Visual Grammar for Business
Bridging the Visual Language Barrier

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The Visual Language Barrier

Nothing communicates as powerfully and immediately as the right visual. Successful organizations worldwide recognize this. As a result, the use of visuals in business communication is growing rapidly.

Unfortunately, a problem has emerged: the visual language barrier. Until now, there has been a lack of common rules—a language, if you will—for communicating with visuals. What the creator of the visual wants to convey is not always easily understood by those receiving it. This reduces the effectiveness of the visual for widespread communication.

To solve this problem, SmartDraw developed Visual Grammar—a set of simple rules that ensures effective visual communication. Just as a word processor automatically applies proper formatting to text documents, SmartDraw automatically applies Visual Grammar rules to every visual. As a result, the visual language barrier is bridged.

- Visuals are consistently formatted, no matter who creates them.
- Attention is focused on the message—not the formatting.
- Productivity improves because the potential for miscommunication is reduced.

Why Visual Grammar?

We’ve all heard the saying, “a picture is worth a thousand words.” It’s quite true, as illustrated below. The structure of an organization is far more effective when presented visually than with a text-based description.

Text Description

Visually let you condense information into a simple, pleasing format showing connections and relationships. Studies show that communicating with visuals is up to six times more effective than
communicating with words alone. But we risk losing this benefit if the visuals we create don’t follow a set of generally accepted rules that make them easily understood.

To better understand this, consider written communication. When we write we follow accepted rules.

- We spell words in a standard way.
- We put a space between words.
- We arrange the words in lines that read from left to right.
- We read each line on the page from top to bottom.
- We use the same font, size and color for the text unless we intend to show special emphasis.
- We use end sentences with a period and use other punctuation.
- We form paragraphs and arrange them so that they line up on the left.

This makes written information much easier to communicate. Anyone can pick up a document written by anyone employing these basic rules and immediately read and comprehend it. Imagine how much more difficult it would be if documents were written like this:

MaryHad
A
littel
lamb its

snow
and everywear that MaryWent
shure to go

By establishing rules we all follow, written communication is much more efficient than it would be if everyone made up their own.

Until now, there were no common rules for communicating with visuals. This reduces their effectiveness. The most obvious example of this involves flowcharts. A flowchart is a visual that communicates the steps in a process by representing each one as shape connected by a line.
It is common to see flowcharts that use arbitrary colors, shape sizes, and haphazard flow patterns as in the following example. Try to follow the process the author intends to present – it’s difficult, isn’t it?
In this example logic flows from the left to right, from top to bottom, and from bottom to top. The shapes used for each step are random. Instructions are virtually incomprehensible. Do you want to attempt to figure this out? Do you suppose the author’s audience even tried?
Here is an example of an organization (org) chart. Notice how inconsistent the boxes are in size, shape, color and spacing. It is clear who is reporting to whom? Can you comprehend the meaning of the various line styles and colors?

Compare the org chart above to one employing basic rules of visual grammar. What a difference!
Common Visual Grammar for all Business Visuals

All business visuals, including flowcharts, mind maps, organization charts and other visuals that involve shapes and lines must follow these two simple rules:

1. The Consistency Rule
2. The One-Page Rule

Let’s examine each of these in more detail.

The Consistency Rule

The Consistency Rule says that the appearance of equivalent shapes, lines and text in a visual should be consistent (i.e. the same).

For example our flowchart uses the same color, same font and same size for each shape. Only the start and end shapes have a different outline to indicate their status as starting and ending points.

Gratuitous use of different colors, sizes, spacing, shapes and fonts only distract the reader, just as they do in text. By eliminating this distraction, the reader can concentrate on the content of the visual.

In more detail we can express the Consistency Rule as follows:

All equivalent shapes should:
1. Have the same size.
2. Have the same color.
3. Be spaced uniformly.
4. Be aligned uniformly.
5. Use the same text font, size and color.
6. Have the same outline.

Here is an example of an org chart that follows the Consistency Rule:
This org chart uses the same sized boxes for all positions, and follows all of the rules. The head of the organization is highlighted by using a different color.

