ĐẠI HỌC TÔN ĐỨC THẮNG
TON DUC THANG UNIVERSITY

REQUIREMENTS ANALYSIS AND DESIGN (PHÂN TÍCH VÀ THIẾT KẾ YÊU CẦU) 502050

Chapter 7
Design Discipline II

Outline

- Fundamental Design Principles
- Advanced Features of Class Diagram
- Developing First-Cut Design Class Diagram
- Package Diagrams
- Naming Convention
- Visual Paradigm Demo

Fundamental Design Principles

- Encapsulation
- Information Hiding
- Navigation Visibility
- Coupling

Advanced Features of Class Diagram

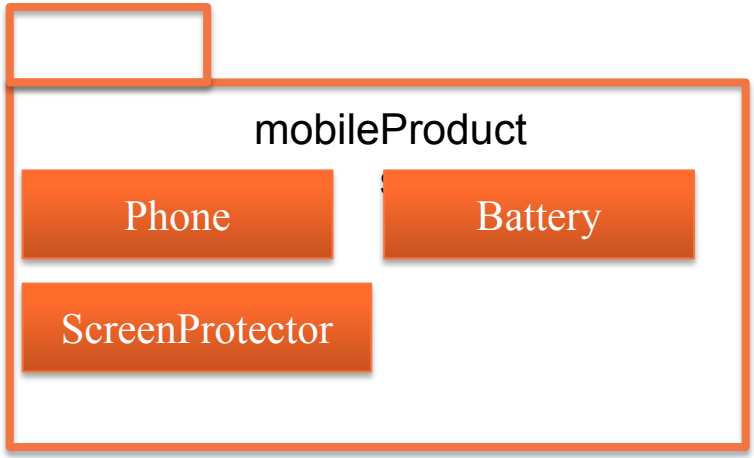
- Inheritance
- Polymorphism
- Interface

First-Cut Design Class Diagram

- The first-cut design class diagram is developed by extending the domain class diagram
- It requires two steps
  - Elaborating the attributes with type and initial value information
  - Adding navigation visibility arrows which may be bidirectional

