

MAKE THINGS

Design, before Any Software

Hierarchy, type, colour and spacing — the part of design you can do with a pencil, before any software.

First edition, September 2026

Addaly

Series editor: Dr Mustafa Mun

Draft, open for academic review

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First edition, September 2026, build 62a26075.

Written by AI models to a written standard, with Dr Mustafa Mun as series editor. Exam keys checked blind by a second model: 3,665 of 3,666 agreed. Academic review invited.

The manuscript was drafted with the assistance of a large language model and was edited and published under his name. That is stated plainly here rather than left to be discovered, because a reader is entitled to know how a book they are trusting was made.

How to cite: *Mun, M. (2026). Design, before Any Software. Addaly. addaly.com/learn/design-foundations.*

This book is the printed form of the course of the same name at addaly.com/learn/design-foundations. The website is the living version and is corrected first. Where the two differ, the website is right.

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Every diagram in it is drawn from data by code, not generated as a picture, so the numbers on the page are the numbers in the argument. The answers to every check, test and examination question are at the back.

7 modules · 74 lessons · 25 figures · 7 case studies · 61,212 words · about 11 hours

Brief contents

	Contents	6
1	How seeing actually works	11
2	Space, grouping and the grid	65
3	Type, mechanically	119
4	Colour, measured	179
5	Composition and the image	235
6	Real screens, real thumbs, real paper	283
7	Making the decision once	335
	Examination	385
	Answers	403

1

MODULE 1

How seeing actually works

Predict where a stranger's eye will land on a layout in the first two seconds and in what order, change that order by adjusting one named channel to a stated magnitude, and say why a difference below that magnitude reads as a mistake rather than as a rank.

1	Your poster is not ugly, it is unranked	12
2	What your peripheral vision is actually for	17
3	The squint test, done properly	21
4	How big a difference has to be	26
5	Emphasis is zero-sum	30
6	What makes a shape read as an object	34
7	What the eye-tracking research actually says	38
8	Weight is not area, and centre is not the middle	41
9	Shape is a channel you are probably not using	45
10	Content that attracts attention whatever you do to it	48
11	Nine checks that find what is wrong with a layout	52
	<i>Case study: The vaccination poster with five first things</i>	57
	<i>Module 1 test</i>	62

Lesson 1 · 9 min

Your poster is not ugly, it is unranked

THE ONE THING TO KEEP

A design has a hierarchy only if things differ enough to be ranked at a glance, and promoting one element means demoting another.

The wrong diagnosis

Someone makes their first event poster. The band name, the date, the venue, the ticket price and a QR code all sit there at roughly the same size, in roughly the same weight, spread evenly across the page. It looks wrong. They are told they do not have an eye for it, or that they lack taste, and they believe it.

That diagnosis is almost always false. The fault is not taste. Every element on that poster is claiming to be the most important thing, so none of them is. The reader's eye arrives, finds five equal candidates, and gives up. Nothing about colour, typeface or software fixes that, which is why the second version usually looks the same as the first with a gradient on it.

The eye does not scan, it jumps

Human vision is not a camera panning across a page. The eye moves in jerks — saccades — landing three or four times a second, and during the jump itself you are effectively blind. Sharp detail only exists in a tiny central patch, about the width of your thumbnail at arm's length. Everything else is a blur with colour and shape in it.

So a viewer does not "take in" your layout. They land on three to five spots, in some order, and build an impression from those. Design is the business of choosing those spots and that order.

What pulls a landing, roughly strongest first:

- **Size difference.** The blunt instrument. Reliable and boring.

- **Contrast against the background.** A dark thing on a pale field, or the reverse.
- **Isolation.** The underrated one. A small item alone in a wide empty area beats a large item in a crowd.
- **Position,** relative to the direction the reader starts from.
- **Saturation,** then **weight,** then **shape oddity** — one round thing among rectangles.

Notice that four of those six are relative. They exist only by comparison with the rest of the page. That is the whole idea.

