

Visual Design Principles

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Simplification

Reduce your message to its essence

Contrast

Focus attention on what is important

Repetition

Create consistency and expectations

Alignment

Place everything with a purpose

Proximity

Group related elements

Reduce your message to its essence

The most common complaint about presentations is that there is too much content – too much text and bullets, complex diagrams and extraneous material. Simplicity is not easy, but it is worthwhile.

Simplify your message

Focus on your goal. What are you trying to achieve with your presentation? Remove every slide and everything on them that doesn't contribute directly to your goal.

Simplify your design

Design should be unobtrusive and pleasing. Don't fill your slides – white space is your friend.

Uncluttered means there is no competition for attention. So remove unnecessary text, graphics, logos, animations, decorations, event name, date and time, slide number, and busy backgrounds.

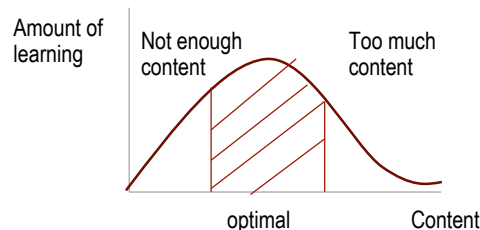
Your slides are for your audience. If you need to be reminded of details, print them out.

How many slides?

If you have too much information for one slide, split it. Use as many slides as you need. They are free.

One idea per slide is often recommended. This leads to a clear presentation. However there are times when you need to show organisation, relationships and details.

If you think everything is important and stuff your session with content, people will learn less .



Your slides aren't your presentation

If everything is on your slides there is no need for you to be there. Create a handout. Use these same design principles for your handout and keep the same styles (colours, fonts) as your presentation.

There are three components to your presentation: you, your slides and your handouts. The most important is you and what you say and do. The slides support you, they are not an end in themselves.



Remember, a good presentation makes a bad handout, and a good handout makes a bad presentation.

Cognitive explanation

We have very limited working memory. All unnecessary details will increase mental processing and so reduce learning and memory. Most learning is a combination of a mental model plus details. Experts already have the model and so can take in more details.

Build complexity

Some topics are inherently complex. If your slide or topic demands complexity don't throw it at them all at once. Start with foundation data and mental models and build from there by adding digestible amounts of information.

For example, if showing a graph you can initially display just the axes and their labels, explaining these before adding the graphs themselves.

In PowerPoint use fade or wipe in the animations tab to build your information.

Novices and experts

Experts can absorb a lot more detail and information because they already have a mental model (framework).

Novices can absorb far fewer concepts and content so focus on the mental models.

Reduce your message to its essence

Simplify your text and bullets

Your slides are not a document to be read by the audience. Just include the keywords and statements as a focus for your commentary.

Some people recommend limiting a slide to 7 bullets of 7 words each. This will result in complete overload for your audience. It will look really boring and people will either read it or to listen to you. They can't do both. In either case most of them will switch off.

You can almost always cut the number of words in half (or much more) without losing the essence.

Limit the number and colour of fonts.

Simplify your diagrams

Simple diagrams communicate better than complicated ones. Graphs, charts, diagrams and tables frequently have more detail than is required to convey the point. Eliminate anything that isn't essential, for example, detailed captions, figure numbers, tick marks, date details. Zoom into the area of interest.

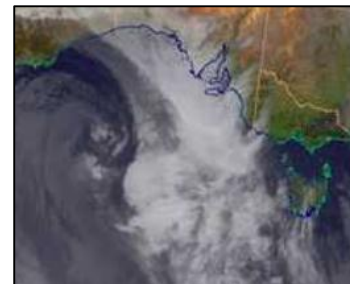
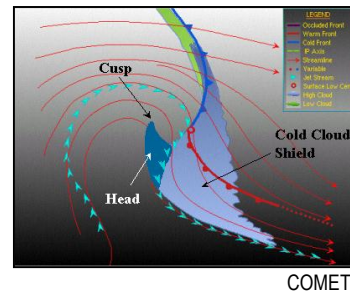
This is a presentation, not a research paper. If you think the detail may be important include it in the handout or on a separate hidden slide that you only show is asked.

If in doubt leave it out.

Simplify your images

Don't jump straight into detailed images and photographs. Use schematics to develop a conceptual model, then show the full image.

