What Is a Diagram For When It Is Not Decoration?

Slug: what-is-a-diagram-for-when-it-is-not-decoration | Published: 06/28/2026 | Tags: Visual modeling, Systems design, Information integrity, Reasoning quality

Someone projects a system diagram in a meeting room. The boxes align, the arrows behave, the colours look as though they were selected by a committee that finally agreed on something. For a few minutes the system appears visible. Then the person who works inside it every day poin...

A polished picture can be dangerously reassuring

Someone projects a system diagram in a meeting room. The boxes align, the arrows behave, the colours look as though they were selected by a committee that finally agreed on something. For a few minutes the system appears visible. Then the person who works inside it every day points to the empty space between two boxes. Half of the actual work happens there: in email, on the phone, through improvised agreements and in the memory of people who know which formal route will fail. The picture was finished. The description was not.

Diagrams deserve scrutiny precisely because they are persuasive objects. They can transmit structure faster than prose, and they often look intelligible before the decisions behind them have been examined. Visual order can lend its coherence to the thing being shown. A clean picture of a confused process remains a picture of a confused process; the confusion has merely become harder to locate.

A diagram earns its place when it exposes a relationship that prose would make laborious to follow: time, direction, proportion, dependence, feedback, responsibility or absence. Decoration performs another task. It establishes atmosphere, signals status or fills a compositional gap. None of this is inherently objectionable. Trouble begins when decorative order starts functioning as analytical evidence.

A diagram begins making claims at the moment it begins selecting.

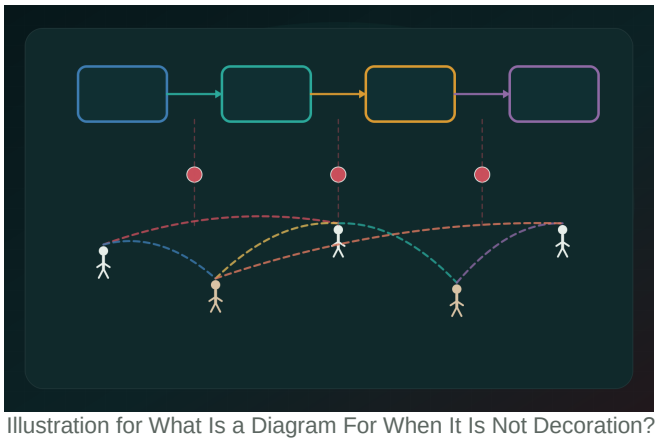


Illustration for What Is a Diagram For When It Is Not Decoration?

What becomes an element, and what disappears

Every visual model decides what counts as a thing. An organisational chart may contain people, roles or departments. A route map may encode stations, distance, travel time or interchange burden. A risk matrix may show likelihood and impact while omitting the number of affected people, reversibility, duration or the distribution of harm.

Selection is unavoidable. A picture that attempts to preserve every detail usually loses the very legibility for which it was created. Jacques Bertin's work on graphical semiology made it possible to analyse how

Fractal Solutions

position, size, shape, orientation and colour communicate different kinds of distinction and relation [1]. The relevant question is therefore not whether the diagram is complete. It is what the diagram omits relative to its purpose, and which conclusion the omission makes too easy.

A metro map may distort geography while representing interchange structure extremely well. That is a defensible exchange when the traveller needs to navigate the network. It becomes a poor model when someone uses it to estimate walking distance or the spatial relationship between neighbourhoods. Visual quality cannot be separated from the situation of use.

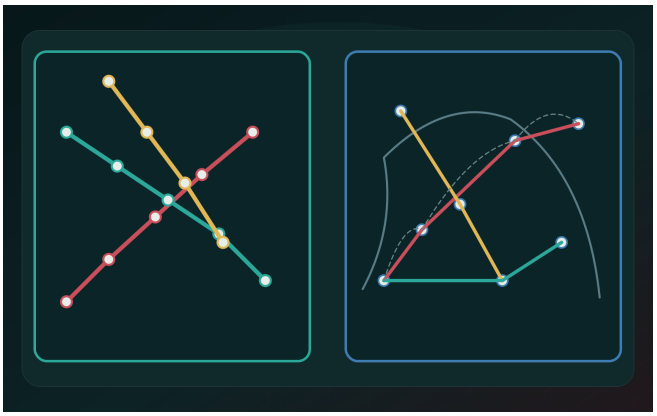


Illustration for What Is a Diagram For When It Is Not Decoration?