Reading direction is a weak cue, and that is good news

A reader of English or Hindi starts at the top left. A reader of Urdu, Arabic or Hebrew starts at the top right. Position matters, but it is a weaker cue than size, contrast and isolation — which means a layout built on those three works for both audiences without redesign. Build the hierarchy out of the strong cues and position becomes a refinement rather than a dependency.

One more thing worth unlearning: the F-pattern. It is a real observation from eye-tracking of text-heavy pages with no visual structure, not a law of vision. On a page with a clear hierarchy, people look at the big thing first. That is the point.

Figure 1.1

The channels that pull a landing, strongest first

Size difference

The blunt instrument. Reliable, and boring.

Contrast against the background

A dark mass on a pale field, or the reverse

Isolation

A small item alone beats a large item in a crowd

Position

Weaker, and it depends on the script the reader starts from

Saturation

Real, and the first channel to fail in sunlight

Weight

Two steps, or it is not a step at all

Shape oddity

One round thing among rectangles

Four of these exist only by comparison with the rest of the page, which is why emphasis is a relationship rather than a property you apply.

Name first, second, third out loud

Before you open any software, write three lines on paper:

1. What must a stranger see in one second?
2. What should they see next?
3. What is everything else?

On a concert poster: band name / date and venue / all the rest. On a shop sign: what you sell / where you are / opening hours. On a CV: your name and what you do / your last two jobs / everything else.

If you cannot name them, the design cannot show them. That is the actual reason layouts drift: when you have not decided, every element gets nudged up a little each time you look at it.

That is the second failure mode, and it deserves a name: **emphasis inflation**. Each round of feedback adds emphasis to one more item. The phone number goes bold. Then the price goes bold and red. Then the date goes bold, red and bigger, so the band name goes bigger again. After four rounds everything is loud, which is identical to everything being quiet.

The rule that stops it: **to promote one thing, demote another**. Emphasis is zero-sum. If your fix is only ever additive, you are not designing a hierarchy, you are inflating one.

Make the difference obvious or do not make it

An 18pt heading over 16pt body text does not read as a rank. It reads as a mistake. A difference that a viewer cannot detect at a glance costs you the same effort as a difference they can, and buys you nothing.

Use steps you can see. A workable set for a page of text: body 16, subhead 20, heading 32, display 48. Each step is roughly 1.25 to 1.5 times the last. Rule of thumb: if you have to compare two items side by side to tell which is bigger, they are the same size as far as the reader is concerned.

The same applies to weight, to colour, to spacing. Half a difference is worse than none, because it looks accidental.

Four free ways to test it, one of which is your eyelids

- **Squint** until detail disappears. What survives is your hierarchy. If nothing survives, there isn't one.
- **Greyscale it**. In Photopea, GIMP or Krita, pull saturation to -100 (Image, then Adjustments or Colors, then Hue-Saturation). If the structure collapses, you built hierarchy out of colour, and colour is the

least reliable channel you have.

- **Shrink it.** Zoom to 25 per cent, or take a screenshot on your phone and pinch it down to thumbnail size. The squint test by other means, and it needs no software.
- **Three seconds.** Show it to a person for three seconds, take it away, ask what they remember. More honest than any opinion given with the page still in front of them.

Today

Take something you have already made. Write down what you want seen first, second and third. Then screenshot it, hand it to someone for three seconds, and ask them what they saw. Where their answer and your list disagree, you have found the work.

BEFORE YOU MOVE ON

A gig poster has the band name, date, venue and ticket price all set at 40pt bold, and the client says it looks cluttered. A colleague suggests setting the band name at 44pt. Why will that not fix it?

- A. A four-point difference is below what a viewer registers as a rank, and making one element first requires demoting the others, because emphasis exists only by comparison.
- B. 40pt is simply too large for a poster of that size, so everything should be reset smaller to leave room to breathe.
- C. Bold at that size is too heavy to read, so the band name needs a display typeface to separate it from the rest.
- D. The elements need more space between them; once the spacing is even, the hierarchy will follow.

