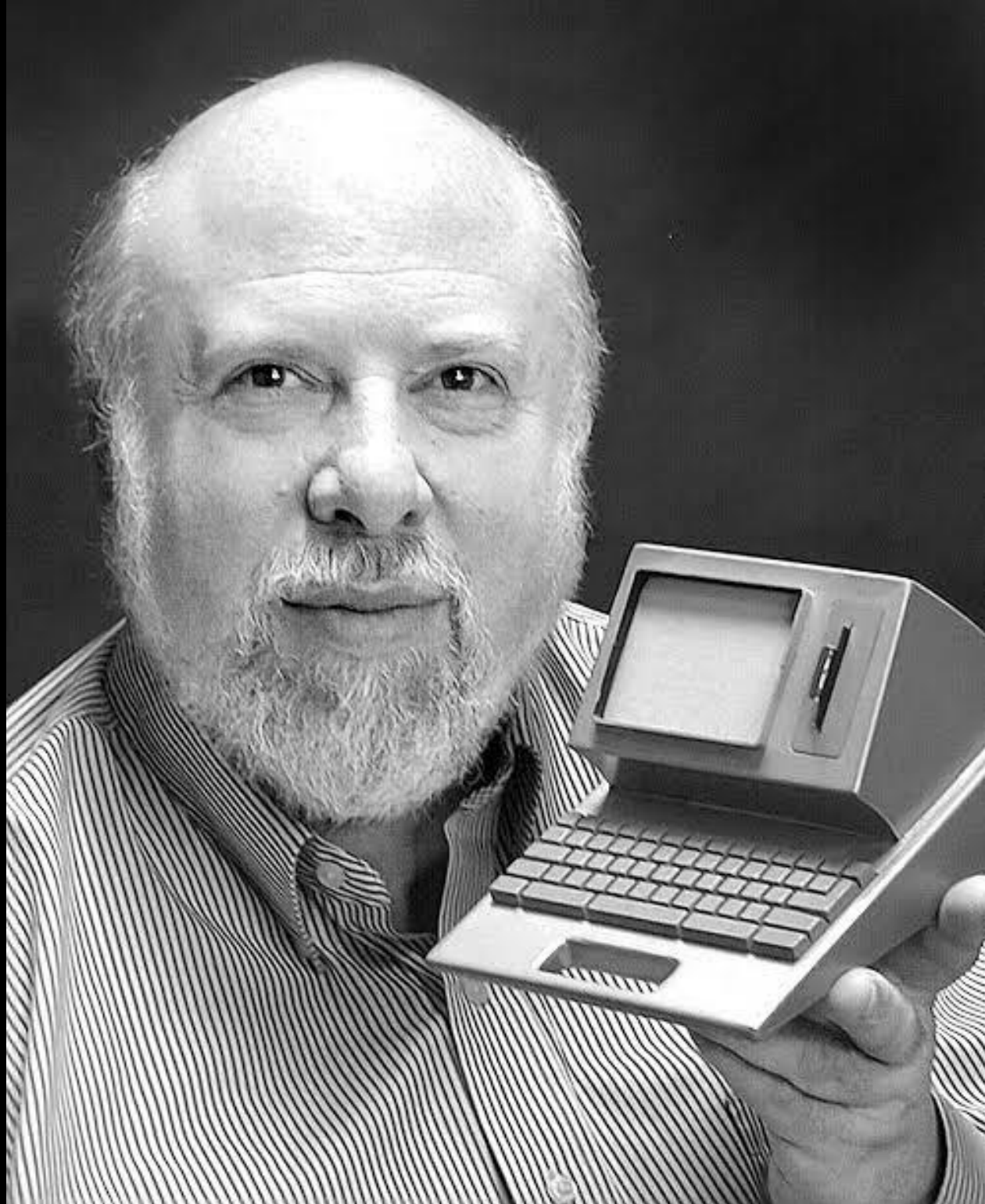
COMMENTS





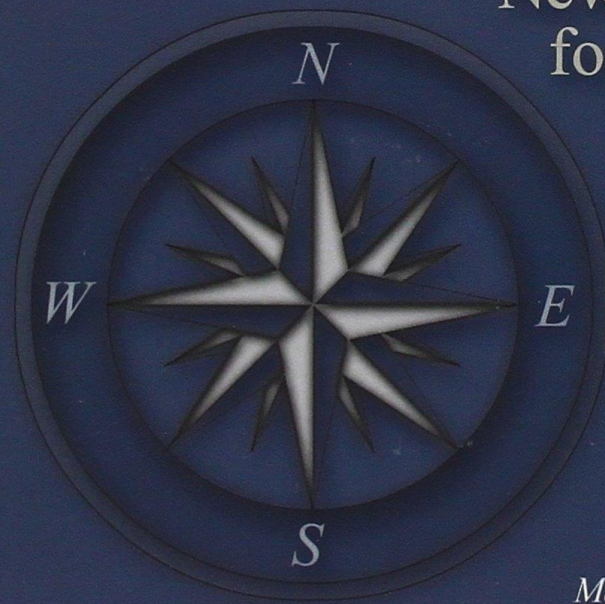


Principles



THE HUMANE INTERFACE

New Directions
for Designing
Interactive
Systems



*The creator of the
Macintosh goes beyond
today's graphic user
interfaces to show how
the Web, computers, and
information appliances
can be made easier to
learn and use.*

Jef Raskin

Universal



FEATURES

Universal



FEATURES
= UNDOABLE FEATURES

Multi-step



Redo



Discoverable

"Demo Document" was deleted.



