

UML Class and Object Diagrams Overview

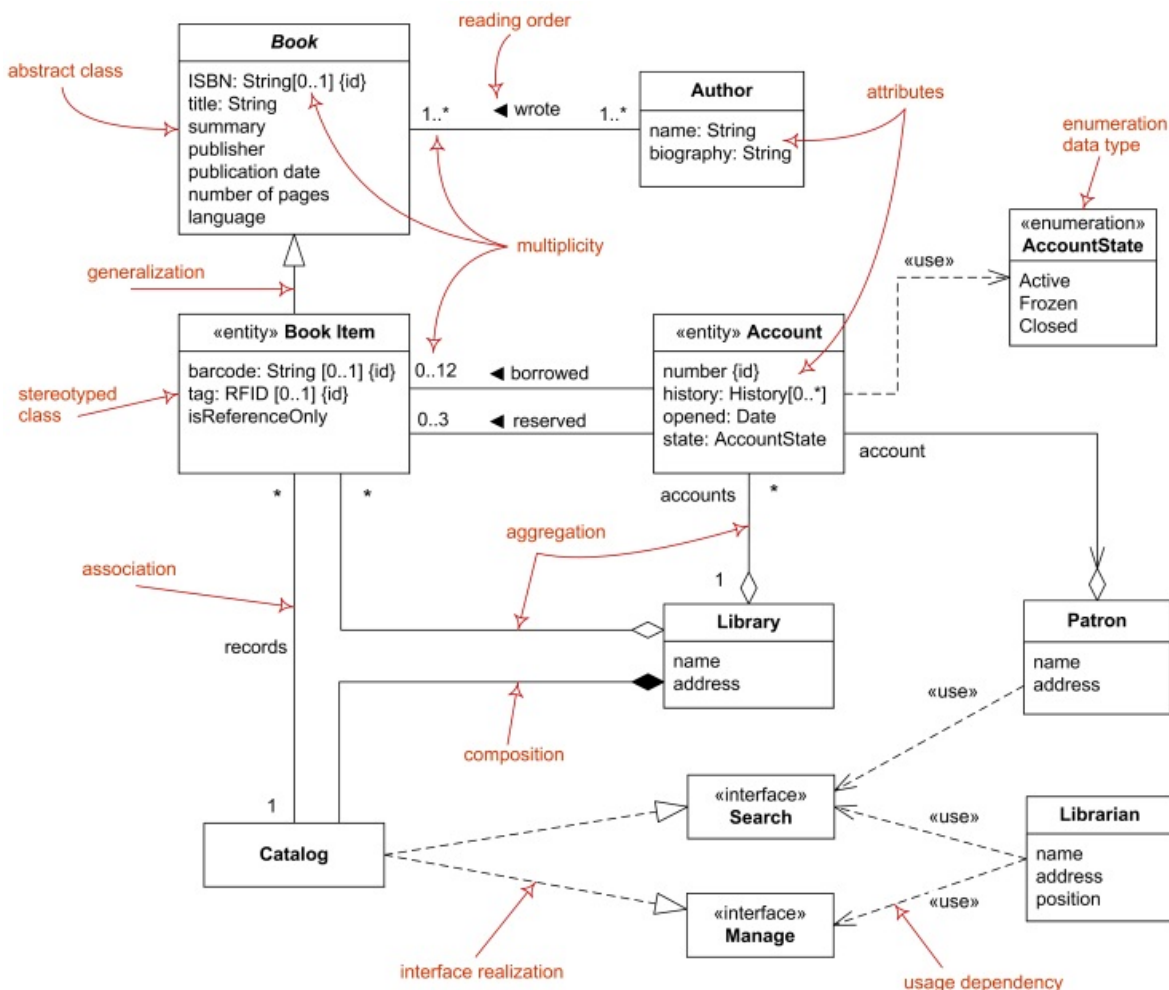
Class diagram is UML **structure diagram** which shows structure of the designed system at the level of **classes** and **interfaces**, shows their **features**, **constraints** and relationships - **associations**, **generalizations**, **dependencies**, etc.

Some common types of class diagrams are:

