Design Principles and Design Patterns

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Outline for section 1

Symptoms of Rotting Design

Class Design

Package Design

Conclusion

Symptoms of Rotting Code

Four Symptoms of Rotting Code

Symptoms of Rotting Code

Four Symptoms of Rotting Code

1. Rigidity

Symptoms of Rotting Code

Four Symptoms of Rotting Code

1. Rigidity
2. Fragility

Symptoms of Rotting Code

Four Symptoms of Rotting Code

1. Rigidity
2. Fragility
3. Immobility

Symptoms of Rotting Code

Four Symptoms of Rotting Code

1. Rigidity
2. Fragility
3. Immobility
4. Viscosity

Symptoms of Rotting Code

Four Symptoms of Rotting Code

1. Rigidity
2. Fragility
3. Immobility
4. Viscosity

Rigidity

Code that requires extra effort to modify

Fragility

Code that incurs extra risk to modify

Immobility

Code that takes effort to reuse

Viscosity

Code that takes effort to maintain correctly

Viscosity

Code that takes effort to maintain correctly

- Viscous Design

Viscosity

Code that takes effort to maintain correctly

- Viscous Design
- Viscous Environment

Viscosity

Code that takes effort to maintain correctly

- Viscous Design
  - When changing, preserving the design is difficult
- Viscous Environment

Viscosity

Code that takes effort to maintain correctly

- Viscous Design
  - When changing, preserving the design is difficult
- Viscous Environment
  - Long builds

Viscosity

Code that takes effort to maintain correctly

- Viscous Design
  - When changing, preserving the design is difficult
- Viscous Environment
  - Long builds
  - Slow Tests

Outline for section 2

Symptoms of Rotting Design

Class Design

Package Design

Conclusion

Principles of Object Oriented Class Design

SOLID Principles

- Single Responsibility Principle (SRP)
- Open Closed Principle (OCP)
- Liskov Substitution Principle (LSP)
- Interface Segregation Principle (ISP)
- Dependency Inversion Principle (DIP)

Outline for section 3

Symptoms of Rotting Design

Class Design

Package Design

Conclusion

Principles of Package Architecture

Outline for section 4

Symptoms of Rotting Design

Class Design

Package Design

Conclusion

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Questions