Refactoring Legacy Code to Follow OCP and LSP

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Overview

Identify Cross-Cutting Concerns

- Apply Patterns to Follow OCP

Identify Misuse of Types

- Ensure substitutability to Follow LSP

Wikipedia – Cross Cutting Concerns

“… cross-cutting concerns are aspects of a program that affect several modules, without the possibility of being encapsulated in any [one] of them.”

Examples of Cross-Cutting Concerns

Business Rules

Data Access / Persistence

Validation

Logging

Exception Handling

Monitoring

Refactoring

- Open/Closed Principle
- Liskov Substitution Principle
- Cleaning up CalculatePrice()

Review After Refactoring to Apply OCP and LSP

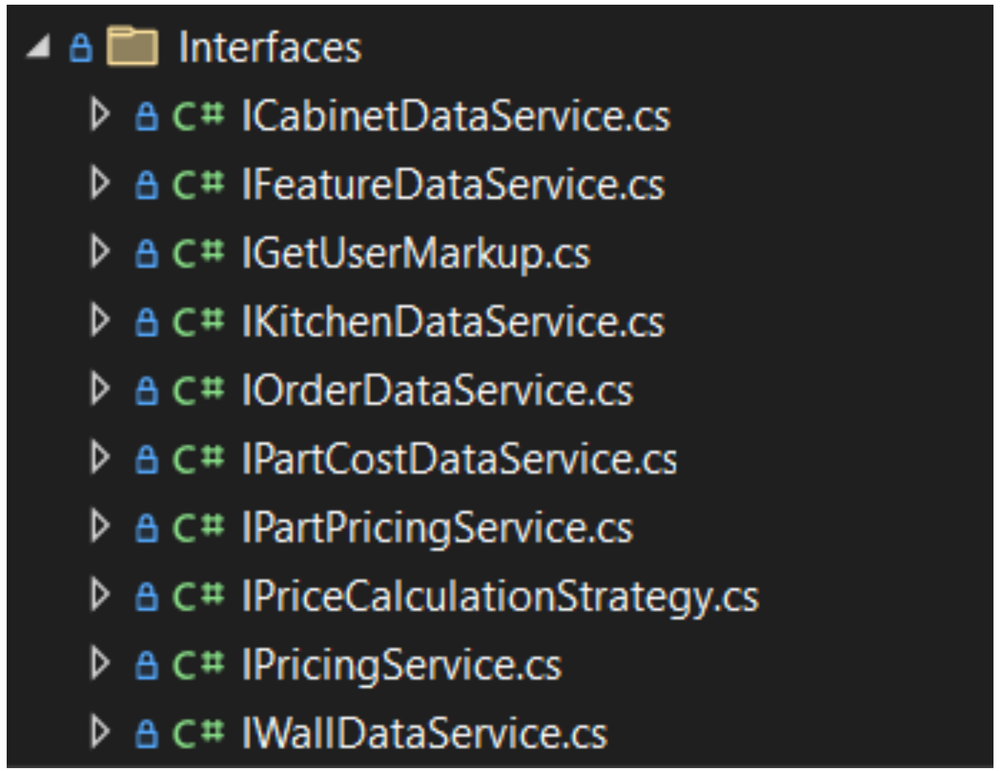
Pulled Error Handling Out

Pulled Data Access Out

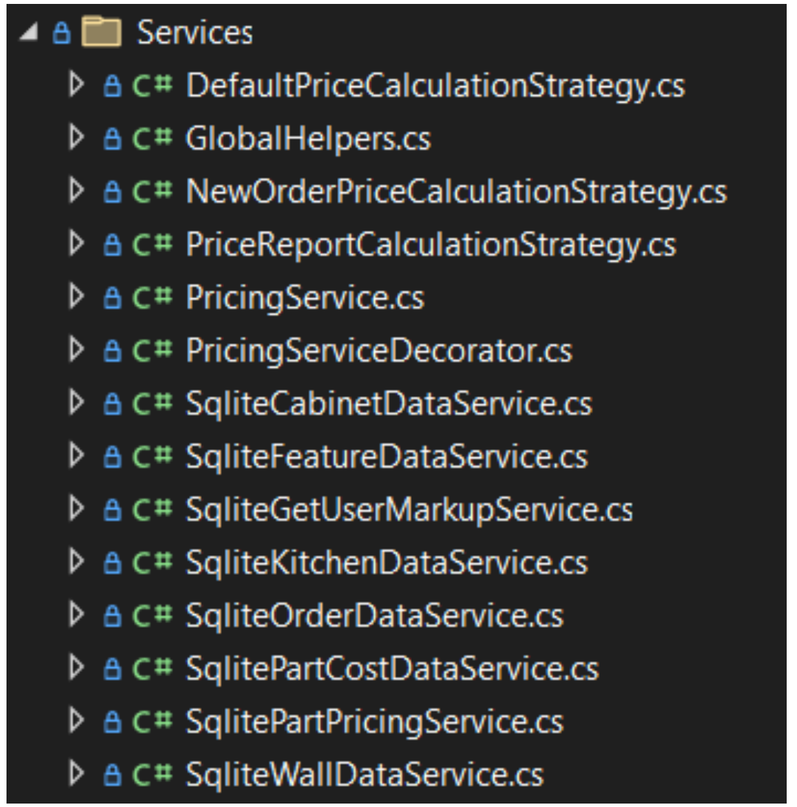
Focus on Business Logic

More Files – More Focused Files

Interfaces



Classes



Summary

Additional refactoring steps

- Extracting and injecting data access
- Using a decorator to follow OCP
- Ensuring all interface implementations follow LSP

Identifying cross-cutting concerns

Remember:

- Interfaces tell us WHAT
- Implementations tell us HOW

Up Next:

Assessing and Testing SOLID Code