Undo

- Requirements
- **Implementation**
- Profit

Snapshot based model

State v1

State v2

State v3

State v1

State v2

State v3

State v1

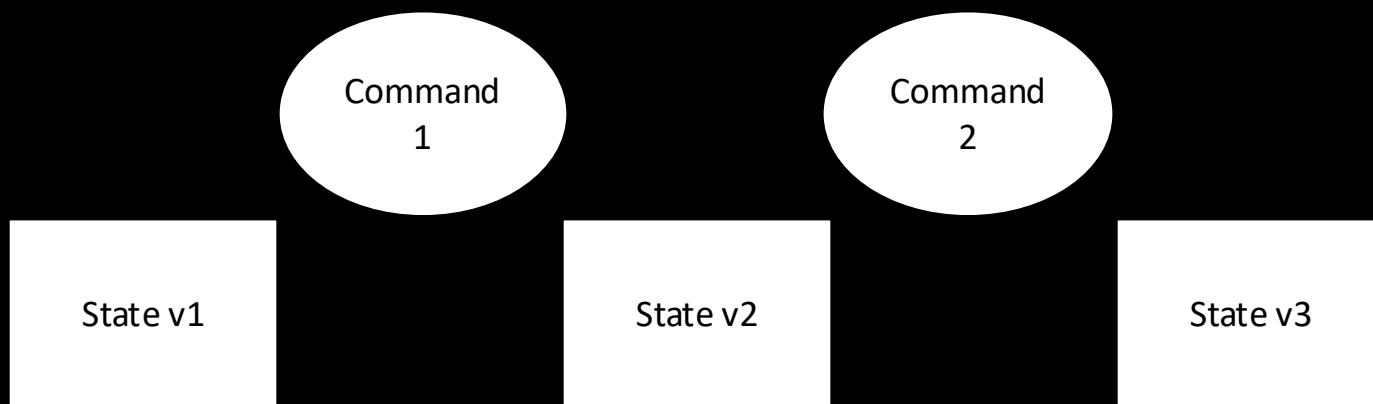
State v2

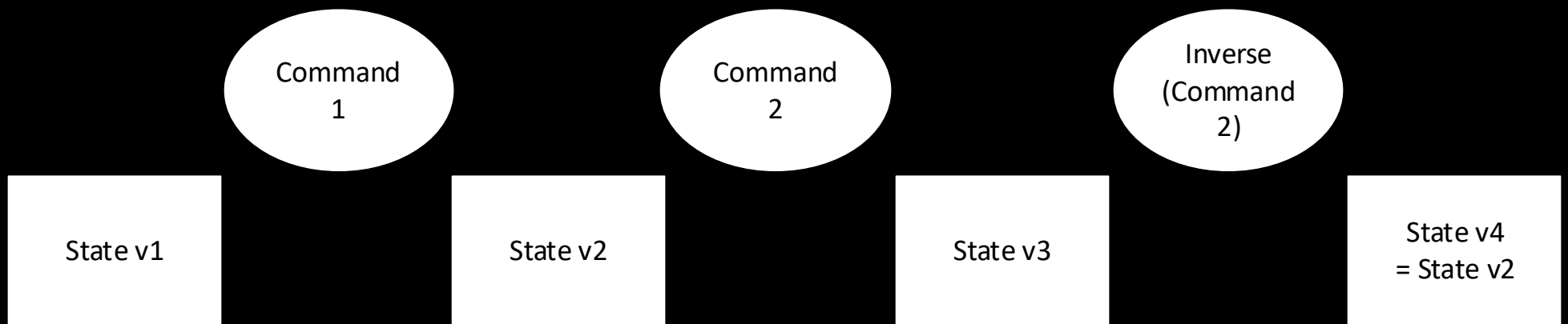
State v3

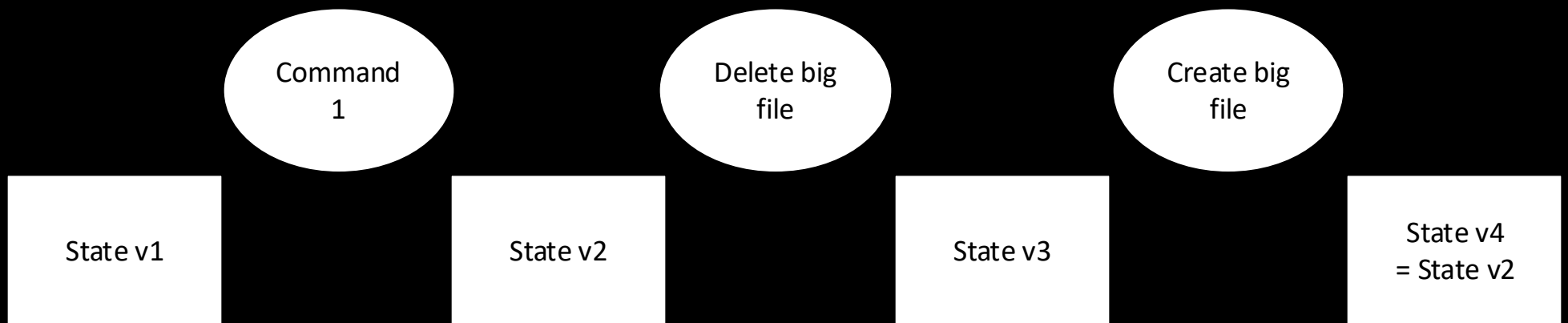
Undo

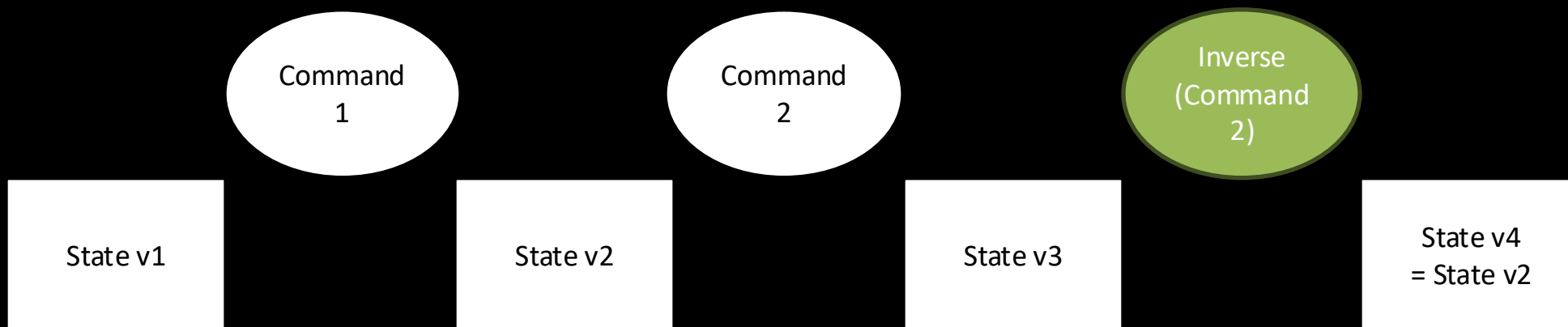
State v4
= State v2

Command based model









Undo

Command
1

Command
2

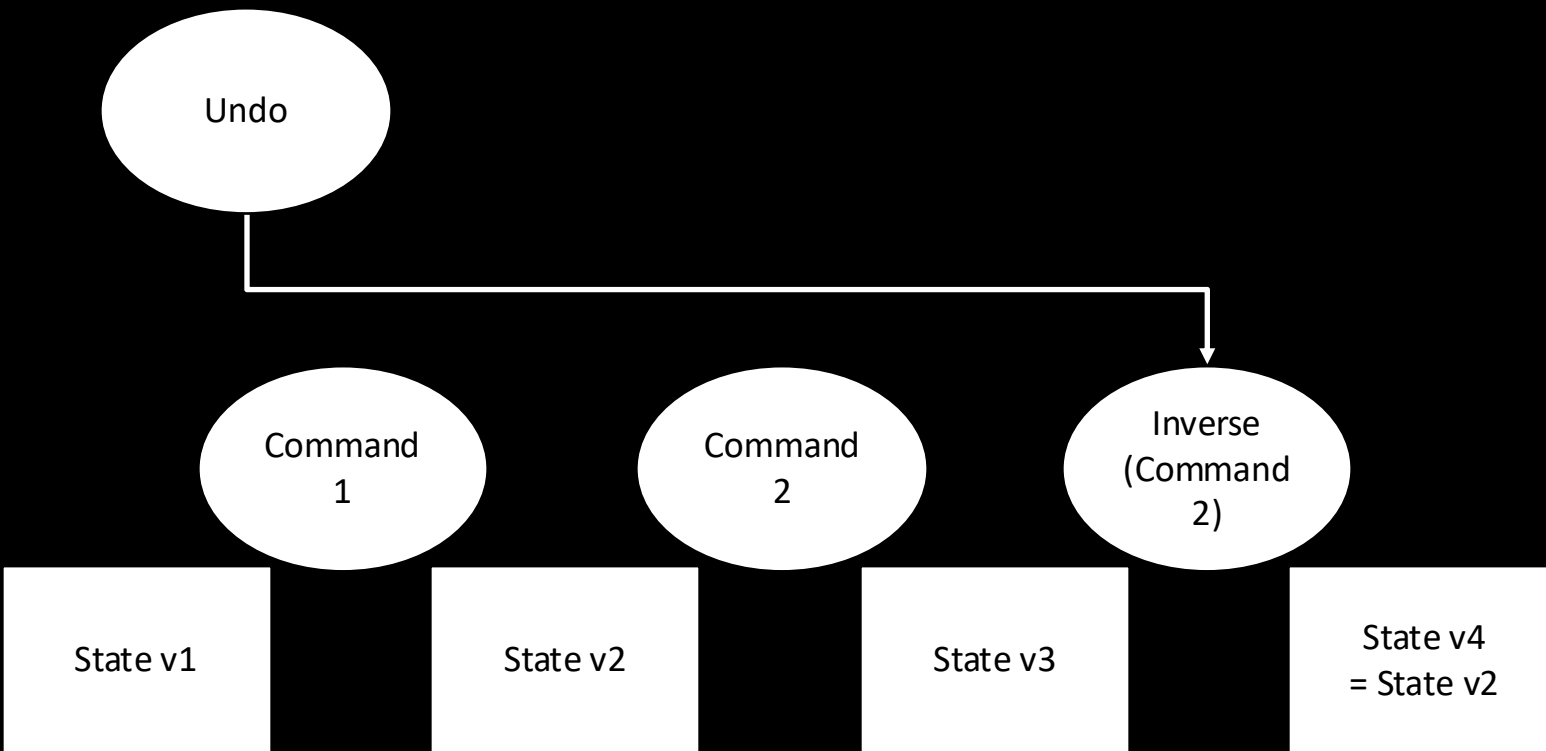
Inverse
(Command
2)