The same numbers arranged differently make different questions easy to ask.

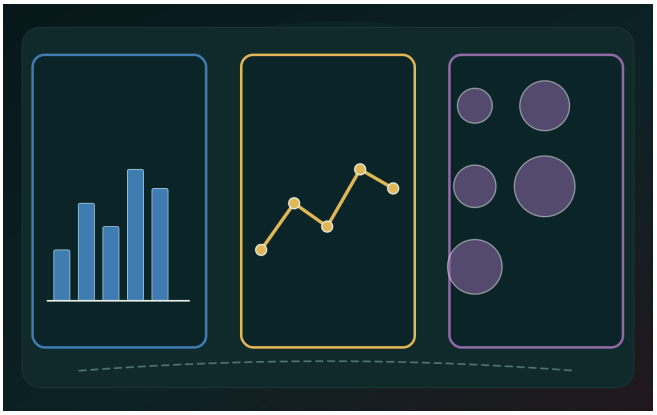


Illustration for What Is a Diagram For When It Is Not Decoration?

One dataset, three different stories

Imagine five years of performance data. A bar chart makes magnitude differences easy to compare. A line chart foregrounds direction and rhythm. A pie chart turns temporal order into shares of a whole and is usually a poor fit for the task. The data has not changed. The visual question has.

Cleveland and McGill's experimental work showed that viewers compare some graphical encodings - especially position along a common scale - more accurately than area or colour saturation [2]. This does not turn every worthwhile visualisation into a bar chart. It does separate visual excitement from perceptual precision.

A three-dimensional column may introduce more perspective than information. A gradient can look refined while obscuring the fact that the categories have no measurable order. A thick arrow can imply urgency when it was only meant to indicate transfer. These choices seem small. Collectively they organise attention, expectation and confidence.

Fractal Solutions

A good diagram is not neutral in the sense of having no point of view. It is accountable in the sense that its point of view can be tested against the task.

A drawn connection is not an explanation of the connection

A line joins two nodes in a network. The eye sees a relationship and may quickly infer causation. Yet the line might denote communication, legal dependency, technical exchange, statistical association or nothing more than the author's decision to place two items in the same category.

A common visual short circuit occurs when the type of relation disappears behind the generic mark used to draw it. Every arrow looks similar, so every connection appears to carry similar weight. A mandatory process, an informal conversation and a merely possible route receive the same graphic treatment. The picture remains orderly while its meanings collapse into one another.

Organisational charts illustrate the problem well. They usually show formal reporting lines with admirable clarity. They are less successful at revealing who everyone actually consults, where decisions stall, who carries information across institutional boundaries, or which role works only because one particular person holds the relevant fragments together. When those relations matter, they require another layer or another diagram.

Drawing a connection is easy. Clarifying its status is the work.

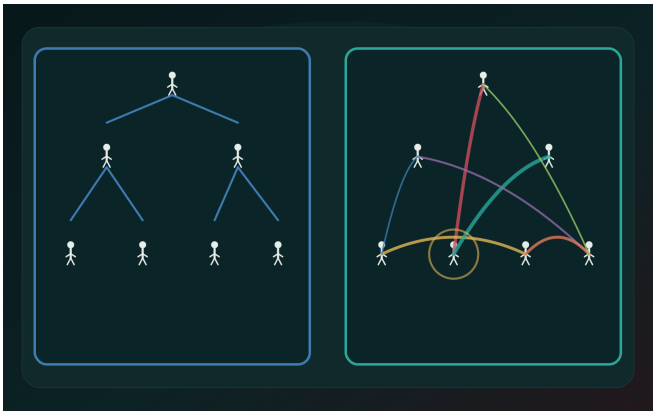


Illustration for What Is a Diagram For When It Is Not Decoration?