The answer and why: p. 405

Lesson 2 · 9 min

What your peripheral vision is actually for

THE ONE THING TO KEEP

Outside the central patch, vision keeps luminance blobs, motion and gross shape and throws away detail and anything with close neighbours, so a landmark has to be a large isolated blob rather than a small precise mark.

The blur is not a lesser version of the sharp bit

Outside the small central patch where you see detail, vision does not simply get fuzzier. It becomes a different instrument with different jobs.

Understanding what that instrument can and cannot do tells you which parts of a layout can act as landmarks and which parts are, for practical purposes, invisible until somebody looks straight at them.

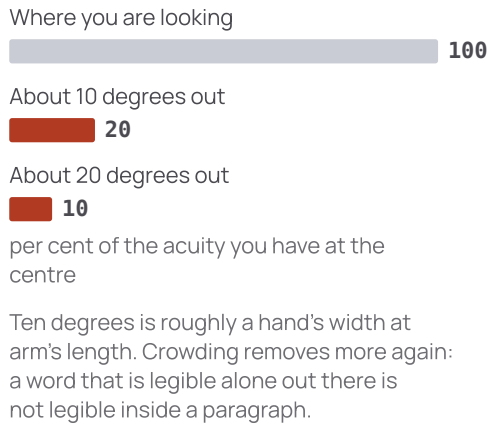
Acuity falls off faster than most people expect. At about 10 degrees away from where you are looking — roughly a hand's width at arm's length — you resolve around a fifth of the detail you resolve at the centre. At 20 degrees it is closer to a tenth. On a laptop screen at normal distance, that means while you read this sentence, the top corners of the window are being seen at about the resolution of a road sign a hundred metres away.

Crowding is the real limit, not size

The more useful fact is this: in peripheral vision, things interfere with each other. A letter that is easily large enough to identify on its own becomes unreadable when other letters sit beside it. This is called crowding, and it follows a rough rule — interference comes from anything within about half the distance to the point you are fixating.

Figure 1.2

How much detail survives away from the centre of gaze



So at 10 degrees out, everything within about 5 degrees of a target is smearing it. A single large word in empty space is legible out there. The same word inside a paragraph is not. This is why isolation works as an emphasis channel, and why it works even better than size: isolation does not just make something bigger, it removes the flankers that were destroying it.

The practical version:

- A 16px grey label in a corner cannot be a landmark. Nobody will find it without a deliberate search.
- A 40px dark heading with 32px of clear space around it is a landmark from anywhere on the page.
- A 16px icon in a row of 16px icons is unfindable peripherally. The same icon at 24px, filled rather than outlined, with a gap either side, is findable.

Filled shapes beat outlined ones out there for the same reason. A 1.5px outline is exactly the kind of high-frequency detail the periphery throws away; a solid blob is exactly what it keeps.

What the periphery is good at

Three things, all of them coarse:

1. **Luminance blobs.** Large areas of light or dark, and their approximate position.
2. **Motion.** Peripheral motion detection is excellent, and largely involuntary.
3. **Gross shape and large areas of colour.** Enough to tell a circle from a bar, or a red region from a grey one.

The motion point deserves attention because it is the one designers most often get wrong on purpose. An animated banner in the corner of a page is not competing politely for attention; it is triggering a reflex evolved to notice things moving at the edge of your vision. That is why auto-playing carousels and looping adverts are so widely hated, and it is why operating systems ship a reduce-motion setting. If you make something move in the periphery, you have taken a fixation whether the reader wanted to give you one or not.

You cannot inspect your own periphery

Here is where most people get stuck. The obvious way to check whether a corner label is findable is to look at the corner — at which point it lands in the fovea and looks perfectly clear. The instrument destroys the measurement.

The usable proxy is a blur. Export the layout as an image and apply a Gaussian blur at roughly 1.5% of the image width: on a 1200px-wide screenshot, that is a radius of about 18 pixels. Free tools do this in one menu:

- **GIMP:** Filters > Blur > Gaussian Blur, set both radii.
- **Photopea** (runs in a browser, no install): Filter > Blur > Gaussian Blur.
- **Krita:** Filter > Blur > Gaussian Blur.

