

# A Presentation Pattern Language

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## Abstract

Giving a good presentation is not easy. It takes a lot of discipline and creativity to prepare and give a presentation that, on the one hand, is received positively by its audience and, on the other hand, has the effects desired by the presenter. This paper gives a handful of recommendations that aid in creating a good presentation. These recommendations are put in pattern form and combined into a presentation pattern language.

## Introduction

### Motivation

Many readers have been exposed to presentations of varying quality. So have I. When listening to a very chaotic and boring presentation given by a student, I felt there must be a way to change this. Many presenters could make use of some advice helping them to give better presentations. Having read a few pattern papers, especially those published in the Pattern Languages of Program Design (PLoPD) series [1][2][3], I was inspired to create a pattern language for presentations.

## Presentation Patterns

Presentation patterns can be roughly divided into four categories:

- *Preparation patterns* state what should be done in preparation of a presentation, e.g. finding out as much as possible about the audience and the context of the presentation or choosing scope and objective.
- *Structural patterns* guide the structuring process of a presentation by supplying building blocks for different levels of the presentation, e.g. splitting a presentation into modules.
- *Didactic patterns* suggest ways of presenting the content that make it easier for the audience to understand and to remember it. For example, the presenter may proceed from the abstract to the concrete when introducing a new topic.
- *Behavioral patterns* deal with recommended behavior of the presenter in a presentation, e.g. to stay in touch with the audience and to dynamically adapt the presentation to them. Rhetoric patterns may be included in this category too.

## Scope

The pattern language in this paper focuses on structural presentation patterns. Thus, the patterns in this language can be used to create a structure for a presentation. Note that the structure of a presentation is usually influenced by the objective (“structure follows strategy”) and the choice of didactic patterns.

The patterns are on a rather high level of abstraction and, due to their limited scope, are not sufficient to create a complete presentation from scratch. Nevertheless this paper may serve as a basis for discussion on presentation patterns. Over time, the present core presentation pattern language will certainly be augmented by other patterns.

A paper by Dana Anthony [4] on patterns for classroom education demonstrates that the applicability of the pattern form is indeed not limited to software development. Patterns can equally be found in many other areas. As a course or a lecture is a special case of a presentation, her paper is also a source of information for didactic presentation patterns.

# Structural Presentation Patterns

## Overview

This section introduces a dozen patterns that can be used to create a structure for a presentation. The starting point is the SANDWICH pattern, that suggests a top level structure for a presentation. INTRODUCTION and CONCLUSION are patterns for parts of SANDWICH. ICEBREAKER and MOTIVATION are used in INTRODUCTION. MODULE is a structuring pattern for the main part.

OVERVIEW, KNOWLEDGE BASELINE, INTERMEDIATE SUMMARY, EXAMPLE, and JOKE are lower level patterns that can be used in any part of a presentation. Finally, SHORTCUT is a pattern that allows to restructure a presentation dynamically. Figure 1 shows how the single patterns are related. The numbers next to the pattern names indicate the section where the pattern is described.