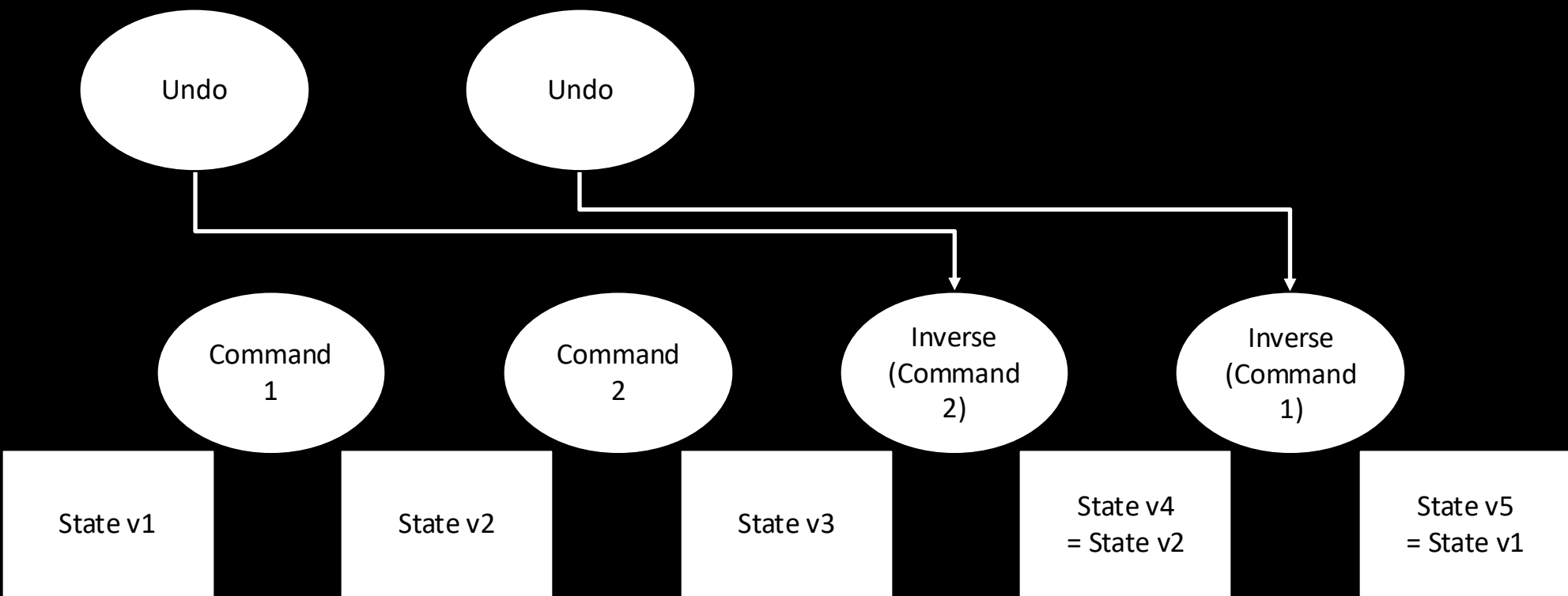
State v1

State v2

State v3

State v4
= State v2





Undo/redo stack

Undo

Undo

Command
1

Command
2

Inverse
(Command
2)

Inverse
(Command
1)