What you are looking for in the blurred image is which shapes still exist as distinct blobs and where they sit. Anything that has dissolved into the background is something a reader will only ever find by deliberate search. That may be fine — a legal footer should dissolve — but it should be your decision rather than an accident.

The blur test asks a different question from the squint test in the next lesson. The blur asks what can be found. The squint asks what comes first.

The honest limitation

This is a model of the optics and early visual processing, not of the person. A reader who has come to your page specifically to find the unsubscribe link will find a 12px grey link in the footer, because deliberate search overrides all of it — they will scan systematically until the fovea lands on it. Peripheral design governs the unguided glance, which is most first encounters and almost no second ones.

It also varies. Peripheral acuity and crowding both worsen with age, and a reader with macular degeneration has the opposite problem — the central patch is the one that fails, and the periphery is all they have. Neither is a reason to abandon the model; both are reasons to keep real text at real sizes rather than treating the whole design as a pattern of blobs.

BEFORE YOU MOVE ON

A dashboard has a row of eight 16px outlined icons with 4px between them. Users report they cannot find the settings icon without hunting. Enlarging it to 20px does not help. Why not?

- A. Outlined icons are a stylistic mistake and filled icons are always more usable, regardless of the layout around them.
- B. 16px is below the minimum legible icon size, so no arrangement of icons that small can work.
- C. Users are scanning strictly left to right, and the settings icon sits too far along the row for a quick scan to reach it before attention moves elsewhere on the screen.
- D. The neighbouring icons are crowding it, so extra size does not help until the flankers are moved away or removed.

The answer and why: p. 406

CASE STUDY · MODULE 1

The vaccination poster with five first things

An illustrative case, built from documented patterns.

A district health office in Nashik, preparing a poster for a two-day measles and rubella camp at eleven anganwadi centres.

The camp had a budget for 4,000 posters and one week to get them pasted. A junior officer with a laptop and a free browser editor made the first version in an afternoon, and it contained everything anyone had asked for.

Across the top: the department's logo, the state emblem, and a photograph of the district health officer. Below that, in a decorative script, "Measles and Rubella Free Nashik". Then the dates, the words "free of cost", a list of the eleven centres in two columns, a helpline number, a QR code, and a line of small text naming the scheme the funding came from. Every element was large. Several were in red, because red had been described in the meeting as urgent.

What the review meeting was about

The poster was circulated, and the comments arrived in the usual shape. The programme officer wanted the helpline bigger. The communications cell wanted the logo bigger. Somebody wanted "free of cost" in a bigger red. Nobody said the poster was hard to read, because nobody looks at a poster they have already read four times.

An intern on placement from a polytechnic did two things that cost nothing. She took a screenshot, desaturated it, and blurred it. Everything came back as one even grey field with a darker rectangle where the photograph was. Then she printed three copies, showed them to three people in the corridor for three seconds each, took them away, and asked what they had seen.

One said "a government thing". One said "something about vaccination". One named the district health officer, who she recognised. Nobody said a date. Nobody said a place.

The decision

The fix was arithmetic, and it was also political. A poster read from four metres, by a parent walking past with a child on one hip, can carry one thing first and two things second. The intern's proposal was:

- **First:** the dates, at roughly four times the size of everything else.
- **Second:** the words "free vaccination" and the name of the local centre, with a blank space left for each centre's name to be overprinted.
- **Everything else** at the floor: logo small in a corner, helpline small, QR code small, scheme credit small, and the photograph removed.

Removing the photograph was the part that stopped the room. It was not decoration in the ordinary sense. The photograph was there because it had been there on the last four campaign posters, and because taking it off was a statement somebody would have to make to the officer whose photograph it was.

