# UML Class and Object Diagrams Overview
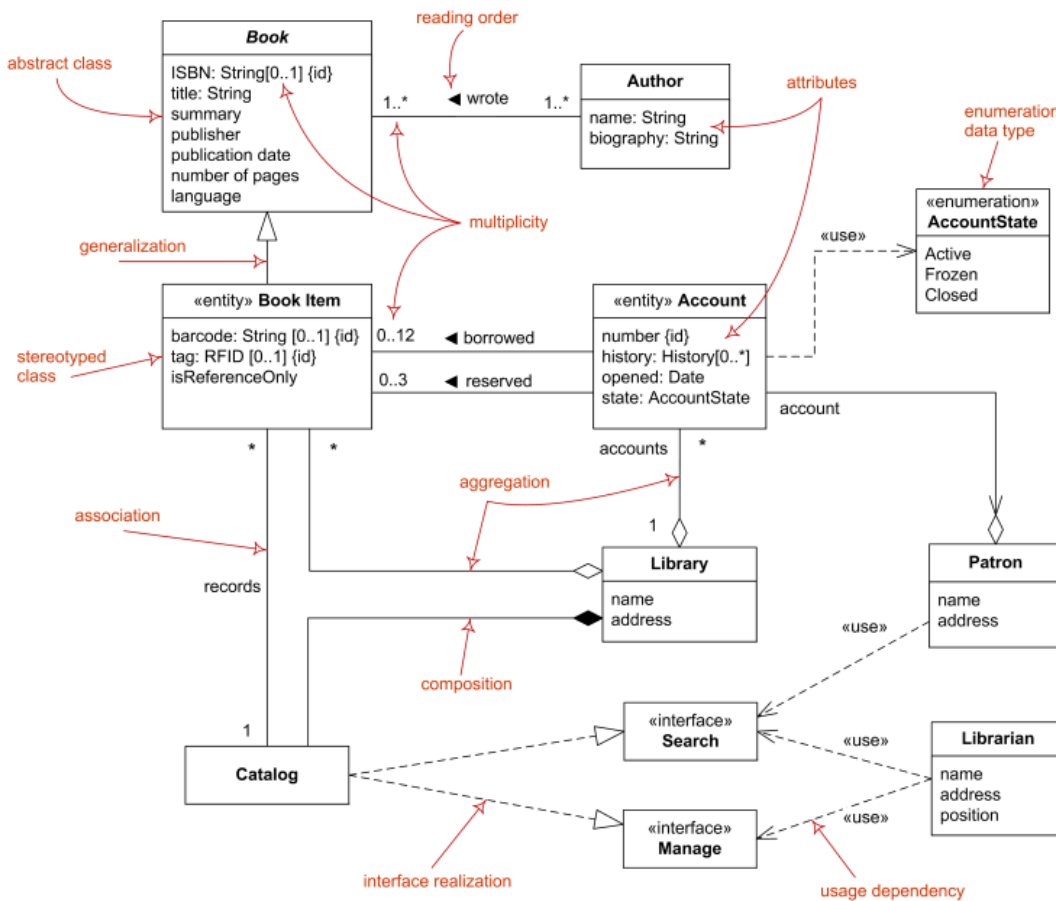
**Class diagram** is **UML structure diagram** which shows structure of the designed system at the level of **classes** and **interfaces**, shows their **features**, **constraints** and relationships - **associations**, **generalizations**, **dependencies**, etc.