State v1

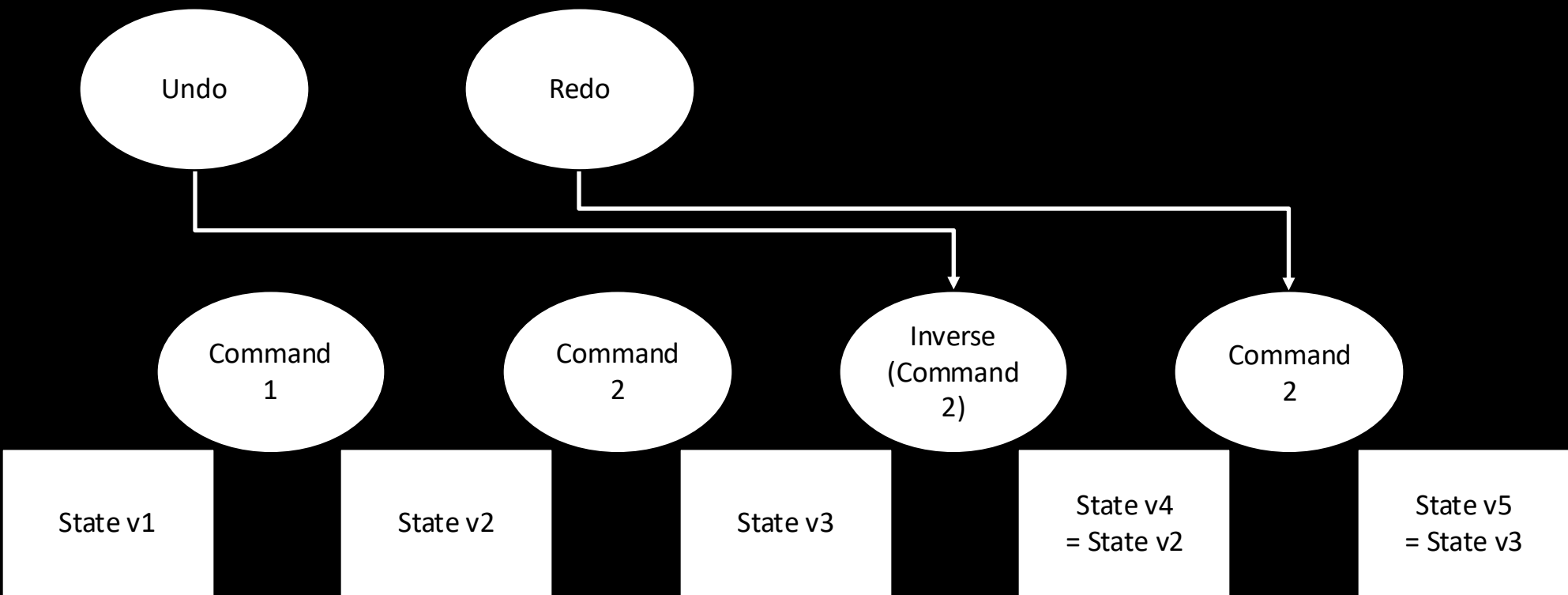
State v2

State v3

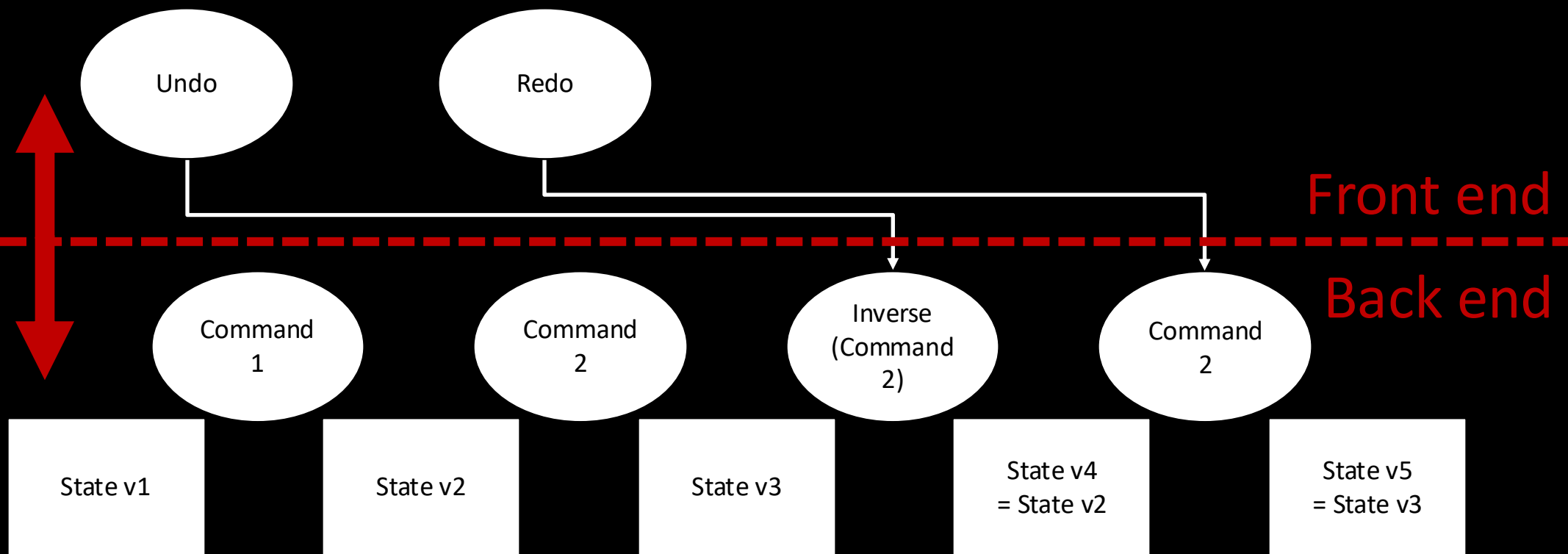
State v4
= State v2

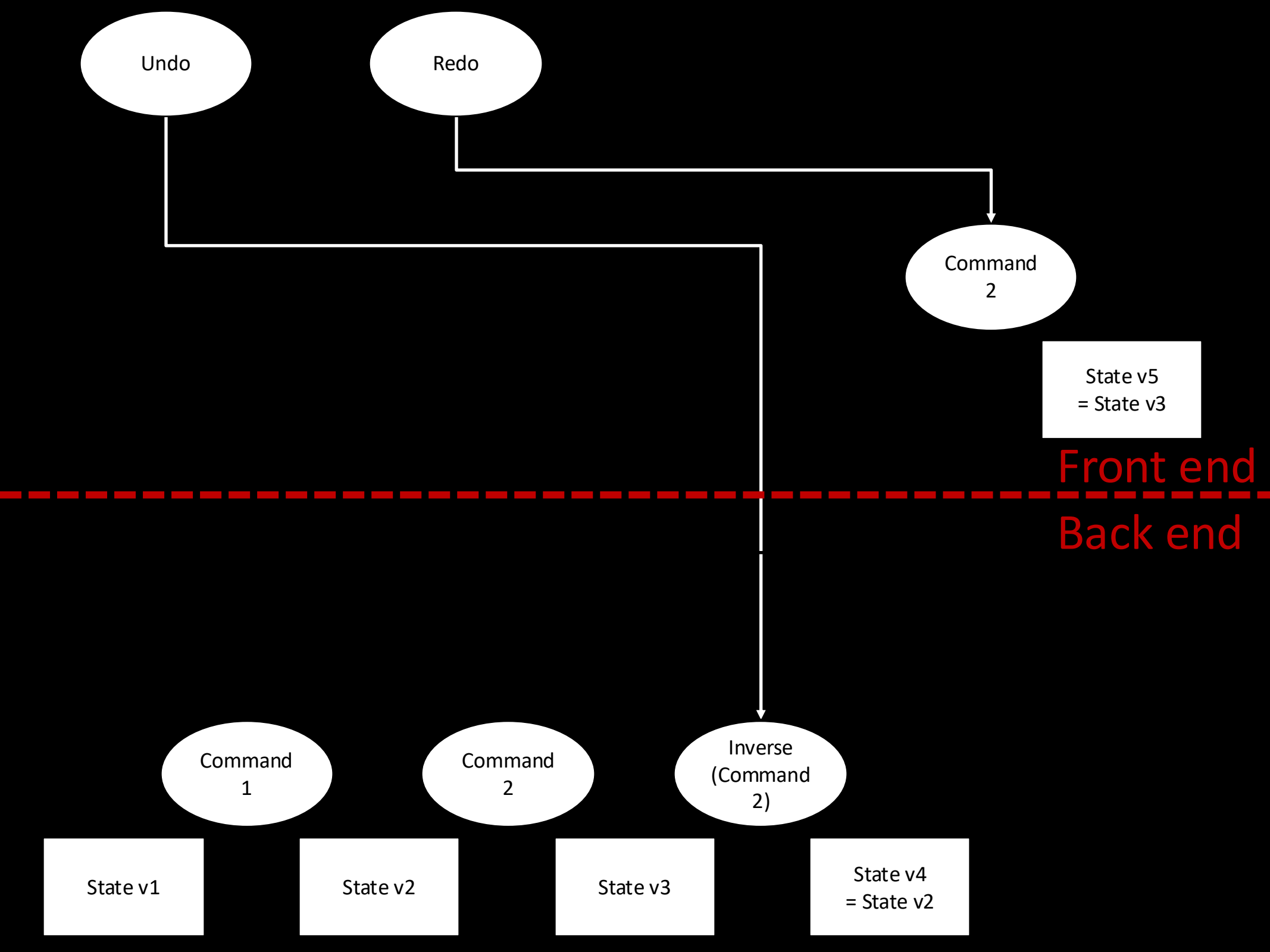
State v5
= State v1

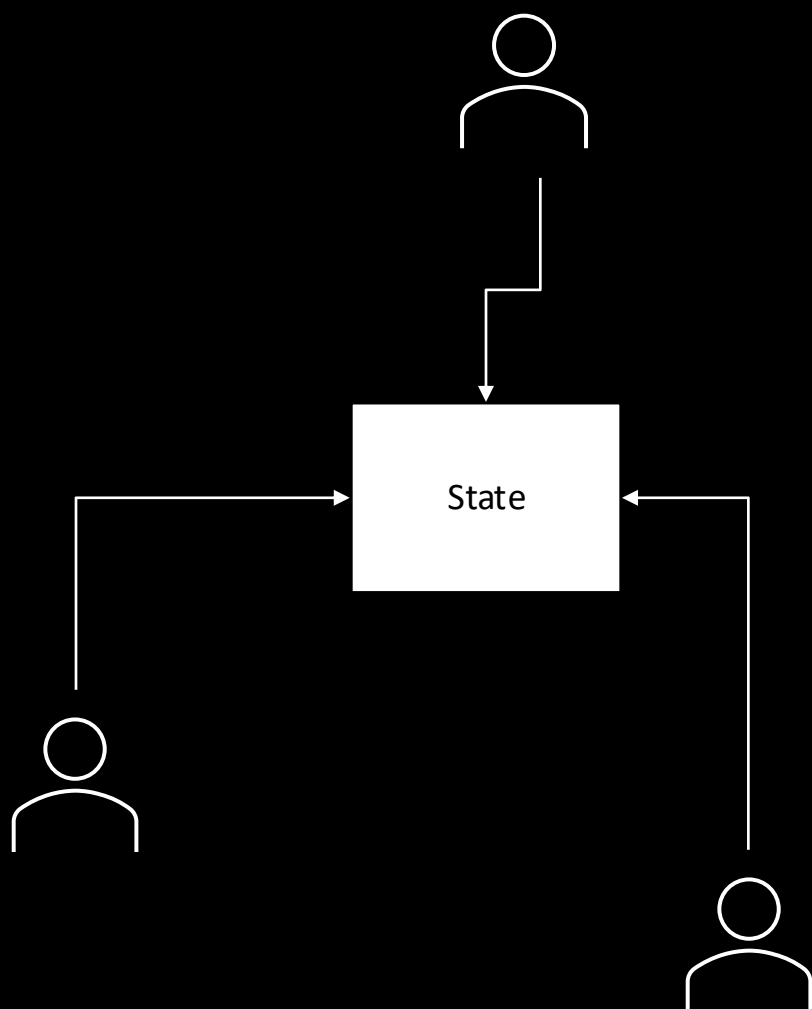










Where do you handle the concern?