The missing routes

Flowcharts are often optimistic about the normal case. A request arrives, a check is performed, a decision is made and the case closes. Real processes encounter incomplete submissions, contradictory data, disputed permissions, unavailable external services, incomprehensible decisions and cases that fit none of the categories cleanly.

When a diagram shows only the successful path, it hides more than an exception. It hides the capacity required to handle the exception. Human review, appeal, reopening, rollback, correction and responsibility transfer may consume more effort than the standard route. On the page they are commonly reduced to a thin side branch, assuming they appear at all.

Absence is therefore information. Empty space can mean that no relation exists, but it can also mean that the relation was not examined, not documented, not politically convenient to display or simply could not fit. A responsible diagram does not silently resolve these possibilities.

A diagram becomes genuinely useful when exceptions test it rather than merely spoil its symmetry.

Fractal Solutions

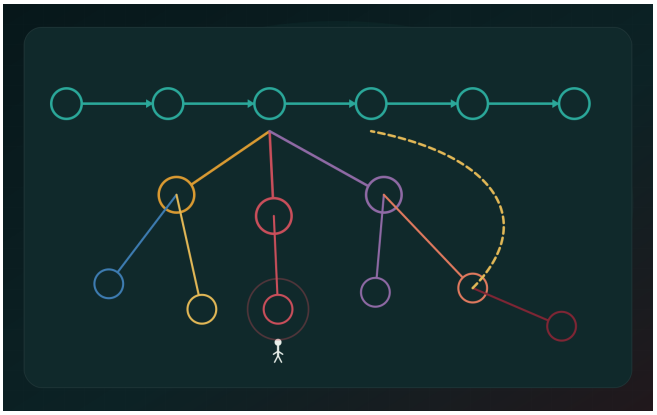


Illustration for What Is a Diagram For When It Is Not Decoration?

The trap of aesthetic coherence

Edward Tufte has repeatedly criticised graphical elements that produce visual noise without improving the interpretation of data [3]. That principle is sometimes flattened into the idea that minimal graphics are automatically honest. They are not. Removing ornament can improve legibility, but it cannot repair a false category, a distorted axis or a missing stakeholder.

Misleading diagrams are often elegant. They impose symmetry on an asymmetric system. Equal boxes represent actors with radically unequal power. A clean feedback loop is drawn where feedback exists only in policy language. A balanced colour pair suggests that two risks are commensurate even when one is rare and repairable while the other is persistent and widely distributed.

Alberto Cairo describes functional information graphics as forms shaped by task, audience and interpretive purpose [4]. Function here is more demanding than usability. The diagram must resist its own beauty. It must not allow visual order to make a stronger claim about systemic order than the evidence can sustain.

A beautiful diagram can be accurate. Beauty is not what proves it.

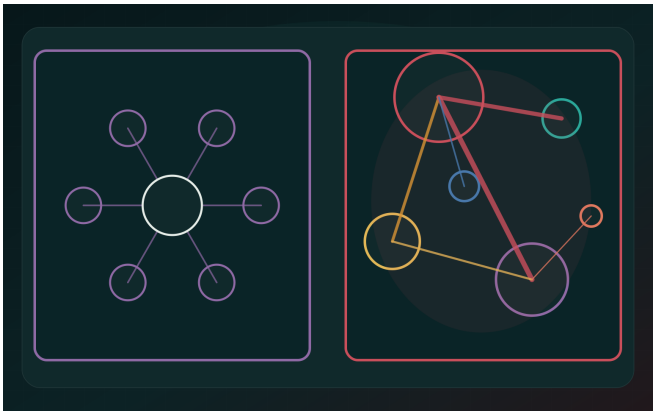


Illustration for What Is a Diagram For When It Is Not Decoration?

When does a diagram actually help?

