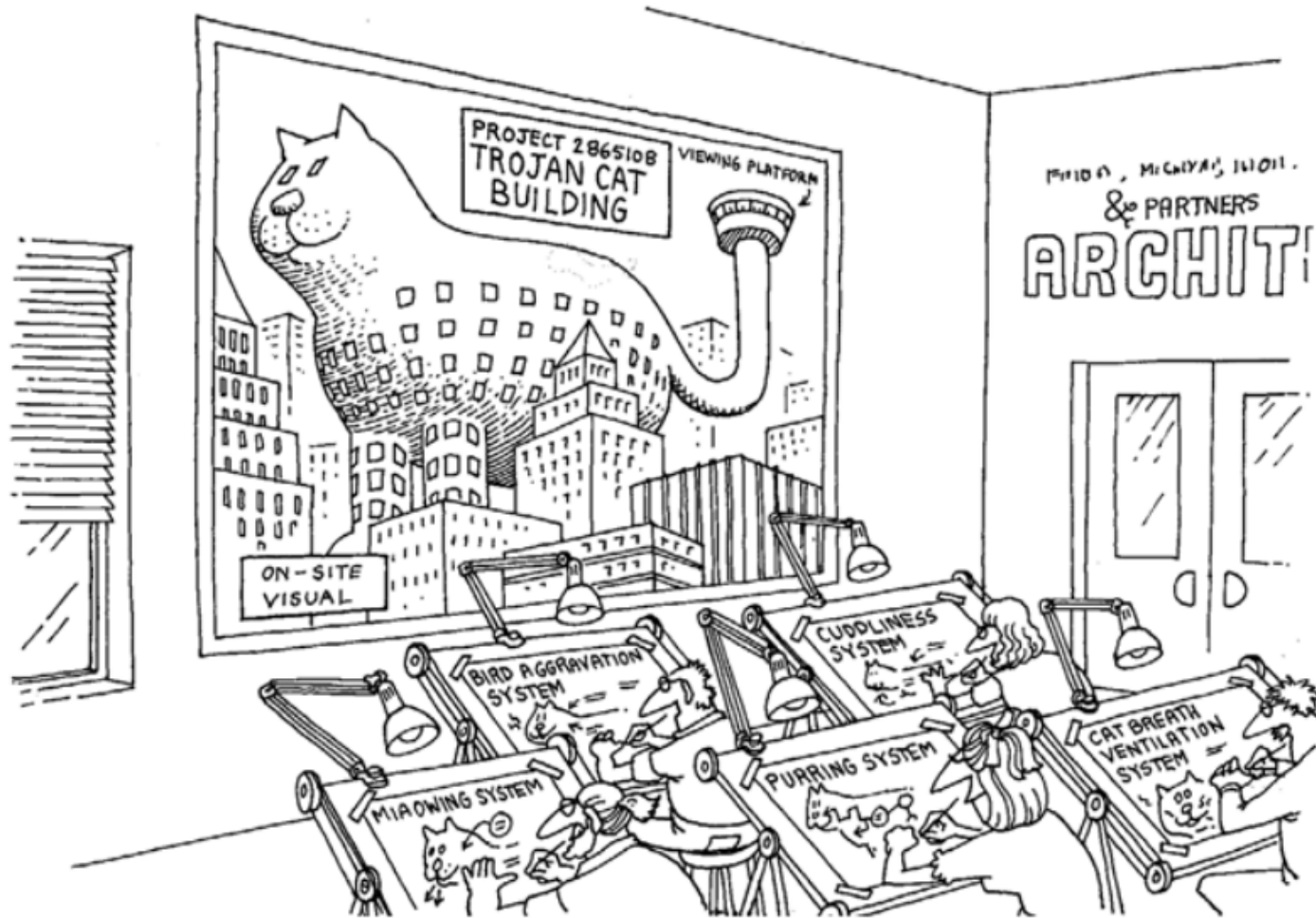**Software Design and Architecture**

Basic Concepts

Taken from [BOOCH].

The **architecture** of a complex system
is a function of its components
as well as the hierarchic relationships
among these components.