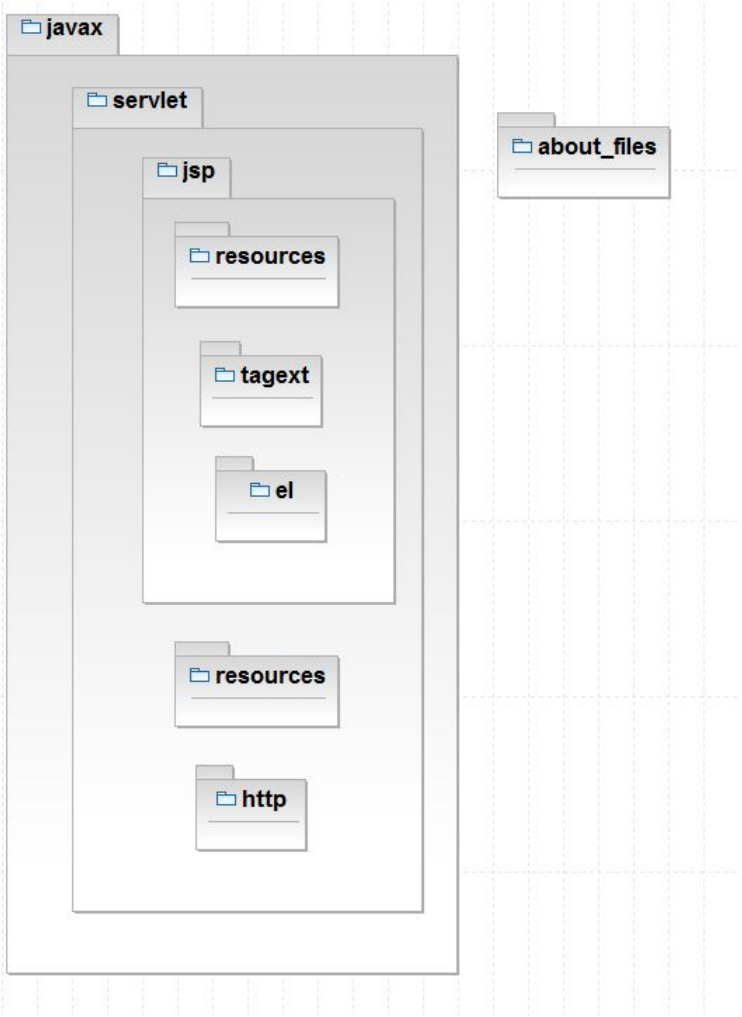
Grouping Classes into Packages

- If there are large number of classes, might be useful to group them up into packages
- A **package diagram** is simply a large package symbol with the package's classes drawn inside it



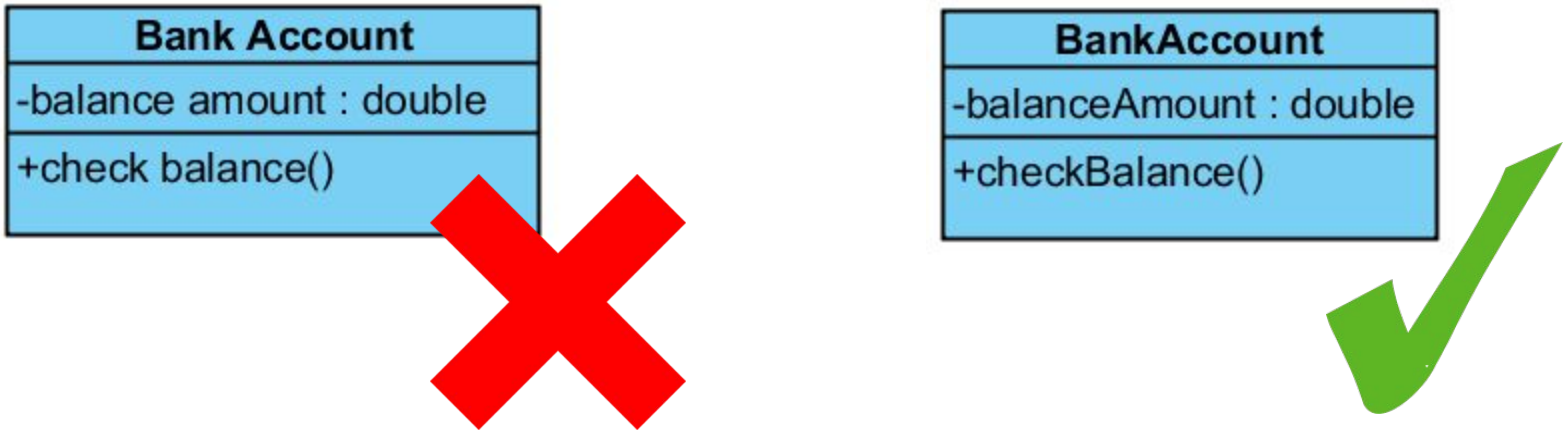
The Package Diagram

- Also possible to nest the packages



Naming Convention

- Make sure you write the class name, attribute name, etc in the actual form (that is supposed to be in the code)



Naming Convention

- Try to follow the naming convention when naming your package name, class name, method name, attributes etc
  - Case Sensitivity
    - » Example for Java :
      - Class name is capitalized (e.g. Person)
      - Method name starts with lower case (e.g. doThis())
      - Attribute name starts with lower case (e.g. phoneNumber)
      - Constant are having ALL CAPS (e.g. MAX_VALUE)
      - Package name starts with lower case (e.g. javax)

Naming Convention

- Using the wrong naming convention for your UML diagrams/codes are ok BUT it confuses the programmer
  - Remember the UML diagrams (at least for class diagram and sequence diagram) are really the blue print of the system, you will convert the names into actual class name, attributes, and methods

Visual Paradigm Demo

- Demo