The cost on the other side was concrete and countable. The blurred image had already shown that the photograph was the darkest, largest mass on the poster, and a face attracts fixations whatever is done to it. Leaving it in meant the strongest element on a poster about a date was a person's face. Eleven centres, two days, a target of 9,000 children, and one chance for a parent to catch the information from across a road.

The programme officer put the trade-off in a single sentence in the meeting: if the photograph stays, the date does not get read; if the date does not get read, the camp is under-attended, and the photograph is on a poster about a camp that failed.

There was a second, smaller decision hiding inside the first. The eleven centres could not all be named at readable size on one poster. Naming them all meant a list at 14 points that nobody would read at four metres. Printing eleven versions, each naming one centre, cost more in plate setup and made the print run harder to manage with a week to go.

YOUR ANSWERS

1. The reviewers all asked for something to be made bigger. Why did granting each of those requests make the poster worse?

2. The intern's blur test and the three-second test answered different questions. What were they?

3. Somebody argues that removing the photograph was a design preference, not a finding. What evidence in the case answers that?

STOP HERE

Write your answers before you turn the page. How it played out starts on p. 60.

CASE STUDY · MODULE 1

How it played out

The photograph came off, and the district health officer was told why before the file went to the press rather than after. The dates went to roughly 120mm tall on an A3 sheet, with "free vaccination" second and a blank band left in the lower third. Eleven short runs were printed with the centre name and its timing overprinted in that band, which cost about eleven per cent more than one run of 4,000 and removed the unreadable list entirely.

The three-second test was repeated in the corridor with the new version. All three people named the dates. Two named the words "free vaccination". None of them mentioned the logo, which was the intended result rather than a failure.

Attendance against target was reported at the end of the camp as higher than the previous year's, which the office attributed partly to the poster and partly to better ASHA follow-up. Nobody could separate the two, and the honest conclusion drawn in the debrief was narrower: the poster now said one thing at four metres, and the previous one had said nothing at all.

The questions, discussed

1. The reviewers all asked for something to be made bigger. Why did granting each of those requests make the poster worse?

Emphasis is a relationship between an element and everything around it, not a property of the element, so there is a fixed amount of it on one surface. Every promotion demoted the rest, and after four rounds every item was loud, which is perceptually identical to every item being quiet. The productive response to 'make this bigger' is the question 'what comes down'.

2. The intern's blur test and the three-second test answered different questions. What were they?

The blur test asks what can be found: it shows which elements survive as distinct masses and where they sit, which is what a reader's peripheral vision is working with before they look at anything. The three-second test asks what

actually arrives first in a real person's head, including content effects such as a recognisable face that no formal analysis of size and contrast would predict.

3. Somebody argues that removing the photograph was a design preference, not a finding. What evidence in the case answers that?

Faces attract fixations early and reliably regardless of styling, and the blurred image showed the photograph was also the largest dark mass on the sheet.

Both the formal channel and the content channel put it at rank one on a poster whose message was a date. The three-second test then confirmed it behaviourally: a viewer named the officer and nobody named a date.

MODULE 1 TEST

Check what stuck

6 questions, one right answer each. This one is for you, not for a record. The answers, and the reason behind each, are in the key on p. 404. If two go wrong, re-read the module before the exam.

- 1 A poster sets its heading at 17 pixels above body text at 16 pixels. Why does this fail to create a hierarchy?
 - A. The reader cannot tell whether the difference was meant, so it carries no rank
 - B. Seventeen is not a value on a standard modular scale, so browsers round it inconsistently
 - C. A heading must be at least twice the body size before it is legible as a heading
 - D. Both are set in the same typeface, so size alone can never separate them

- 2 A product page has the price at 24px bold black, a solid-colour Add to Basket button, a red promotional badge and a 20px bold delivery promise. The client wants the button seen first. Which change is most likely to achieve it?
 - A. Make the button larger and more saturated than it is now
 - B. Set the delivery promise to 16px regular grey and the badge to a quiet outline
 - C. Move the button to the top left, because that is where the eye enters the page
 - D. Add a drop shadow and a small animation so that the button separates from the page