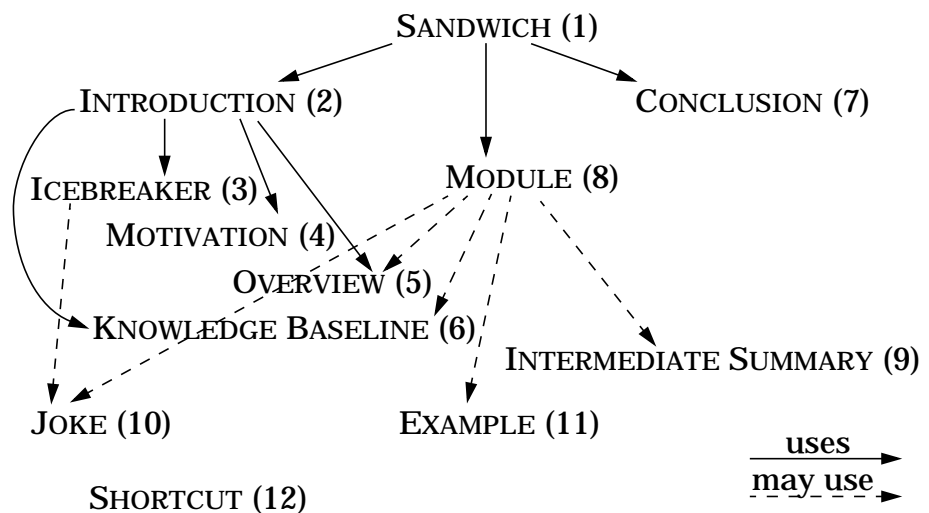


Figure 1: Overview of the pattern language

The pattern descriptions in this paper are structured according to the pattern template suggested by AG Communication Systems [5]. The patterns share an overall context and forces, that should be implicitly added to the corresponding sections of their descriptions.

**Overall Context** You want to (or have to) give a presentation. In preparation, you have found out as much as possible about the audience and the context. You have settled on the subject, the scope, and the objective of your presentation. Additionally, you have chosen the didactic concepts you want to apply.

- Overall Forces**
- The audience is willing to give a certain amount of time and attention to you, but they will withdraw their attention if the presentation is not interesting or even boring.
  - You want to reach your objective, which is impossible if the audience does not pay attention or does not understand you.
  - You want to inform the audience about your subject as detailed as necessary, but you do not want to bore them.
  - You want the audience to remember the most important points of your presentation.

## 1 Sandwich

**Problem** How can you structure your presentation at the top level?

**Context** (see overall context)

- Forces**
- You want to keep your presentation as short as possible, but you cannot start right in medias res, because people would not be able to understand without preparation.
  - A presentation should have a final part that ties together all the loose ends of the main part and gives a summary.

**Solution** Structure the presentation as follows:

- INTRODUCTION,
- main part, and
- CONCLUSION.

Start with an INTRODUCTION that rouses the audience's interest. It is followed by the main part, where the subject is covered. Finally, a CONCLUSION wraps up the presentation and emphasizes the most important points.

INTRODUCTION and CONCLUSION have a similar purpose as the bread slices of a sandwich: they contain the filling and make it easier to consume. But do not forget the quality of a sandwich is mainly determined by its filling, not by the bread slices.

**Resulting Context**

You now have a top level structure for your presentation. Unfortunately, a general pattern for the main part cannot be given because the structure and the contents of the main part depend heavily on the subject, the scope, and the objective. In general, it is convenient to break up the main part into a sequence of MODULES.

**Example**

A product presentation for an electrical can opener starts with an introduction. The introduction depicts the problems of can openers operated manually, like the danger of injuries or the force and dexterity needed. After this introduction, the solution is presented: the new patented Can-O-Pna, an electrical can opener that opens cans of any size from any manufacturer swiftly and easily. The presentation of the product is the main part, that is wrapped up by a conclusion: Can-O-Pna is the best product available.

**Related Patterns**

The idea of “sandwiching” can also be applied to a MODULE or a sequence of MODULES.

## 2 Introduction

**Problem**

How should your presentation begin?

**Context**

You want to design a suitable beginning for your presentation.

**Forces**

- Starting a presentation with its message is useless. The audience first has to be prepared for it, so they can understand and value it.
- It is best to tell the audience right from the start what the presentation is about. Then they can decide if they are interested or not, and will not (hopefully) get frustrated by a presentation that starts promising but then proves to be uninteresting to them.

- The audience may have certain expectations for the presentation that could be correct or not.

## **Solution**

At the beginning of a presentation, give an introduction. The introduction should prepare the audience for the main part of the presentation.

The introduction has three different purposes:

1. Rouse the attention and interest of the audience. You can use ICEBREAKER and MOTIVATION to this end.
2. Give an OVERVIEW of the presentation.
3. Provide a necessary general KNOWLEDGE BASELINE that enables the audience to follow the presentation and understand its content.

## **Resulting Context**

You have the attention and interest of the audience. They know what you have in store for them and they want to follow the rest of the presentation. In the main part you have to keep the “promises” you made so far.