A diagram can reveal that too many decisions depend on one person. It can show that two apparently unrelated complaints converge on the same background process. It can expose a system whose normal route is short but whose exceptional cases branch irreversibly. It can also make visible that the data lacks the dimension around which the dispute is really organised.

Fractal Solutions

This requires treating the visualisation as an investigative surface rather than a presentation accessory. Tamara Munzner's framework distinguishes the task, the data, the visual encoding and the algorithmic implementation [5]. The separation is a useful discipline: a technically flawless graphic can still answer the wrong question with impressive efficiency.

A working diagram should therefore be stressed. What happens when one link fails? Which arrow is observed and which is assumed? Where does time enter? Which object size represents quantity, and which is merely a layout compromise? What is missing that the decision would require? These questions do not police aesthetics. They expose the boundary of the model.

At its best, a diagram does not end a disagreement. It makes the disagreement more precise.

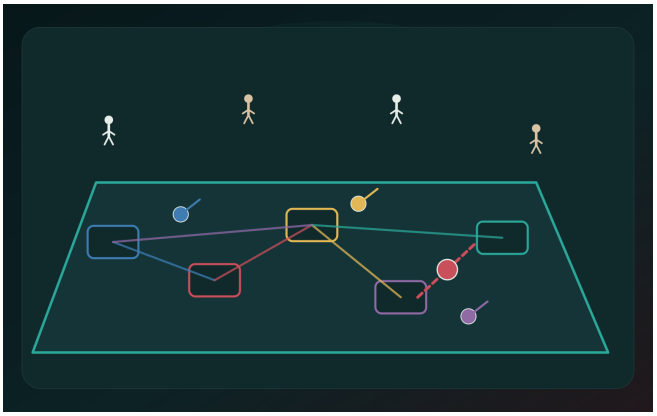


Illustration for What Is a Diagram For When It Is Not Decoration?

Fractal Dialectics and the limit of visual compression

Within the conceptual field of Fractal Dialectics, diagrams are useful because they can keep several relations visible at once. They can show competing aims, different temporal scales, feedback and consequences that would be easy to lose at the end of a linear sentence.

This does not mean that FD can or should be placed inside one comprehensive graphic. Every visual representation selects some relations, suppresses others and adopts a viewpoint suited to a particular question. A diagram that approaches a complete account of the internal method risks becoming unreadable while disclosing more operational detail than a public essay requires. The public role of the visual is to clarify the problem, not to publish the entire engine.

That boundary is not a failure. A map works because it does not attempt to become identical with the territory. Its responsibility is to make clear what journey it was made for.

The afterlife of a useful diagram

It is tempting to think that the job ends when the image is exported. In practice, the more interesting part of validation begins there. Other participants will notice other absences. The system will change. An exceptional route will become common. A colour code will outlive the explanation that once made it meaningful. A box will retain its name while the responsibility behind it moves elsewhere.

A useful diagram is therefore versionable, contestable and repairable. Its sources can be traced. Its notation can be explained. Viewers can distinguish data, editorial choice and assumption. When a change means that the picture no longer shows the same thing, the difference is not concealed for the sake of visual continuity.

A diagram becomes more than decoration when it makes the ordering itself open to inspection instead of

Fractal Solutions

merely making thought look orderly.



Illustration for What Is a Diagram For When It Is Not Decoration?

References

[1] Bertin, Jacques (1983): Semiology of Graphics: Diagrams, Networks, Maps. University of Wisconsin Press. Original French edition: 1967.

[2] Cleveland, William S.; McGill, Robert (1984): "Graphical Perception: Theory, Experimentation, and Application to the Development of Graphical Methods." Journal of the American Statistical Association, 79(387), 531-554.

[3] Tufte, Edward R. (1983): The Visual Display of Quantitative Information. Graphics Press.

[4] Cairo, Alberto (2012): The Functional Art: An Introduction to Information Graphics and Visualization. New Riders.

[5] Munzner, Tamara (2014): Visualization Analysis and Design. CRC Press.

Fractal Solutions