- 3 The squint test specifies a luminance conversion to greyscale rather than an average of the red, green and blue channels. Why does the difference matter?
- A. A luminance conversion also darkens the image, which makes the masses easier to rank
 - B. It keeps the image's colour profile intact, which an average discards
 - C. An average turns a saturated yellow and a saturated blue into similar greys
 - D. Averaging is only available in paid software, so the free path needs luminance
- 4 Isolation is described as a stronger emphasis channel than its cost suggests. What is the mechanism?
- A. Peripheral vision resolves an isolated item at full central acuity
 - B. An isolated item is fixated first because readers begin at whitespace
 - C. Isolation increases the item's contrast against the background
 - D. Isolation removes the neighbouring marks that were smearing it
- 5 A card has a 1px border and a hard 2px drop shadow, sits 8 pixels from its neighbour, and still does not read as a separate object. What is the strongest repair?
- A. Give it 32 pixels of space and delete the border and shadow
 - B. Thicken the border to 2px and darken its value
 - C. Add a second, lighter border inside the first to imply an edge
 - D. Increase the shadow's blur and its opacity
- 6 What does the F-shaped heatmap from eye-tracking studies of web pages actually describe?
- A. The order in which readers prefer to receive information on any kind of page
 - B. How people skim dense prose that gives them no structure to navigate by
 - C. A layout template that puts the important elements along the F
 - D. The path the eye takes when a page has a strong visual hierarchy

Figure 2.1

The gap inside a group against the gap around it

Form label to its own input

 **4 px**

That input to the next field

 **32 px**

Caption to its photograph

 **8 px**

That photograph to the next one

 **48 px**

Heading to its own paragraph

 **8 px**

Previous paragraph to that heading

 **40 px**

Every pair differs by a factor of four or more. Equal space above and below a heading is the software default, and it attaches the heading to the wrong text.

Contrast means clearly different, not slightly different

The counterpart rule: if two things are not the same, make them clearly not the same. Two greys eight per cent apart. Two sans-serifs with similar proportions. A 15 pixel gap and an 18 pixel gap. Each of these reads as sloppiness rather than distinction, because the viewer's first hypothesis for a small difference is that you failed to line something up.

Either commit or collapse them. Two greys that are nearly the same should become one grey.

Boxes are the last resort, not the first

The instinct when a group is not reading as a group is to draw a border around it. Understand what that costs: a border is a line, a line is a graphic element, and now the page has more elements competing for attention than it did before. Panels stacked inside panels are how a clean layout turns into a control room.

Try these in order:

1. Move the items closer together.
2. Add space around the whole group.
3. Give the group a faint background tint — common region without a line.
4. Only then, a border.

Most groups resolve at step one or two.

Trapped space

One more failure that is hard to see until you are told: whitespace stranded in the middle of a group, bigger than the space at the group's edge. A pocket of emptiness between two columns, wider than the page margin. The eye reads that pocket as a divider and splits the group in half. Space at the edge of a group holds it together; space inside it pulls it apart.

Today

Take any layout you have made. Screenshot it. Open it in Photopea, GIMP or your phone's photo editor, and use the rectangular selection tool to measure two gaps: the gap inside a group and the gap that surrounds it. Almost every beginner file has at least one place where the inside gap is equal to or larger than the outside gap. Fix that one, and look again.

EXAMINATION

Design, before Any Software: final examination

This paper covers the whole course:

- how seeing works and how to rank a layout
- space and grouping and the grid
- type set from numbers rather than adjectives
- colour measured against a contrast criterion
- composition and the image
- real screens and real paper
- turning one-off decisions into tokens and components

56 questions, the whole pool. The site draws 25 for a sitting, pass mark 70%.
Work any 25 under your own conditions. Answers from page 453.

1 Module 1 · How seeing actually works

Design is described as choosing three to five landing spots and the order they arrive in. Which fact about vision is that built on?

