IN2013, Week 2 – Object Oriented Analysis: Packages

Model Answers

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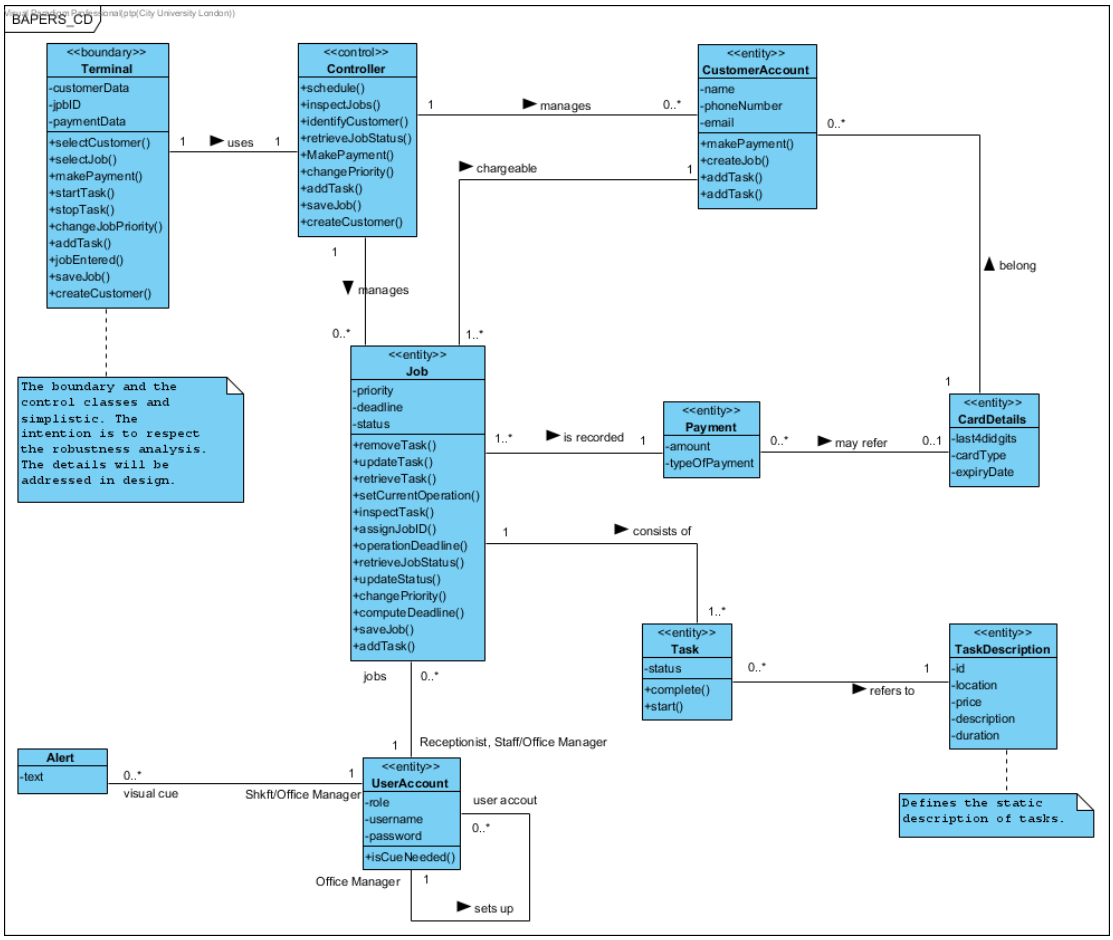
Scenario

Question 1 (using roles and associations in class diagram). Using the case study BAPERS and the class diagram provided in Appendix 1 refine the class model as follows:

- Is the use of CashPayment as a separate class necessary?
- Are card details part of payment? Consider splitting card details from card payment and introduce any new associations/roles that might be needed.

Answer:

CashPayment is indeed not needed and has been dropped (check the video for more detailed discussion of the problems that we solved by revising the class diagram).



Question 2: Consider the use of packages with class diagram. Explore different ways of grouping the classes into packages and draw a class diagram showing explicitly classes and packages.