# **3 Icebreaker**

## **Problem**

How can you get the audience’s full attention?

## **Context**

You want to get the audience’s full attention at the very beginning of your presentation.

## **Forces**

- The beginning of a presentation is the most critical part. The audience has to be convinced that they want to listen to it attentively.
- Even if the audience is forced to attend a presentation (e.g. students in a lecture), they are free to pay no attention to it.
- The audience is interested in your presentation, but they may be sceptical about its content or about your qualification. This may create a kind of barrier between you and the audience.

<b>Solution</b>	<p>Use an icebreaker to break the barrier and to get full attention. Good icebreakers are things the audience does not expect. This may be a JOKE, or simply surprise. For example, you could start from a completely unexpected position.</p> <p>Another technique is to ask the audience's opinion or experience about something related to the subject by making them raise their hands if they agree. This is also helpful for MOTIVATION.</p>
<b>Con- straints</b>	<p>An icebreaker must be chosen carefully. For instance, shocking people is another way of getting attention, but there are many situations where this is not appropriate.</p>
<b>Resulting Context</b>	<p>You have the audience's attention; from now on you have to keep it. Rouse interest by giving a MOTIVATION why the audience should listen to your presentation.</p>
<b>Known Uses</b>	<p>Elaborate examples of ICEBREAKERS, especially for courses, can be found in [6] and [7].</p>
<b>Example</b>	<p>In the above example of the Can-O-Pna product presentation the presenter asks, "Think about it: how often do you open cans? And how often have you cut yourself when opening them manually? A few times? A lot? Are you fed up with the labor of doing it by hand?" The audience will think about this, and people will raise their hands, nod, etc.</p>
<b>Related Patterns</b>	<p>ICEBREAKER can be easily combined with MOTIVATION. For example, in a presentation that deals with a problem, the presenter gives a striking example of the problem and shows that everybody, including himself, is affected by it. The example also gives a motivation why the problem is important and has to be dealt with.</p>

## 4 Motivation

<b>Problem</b>	How can you rouse the audience's interest in your presentation?
<b>Context</b>	You are at the beginning of your presentation and already have the audience's attention.
<b>Forces</b>	<ul style="list-style-type: none"><li>• In the very beginning the interest of the audience is easiest to rouse because of their natural curiosity. Later on it becomes more difficult.</li><li>• The audience may be sceptical if the content of your presentation could be interesting.</li></ul>
<b>Solution</b>	<p>Motivate <i>why</i> you are giving this presentation. Stress the point why the audience should be interested in your presentation.</p> <p>For instance, ask a thought-provoking question that leads to your subject, or give an EXAMPLE of a pressing problem you are going to deal with in your presentation. If appropriate, tell the audience about your objective.</p>
<b>Resulting Context</b>	You have the audience's attention and interest. Now, if necessary, you should provide the basis for following the presentation by supplying an OVERVIEW and a KNOWLEDGE BASELINE.
<b>Rationale</b>	Interest creates attention that lasts until the end of your presentation. In contrast, an ICEBREAKER rouses the audience's attention only temporarily.
<b>Example</b>	The presenter continues, "But now your dangerous and laborious days are over. For now Can-Guru's superb new Can-O-Pna is available. Let me tell you more about it."
<b>Related Patterns</b>	MOTIVATION is often tightly coupled with ICEBREAKER. See the Related Patterns section of ICEBREAKER for details.