Some common types of class diagrams are:

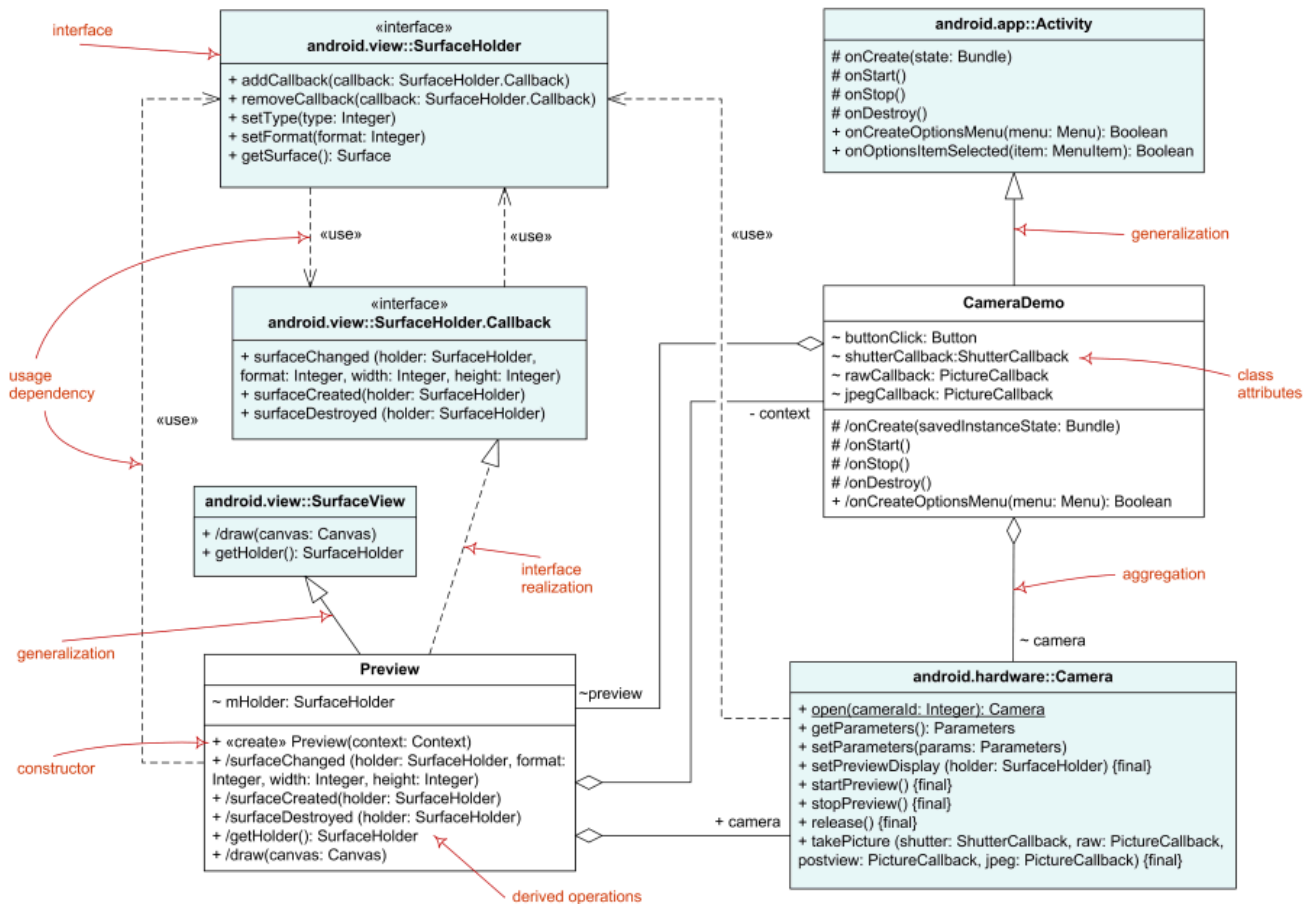- **domain model diagram**,
- **diagram of implementation classes**.

**Object diagram** could be considered as instance level class diagram which shows **instance specifications** of classes and interfaces (**objects**), **slots** with value specifications, and **links** (instances of **association**).

