Design Patterns - Introduction

In this course we will cover the seven(7) most crucial design patterns.

Each design pattern will be covered as follows:
1. We will explain and explore the design pattern architecture.
2. We will implement this pattern in Flutter with Dart code.
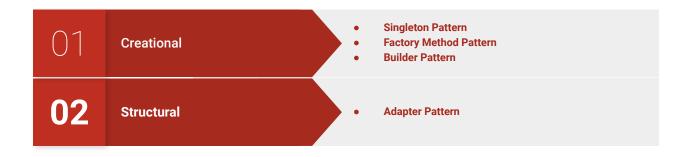3. We will look into how this pattern helps **good architecture.**

We will **use all these patterns to architect** and write a simulation of *John Conway's Game of Life* which will run on your mobile device.

Design Patterns - Introduction

Here are the patterns that we will cover:

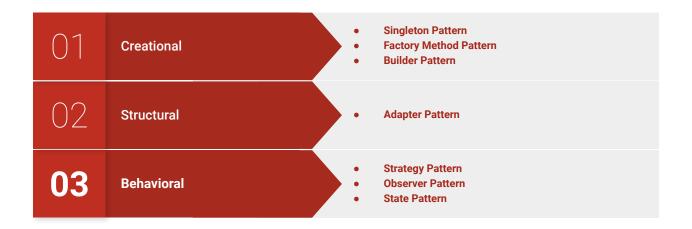| 01	Creational	• Singleton Pattern
		• Factory Method Pattern
		• Builder Pattern

Creational Design Patterns are **design patterns** that manage object creation mechanisms. They are designed to create objects in flexible and highly adaptable ways. These patterns offer the most reusable and flexible ways of creating object instances.

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Here are the patterns that we will cover:

01	Creational	• Singleton Pattern • Factory Method Pattern • Builder Pattern
02	Structural	• Adapter Pattern

Structural Design Patterns are **design patterns** that improve and simplify your designs by identifying the most efficient and reusable way to composing relationships among entities. This allows for the best and most efficient ways of creating complex hierarchies of objects.

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Here are the patterns that we will cover:

01	Creational	• Singleton Pattern • Factory Method Pattern • Builder Pattern
02	Structural	• Adapter Pattern
03	Behavioral	• Strategy Pattern • Observer Pattern • State Pattern

Behavioral Design Patterns are **design patterns** that improve interaction and communication between objects. These patterns offer **loosely coupled** ways of allowing objects to 'talk' to each other and exchange messages.

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Once you master these patterns you will immediately see the world of coding differently. You will start seeing those patterns everywhere.

Just remember these pattern families:

Creational: Deals with ways of creating objects or families of objects.

Structural: Deals with ways of managing complex object hierarchies.

Behavioral: Deals with ways of identifying and improving object messaging.