Design Pattern & Clean Code

Pattern, Clean Code and Best Practices

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Goals

- Design Pattern
- Clean Code
- Best Practices

Kaizen vs. Kaikaku

- `Make the world a better place, day by day`
- Kaizen is the Sino-Japanese word for "improvement"
- Kaikaku is the Japanese term for "radical change"

[Boyscout Rule]

```
Always leave the code better than you found it.
```

- Remove technical debts
- Renaming, documentation, tests, or
- Clean(er) Code
- Small or smaller, depends on you

[Broken Window Principle}

- If you start breaking it,
- Everyone will continue.

[30 second rule]

`If it takes only five minutes, do it now`

- If it can be fast, do it now
- If it is a bigger task, create a ticket
- If there are too many "five mins", create a `TODO`

SOLID

- Single-responsibility principle
  - Every class should have only one responsibility
- Open–closed principle
  - Software entities ... should be open for extension, but closed for modification.
- Liskov substitution principle
  - A derived class should not break behaviour of the base class
- Interface segregation principle
  - Many client-specific interfaces are better than one general-purpose interface

Extension Methods

- No state
- No business logic
- Just "facade" methods

Aggregation Pattern

- IGetInformation
- IAggregateGetInformation
- IAggregateGetInformation implements IGetInformation
- IAggregateGetInformation registers only with aggregate interface

Tagging Interface

- Empty interface to register a class for a specific purpose

3rd party libraries

- Create separate project
- Interfaces to "contracts" project
- Empty implementation to "contracts" project
- Concrete implementation in 3rd party library

[Strategy Pattern]

- Inject behaviour
- Strategy changes depending on needs
- DI implementa strategy with registrations
- Some frameworks support "named registrations"

💡 Demo: StrategyResolver<T>

[Command Pattern]

- Is a strategy pattern
- Has the following methods
  - `CanExecute(context)`
  - `Execute(context)`

💡 Demo: PdfTools