



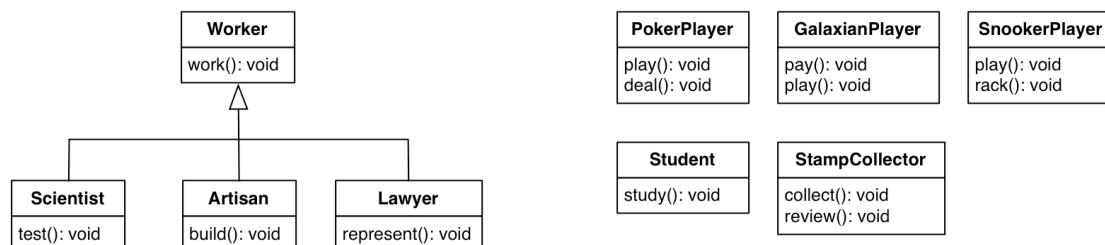
GALWAY-MAYO INSTITUTE OF TECHNOLOGY

Department of Computing & Mathematics

Advanced Object-Oriented Design Principles & Patterns (2015) ASSESSMENT II

***Note:** This assessment will constitute 25% of the total marks for this module.*

The following UML diagram depicts a hierarchy of types of *Worker* and a collection of other classes:



You are required to provide a redesign of the relationships between the classes above that provides maximum reusability and extensibility, without introducing repetitive code into the design. You must implement your design as a set of Java classes and document the rationale for the design of each class in comments after the *package* statement (**hint:** use the *source* menu in Eclipse to increase your productivity).

Note that for each type in the hierarchy, there are multiple uses of the other classes. For example, a *Lawyer* may also be a *PokerPlayer* and a *StampCollector*. In addition, a *Student* may be a *GalaxianPlayer* and *SnookerPlayer*. Also note that there is no single “correct” answer to this assessment – there are many possible solutions, all with their advantages and drawbacks. You should state any assumptions or known issues relating to your design in comments at the top of your classes or in a separate README.txt file. Marks will be awarded for applying the key principles that underpin loose coupling and high cohesion.

Please note the following carefully:

- The classes should all be contained in a package called **ie.gmit.sw**.
- **When you have finished the assessment, upload Java source files to Moodle in a Zip archive called `<id>.zip` where `<id>` is your student ID number. You will lose marks if you do not submit the assessment correctly.**