## *Domain Model Diagram*



*Domain diagram overview - classes, interfaces, associations, usage, realization, multiplicity.*

## *Diagram of Implementation Classes*

*Elements of implementation class diagram - classes, interfaces, associations, usage, realization.*
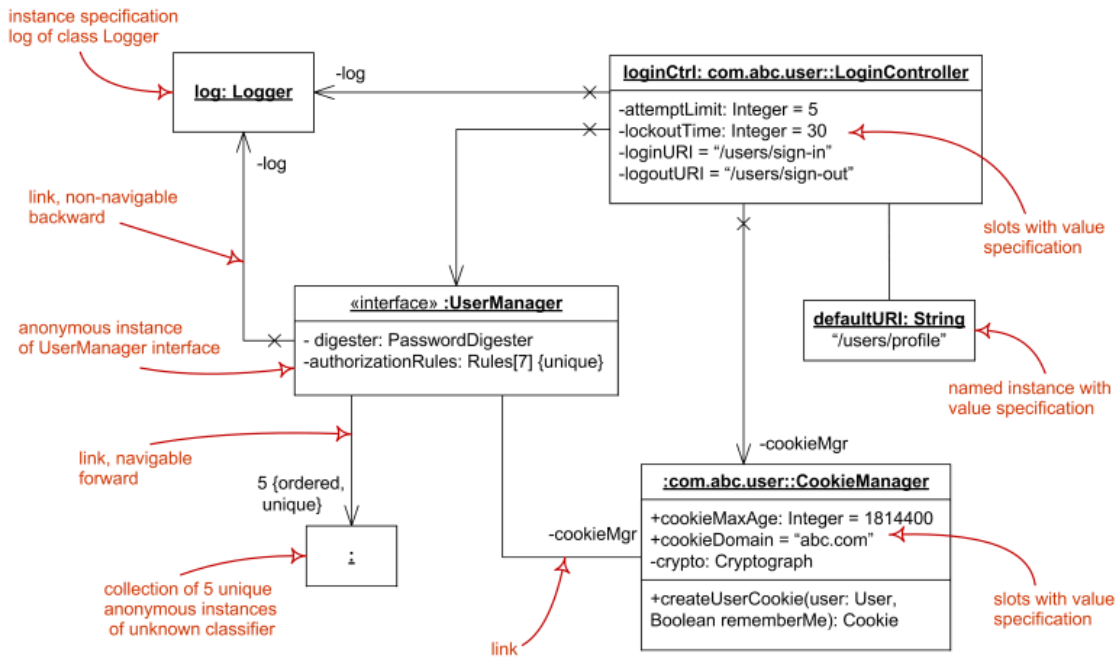
# *Object Diagram*

**Object diagram** was defined in now obsolete *UML 1.4.2 Specification* as *"a graph of instances, including objects and data values. A static object diagram is an instance of a class diagram; it shows a snapshot of the detailed state of a system at a point in time."* It also stated that object diagram is *"a class diagram with objects and no classes."*

**UML 2.4** specification simply provides no definition of **object diagram** except that *"the following nodes and edges are typically drawn in an object diagram: Instance Specification and Link (i.e., Association)."*

Note, that UML 2.5 standard hierarchy of diagrams (see **UML 2.5 diagrams overview**), shows class diagrams and object diagrams as completely unrelated. Some other authoritative UML sources state that **component diagrams** and **deployment diagrams** containing only **instance specifications** are also special kinds of object diagrams.

**Object diagram** overview below shows some major elements of object diagram - named and anonymous **instance specifications** for **objects**, **slots** with value specifications, and **links** (instances of **association**).

*Object diagram overview - instance specifications, value specifications, slots, and links.*

*Noticed a spelling error? Select the text using the mouse and press Ctrl + Enter.*

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This document describes UML versions up to **UML 2.5** and is based on the corresponding **OMG™ Unified Modeling Language™ (OMG UML®)** specifications. UML diagrams were created in **Microsoft® Visio®** 2007-2016 using **UML 2.x Visio Stencils**. **Lucidchart** is a nice, free UML tool that I recommend for students.
You can send your comments and suggestions to webmaster at **webmaster@uml-diagrams.org**.