

# CITS4401 Software Requirements and Design

## Semester 1, 2020

### Workshop week 8 – Design patterns

A standard way of documenting design patterns is to include at least the following:

- Pattern name: Choosing a good name is important. A descriptive and unique name helps in identifying and referring to the pattern.
- Motivation: Describe a scenario consisting of a problem and a context in which this pattern can be used.
- Forces: What goals or qualities would drives us towards adopting this pattern? Is it because we care about flexibility? maintainability? efficiency? easy of use? Or something else?
- Consequences: A description of the results, side effects, and trade offs caused by using the pattern.
- Implementation: A description of an implementation of the pattern; the solution part of the pattern.
- Related Patterns: Other patterns that have some relationship with the pattern; discussion of the differences between the pattern and similar patterns.

*Anti-* patterns (see the Pressman textbook) describe common design *mistakes*, and the consequences of making them.

#### **In-class exercise**

Consider a non-computer science hobby or activity you have. Can you describe any patterns or anti-patterns for that hobby or activity?

Discuss with other students what makes this a pattern or anti-pattern.

#### **Assessed task**

This is to be completed individually.

Write up a description of one pattern or anti-pattern for a chosen hobby or activity, and submit it via [cssubmit](#) (the submission will become active after the workshop).

In addition to the elements specified above, you should include an introductory paragraph beforehand, explaining what the activity or hobby is, and any terminology that might need to be defined for someone unfamiliar with it.

You are welcome to add other elements – but keep your submission to one page, maximum.

### **Assessment details and guidelines**

- The standard workshop rubric for CITS4401 will be used for marking.
- Submit your *introduction* and *pattern* to csubmit by 8pm Wednesday 29 April 2020.
- Please submit a single PDF. You may scan a hand written document, as long as your writing is clear.
- Font size should be between 9 and 12 point.
- Any diagrams must be large enough to be clearly legible when read.