## 5 Overview

<b>Problem</b>	How can you set the audience on track so they can follow your presentation easily?
<b>Context</b>	The audience already knows what the presentation is about. The presentation has more than one MODULE.
<b>Forces</b>	<ul style="list-style-type: none"><li>• It is best to tell the audience right from the start what they will learn in your presentation.</li><li>• If a presentation has more than a few modules, the audience may lose track.</li><li>• It is easier for the audience to understand a sequence of items if every single items can be fit into a common frame.</li><li>• Often the scope of a presentation cannot be precisely defined by its title alone, so it has to be clarified.</li></ul>
<b>Solution</b>	<p>Give an overview of your presentation. The overview answers the question <i>what</i> will be presented and in which order, i.e. it clarifies the content and the structure of the presentation. You can also state what you will <i>not</i> cover in your presentation; this often helps to make its scope clear.</p> <p>An overview may consist of a single slide with the titles and the order of the MODULES of your presentation. Dependencies between MODULES can be represented by arrows.</p>
<b>Resulting Context</b>	The audience knows what is to come and waits curiously for the main part of your presentation.
<b>Example</b>	The presenter continues, “Can-O-Pna is a modular product with a lot of optional extensions. I will introduce you to the basic product first, then I’ll present possible extensions.”
<b>Related Patterns</b>	You can reuse the slide with the overview on it in INTERMEDIATE SUMMARY to check off the module just covered. This gives the audience a feeling of the progress you, and they, are making.

## 6 Knowledge Baseline

<b>Problem</b>	How can you make sure the audience can follow the contents of a MODULE?
<b>Context</b>	You want to present a MODULE of your presentation that may need some background knowledge for full understanding.
<b>Forces</b>	<ul style="list-style-type: none"><li>• The audience may be interested, but they may not have the necessary background knowledge to follow it.</li><li>• The audience may have differing depths of knowledge in regard to the subject of the presentation, but you want them all to share a certain basic level of knowledge.</li></ul>
<b>Solution</b>	Create a shared knowledge baseline by giving necessary background knowledge before presenting the module itself. Restrict this to as little information as possible to avoid boring most of the audience.
<b>Related Patterns</b>	<p>If the necessary background knowledge is very extensive, you can turn it into an independent MODULE that precedes the corresponding module.</p> <p>General knowledge that is needed for the whole presentation should be given in the INTRODUCTION.</p>

## 7 Conclusion

<b>Problem</b>	How should your presentation end?
<b>Context</b>	You want to design a suitable ending for your presentation. This is easiest if the rest of the presentation structure is already outlined.
<b>Forces</b>	<ul style="list-style-type: none"><li>• After the end of a presentation people will quickly forget most of what they heard. At best they will remember some highlights of the presentation.</li><li>• You want the audience to remember what you said – at least the most important points.</li></ul>

- Repetition is a way of making people remember. It also helps if the audience can associate the most important points with a context, knowledge they already had, or a new insight.
- You want to put your presentation into the big picture; perhaps you should also give implications to other areas or a forward look.
- At the end of a presentation, the audience's ability to concentrate is rather low.

## **Solution**

Add a conclusion at the end of the presentation. Repeat the most important points. Emphasize the points you want the audience to remember. The conclusion should be as short as possible.

In the conclusion you can also give a forward look. The content of the forward look depends heavily on the content of your presentation, of course. For instance, if you presented some research results, you may inform your audience about the further steps you are going to take.

## **Resulting Context**

The audience will remember what the presentation was about and what was most important in it.

## **Example**

The presenter wraps up the presentation. "You have just experienced a major advancement in can-opening technology. Can-O-Pna opens any can faster and safer than you could. With the automatic emptying and can disposal extensions, the risk of hurting yourself is reduced to nothing!

Seventy-five thousand satisfied customers already use Can-O-Pna; every day hundreds of people join this happy community. Don't wait! Get your own Can-O-Pna now! Its usual price is \$129, but if you buy now, you get a \$20 special-offer discount. My assistant here will record your orders right now."