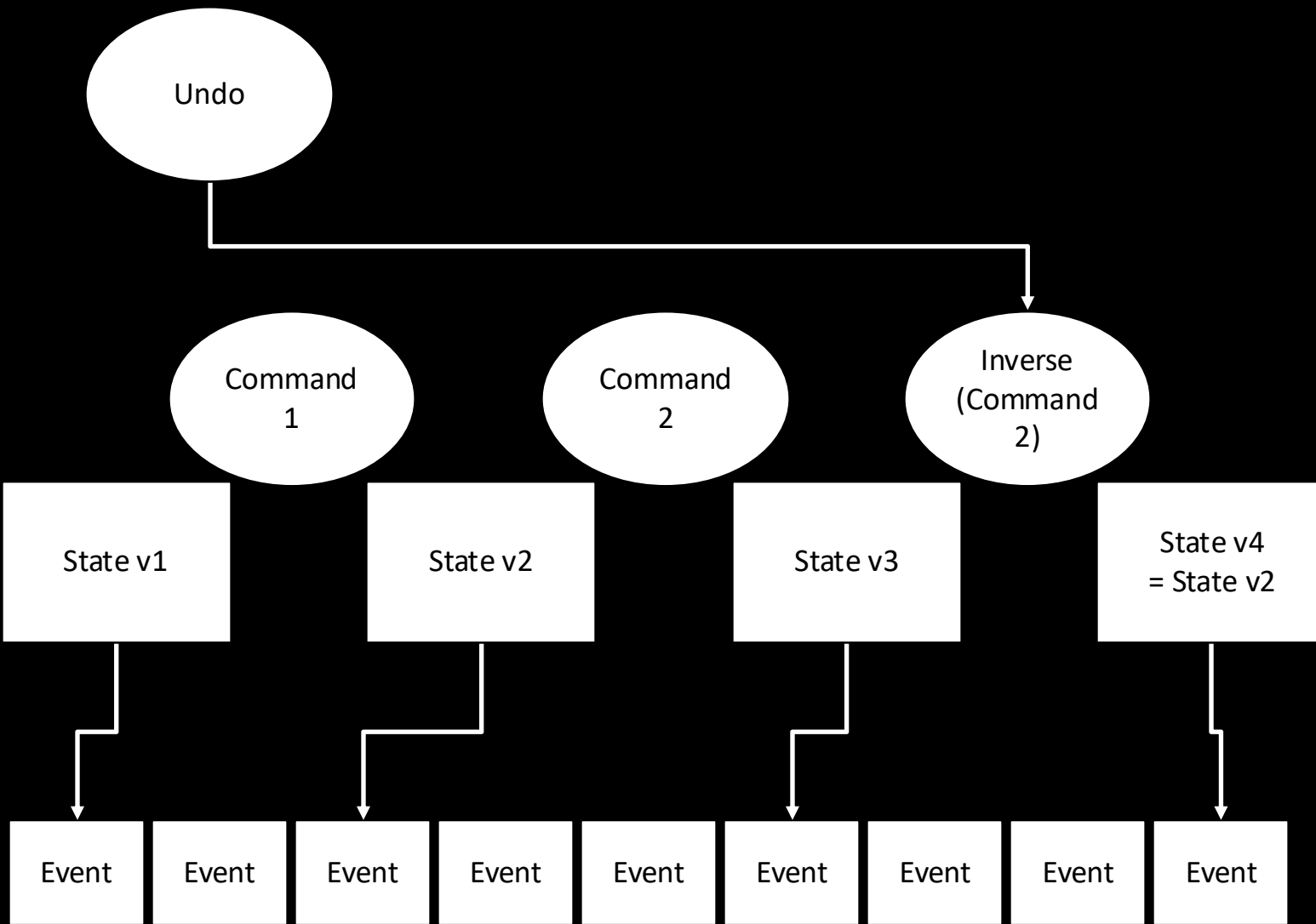


Versions

Select	Version	Date	Changed By	Status	Comment	Actions
<input type="checkbox"/>	current (v. 55)	22 May, 2025				
<input type="checkbox"/>	v. 54	22 May, 2025				Restore · Delete
<input type="checkbox"/>	v. 53	21 May, 2025				Restore · Delete
<input type="checkbox"/>	v. 52	07 Feb, 2025				Restore · Delete
<input type="checkbox"/>	v. 51	10 Jan, 2025				Restore · Delete
<input type="checkbox"/>	v. 50	18 Dec, 2024				Restore · Delete

Falsehoods Programmers Believe About ~~Names~~ Event Sourcing

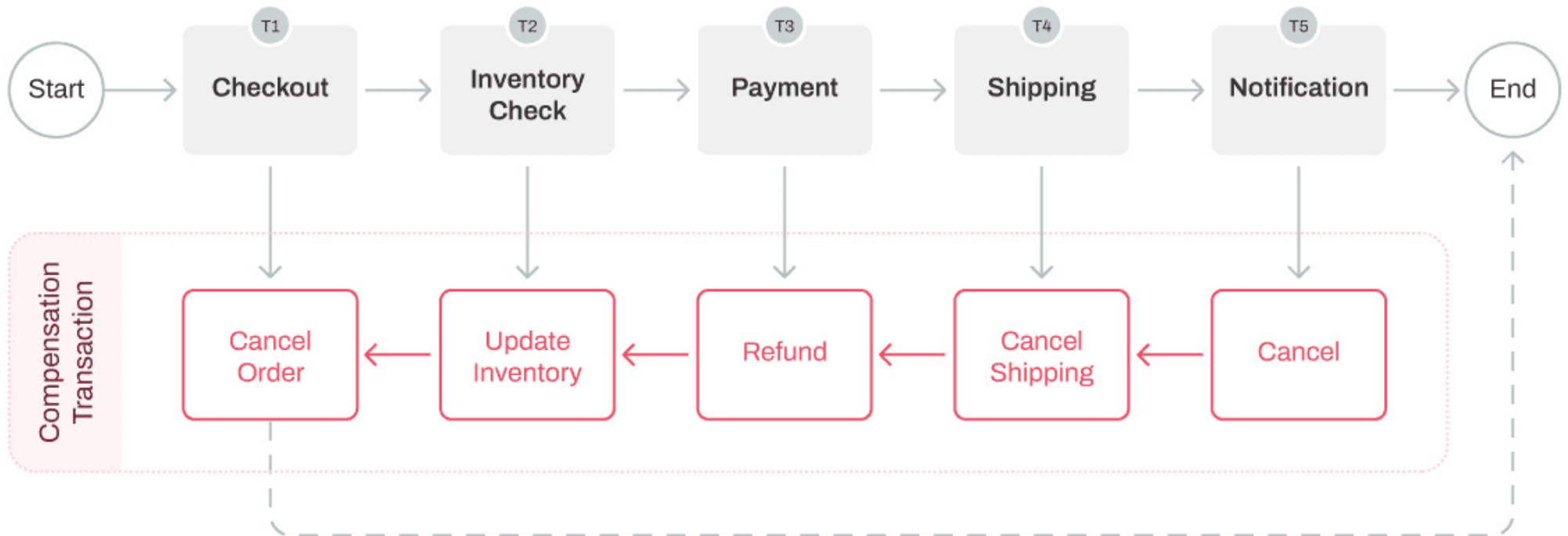
[Readers have translated this essay. You're welcome to translate it into any