- A. The eye moves in jerks and resolves sharp detail only in a small central patch
- B. Readers scan a page from the top left to the bottom right at a steady rate
- C. The retina resolves a whole page at once and the brain discards most of it afterwards
- D. People keep looking at whatever is largest until they have understood it

2 Module 1 · How seeing actually works

The blur test and the squint test are run on the same design. What different questions do they answer?

- A. The blur measures contrast ratios; the squint measures spacing relationships
- B. The blur asks what can be found; the squint asks what comes first
- C. The blur checks colour accuracy; the squint checks alignment
- D. The blur tests printed output; the squint tests screen output

3 Module 1 · How seeing actually works

Every heading on a site is set in the brand orange. What has that cost?

- A. Headings become harder to distinguish from links
- B. The palette has spent the three semantic colours it was allowed
- C. Orange now means heading rather than important
- D. The brand colour will fail contrast on a white background

4 Module 1 · How seeing actually works

Why can motion not be budgeted alongside size, contrast and isolation?

- A. It cannot be measured, so it has no place in a budget
- B. It is disabled for a large share of readers by default
- C. It applies only to interfaces and not to printed or static work
- D. It overrides them rather than competing with them

5 Module 1 · How seeing actually works

A layout has a photograph of a person looking straight out at the camera, beside a headline you want read first. What does the research on gaze support?

- A. Turning the model to look at the headline increases fixations on it
- B. Moving the photograph below the headline removes the competition
- C. Reducing the photograph's saturation makes the face rank below the text
- D. Faces attract attention only when they are larger than the surrounding type

6 Module 1 · How seeing actually works

A title is placed at exactly half the height of a frame and looks slightly low. What is the usual correction?

- A. Increase the line height so the block occupies more of the frame
- B. Move it up to about 45 per cent of the height
- C. Move it down to about 55 per cent of the height
- D. Leave it, because the geometric centre is correct by definition

7 Module 1 · How seeing actually works

A designer introduces a circle to mark the primary action, then uses circles for bullets, icon backgrounds and a decorative motif on the same view. What has happened?

- A. The corner radius tokens are no longer consistent with the cards
- B. Shape contrast fails whenever more than two shapes are present
- C. The shape channel has been spent without buying an emphasis
- D. The circles now form a grouping by similarity that overrides proximity

Module 1 • How seeing actually works

The module starts on p. 11.

MODULE 1 TEST

Module 1 test, Q1, p. 62

A poster sets its heading at 17 pixels above body text at 16 pixels. Why does this fail to create a hierarchy?

Answer A: The reader cannot tell whether the difference was meant, so it carries no rank

Why: A size step has to be at least about 1.2 times the size below it before it reads as deliberate. Below that threshold the difference might be an accident, and a difference that might be an accident carries no information — it reads as a production error rather than as a rank. The cost of the small step is identical to the cost of a large one, and it buys nothing.

Module 1 test, Q2, p. 62

A product page has the price at 24px bold black, a solid-colour Add to Basket button, a red promotional badge and a 20px bold delivery...

Answer B: Set the delivery promise to 16px regular grey and the badge to a quiet outline

Why: Emphasis is a relationship between an element and everything around it, so there is a fixed amount of it on one surface. Four things are currently competing at the top rank. Demoting the two that are cheapest to demote makes the button win without changing the button at all, which is faster than promoting it and does not spend a further channel.

Module 1 test, Q3, p. 63

The squint test specifies a luminance conversion to greyscale rather than an average of the red, green and blue channels. Why does the difference matter?

Answer C: An average turns a saturated yellow and a saturated blue into similar greys

Why: The eye is far more sensitive to green than to blue, so perceived brightness weights the channels roughly 21 per cent red, 72 per cent green and 7 per cent blue. An unweighted average flattens that, and a blazing yellow and a deep blue come out as nearly the same grey — which is precisely the fault the test exists to expose.

Module 1 test, Q4, p. 63

Isolation is described as a stronger emphasis channel than its cost suggests. What is the mechanism?

