OODP - Object Oriented Design and Programming
Exercise 2

1 Instructions

The goal of this exercise is for you to demonstrate your ability to write the code of a design pattern and to use UML. To do so you are required to do two things:

1.1 UML - 20%

Draw a UML diagram of the code we wrote in class for the 'Builder' design pattern (Session 7b, slides 28 - 40 available at `http://www.dcs.bbk.ac.uk/˜oded/OODP12/Sessions/Session-7b.pdf`). The UML diagram should incorporate all the parts of the code including, e.g. the parts resulting from the 'Strategy' pattern.

1.2 Coding demonstration - 80%

Write example code that demonstrates the 'State' design pattern. In class, we explained the motivation for the 'State' design pattern. However we did not give an example in code, and did not discuss issues such as how the states are changed. You are required to do the following:

- Find an example of an implementation in Java of the 'State' design pattern. Such examples are abundant on the internet and in books, among them "Design Patterns: Elements of Reusable Object-Oriented Software", by Erich Gamma, Richard Helm, Ralph Johnson and John Vlissides. If you are not sure that what you have found is a good example, please send me the URL.

- Write code demonstrating the 'State' pattern based on the example code you found. The code should have at least three 'states' and at least four 'state transitions'.

2 Submission Guidelines

- All files should contain your name in a comment at the top of the file.

- The programming should be done with the Eclipse IDE, in a project named State-Forename_Surname, e.g. State-Martin_OShea.

- The project should be stored in a Git repository.

- Your submission should include three files:

    1. The UML part of the project.

2. A text file containing the reference you used for your implementation (name of book, URL, etc.).

3. A zip file containing a copy of the Git repository of your project (instructions on how to do this can be found at `http://www.dcs.bbk.ac.uk/~oded/OODP12/HW/Ex2Inst.html`).

3 General Guidelines

- In case of submission issues with BLE, please contact the TA: **Martin O'Shea, e-mail: martin@dcs.bbk.ac.uk**. Please note, replies may be sent from different email addresses.

- Questions about the assignment are welcome, but they will not be answered on the day of submission.

- We will only look at your submission after you submit it and not before.

4 Submission Deadline

- On time submission: Wednesday, 04 Apr 2012 @ 23 55 hrs.

- Late submission: Wednesday, 18 Apr 2012 @ 23 55 hrs.