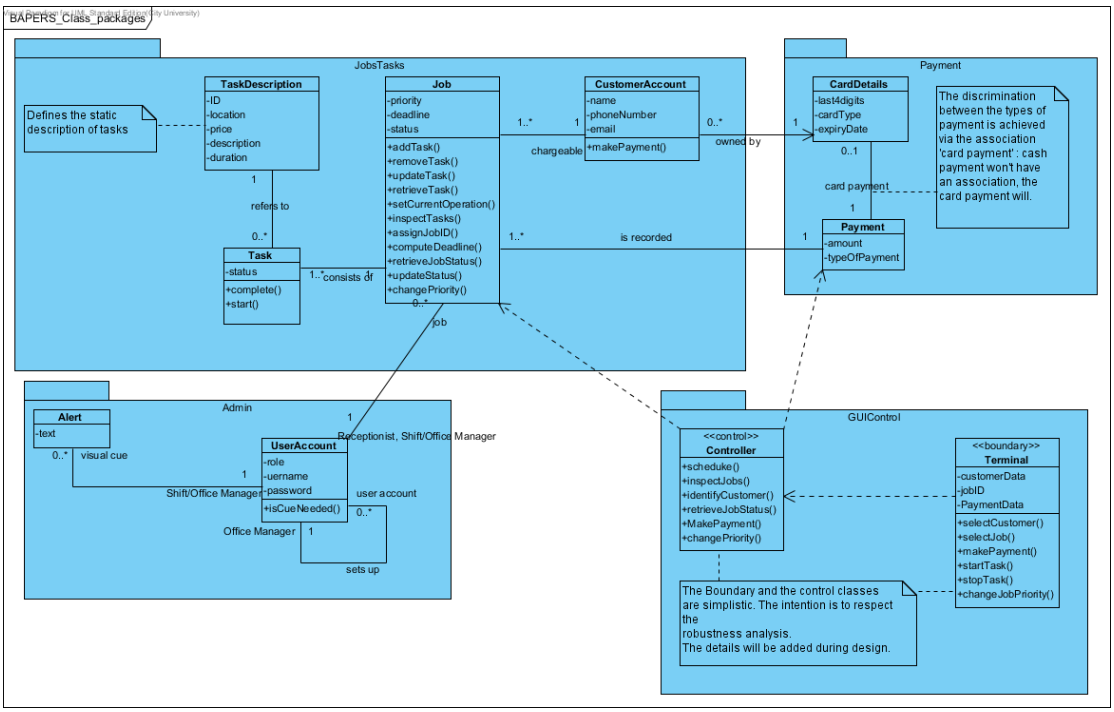
- Ideally you should try to achieve ***loose coupling*** between packages, e.g. minimize the number of associations crossing the package boundaries.

- Make sure that you do not loose associations between packages that belong to different packages
- Pay attention to the syntax of showing these associations.

Answer: Below I show one possible grouping classes into packages[1]. There are other reasonable ways of introducing packages.

The intention here was to retain all associations – some become internal for a package, some cross package boundaries.

This diagram does not offer any advantage in comparison with the diagram without packages, but shows clearly which associations cross the package boundaries.