You can overlay the model on top of the image and toggle it on and off or add labels to the image. (Animations tab | show or hide then use the arrow keys to go forwards and back. Alternatively use a trigger to show and hide the image or graphics.)

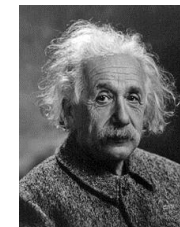


Japan Meteorological Agency

Use animations with purpose

Animations are a powerful means of building complexity or showing relationships and processes. However, they are frequently used with no apparent purpose other than to attract attention. This is just distracting.

Every animation should have a clear purpose. do NOT have text or objects fly in to a slide. People will concentrate on that rather than your content, often wondering where or what the next one will be.



“Everything should be made as simple as possible, but not simpler.”

Activity

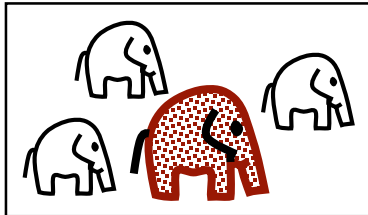
Count the number of separate pieces of information in one of your information-heavy presentations. The most I have found is 600 in a 1 hour presentation and 750 in a 1½ hour one. You can only imagine how much was remembered!

Revise one of your presentations or slides to reduce it to its essentials.

Use **CONTRAST** to focus attention

Contrast guides the viewer to what is important.

Contrast is a tool for creating a clear hierarchy of your information.



Be bold when applying contrast. Change at least two characteristics..



Contrast can be applied both positively and negatively. As well as highlighting important information it can be used to diminish the intensity of the secondary or supporting text and objects.

Size

To draw attention to an object change its size. Make sure the difference is enough to be obvious. In this example the difference is too small and so requires mental processing



Shape

Again, make sure changes are significant, for example, don't use rectangles and rounded rectangles in a flow chart unless they are a different colour and/or size as well.



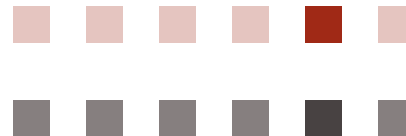
Colour



Colour is a good way to draw attention. However it doesn't work if there are too many competing, as in this example.



Limit the number of colours or diminish the saturation of the less important elements, especially in charts and graphs.



Cognitive explanation

Contrast guides people to what is important, and so reduces cognitive load.

Small differences confuse the mind, requiring more mental processing to determine if the difference is real and important.

Text and fonts

Don't change things by a small amount but make sure they will stand out from the other text.

Change at least 2 characteristics of the font. Don't just change the size by 1 or 2 points or use **bold** only.

Change them both. You could also change the **colour** and the **font type**.

Italics text, underlined text and ALL CAPITALS TEXT are difficult to read. Use them sparingly.

See Fonts under slide elements for more details.

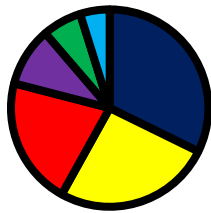
If everything on your slide is important, then nothing is important!

Contrast guides the viewer to what is important.

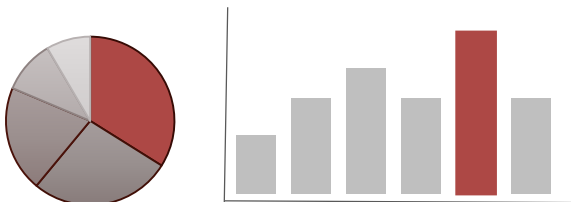
Charts and graphs

Apply these principles to charts and graphs to draw attention to the important data.

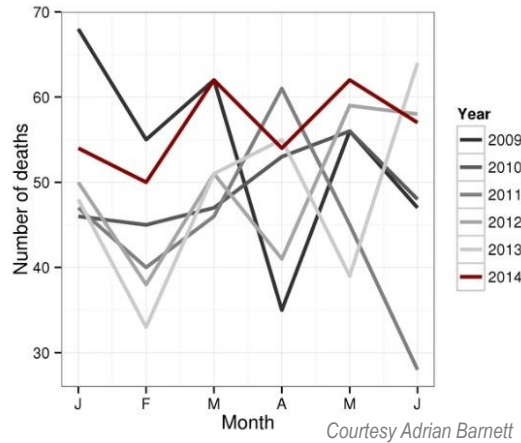
Don't overdo contrast with competing elements that cause the eye to keep moving as one thing after another demands attention.



