

ActionScript Course OOP UML (game) design exercise IxD2 2011 (ActionScript 3.0)

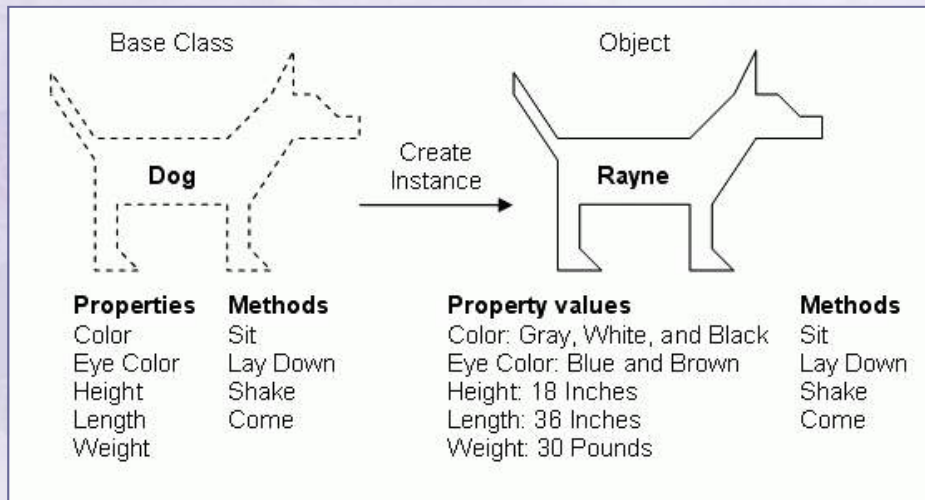
↓ Description

This is a team/pair-exercise where the student will have a chance to practice the theory and principles behind; Object Oriented Design by using UML diagrams and class documentation including: Classes, Inheritance, Properties, Methods etc.

The AS3 lecture “Introduction to Object Oriented Programming” is the preparation and theory for the exercise. This exercise is a preparation-exercise for the upcoming “OOP Team-exercise with LEGO”. Students are working in pair, presenting their documentation on the wiki/webpage followed by discussions in class.

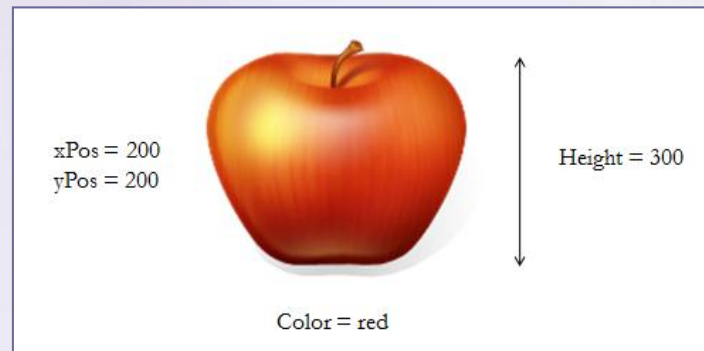
↓ Classes and Objects

A class can be seen as a *blueprint* for an object. For example; from a Dog-class we can create as many Dog-objects we want (with unique properties). Every new Dog-object is a *new Instance* of the Dog-class (*abstract/base class*).



