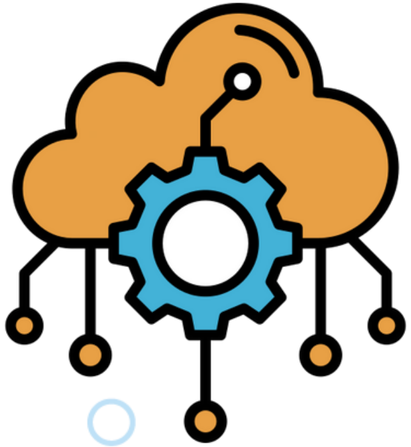
COLOMBIA POTENCIA DE LA VIDA

TIC

LESSON 1
CLOUD ARCHITECTURE PATTERNS



TALENTO TECH

AZ | PROYECTOS EDUCATIVOS

Universidad Tecnológica de Pereira

COLOMBIA POTENCIA DE LA VIDA

TIC

SOCIALIZE THE TECHNOLOGY IDIOM OF THE DAY.

TALENTO TECH

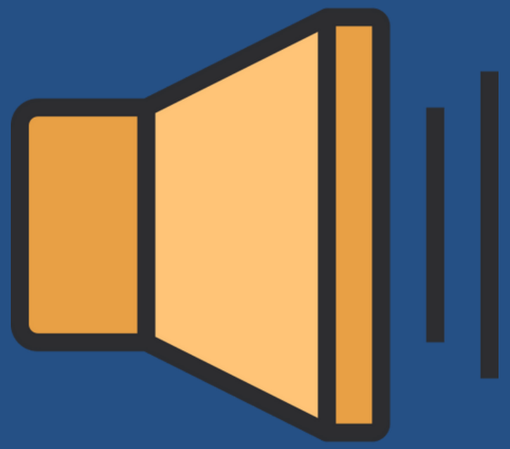
AZ | PROYECTOS EDUCATIVOS

UTP Universidad Tecnológica de Pereira

WIRED FOR SOUND

Meaning: To have the necessary equipment, especially for recording or listening to music.

Example: With the latest surround sound system, his living room is wired for sound.



DISCUSSION QUESTIONS ABOUT PATTERN-BASED DESIGN.

What is pattern-based design, and how would you explain it to someone who is new to the concept? Can you provide examples of patterns used in everyday objects or software?

How can the use of patterns enhance the design process in various fields, such as graphic design, software development, or architecture? Can you think of a specific situation where recognizing a pattern would lead to a more effective solution?

What challenges might designers face when applying pattern-based design, and how can they overcome these challenges? On the flip side, what are the key benefits of incorporating patterns into the design process?

COLOMBIA POTENCIA DE LA VIDA

TIC

BEFORE THE READING, EXPLAIN WHAT THE SKIMMING STRATEGY IS.

TALENTO TECH

AZ | PROYECTOS EDUCATIVOS

UTP Universidad Tecnológica de Pereira

Skimming is a reading strategy that involves quickly glancing over a text to get a general overview or sense of its content without reading every word. The purpose of skimming is to identify key information, main ideas, and the overall structure of the text. It is particularly useful when you want to preview a document, decide if it's relevant to your needs, or get a quick understanding of the material before reading it more thoroughly.

Key characteristics of the skimming strategy include:

Reading Headings and Subheadings: Skimmers often focus on headings and subheadings to grasp the main topics and subtopics covered in the text.

Examining the Introduction and Conclusion: Skimmers pay attention to the introductory and concluding paragraphs or sections to capture the central theme and summary of the content.

Reviewing the First and Last Sentences of Paragraphs: By reading the initial and concluding sentences of paragraphs, skimmers can get an idea of the main points discussed in each section.

COLOMBIA POTENCIA DE LA VIDA

TIC

SOCIALIZE VOCABULARY ABOUT THE READING: "PATTERN-BASED DESIGN ”

TALENTO TECH

AZ | PROYECTOS EDUCATIVOS

UTP Universidad Tecnológica de Pereira

Design Pattern: Meaning: A typical solution to a common problem in software design. Design patterns are reusable templates that can be customized to solve recurring issues in code.

Blueprint: Meaning: An analogy used to describe design patterns. Like a blueprint in construction, a design pattern provides a plan or model that can be adapted to address specific programming challenges.

Algorithm: Meaning: A set of clear, step-by-step instructions that define actions to achieve a particular goal. Contrasted with design patterns, algorithms provide specific implementation details.

High-Level Description: Meaning: Refers to the nature of design patterns as abstract and general solutions, offering an overview without specifying the exact details of code implementation.

Intent: Meaning: A section in the pattern description that briefly outlines both the problem and the solution the pattern aims to address.

Motivation: Meaning: A section in the pattern description that further explains the underlying problem and the solution that the pattern facilitates.

Structure of Classes: Meaning: A section in the pattern description that illustrates the components of the pattern and how they are interrelated in terms of classes and structure.

Code Examples: Meaning: Demonstrations in popular programming languages within the pattern description to provide clarity on how to implement the pattern.

Pattern Catalogs: Meaning: Collections or lists that include additional details about patterns, such as their applicability, implementation steps, and relationships with other patterns.

Reusability: Meaning: The characteristic of design patterns that allows them to be adapted and reused in various contexts to solve similar design problems efficiently.

READING: "PATTERN-BASED DESIGN"

¿What's a design pattern?

Design patterns are typical solutions to commonly occurring problems in software design. They are like pre-made blueprints that you can customize to solve a recurring design problem in your code.

You can’t just find a pattern and copy it into your program, the way you can with off-the-shelf functions or libraries. The pattern is not a specific piece of code, but a general concept for solving a particular problem. You can follow the pattern details and implement a solution that suits the realities of your own program.

Patterns are often confused with algorithms, because both concepts describe typical solutions to some known problems. While an algorithm always defines a clear set of actions that can achieve some goal, a pattern is a more high-level description of a solution. The code of the same pattern applied to two different programs may be different.

An analogy to an algorithm is a cooking recipe: both have clear steps to achieve a goal. On the other hand, a pattern is more like a blueprint: you can see what the result and its features are, but the exact order of implementation is up to you.

¿What does the pattern consist of?

Most patterns are described very formally so people can reproduce them in many contexts. Here are the sections that are usually present in a pattern description:

Intent of the pattern briefly describes both the problem and the solution.

- Motivation further explains the problem and the solution the pattern makes possible.
- Structure of classes shows each part of the pattern and how they are related.
- Code examples in one of the popular programming languages makes it easier to grasp the idea behind the pattern.
- Some pattern catalogs list other useful details, such as applicability of the pattern, implementation steps and relations with other patterns.

Taken from:
https://refactoring.guru/design-patterns/what-is-pattern