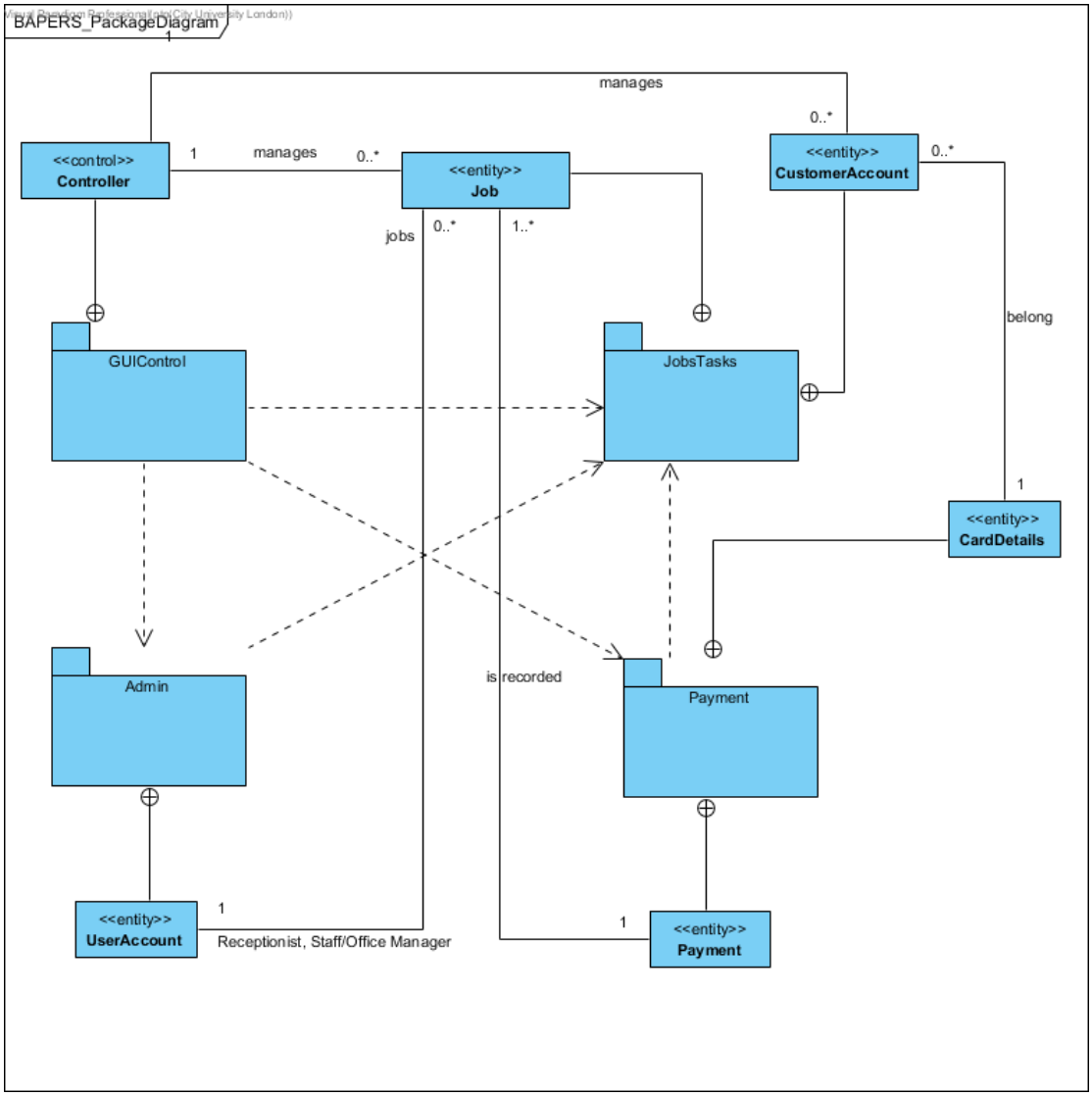


Question 3: *Now* having identified the packages, show a 'package diagram', i.e. one in which only the packages are shown together with dependencies between them.

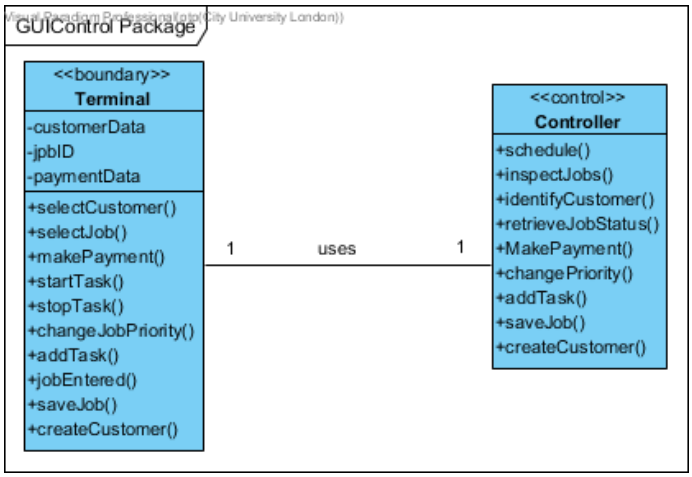
Answer:

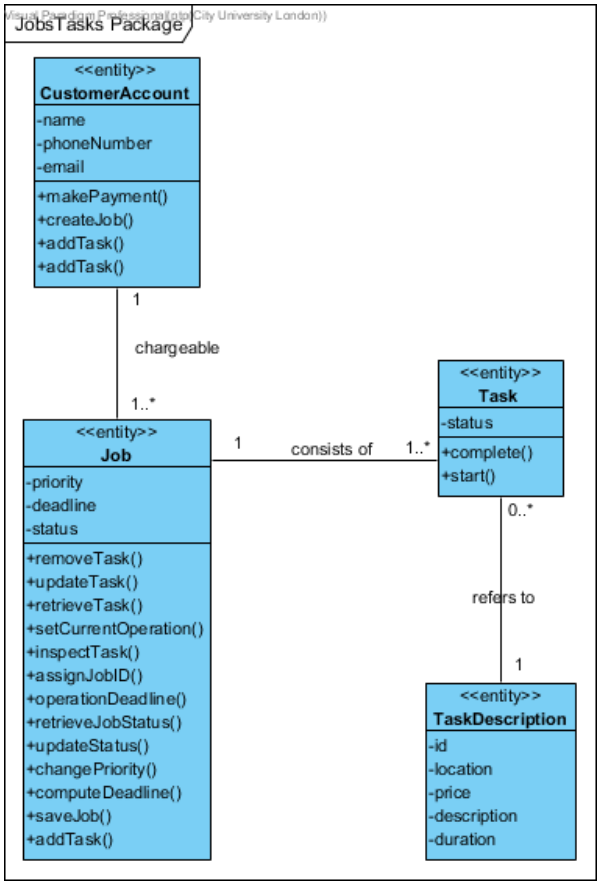
The package diagram is shown below and the video on Moodle provide further details about how I derived it using the Visual Paradigm.

