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Design Patterns

https://sourcemaking.com/design_patterns

This webpage (and more generally the overall website) aims to teach design patterns to viewers in a clear and digestible format. The articles start by talking about the importance of design patterns and how they can improve a developer's project structure. It then goes into the different design patterns, first separating them into their respective pattern type: Creational, Structural, and Behavioral. Each section has a brief description of what its main purpose is before listing the different patterns within it. Each page dedicated to a specific pattern is then broken down into a few sections. First comes "Intent" which is a few bullet points about why this pattern is useful. Next comes "Problem" where the issue being addressed is clearly defined. Following this is "Discussion" which goes into more detail about how the pattern works. After discussion, you find "Structure" which has the UML diagram for the design pattern and a few notes about it. "Example" comes next where the page describes a specific scenario where this design pattern would be useful. Now that there is a clear understanding of how the pattern functions, the next section "Check list" has a quick list of steps to implement and use the pattern. Finally, possibly the most important part is "Rules of thumb" which outlines a few notes and suggestions on using the pattern and also how it can work alongside other design patterns. Back on the main page, after the list of design patterns comes a section titled "Criticism" where the author goes over a handful of problems that other professionals have had with design patterns (and more specifically the 23 Gang of Four patterns). Some criticisms included are how the patterns lack formal foundations, they can lead to inefficient solutions, and that these patterns do differ significantly from other abstractions.

I understand that this website is pretty generic in that it is about generally teaching design patterns. However, I chose it for the reason that not only have I found it incredibly useful when starting to learn design patterns about a year ago but also the information presented tries to give you a full picture of design patterns including both the good, the bad, and the detailed. Since this guide goes over both why and why not to use these design patterns I find it an incredible teaching tool. So many resources I found over the years in college for computer science are oftentimes missing information, biased, or just downright confusing. This guide is the complete opposite. It gives a full picture of design patterns so that when you do end up using them in your implementations you know the flaws/restrictions they have, how they can fit together with other patterns and the full picture behind them due to multiple paths of explanation (visual and textual).

I would highly recommend this guide to anyone I found who was interested in learning how to use design patterns. It has helped me greatly in this class and previous classes due to its easy to understand write up structure and clear content.