These charts effectively focus attention on the key information.



This example shows an increase in deaths due to pollution from a coal mine fire in 2014.



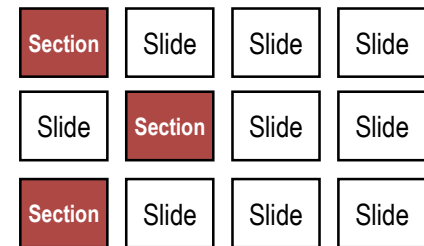
Animation

Blinking or moving objects demand our attention – look at me! Your audience will ignore the rest of the slide or feel annoyed. Don't do it without a good reason.

**Don't overfill your slides.
Embrace white space.**

Navigation

Use consistent but contrasting slides to clearly define the different sections of your presentation.



Navigation buttons will be consistent from slide to slide so they only need to be noticed once. They shouldn't be dominant features.

Activity

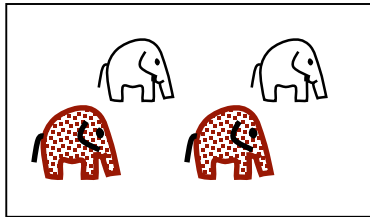
Review one of your presentations.

Does the contrast support a hierarchy and guide the viewer to the most important information?

Note the use of contrast - good and bad – in books, magazines and Web sites.

A consistent style leads to harmony and familiarity

Be consistent with colour, style and position of visual elements,— text, headings, graphics, data, labels, captions and navigation elements. This eBook uses repetition of colours, fonts, highlight and placements.



Headings

Headings should always be in the same place and style. They should be left justified. If the text is centred the starting location will appear to jump around from slide to slide. This distracts us away from the content.

Use visual clues such as arrows and colour coding to guide viewers' attention (contrast). However, use variations sparingly and consistently or they will backfire, detracting from the benefits of simplicity.

Limit the number of fonts, sizes and colours you use.

Sections

Section dividers should differ from the body slides but should look similar to each other.

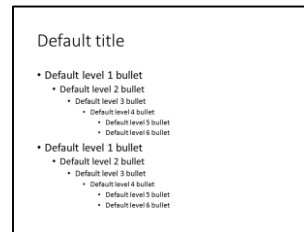
Templates – good and bad

Always use templates to make it easy to maintain consistency from slide to slide. Every slide should look like it is part of a whole. If you copy slides from different presentations make sure they adapt to the new template.

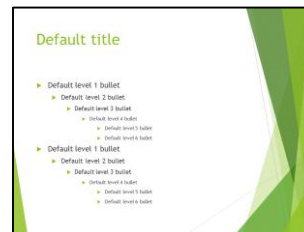
Themes, master slides and templates are covered in more depth later.

Default and online templates

PowerPoint's default templates and fonts are either boring:



or overused:



If you use these your audience will be reminded of previous sessions where they have been bored. Not a good start for your presentation.

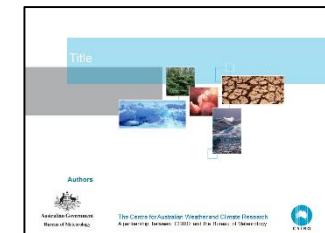
Cognitive explanation

Consistency means people know what to expect and content requires less processing:

- People don't waste effort decoding the layout
- They know where to expect important features
- They can concentrate on the content.

Corporate templates

If you are required to use a corporate template it will ensure a consistent style. Unfortunately many corporate templates don't apply all the guidelines and so don't promote good communication. In particular, they are often weighed down with extraneous elements such as logos, dates, slide numbers and irrelevant images.

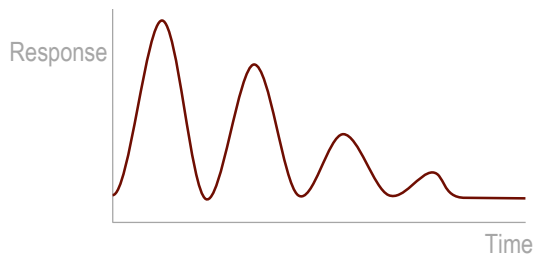


If you are required to use a corporate template you may not have much flexibility but, if possible, try to make it look different with some large images or colourful section slides. You can match the colours if necessary.