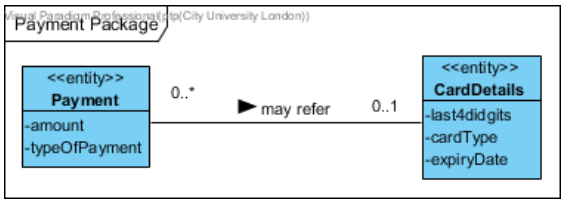
[1] There are some minor discrepancies with the model answer, e.g. using dependencies between some of the classes rather than associations. The point of this diagram is to show how classes are assigned to packages.

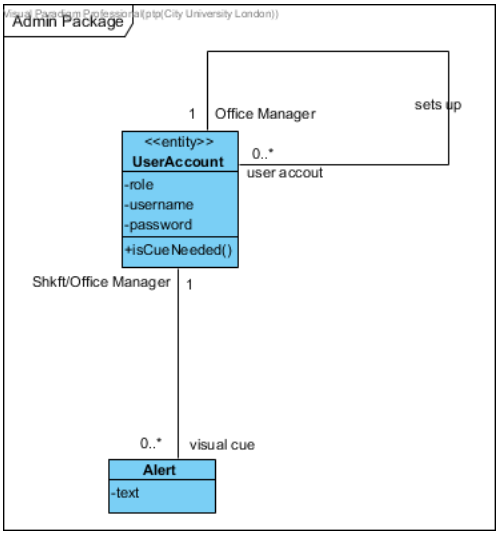


The packages are illustrated in the class diagrams below. Each diagram shows the classes that belong to the particular package. You can check out the project BAPERS_2018_Tutorial2_modelAnswer.vpp for further details on he model answer.



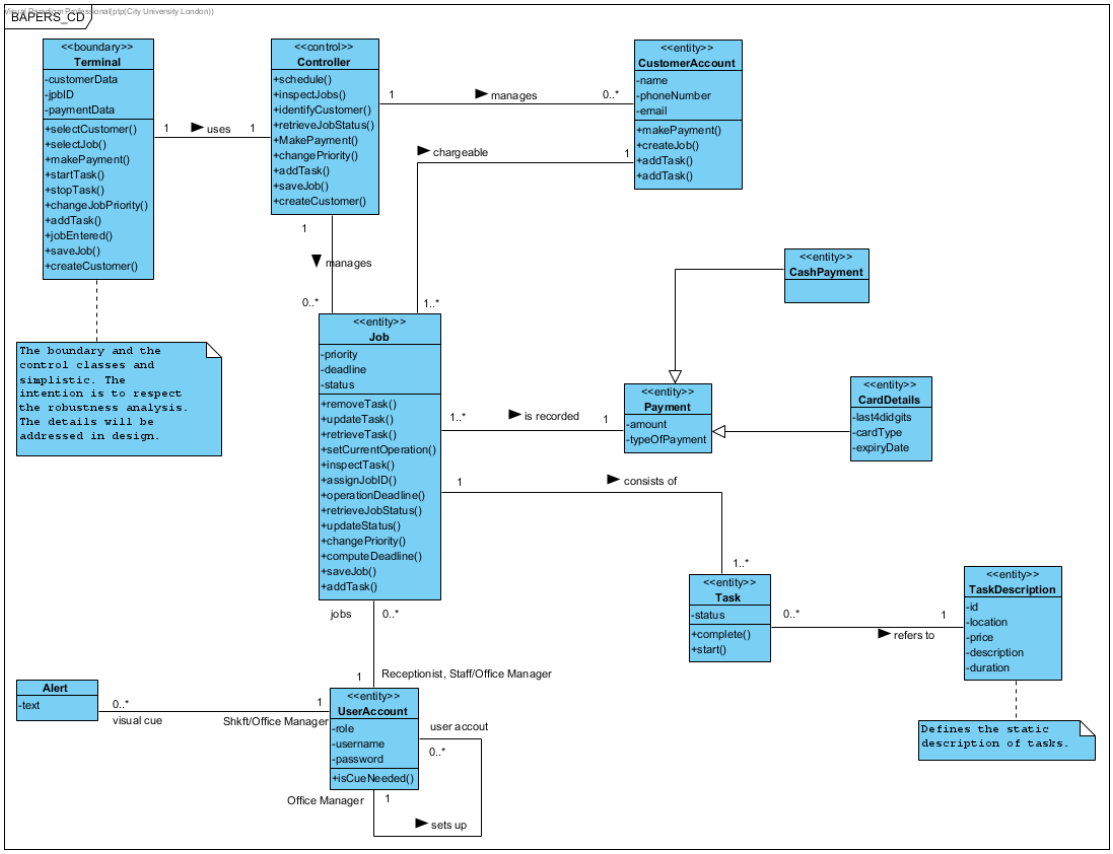






Appendix 1

BAPERS – first cut analysis class diagram.



10th October 2018