Cascading consequences

Compensating actions

Saga pattern



Untangling Consequences

By
Cyrille Martraire



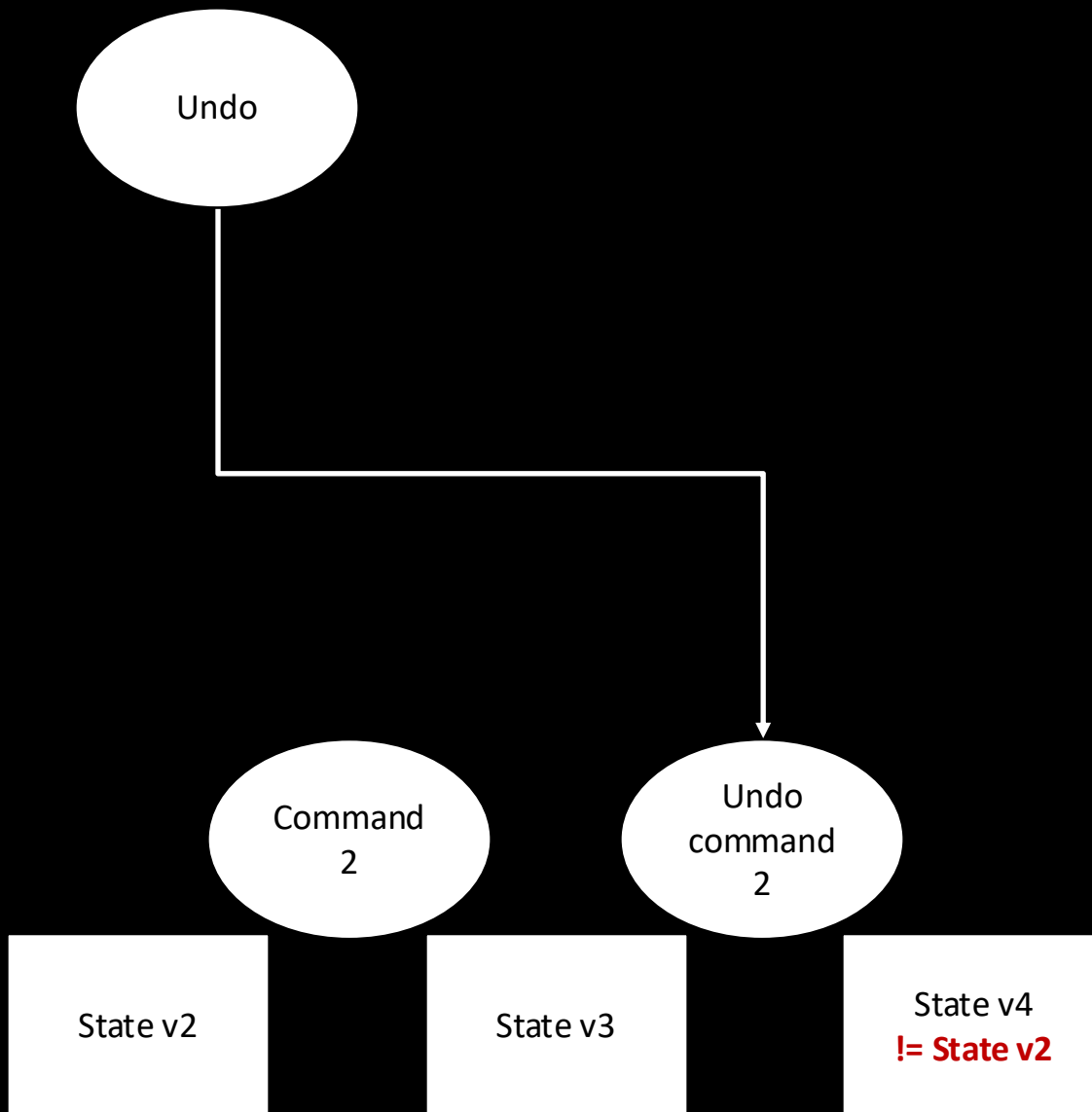
Partial undo

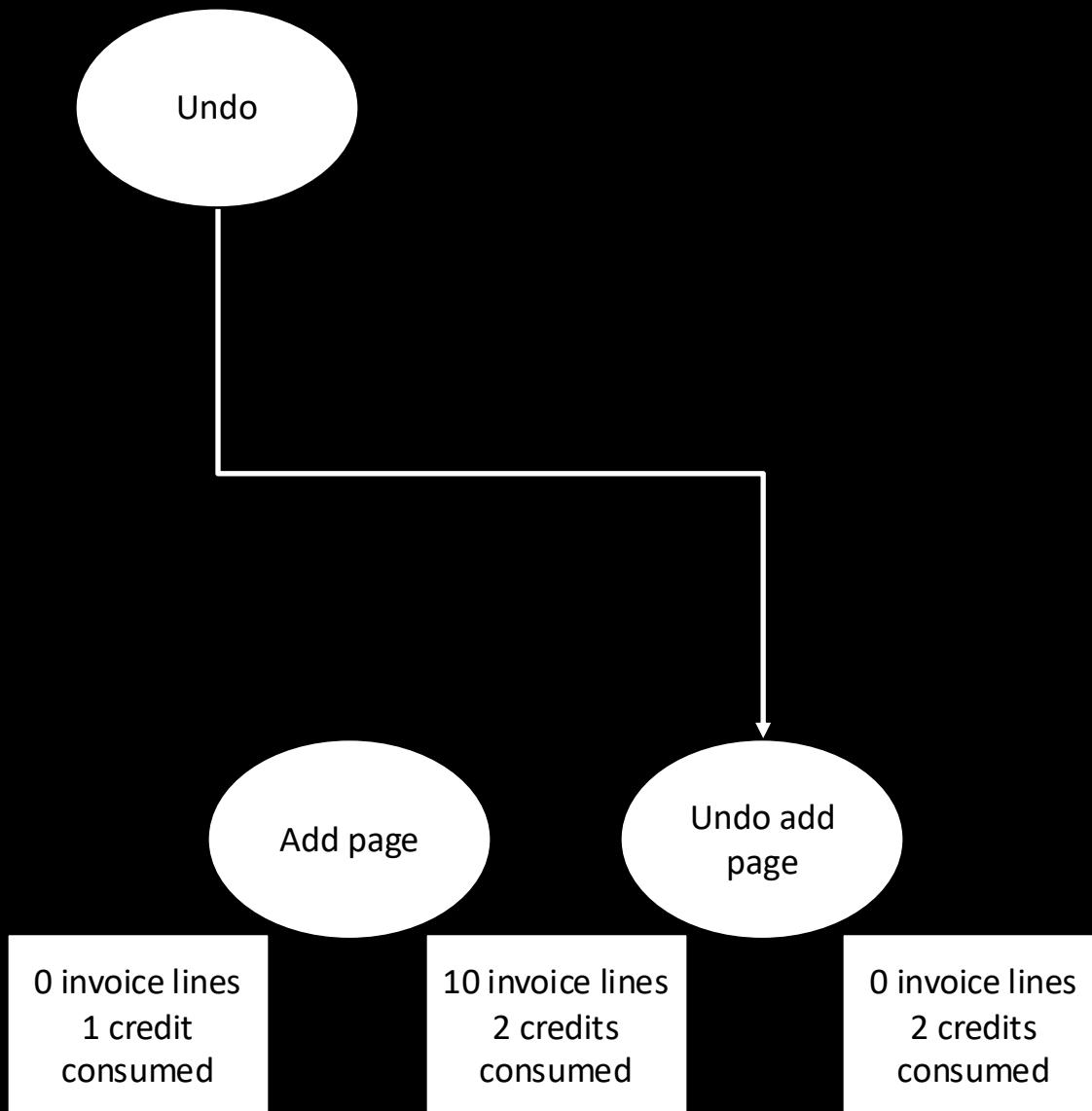
🔒 *This message was deleted*

🔒 *This message was deleted*

🔒 *This message was deleted*

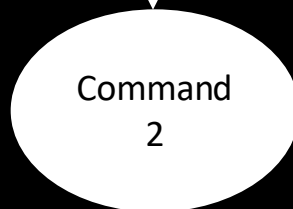
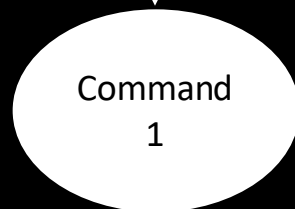
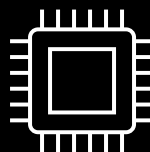
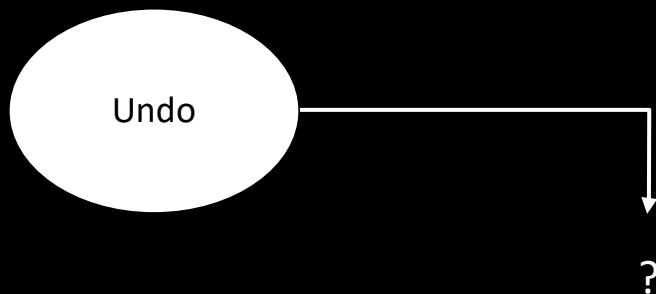
**Work has been done, needs to be
paid**