A consistent style leads to harmony and familiarity

Boredom and habituation

Our brains respond to a stimulus but when it is repeated the response rapidly decreases.



In terms of survival, this makes sense. If there is an external stimulus we need to be aware of it and to decide if it is a sign of danger or opportunity. If it isn't, then it is best to ignore it and keep our limited attention for what is important.

Use this to your advantage with your presentations. Use repetition to diminish the cognitive load for decoding your presentation - everything is where and how you expect it to be and the important content is highlighted.

Clearly you don't want every slide to look exactly the same. Avoid boredom by employing some variety and surprises, but don't overdo it with unplanned inconsistencies. If there are too many surprises your audience will be wondering what comes next rather than concentrating on the content.

Example of avoiding boredom

Keep in mind the possible boredom of your audience if everyone is presenting in the same way. This is particularly the case if there are a lot of corporate templates.

One day a friend of mine asked me to help her with a PowerPoint presentation. She was working for an agency that sends volunteers to work in developing countries. All of the in-country managers were meeting for a week and presenting on different aspects of their programs. She was in Timor Leste.

They all had beautiful PowerPoints with photos of the scenery, the people and the projects. Each presentation looked great but after the first few they all seemed the same. I convinced my friend to drop PPT altogether. She ran a quiz with a prize of a tais, a traditional cloth.

This led into a discussion of a project to import silk works and the women's collective that had made the cloth. The session was a great success.



Why did it work so well? It was fun and involving (people were standing for the quiz), it was novel (c.f. PPT habituation), the prize was authentic and related to the content, it was both visual and verbal, and it was social.



http://www.treklens.com/gallery/Asia/East_Timor/photo170200.htm

Activity

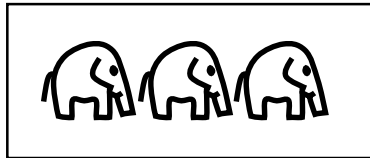
Review one of your presentations.

Does it use repetition to promote consistency?

Notice how repetition and placement of fonts, colours, graphics are used in books, magazines, Web sites and other people's presentations.

Everything should be placed with a purpose

Everything should be in its place for a reason and should be visually connected.



Aligned elements promote a sense of unity, a feeling that there is a purpose to the content. The eye can flow easily from one element to another. Any misalignment will draw attention and cause uncertainty:



Everything on your slide should be placed with purpose.

Text justification

Blocks of text can be left justified, centred, right justified or fully justified.



Headings

Normally left justify to avoid the eye 'jumping' between slides. Exceptions may be for a table title or a new section.

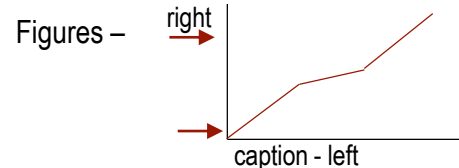
Body (paragraph) text

Left alignment creates consistency for the start of each line. Full justification can create uneven spacing between words, forcing the reader to work harder to process it.

Lists, tables, figures

Headings – left align

Table data – text: left of centred. use your judgement; numbers: right align or at decimal point.



Cognitive explanation

Our brains seek order.

Alignment promotes unity which leads to less processing.

Any items that don't align prompt the questions:

Should they be aligned? What is the pattern or relationship? What does it tell me? This takes the focus away from the content.

Character spacing

If you have a two line heading or title it can look awkward if the lines are nearly the same length but not quite. In this case one of the lines can be matched to the other by expanding or condensing it. In PowerPoint font, under font choose AV \leftrightarrow

The Low-level Jet
Characteristics and detection

The Low-level Jet
Characteristics and detection

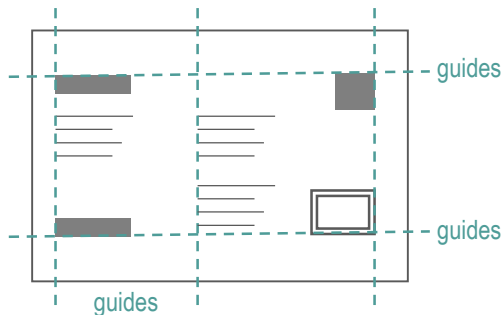
ALIGNMENT of elements promotes unity

Everything should be placed with a purpose

Alignment guides

You can set guides to help you to align objects on a slide. You set them once and they apply across all your slides.