## 8 Module

<b>Problem</b>	How can you structure the main part of your presentation?
<b>Context</b>	The main part of the presentation is too big to be presented in one piece. Thus, it should be divided into subparts.
<b>Forces</b>	<ul style="list-style-type: none"><li>• Knowledge must be divided in pieces that are easy enough to understand, but the relations between these pieces must be clear.</li><li>• Each subpart should contain only items that are closely related.</li><li>• The subparts must be ordered in a way that makes understanding as easy as possible.</li></ul>
<b>Solution</b>	<p>Break your presentation into a sequence of independent parts, the modules. The content of a module should be cohesive, i.e. the items in the module should be strongly related.</p> <p>Each module should depend only on the modules presented earlier. In case of circular dependencies you will have to include forward references, but try to minimize them. The modules should be small enough to be presented in, say, five to ten minutes. However, there should not be too much of them either.</p> <p>MODULES also create abstractions. Each module can be treated as an abstraction of its content. This helps structuring and restructuring the main part. Of course, MODULE can be applied recursively, i.e. modules can be divided into submodules.</p>
<b>Related Patterns</b>	<p>The content of a module may need a KNOWLEDGE BASELINE for understanding. Provide this at the beginning.</p> <p>Each module may be preceded by a short OVERVIEW and followed by an INTERMEDIATE SUMMARY.</p> <p>MODULE'S STORY<sup>1</sup> and SEVEN PARTS<sup>2</sup> [4] help in structuring a module, the latter also in choosing an appropriate number of modules for the presentation.</p>

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1. Thumbnail: How do you make a module feel like a coherent whole? Come up with an example, exercise, or goal the makes use of all the topics in the module.

## 9 Intermediate Summary

**Problem** How can you enable people who dropped out of your presentation to tune in again?

**Context** Your presentation is so long that there is a risk of a lot of people dropping out because they cannot concentrate or are not interested any longer.

- Forces**
- You want the whole audience to follow your presentation.
  - If a presentation has more than a few modules, the audience may lose track of the content.
  - Most people do not understand the content of the presentation at the same pace as it is presented; some think ahead and others lag behind.
  - The ability of humans to concentrate on a certain subject over time is limited. Therefore you may lose most of your audience on the way. At some time they will drop out; they may try to catch up but fail.
  - Repetition deepens recollection.

**Solution** For the listeners who have temporarily dropped out but want to tune in again, do regular summaries of the things you have presented. This provides the most important information that could have been missed and gives the opportunity to follow the rest of the presentation. An intermediate summary should reflect the structure of the presentation in that it wraps up a MODULE (or a sequence of MODULES).

An intermediate summary is a way to “gather the dispersed herd” again and to set off together for the next part. It also provides a good opportunity for the audience to ask questions about the items presented so far.

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2. Thumbnail: How do you choose an appropriate size for a module? If you can divide the module into about seven steps or subtopics, it will seem about right to most people. (This recommendation is based on Miller’s observation that the human short-time memory can handle about seven information chunks at the same time. [8])

**Con-  
straints**

You should not do summaries too often, because they irritate the listeners who attentively followed the presentation all the time. They may get the impression that you think they are so stupid you have to tell them everything twice. As a rule of thumb, do not summarize more often than every ten to fifteen minutes.

**Resulting  
Context**

The audience is given the opportunity to follow the presentation again at certain points of the presentation. The most important aspects of a part of the presentation are emphasized and thus more likely to be remembered.

**Related  
Patterns**

CONCLUSION is a variation of INTERMEDIATE SUMMARY as it wraps up the whole presentation, not just a part of it. But CONCLUSION is more than a simple summary because it also gives a forward look.

Right after an intermediate summary you can show the slide with the OVERVIEW on it again and check off the MODULE that has just been completed.

## 10 Joke

<b>Problem</b>	How can you make your presentation more lively and enjoyable?
<b>Context</b>	You want to give a presentation that deals with a rather dry subject that has little entertainment value. This is typical for a lot of scientific presentations.
<b>Forces</b>	<ul style="list-style-type: none"><li>• People do not like dry presentations; you will eventually lose their attention.</li><li>• People may not admit it, but they like to be entertained by a presentation. Listening attentively is much more pleasant in a relaxed atmosphere created by humor.</li></ul>
<b>Solution</b>	<p>Liven up your presentation with humor, e.g. by telling jokes and anecdotes. This may even deepen the audience's recollection of your presentation.</p> <p>You can also use humor to cover up a faux pas or to deal with an unexpected situation as it is done in the example below.</p>
<b>Constraints</b>	<p>Keep in mind that jokes are not always funny, they may even be insulting. This depends on your audience.</p> <p>Unfortunately some people think that scientific presentations have to be serious to be professional. But seriousness makes a dry subject worse. If your audience consists mostly of "serious" people, humor is certainly out of place.</p> <p>Apply humor with care because it can be overdosed. If you use this pattern too often, nobody will take serious <i>anything</i> you say.</p>
<b>Resulting Context</b>	The presentation is less serious and dry. Even if the subject is boring, the audience is having some fun.
<b>Known Uses</b>	A good example of someone who uses this pattern extensively is Ed Yourdon. He likes to put a lot of jokes and puns into his speeches – and people apparently love them.
<b>Example</b>	In the middle of the presentation the overhead projector's light bulb flickers and burns out. The presenter says: "Oh, I didn't know Microsoft also builds operating systems for overhead pro-