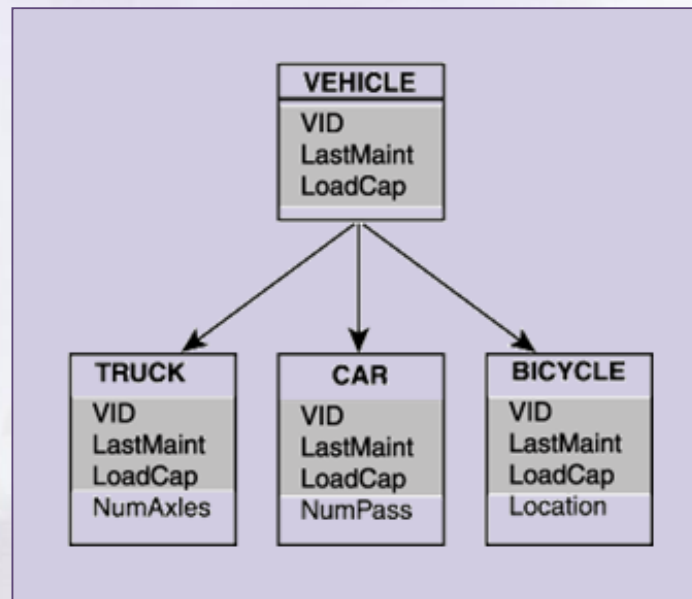
↓ Properties and Methods

Properties are a collection of *attributes* that describes an object, for example; an Apple can have properties like color, size and position etc. By using Methods, we can access and modify the properties of an object.

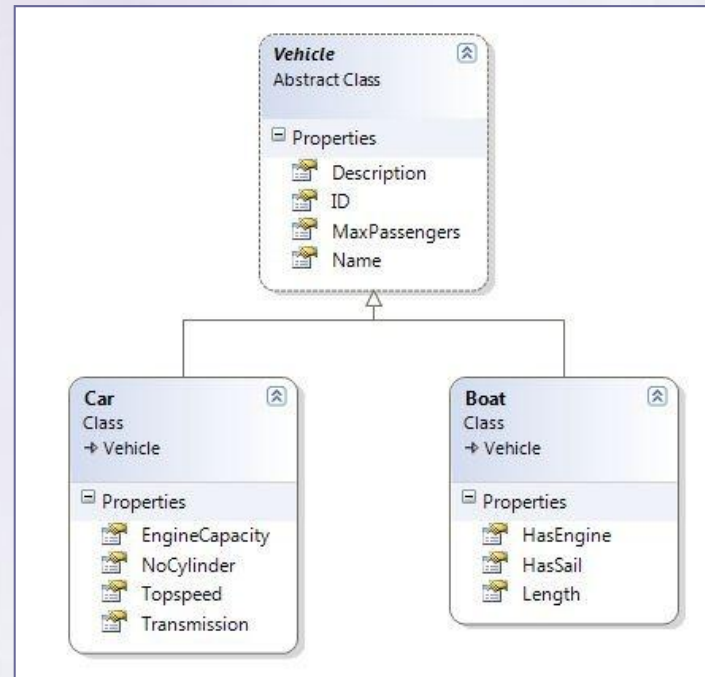


Inheritance

With *Inheritance* a class can inherit or extend properties and methods from another class. The *Subclass* (class that's inherit), can also add additional properties and methods or change some of the ones inherited from the *Super/Abstract/base-class*.



- UML Diagram is ideal for software engineers and software designers who need to draw detailed software design documentation.



NM5730

↓ OOP Design/UML exercise

This is a *non-programming* exercise; just use pen & paper plus your computer for documentation and graphics (Illustrator/Photoshop).

- 1) Design a class for a *Game*, focus on *Properties and Methods*.
- 2) Design/create an *Object* based on your *abstract/base* class from step1 (see the Dog-sketch above).
- 3) Make a sketch/drawing of the *object* created in step2.
(For example for a car-object, just draw a car – and describe properties like: color, size, speed, numOfWheels etc).
- 4) Inheritance: Finally, set up a basic UML diagram that describes the **inheritance/structure** for three “subclasses” - that inherit properties and methods from the *abstract/base* class created in step1 (see UML-diagram above). The subclasses could also have additional properties & methods.

Imagine that you're working as a designer in a project-team, and this UML design/documentation can be helpful for sharing your ideas in a visual way for the team.

Keep it simple and have fun!

Publish the documentation for this exercise on the wiki/webpage. One document/group (place it under student work).

Name the file: Flash_actionscript_course_lxD2_2011_UML_exercise_your_names

Deadline: Friday 7/10, 15.00