

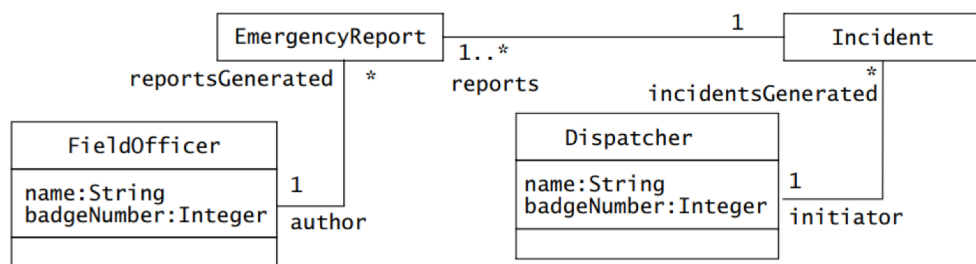
Week 5: Class Models

Submit: your answers for this workshop via the LMS or csubmit by 8pm Wednesday 25 March 2020. The workshop will be assessed using the CITS4401 workshop assessment rubric which can be downloaded from the unit web page at <http://teaching.csse.uwa.edu.au/units/CITS4401>. If you use csubmit please put all your answers into a single file saved as a pdf.

Reading: Fowler UML Distilled Chapter 3 (class diagrams)
Pressman Chapter 8 (Requirements Modelling)

Questions

1. Reading UML class diagrams



Use English sentences to explain the model that is described by the UML class diagram above. State any assumptions you make.

Questions 2, 3 and 4 relate to a project for the University of Titipu. The University have decided to develop a web-based maintenance tracking and repair system (TUTRS). [Source: based on Pressman Ch 8 Question 8.3]

Staff and students can log onto a website and report the location and severity of broken equipment or other maintenance issues. As issues are reported they are logged within a University maintenance database and assigned an identifying number, location, problem description and photograph, and repair urgency. Work order data are associated with each reported issue and include the problem, repair crew, number of people, equipment assigned, hours applied, status of repair, material used in the repair, and repair cost (computed from hours, number of people, material and equipment). Finally a damage file is created to hold information about the reported damage from the maintenance problem, including the reporting person, their contact details, type of damage and \$ amount of damage. TUTRS is an online system. All queries are to be made interactively.

2. **Discovering UML classes** List potential *actors* and the *classes* for TUTRS. Use the noun-verb method or CRC cards or any other heuristics you wish.
3. Now identify potential associations from the *verbs* in this scenario. You may wish to use the CRC method to identify relations between the classes. Decide on the multiplicity of the associations, giving reasons for your answers.
4. Draw a *UML class diagram* for the TUTRS system to capture the classes and attributes you identified in the previous questions.