jectors. Maybe it'll work if I switch it off and on again." Almost everyone who ever used Microsoft products will consider this to be funny – except perhaps people working for Microsoft.

**Related  
Patterns**

It is important to catch the audience's attention at the very beginning of your presentation. A fitting JOKE as an ICEBREAKER is very likely to do the trick.

## 11 Example

**Problem**

How can you explain a complex item more clearly?

**Context**

You want to present a complex item, e.g. a scientific method. It is essential that the audience understands it (else simplify the item or leave it out completely).

**Forces**

- Complex items are inherently difficult to understand; this also affects the time needed for understanding.
- The audience may be reluctant to grapple with the complex item if they do not get enough support from you.
- Knowledge can be considered worthless if there is no (practical) application for it.

**Solution**

Supply at least one illustrating example of every complex item you present. Be aware that examples have to be simple enough to be understood with little effort. In addition to examples you may also use models, figures, diagrams, or an analogy to illustrate something.

If the item is too complex to be explained by a single example, it is possible to give a sequence of related examples. The sequence starts with a simple example; the level of complexity is increased by every subsequent example.

**Con-  
straints**

Examples, however, can be too simple. The audience may not take examples seriously if they seem completely unrealistic.



**Rationale** One way humans learn is by examples: more abstract knowledge is deduced from a collection of concrete examples. Thus supplying examples can drastically reduce the time needed for understanding. Albert Einstein put this even more drastically: “Example isn’t another way to teach, it is the only way to teach.”

**Related Patterns** An initial EXAMPLE (e.g. for a problem to be solved) in the INTRODUCTION attracts further attention to your presentation and makes it easier for the audience to understand it.

ACQUAINTANCE EXAMPLE<sup>1</sup> [4] helps finding examples for a course. A COLORFUL ANALOGY<sup>2</sup> [4] may substitute or supplement an EXAMPLE.

EXAMPLE is also a didactic pattern. Other patterns for didactic purposes can be found in [4] and the extensive collection of the Pedagogical Pattern Project [9].

## 12 Shortcut

**Problem** How can you shorten your presentation on demand?

**Context** While giving a presentation, you notice that you need more time than you have left.

- Forces**
- The time available for the presentation is generally limited, so overrunning is not always possible or advisable.
  - The time needed for the presentation cannot be estimated exactly because it also depends on the audience and its reactions.
  - You want the presentation to remain intact even if you skip something you prepared for it.

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1. Thumbnail: How do you choose specific examples to use for a class? Choose examples that are the most likely to be familiar to students but not be within their area of expertise.

2. Thumbnail: A very important concept has a lot of boring, detailed ramifications. A dry concept can be highlighted with a colorful analogy that provides a place to go back to recall the details.

## Solution

Integrate shortcuts into your presentation. A shortcut is implemented by choosing an item or a whole MODULE that can be skipped. Thus, in case of time pressure, the presentation can be shortened on demand by taking shortcuts. The presentation still remains intact.

Typically shortcuts are built around additional EXAMPLES or parts that give further information that is not absolutely vital to understanding.

## Epilogue

Kurt Tucholsky describes in his 1930 humorous essay “Ratschläge für einen schlechten Redner” (Advice for a Bad Speaker) [10] how *not* to give a speech. Similar to an antipattern he first describes attributes of bad speakers and then gives advice on how to give a good speech. Everybody should read this before giving a presentation.

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