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

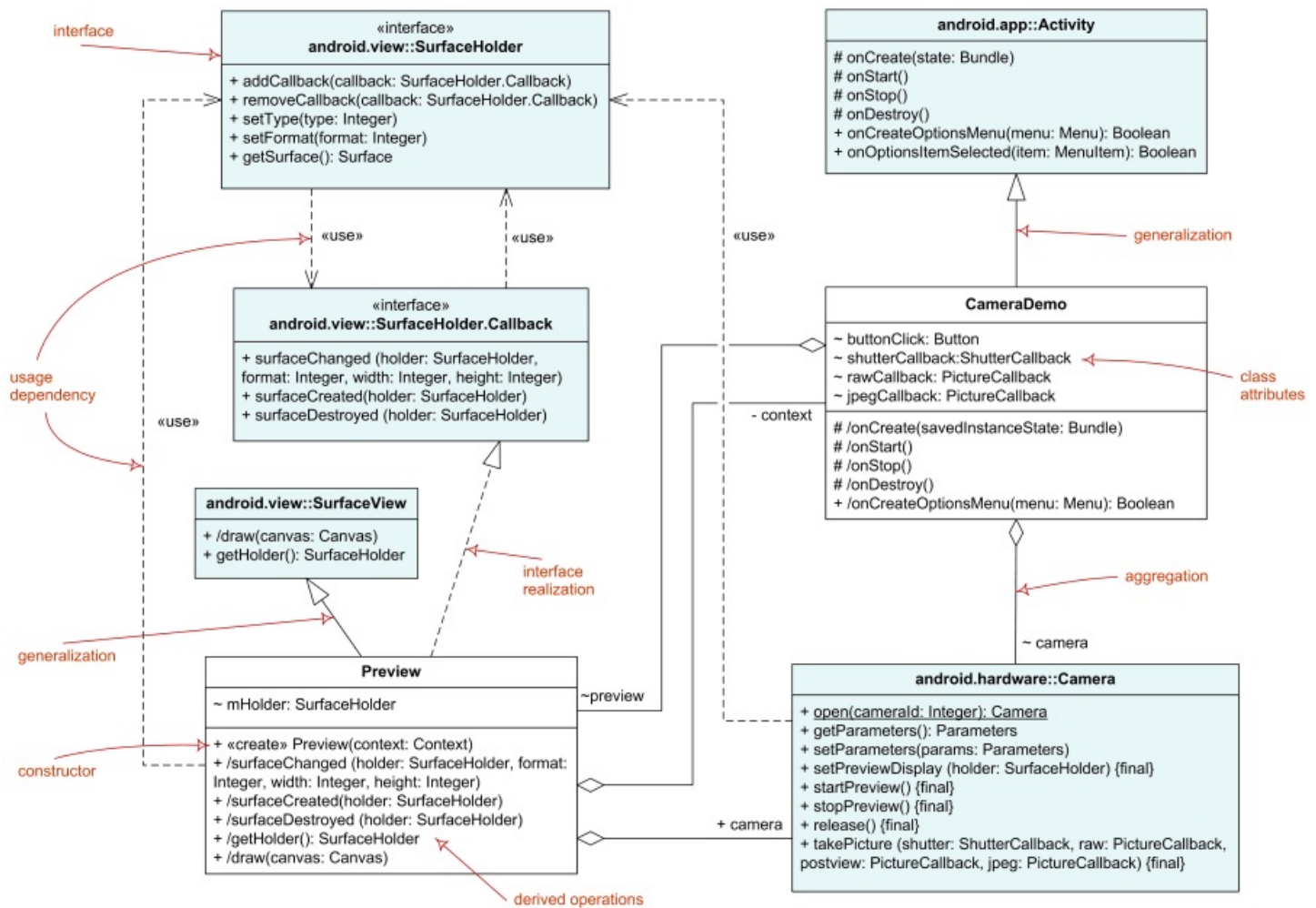
Object diagram could be considered as instance level class diagram which shows **instance specifications** of classes and interfaces (**objects**), **slots** with value specifications, and **links** (instances of **association**).

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.

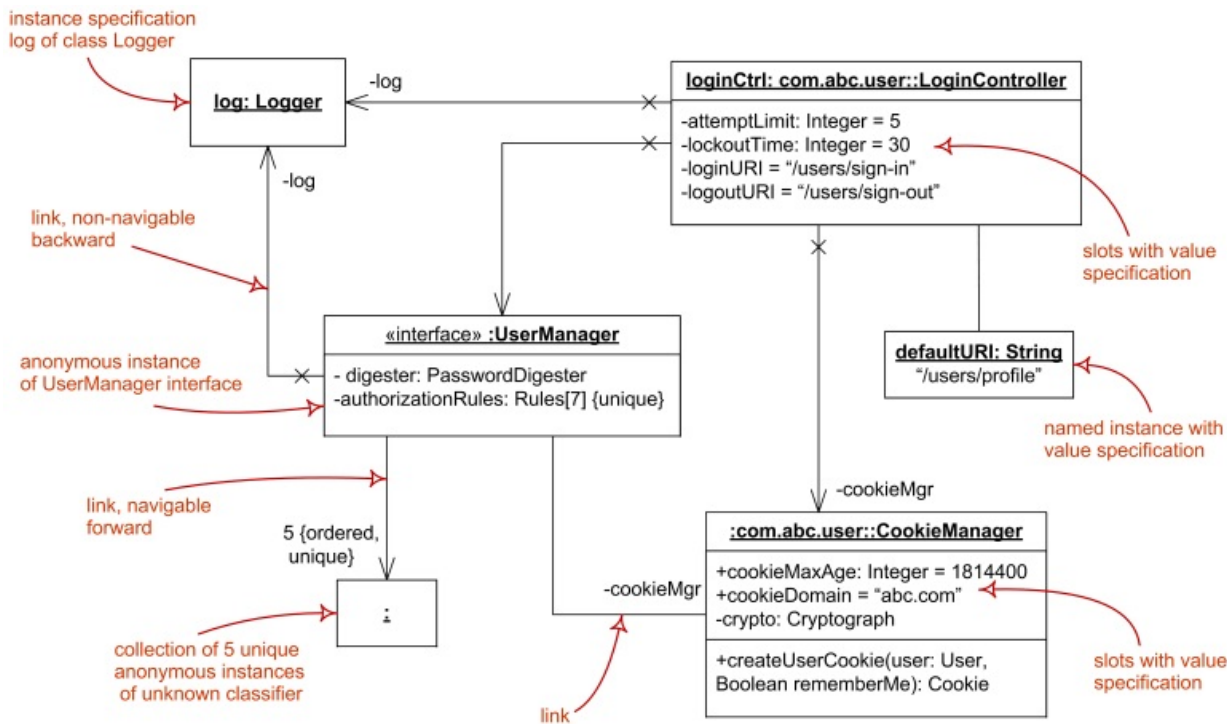
Object Diagram

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](mailto:webmaster@uml-diagrams.org) at webmaster@uml-diagrams.org.

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