

CSE 3311 Software Design

Assignment 3: Inheritance and Polymorphism
Due: Wednesday, July 10 2013, 7:00 pm
Where: In class

1 Main Points

Be sure to read and follow all the guidelines from the links on **reports** and **academic honesty** from the WWW home page for the course. The specification is the union of this document plus the program text you are given.

1.1 Learning objectives

- Design patterns – Singleton
- Design description and documentation
- Critiquing a design

1.2 To hand in

Hand in, in class, the following items as one package. If the package is too big to staple as one unit, then please staple in multiple parts. Cover page plus the first part of your report is part 1 of N, the remaining are parts x of N. Include your name(s) on each part. The report is required for your work to be evaluated. The electronic submission is used to run your system but with no report, the electronic submission is ignored.

- Cover page – printed from the course web pages
- Design document
- **Do not include** listings of the classes. There are many files with small changes and it is a waste of paper to print all affected files. See the lead paragraph in Section 2.

1.3 Electronic submission

Before the deadline submit all your system files using appropriate variations of the following command. Please note that you submit one called Inheritance.

```
submit 3311 a3 Inheritance
```

No other files should be submitted (e.g. EIFGEN files etc). Files cannot be deleted – the submit command can only add or replace files – so be very careful to clean up your directory before any submission. You should use **eclean** before submitting to clear away the unnecessary files.

While you can develop your system on your personal computer, be sure your program will compile on Prism using **estudio70**.

1.4 To get started

Download the file **inheritance.zip** to a local directory.

2 Tasks

In all the files you modify add the comment “-- New” at the end of a line to make it easier for a reader to see what you have changed or inserted. For statements that you remove, comment out the statement and at the end of the line add the comment “-- NEW commented out”.

2.1 Inheritance

The adaptation system is in the Inheritance directory of the given program text. You are to complete the seven files that contain missing adaptation clauses – indicated by comments containing “???” by adding adaptation clauses, and also having “???” for author and date in the index section that you also replaced. Do not modify any of the other files.

The corresponding section in your design document should describe the modifications you made to the system. Include an inheritance only (no uses) BON diagram with uncompressed classes for all classes except SIMPLE_TEST

The following are some guidelines to help you.

- There are no adaptation clauses for the feature `print_xml`.
- For the features named `make_*` the * part is the name of the class in which the feature is first named.
- The class `SIMPLE_TEST` calls all visible features in the other classes.
- The file `inheritance_output.text` shows what the system produces as output.

2.3 Testing

For both electronic and hardcopy you do not create nor submit test cases.

3 Grading scheme

The grade for the report is partitioned into the following parts.

1. Implementation of adaptation clauses – 70%
2. Report explaining why specific clauses have been used – 30%
3. Up to 10% of the mark can be deducted for unreadable, poorly formatted reports