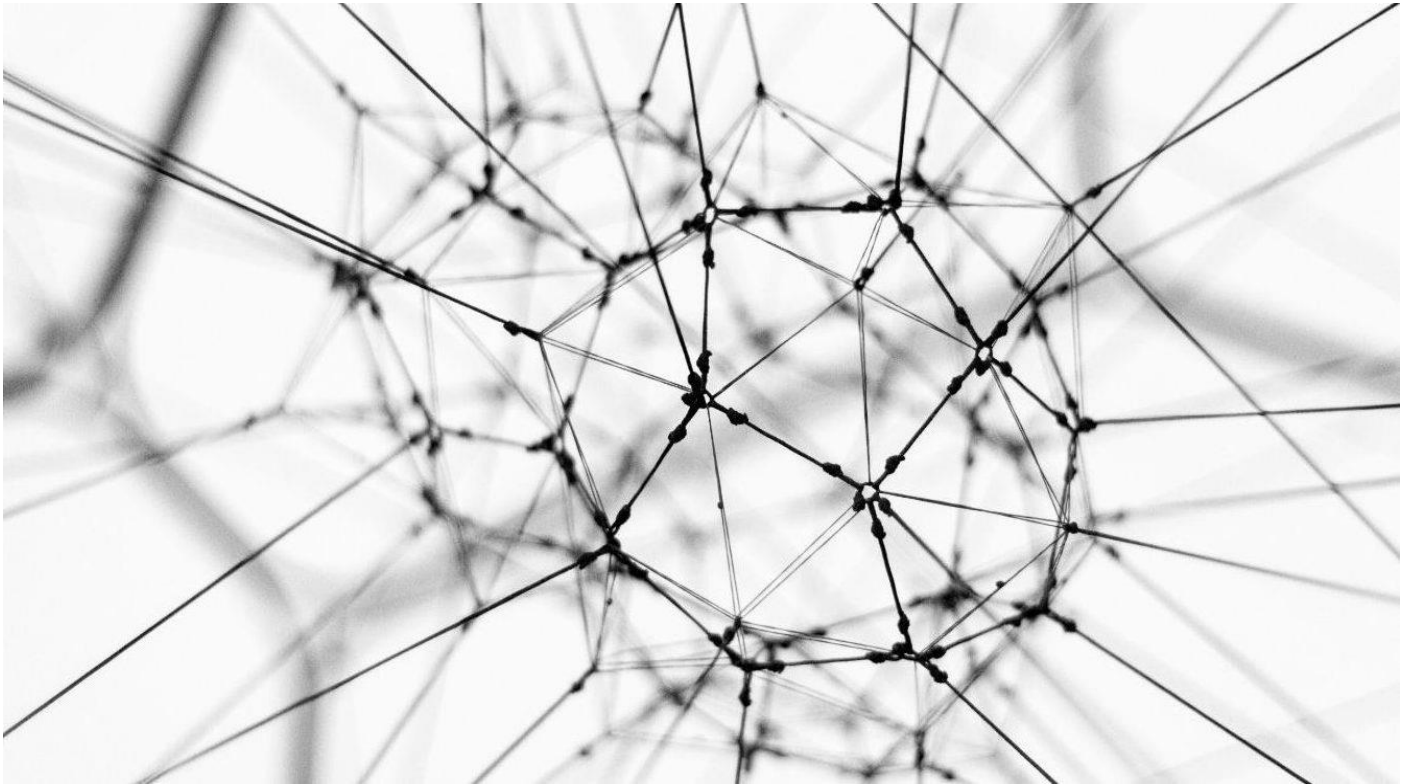


## What is a Framework



## What is Software Design

In software engineering, a software design pattern is a general, reusable solution to a commonly occurring problem within a given context in software design. It is not a finished design that can be transformed directly into source or machine code. It is a description or template for how to solve a problem that can be used in many different situations. Design patterns are formalized best practices that the programmer can use to solve common problems when designing an application or system.

## What is Framework

If I told you to cut a piece of paper with dimensions 5m by 5m, then surely you would do that. But suppose I ask you to cut 1000 pieces of paper of the same dimensions. In this case, you won't do the measuring 1000 times; obviously, you would make a frame of 5m by 5m, and then with the help of it you would be able to cut 1000 pieces of paper in less time. So, what you did was make a framework which would do a specific type of task. Instead of performing the same type of task again and again for the same type of applications, you create a framework having

all those facilities together in one nice packet, hence providing the abstraction for your application and more importantly many applications.

## **Software framework @Wikipedia**

In computer science, a software framework is an abstraction in which software providing generic functionality can be selectively changed by additional user-written code, thus providing application-specific software. A software framework provides a standard way to build and deploy applications. A software framework is a universal, reusable software environment that provides particular functionality as part of a larger software platform to facilitate development of software applications, products and solutions. Software frameworks may include support programs, compilers, code libraries, tool sets, and application programming interfaces (APIs) that bring together all the different components to enable development of a project or system.

Frameworks have key distinguishing features that separate them from normal libraries:

- inversion of control: In a framework, unlike in libraries or in standard user applications, the overall program's flow of control is not dictated by the caller, but by the framework.
- extensibility: A user can extend the framework – usually by selective overriding; or programmers can add specialized user code to provide specific functionality.
- non-modifiable framework code: The framework code, in general, is not supposed to be modified, while accepting user-implemented extensions. In other words, users can extend the framework, but should not modify its code.