

Identifying code smells

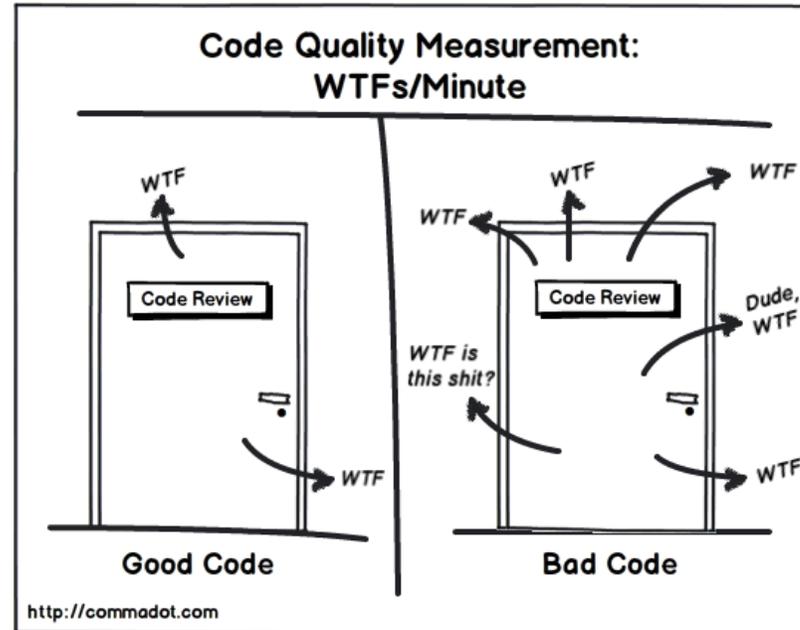


Agenda

- ▶ What are code smells?
- ▶ Types of code smells
- ▶ Identifying code smells
- ▶ Conclusion

What are code smells?

- ▶ Characteristic in code that possibly indicates a deeper problem
- ▶ Usually not bugs
- ▶ Can make the code harder to maintain



Types of code smells

Bloaters

Object-
Orientation
Abusers

Change
Preventers

Dispensables

Couplers

Identifying code smells

```
public class MyClass {
    private int value;

    public MyClass(int value) {
        this.value = value;
    }

    public void setValue(int value) {
        this.value = value;
    }

    public int getValue() {
        return this.value;
    }

    public void doSomething() {
        // ...
    }
}
```

Couplers

Feature envy

Identifying code smells

```
1 // ...  
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100 ...
```

Dispensables

Comment

Identifying code smells

```
public class SomeClass {  
    private int someField;  
    public void someMethod() {  
        // ...  
    }  
}
```

```
public class SomeClass {  
    private int someField;  
    public void someMethod() {  
        // ...  
    }  
}
```

```
public class SomeClass {  
    private int someField;  
    public void someMethod() {  
        // ...  
    }  
}
```

```
public class SomeClass {  
    private int someField;  
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public class SomeClass {  
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}
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    }  
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    public void someMethod() {  
        // ...  
    }  
}
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```
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    private int someField;  
    public void someMethod() {  
        // ...  
    }  
}
```

```
public class SomeClass {  
    private int someField;  
    public void someMethod() {  
        // ...  
    }  
}
```

```
public class SomeClass {  
    private int someField;  
    public void someMethod() {  
        // ...  
    }  
}
```

```
public class SomeClass {  
    private int someField;  
    public void someMethod() {  
        // ...  
    }  
}
```

Change Preventers

Shotgun Surgery

Identifying code smells

```
class Foo {
    public void bar() {
        // ...
    }
}

class Bar {
    public void baz() {
        // ...
    }
}

class Baz {
    public void qux() {
        // ...
    }
}
```

Dispensables

Lazy Class

Identifying code smells

```
class Disposables {
    public void dispose() {
        // ...
    }
}

class Disposable {
    public void dispose() {
        // ...
    }
}

class Disposable {
    public void dispose() {
        // ...
    }
}

class Disposable {
    public void dispose() {
        // ...
    }
}

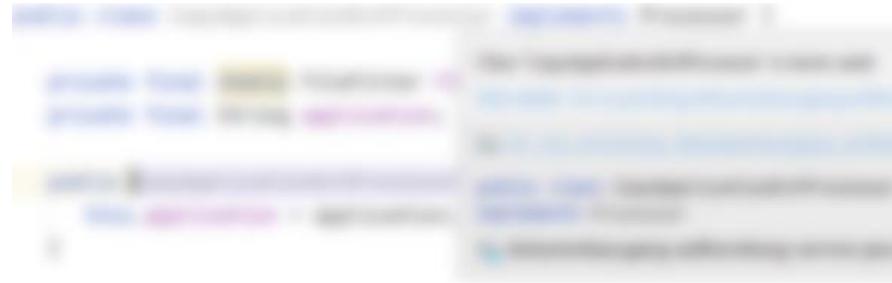
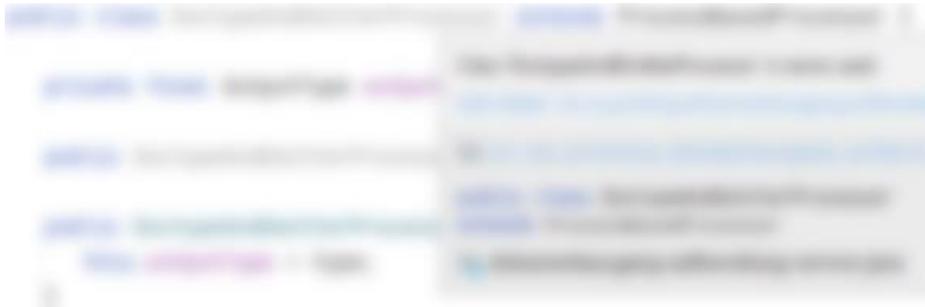
class Disposable {
    public void dispose() {
        // ...
    }
}

class Disposable {
    public void dispose() {
        // ...
    }
}
```

Disposables

Data Class

Identifying code smells



Dispensables

Speculative Generality

Dead Code

Identifying code smells

Additional mention



Uncommunicative Name

Conclusion

- ▶ Knowing code smells helps finding them
- ▶ Not all code smells are easy to spot
- ▶ Not all signs of code smells are necessarily signs of bad code
- ▶ Refactor code smells when you identify them

Sources

- ▶ <https://pragmaticways.com/31-code-smells-you-must-know/>
- ▶ <https://refactoring.guru/refactoring/smells>
- ▶ Alcor Academy Lesson Code Smells