Component: an encapsulated part of a software system that serves as a building block for the structure of a system. Properties:
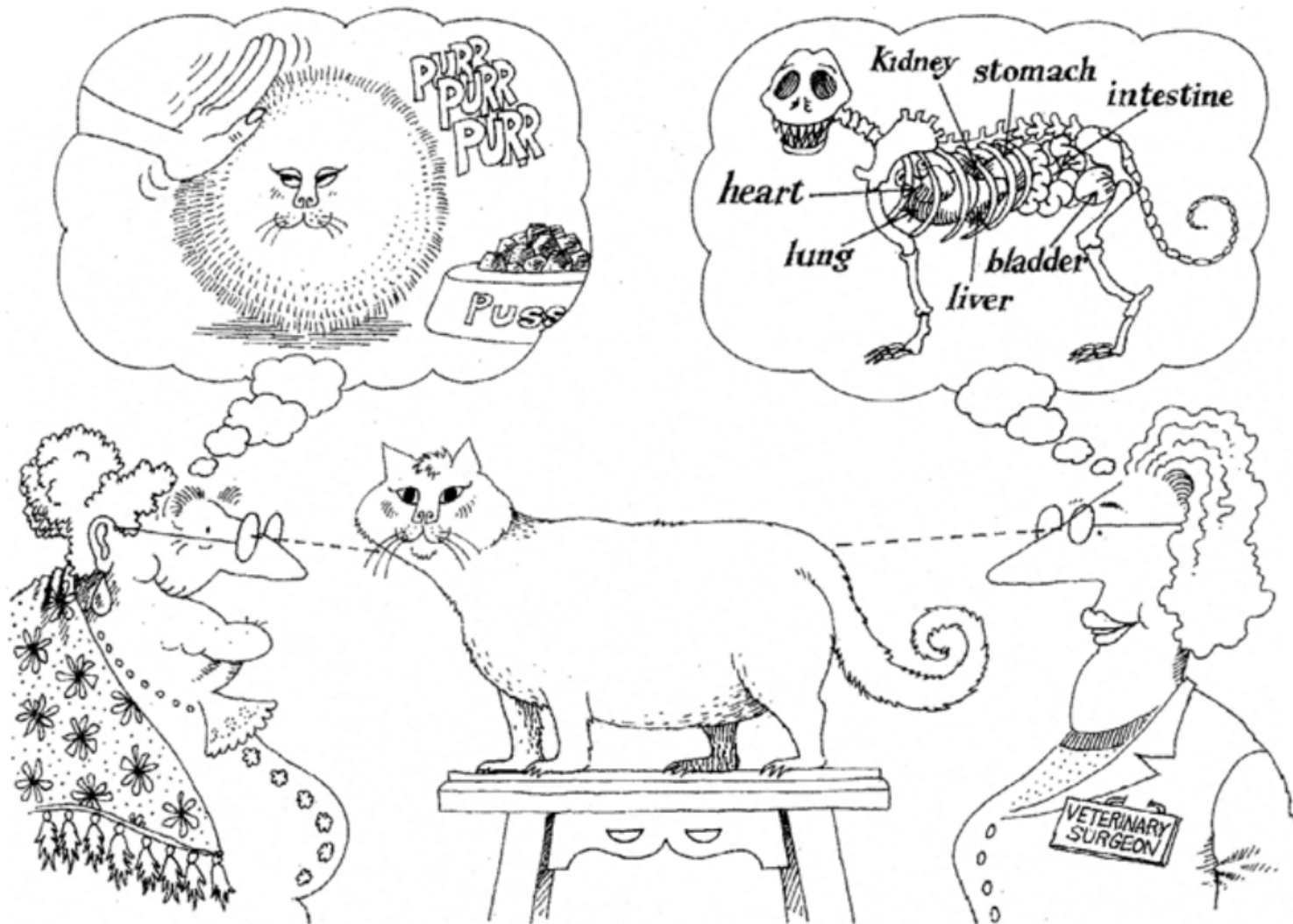
- They are deployable entities.

- They are usually not a complete application.

- They may be used in unanticipated combinations.