To create guides select View | Guides. You can then drag the guide lines around your slide. To create extra guide lines right click on one and select Add or select a guide and drag it while holding the Ctrl key.



Tip: Moving objects

Shift+drag: move an object horizontally or vertically

Ctrl+Shift+drag: duplicate and move an object horizontally or vertically

Ctrl+D: duplicates an object. If you then move it to where you want it and Ctrl+D again subsequent duplicates will be equally spaced.

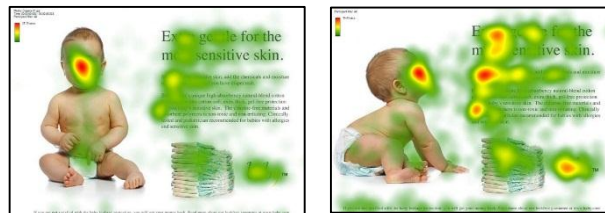
Eyes

We are programmed to focus on people's eyes and to follow where they are looking. Use this to your advantage to direct the viewer's gaze.



Position text where the person is looking.

People focus on the baby's eyes (left) or where the baby is looking (right).



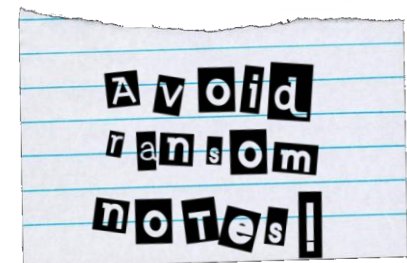
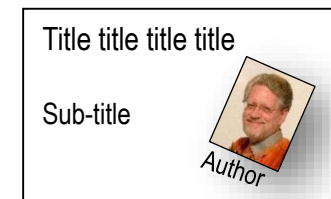
People browse a slide or page in an F-pattern so put important information in these areas.



<https://blog.kissmetrics.com/eye-tracking-studies/>

Purposeful misalignment

You can use a lack of alignment to draw attention, but make sure it is sufficiently different to be obvious. For example, putting a photo or banner on an angle.



Activity

Review one of your presentations. Are all the objects on your slide aligned? Rearrange them so they align.

Practice alignment using the Align tools and Guides.

Things that are related should be grouped together

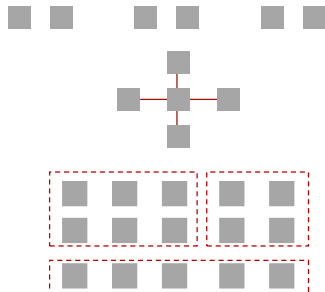
Objects that are visually close together are seen as related. Those that are physically separated are seen as unrelated.



Layout on screen

Limit the number of different objects by grouping them to form less items. A group is seen as one item.

They can be grouped through their spacing, links, enclosure or organisation, for example,



Text

Keep body text close to headings

poor

Heading text

Body text body text
body text body text

good

Heading text

Body text body text
body text body text

The default line spacing in PowerPoint is single or 1.15x. For headings that run to more than one line a better line spacing is 0.9.

Never use 2 carriage returns for the end of a paragraph. It looks unprofessional and unplanned. Explicitly select your paragraph spacing in your template.

Bullets

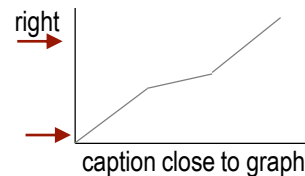
Ensure that bullets are close to their text. Some defaults in PPT have them a little far away.

Connect the bullets to their heading or lead-in text by having a closer spacing above the bullet group and a larger spacing below.

Don't make the indents too large.

Charts and graphs

Keep captions with graphics and close to them.



Cognitive explanation

Grouped items means less items to process.

Working memory is limited. Grouping via proximity displays relationships and creates less separate items.

Direct label charts and graphs. This minimises the distance eyes need to move to read labels and values and requires no processing to make the connection.