Answer D: Isolation removes the neighbouring marks that were smearing it

Why: In peripheral vision, nearby marks interfere with each other — crowding — and the interference comes from roughly anything within half the distance to the point you are fixating. A word that is perfectly legible alone out there is unreadable inside a paragraph. Isolation does not merely enlarge the target; it deletes the flankers that were destroying it.

Module 1 test, Q5, p. 63

A card has a 1px border and a hard 2px drop shadow, sits 8 pixels from its neighbour, and still does not read as a...

Answer A: Give it 32 pixels of space and delete the border and shadow

Why: The four figure-ground devices are not equal. Space is the strongest and cheapest, then a fill, then a border, then a shadow — and a shadow is a claim about depth rather than about grouping. The common failure is reaching for the two weakest devices while the strongest one sits unused because it consumes area and looks like doing nothing.

Module 1 test, Q6, p. 63

What does the F-shaped heatmap from eye-tracking studies of web pages actually describe?

Answer B: How people skim dense prose that gives them no structure to navigate by

Why: The F is what happens when somebody skims text-heavy pages with no visual structure and low commitment: they read less of each successive line and end up sampling down the left edge. It is a symptom of a page that gives the reader nothing to navigate by, so designing to reinforce it makes the skimming permanent. The same research recommends breaking it with structure.

THE LESSON CHECKS**Lesson 1, p. 16**

A gig poster has the band name, date, venue and ticket price all set at 40pt bold, and the client says it looks cluttered. A...

Answer A: A four-point difference is below what a viewer registers as a rank, and making one element first requires demoting the others, because emphasis exists only by comparison.

Why: A design has a hierarchy only if things differ enough to be ranked at a glance, and promoting one element means demoting another.

B 40pt is simply too large for...: Treats crowding as an absolute size problem when the fault is that no element outranks any other.

C Bold at that size is too...: Reaches for a new typeface to create a rank that a size difference has not yet been asked to create.

D The elements need more space between...: Confuses grouping with ranking — even spacing tells the eye nothing about which item comes first.

Lesson 2, p. 20

A dashboard has a row of eight 16px outlined icons with 4px between them. Users report they cannot find the settings icon without hunting. Enlarging...

Answer D: The neighbouring icons are crowding it, so extra size does not help until the flankers are moved away or removed.

Why: Outside the central patch, vision keeps luminance blobs, motion and gross shape and throws away detail and anything with close neighbours, so a landmark has to be a large isolated blob rather than a small precise mark.

A Outlined icons are a stylistic mistake...: Takes a true observation about peripheral vision and turns it into an unconditional style rule, ignoring that the neighbours are the dominant problem.

B 16px is below the minimum legible...: Treats it as an absolute size floor when a 16px icon alone in white space is perfectly findable.

C Users are scanning strictly left to...: Blames reading order for a failure that persists wherever in the row the icon sits, because the cause is interference from adjacent shapes rather than position.

Lesson 3, p. 25

A designer desaturates a layout by averaging the red, green and blue channels equally, and concludes the yellow call-to-action and the blue background have good...

Answer A: An equal-channel average is not perceived brightness — green contributes about three-quarters of it and blue almost none, so the conversion flattened a real difference and invented a false one.

Why: Convert a design to luminance greyscale and blur it slightly: if three masses do not appear in a clear order, the fault is structural and no amount of colour work will repair it.

B Averaging is correct but the monitor...: Blames the display for a conversion error that would reproduce identically on a perfect monitor.

C Yellow and blue sit opposite each...: Confuses hue opposition with lightness difference; complementary colours can sit at nearly the same luminance.

D The blur step was skipped, and...: Identifies a real step of the procedure but not the one that caused this failure, which occurred before any blur.

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Design, before Any Software

Hierarchy, type, colour and spacing — the part of design you can do with a pencil, before any software.

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Design fails on ranking, not on taste.

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Seven modules and 74 lessons, 25 figures drawn from data, seven case studies, seven module tests, a 56-question examination, and every answer with the reason behind it.

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