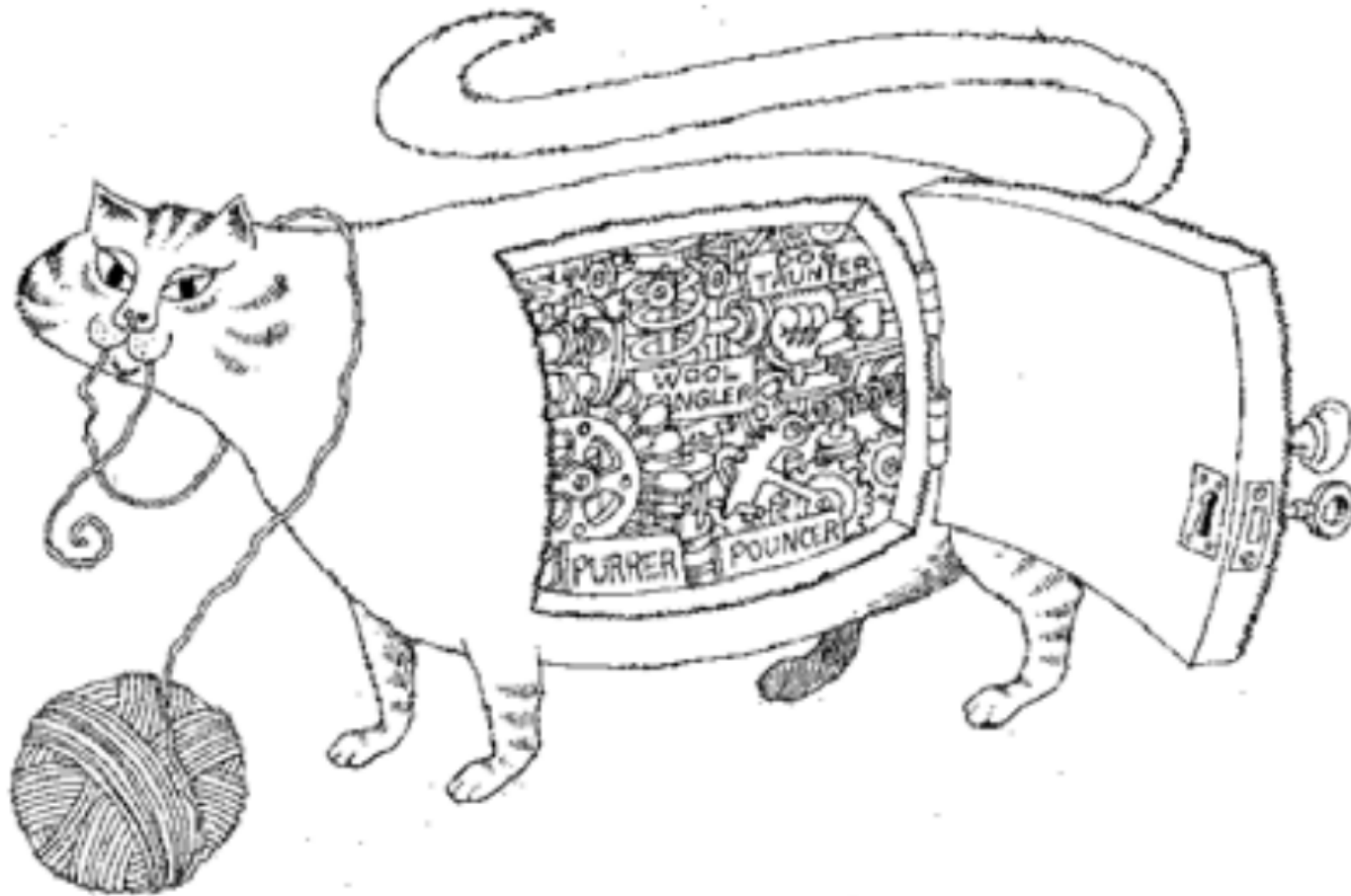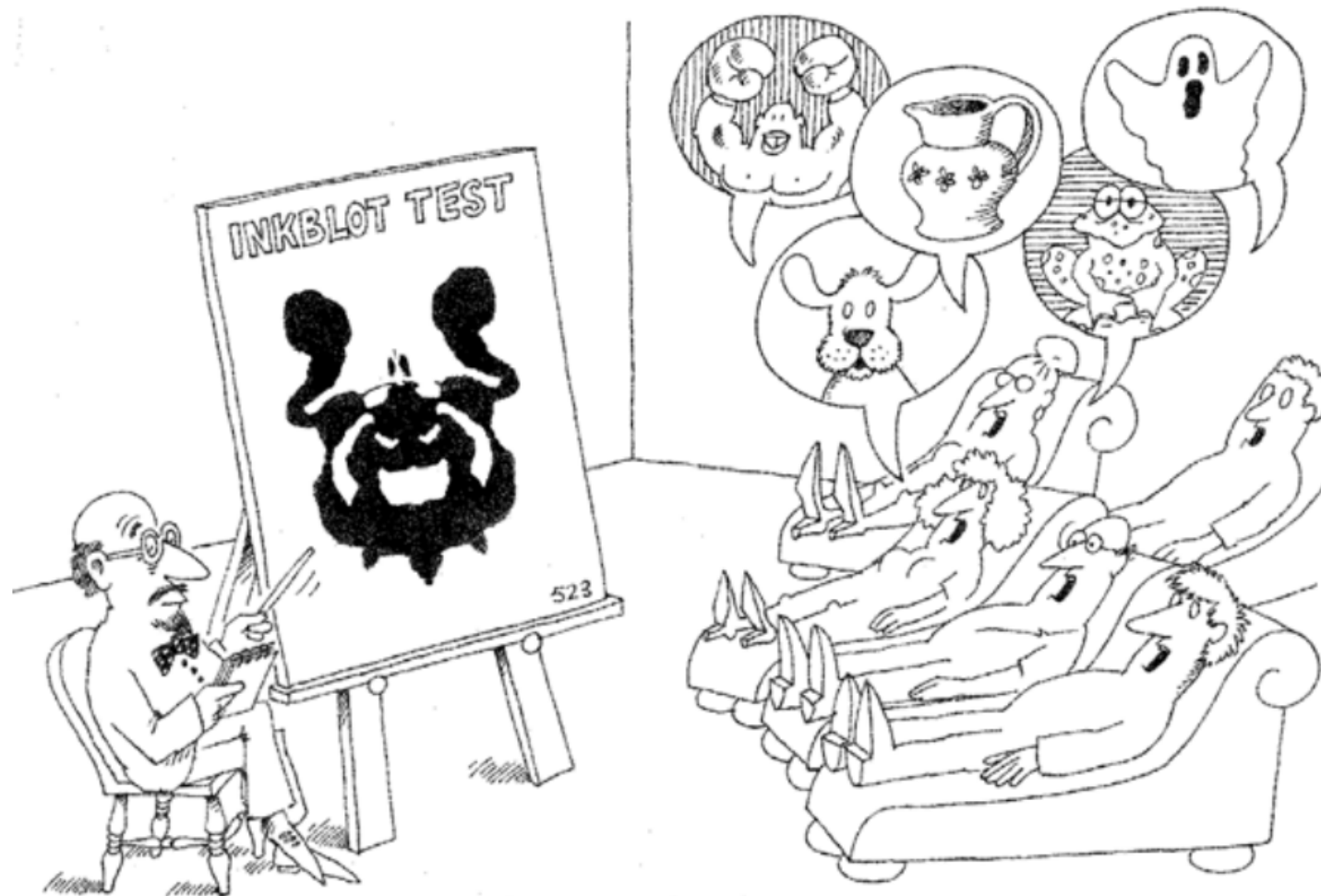- They have a well defined interface.
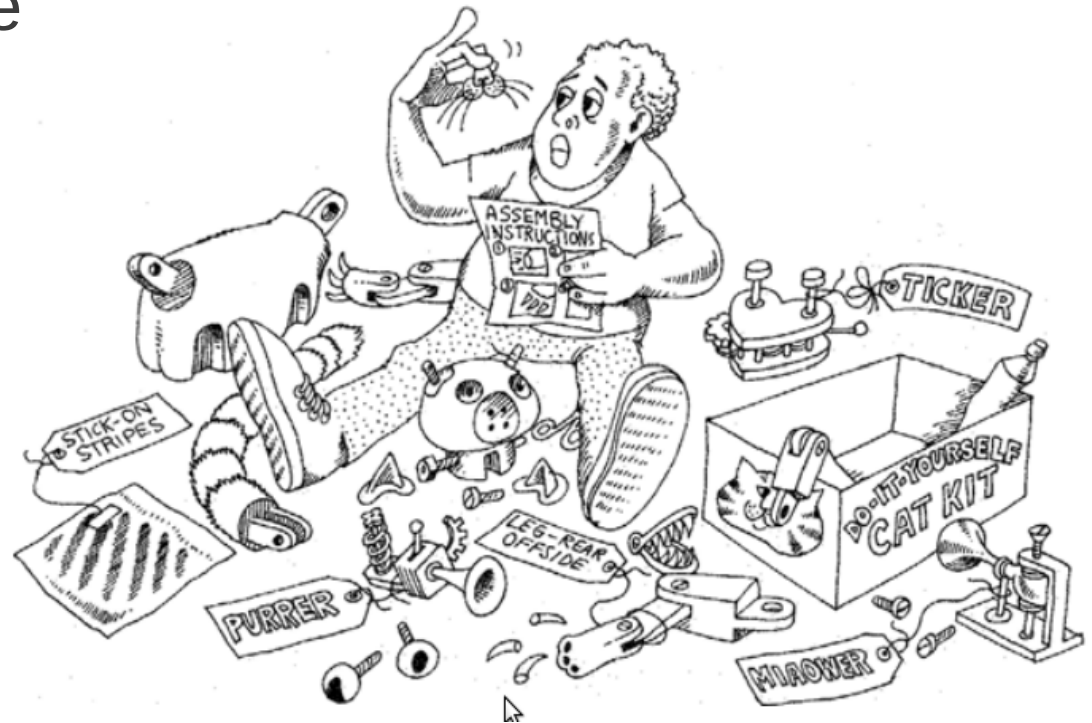
OO Basics

- Abstraction

- Encapsulation

- Polymorphism

- Inheritance

Abstraction: focuses on the essential characteristics of some object, relative to the perspective of the viewer.

Encapsulation: hides the details of the implementation of an object.

Polymorphism: objects can respond to the same message in different ways in a class-dependent fashion.

Inheritance: a subclass may inherit
the structure and behavior of its superclass.