# AC22004 Object-oriented analysis and design – Assignment Feedback

**Assignment 2: Class Diagram(s)**

**Group 9: Velian, Stewart, James GRADE:** A2

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| **Analysis of candidate classes**  Criteria to consider: consideration of all relevant concepts which appear within the system description(s) and related documentation as possible classes (or attributes of classes); a complete set of candidate classes which is considered in terms of their suitability for keeping or rejecting and with valid reasons for keeping and rejecting which may refer to common reasons why classes may be kept (e.g. physical things, types of people, containers of things, boundary classes, etc.) or rejected (too vague, irrelevant to system, an attribute rather than a class) and/or consideration of other methods for identifying classes, e.g. conceptual class categories, responsibility driven design. |
| Please refer to the email that I circulated previously with general feedback about the classes I expected to see for the JADE game, e.g. various entities or physical things (player, game, map, location, wildcard, question); containers of things (wildcard collection, question store, the player’s Bag, the map contains locations); the places or locations of interest (the different location types); boundary classes (game server, social media sites); control classes such as ‘Game’. I also described decisions based on cohesion and other design principles, e.g. having separate classes for different locations or different wildcards instead of squashing the different logic all together into a single class. Ideally, the classes listed above should have been picked up through analysis of nouns or brainstorming conceptual class categories, or other techniques using the sources of information provided.  **Regarding your own analysis:**  Your list of nouns is excellent and comprehensive – you have coverage of all of the relevant game concepts.  Your analysis of the nouns is excellent too – you appear to have identified pretty much all of the classes that I had hoped to see. Great work, well done!  The only thing that would have been good to see is evidence of at least one other approach to your analysis too (e.g. such as Larman’s categories) – really just to have rounded out your analysis.  Grade for this section: A2 / 22 (this counts towards 30% of the assignment total) |

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| **Class Diagram**  Criteria being considered: modelling of classes identified during analysis; appropriate well named relationships identified between classes that tell the ‘story’ of the system and with multiplicities specified; appropriate use of UML notation and consideration of different types of relationships where relevant, e.g. composition, inheritance, dependencies, uni-directional associations; consideration of design principles which may influence the quality of the design, e.g. cohesion of classes. Consideration of any known requirements in relation to future extensibility of the system and improving the design to support that. |
| Your class diagram is excellent. The number of classes is very healthy which means a good spread of responsibilities and cohesion. Your diagram is well-specified in terms of relationships, fields and methods.  Overall, I can see coverage of all of the main areas of functionality, e.g. the player moving around locations, game server interaction, buying game packs, social media integration, the different wildcard logic, etc.  The relationships between the classes are excellent. You appear to have identified all of those which are relevant to the design.  The descriptive names on the relationships are very good and help to tell the ‘story’ of your system.  The multiplicities on the relationships are very good.  You have made good use of the *composition* relationship in the design.  You have made excellent use of inheritance and you have shown the two main things I wanted to see: (i) a hierarchy of wildcards; (ii) a hierarchy of game Locations. Excellent, well done and modelled really well too.  The only thing to consider would be the use of UML Packages to bring a higher level of organisation into your design but what you have is excellent and comprehensive.  Grade for this section: A2 / 22 (this counts towards 50% of the assignment total) |

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| **Documentation**  Criteria to consider: classes are given names which clearly reflect their intended role and responsibility and which conform to expected naming guidelines. The class descriptions provide clarification of the intended responsibilities of classes. Any attributes and operations have brief descriptions which clarify their purpose and/or form as appropriate. |
| The names of the classes, fields and methods are all very good and conform to the expected conventions (singular nouns or noun phrases which are indicative of the ‘thing’ that the class represents or the role that it plays).  Your class documentation is excellent and comprehensive. I see that you have generated some skeleton code too (good) but this hasn’t been commented sufficiently to generate full Javadoc documentation from it.  Grade for this section: A3 / 21 (this counts towards 20% of the assignment total) |