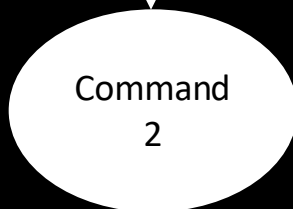
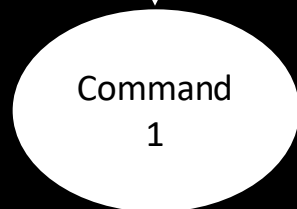
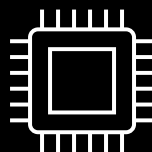
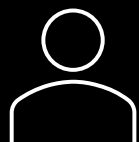
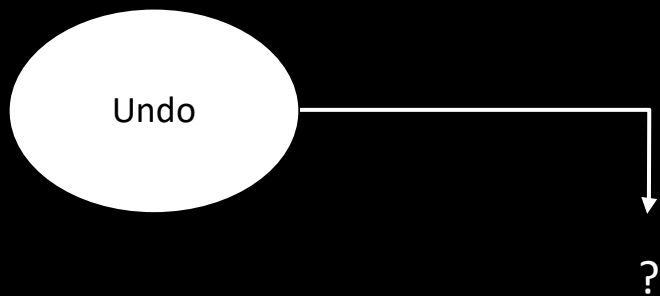




Self-imposed limits



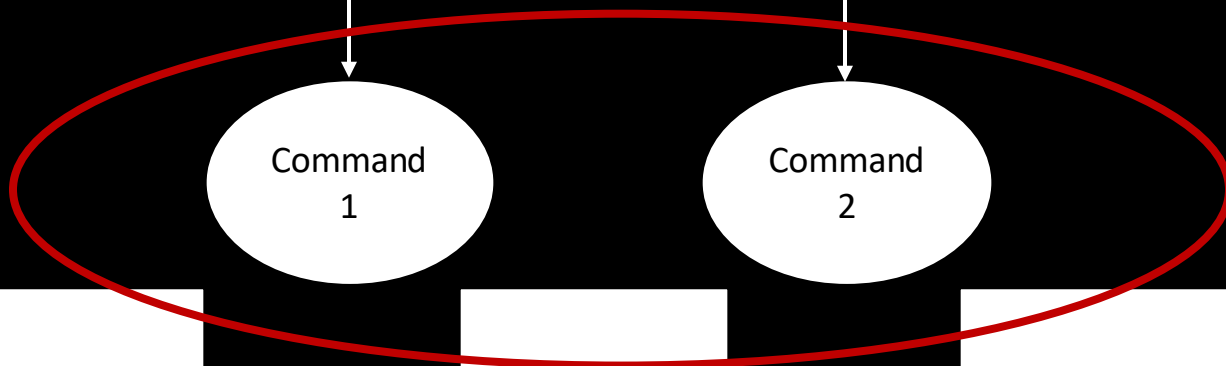
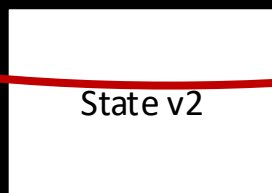
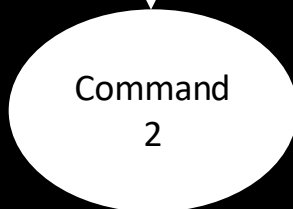
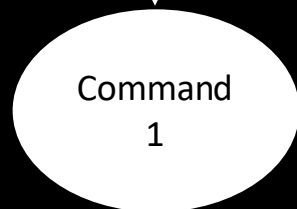
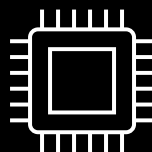
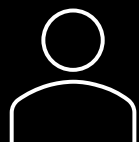
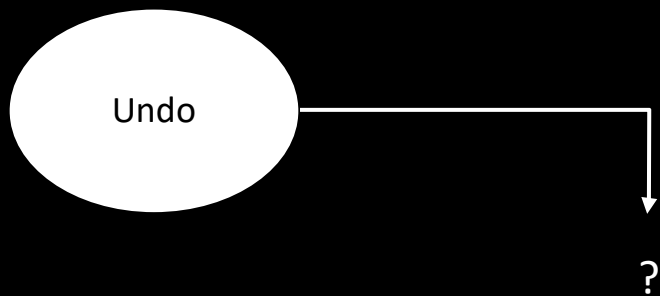




State v1

State v2

State v3



- Requirements
- Implementation
- **Profit**

The purpose of abstraction is not to be vague, but to create a new semantic level in which one can be absolutely precise.

-- Edsger Dijkstra

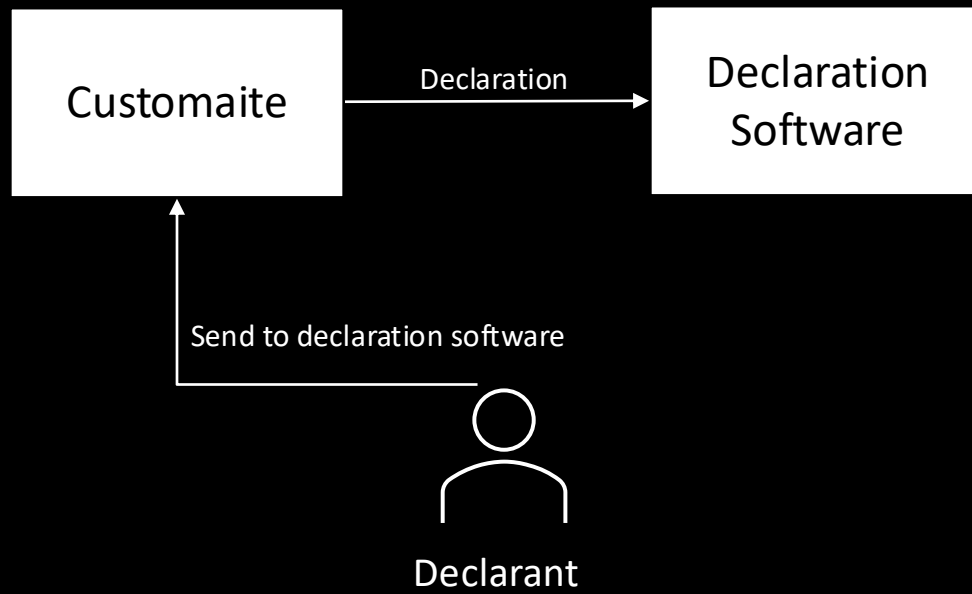
A diagram illustrating a feedback loop. It features two large, white, curved arrows on a black background. The arrow on the left starts from the bottom and curves upwards and to the right. The arrow on the right starts from the top and curves downwards and to the left. These two arrows meet at the center, where the text "feedback loop" is written in a white, sans-serif font.