**The One-Page Rule**

The One-Page Rule states that the visual must fit on one page and the text must remain readable. If the visual is intended to be viewed on screen, consider the “page” to be the area of the screen that is visible without having to scroll.

To be effective, a visual must be viewed as a whole and so it must fit on a single page or a screen. Visuals may be scaled to fit on a page but the text in the shapes must remain readable. Otherwise, the visual fails to communicate at all.

This rule is common sense but is also the most often violated. What happens when there is too much information to fit on one page? The answer is to create a hierarchy of multiple linked visuals, each of which does fit on a page.

Consider the following example. Suppose your organization contains 200 people. Creating one org chart with a box for each person can’t fit on a letter-sized page and still be readable. One way to comply with the one-page rule is to print it on a much larger page using a large format printer.

Another is to break it up into a hierarchy of smaller charts, called a *Collection*.

This organization is divided into six departments each headed by a VP. The first two layers of management can be easily represented by an org chart that fits onto one page. This *top-level* chart communicates the overall structure of the company quickly and effectively, without bogging you down in the details. It is provides a *summary* of your organization.

**Summary in a top-level chart**

The Director of Channel Sales oversees the channel sales organization and reports to the VP Sales, as shown in the above chart. This person’s organization is detailed in a lower-level chart, shown below.
This chart also fits nicely on a page. It shows the detail of the channel sales organization. If this chart is hyperlinked to the Director of Channel Sales position in the top-level chart, the someone looking at the top-level chart can click on the Director of Channel Sales position and immediately view the detail of the channel sales organization. Likewise for all of the positions on the top-level chart: each is hyperlinked to another chart that shows the detail for the part of the organization headed by the position.

Breaking a large organization chart into a linked hierarchy of smaller charts not only satisfies the one-page rule but also improves comprehension compared to one large chart, because of the separation into summary and detail. This approach has similar advantages for complex flowcharts, mind maps and other shape-and-line visuals.

**Common Visual Grammar for Specific Business Visuals**

**Flowcharts**

Like all business visuals, flowcharts should follow the Consistency Rule and the One-Page Rule.

The One-Page rule is particularly important. Flowcharts are often used to document complex business processes that do not fit on a normal-sized page. Even on a large format page, a single chart for a complex process is difficult to follow.

Creating a portfolio of hyperlinked charts is a far more effective way to document processes. This is done by starting with a top-level process flowchart that provides a brief summary of the steps in the complete process. Each of these brief summaries is hyperlinked to a separate flowchart showing the details of that step. The steps in the detail flowcharts may themselves be summaries of even more detailed steps, or sub-processes, which are hyperlinked in the same manner, perhaps into several layers of detail.
The summary with drill-down to detail via a hyperlink is a much more comprehensible and manageable way to describe a complex process than with one giant flowchart.

The following shows the top level process for serving burgers in a fast food restaurant.

<table>
<thead>
<tr>
<th>Burger Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company</td>
</tr>
<tr>
<td>Executed by</td>
</tr>
<tr>
<td>Managed by</td>
</tr>
<tr>
<td>Department</td>
</tr>
<tr>
<td>Created</td>
</tr>
<tr>
<td>Updated</td>
</tr>
</tbody>
</table>

Each of these shapes is a summary of a more detailed process and is hyperlinked to the flowchart for that process. For example, clicking on the first shape, “Order Taken via Restaurant Counter,” links to this flowchart:

<table>
<thead>
<tr>
<th>Order Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company</td>
</tr>
<tr>
<td>Executed by</td>
</tr>
<tr>
<td>Managed by</td>
</tr>
<tr>
<td>Department</td>
</tr>
<tr>
<td>Created</td>
</tr>
<tr>
<td>Updated</td>
</tr>
</tbody>
</table>

The end shape, “Place Order on Computer,” links to:
And so on. Each flowchart fits on one page and is easily understood. Note that shapes which hyperlink to more detailed processes are dark gray. Blue shapes link back to parent processes.

Compare this with all of the steps on a single flowchart:

Clearly, this is too much information to present all at once. Breaking the processes down into pieces and then using hyperlinks to move throughout the flowchart is much simpler.

