

Software Engineering

Introduction to UML

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What is UML?

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 - Documentation



What's in a Modeling Language?

- 6 main advantages of UML
 - ① It's a formal language
 - ② It's concise
 - ③ It's comprehensive
 - ④ It's scalable
 - ⑤ It's built on lessons learned
 - ⑥ It's the standard
- Detailed Overload: Modeling with Code

Example

Software code is an example of a potential modeling language where none of the detail has been abstracted away. Every line of code is the detail of how your software is intended to work. This example shows a very simple class in Java, yet there are many details in this declaration.



What's in a Modeling Language?

Example

```
1 public class Guitarist extends Person implements MusicPlayer {
2     Guitar favoriteGuitar;
3
4     public Guitarist(String name) {
5         super(name);
6     }
7
8     // A couple of local methods for accessing the class's
9     properties
10    public void setInstrument(Instrument instrument) {
11        if (instrument instanceof Guitar) {
12            this.favoriteGuitar = (Guitar) instrument;
13        } else {
14            System.out.println("I'm not playing that thing!");
15        }
16    }
17    ...
18 }
```

What's in a Modeling Language?

① Verbosity, Ambiguity, Confusion: Modeling with Informal Languages

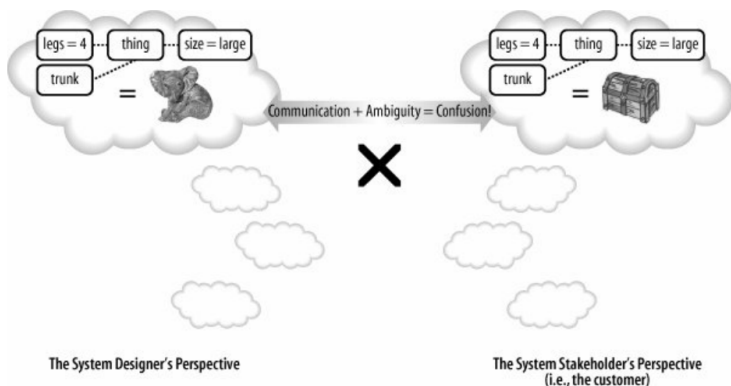


Figure 1: With an informal notation, the problem of confusion through ambiguity still exists

Models and Diagrams



Views of Your Model



Dispelling Misconceptions about UML