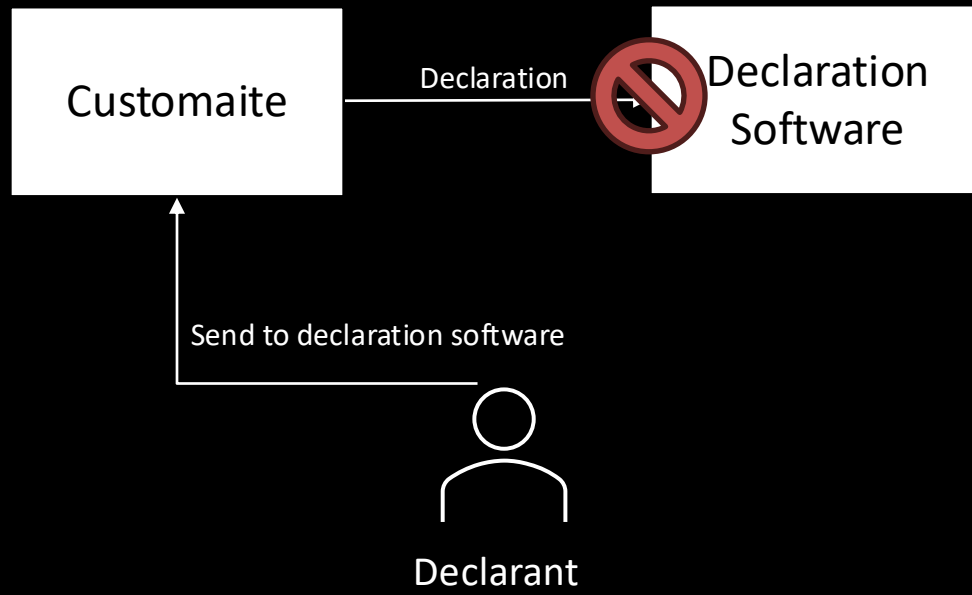
feedback loop

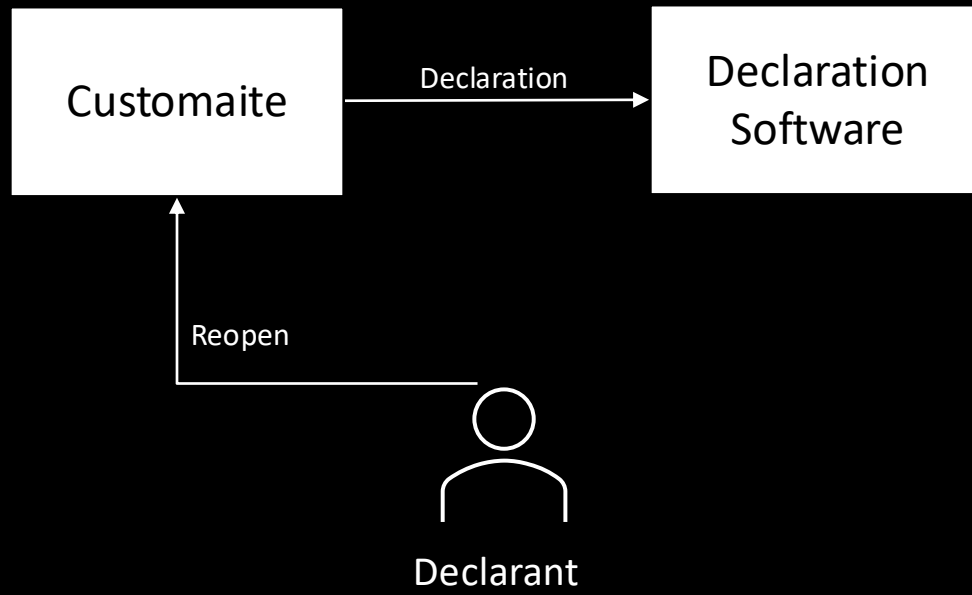


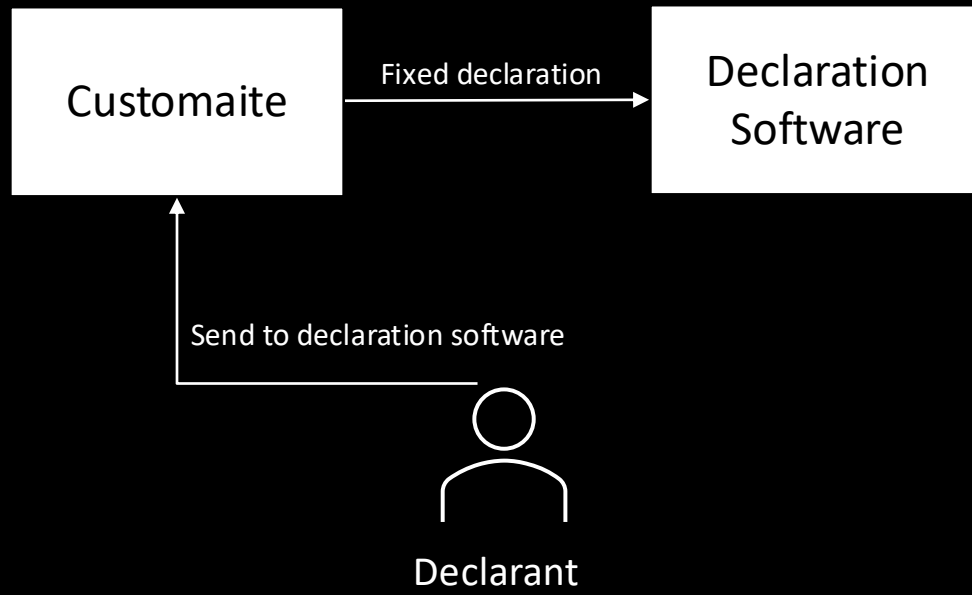
USERS, UH, FIND A WAY

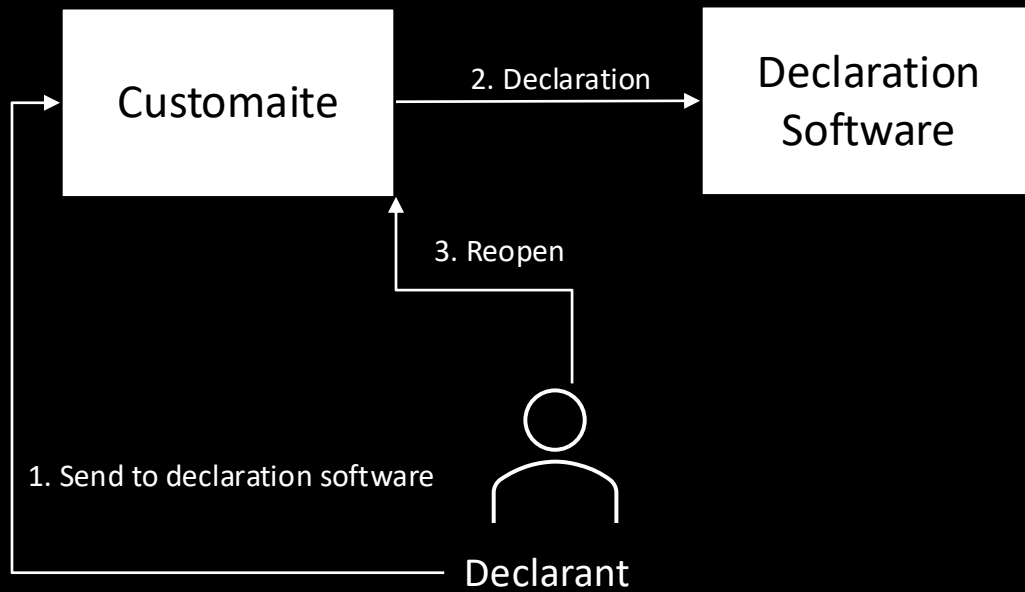
imgflip.com

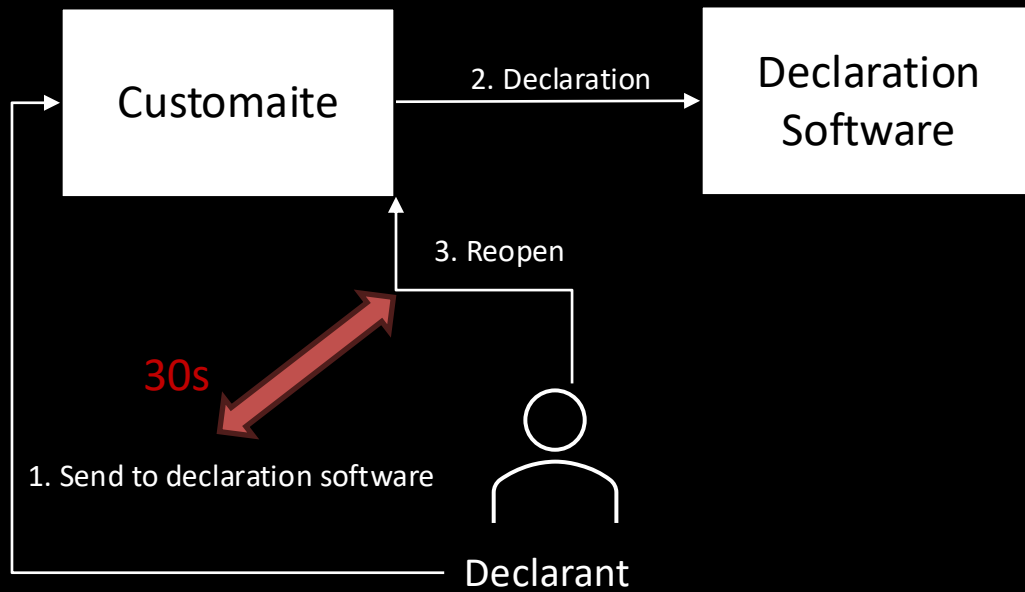












Build humane systems

Thanks.