In addition to following the One-Page Rule and Consistency Rule, flowcharts should also follow these special rules:

**Flowchart Rules**

1. Flow is from left to right and arrowheads show the direction of flow.
2. Decisions are represented as a split in the path, like a decision tree.
3. Return lines connect the bottom of shapes and do not cross.

Let’s illustrate these:
The Left-to-Right Rule
In Western cultures, people read from left to right. Flowcharts that flow from left to right are also easier for the average person to read than flowcharts that flow from top to bottom.

The Split-Path Rule
Traditionally a step in a flowchart representing a question has been shown with a diamond having lines coming out of two vertices: one for the path with one answer, the other for a second answer. There are three problems with this.

1. A decision symbol immediately introduces two directions of flow in the flow chart, breaking the Left-to-Right Rule and making the chart harder to follow.
2. Most consumers of flowcharts don’t know the convention of the diamond as a decision and so the change in symbol outline is just a distraction for them.
3. Too many creators of flowcharts don’t know this convention either and so they use diamonds and other shapes inconsistently, resulting in confusion instead of useful information.

A split path is immediately understood by anyone. It is intuitive and does not have to be learned or taught.

Compare these two flowcharts of the same process below.

Split Path

Decision Symbol
You can see how introducing the decision symbol causes the flow chart to immediately break the Left-to-Right Rule as one path now flows vertically. This gets worse with multiple decisions, as shown below.

Compare the above chart to this one using a multiple branch split path. Clearly, the Left-to-Right Rule creates a flowchart that is much easier to understand.

**Return Lines Rule**
Flowcharts commonly have a *return line* that connects two boxes that are not connected by the normal flow.
Because we read lines of text from the top of the page down to the bottom, return lines are easier to follow if placed consistently below the left-to-right flow of the shapes. If two lines return to the same shape, they should be connected so that there is no overlap. This is shown in the next chart.

Overlapping lines should be avoided wherever possible. If your chart requires lines to overlap, reconsider its design – there is probably a simpler, more effective way to present it.

**Organization Charts**

Organization charts should also follow the Consistency Rule and the One-Page Rule. We used an example of a hierarchy of linked organization charts to describe the One-Page Rule.

In addition, organization charts should follow five special rules:

**Organization Chart Rules**

1. The hierarchy flows down the page, with the head position at the top and reports underneath.
2. The bottom levels with no reports are shown in a columnar style; higher levels with reports are shown in the horizontal style.
3. Assistants are shown on the lines that connect managers with subordinates.
4. Shapes are either: 1) all the same size; or, 2) shapes at the higher levels are larger than shapes at the lower levels.
5. The text in the shape should label the position on top and then the name of the person on the next line. An organization chart is a display of positions first and people second.

Let us illustrate these rules using a classic org chart.
Note how it follows the Organization Chart Rules:

- The CEO is at the top, and the reports are underneath.
- The bottom positions are arranged in columns.
- The assistant to the CEO is attached to the line connecting the CEO with direct reports.
- All of the shapes are the same size.
- The name of the CEO is under the title.

Org charts flow down the page because this is a widely understood metaphor for hierarchy. For example, we use the phrases “top-down” and “bottom-up” to describe ways to traverse the chart.

**Mind Maps**

Mind Maps should follow the Consistency Rule and the One-Page Rule. Topic shapes in a top-level mind map can be hyperlinked to a second mind map that shows the detail for that topic, in exactly the same way that a position can be hyperlinked to a chart showing more detail in an organization chart.

In addition mind maps should also obey the following special rules:

**Mind Map Rules**

1. There are three kinds of mind map arrangement: Radial, Right-Columnar and Left-Columnar. Radial mind maps start with a central topic and move outwardly in all directions. Left-Columnar arranges them from top to bottom on the left side of the central topic.
2. Topics are ordered from top to bottom, starting with the left column and then moving to the right column as shown with the indexes in the topics above.

3. The level of indentation of the topic from the main topic is shown with a color/outline change so that the hierarchy is more easily visible.

**Conclusion**

The secret to shorter and more effective meetings is to use live data capture, and SmartDraw provides a simple and easy-to-use mechanism for implementing it.

To learn more watch this [video](#) or contact a product specialist at 888 111 222.

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