

Exam: Architecture and Modelling of Management Information Systems (AMMIS)

June 2017

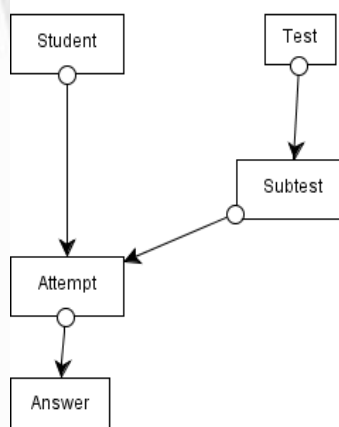
16 June 2017 (Morning)

1. EDG about luggage handling and boarding tickets.

Baggage handling case: A person can book a ticket to a destination. Such a ticket may consist out of several boarding passes for the several flights. Also, a passenger may take checked luggage on the trip, consisting out of usually 1 item. A boarding pass is assigned a seat on a flight, and luggage is also assigned to a flight, but not via a pre reserved seat. The checked luggage is connected via the ticket.

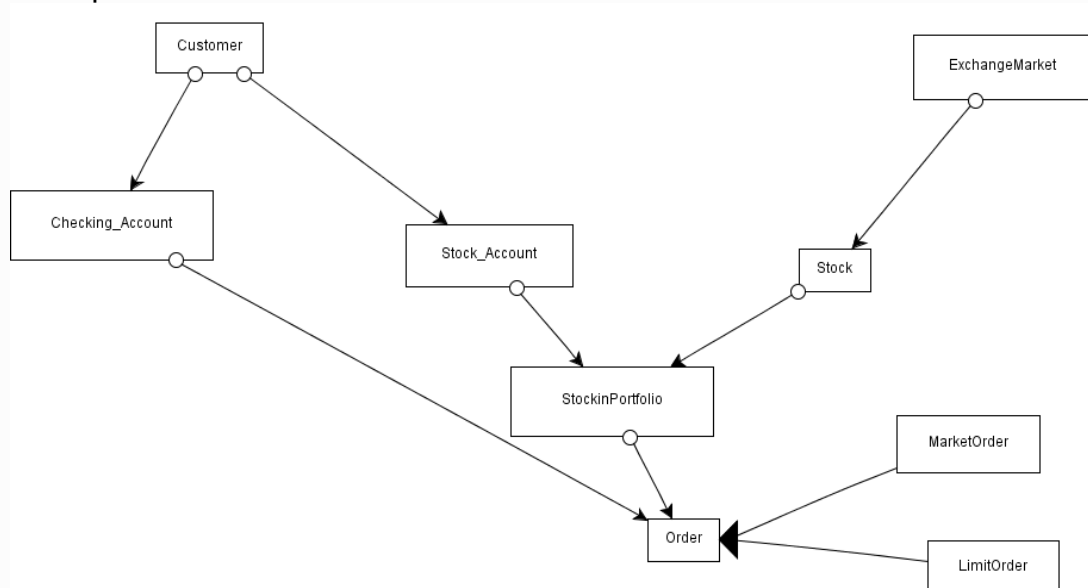
- Draw EDG - no further assumptions have to be given
- How to handle the localization and tracking of a passenger's luggage
- How to ensure that the luggage flies along with the passenger
- Give an example of behaviour from the description that can't be modelled in the domain layer.

2. Finite state machines and Object event table about organizing an exam: an exam has questions, which students can answer. Answers are being noted through attempts. Attempts can only be created when the questions are unhidden. Answer can be created, edited and ended. An attempt, when started, has to be fulfilled in order to attempt a new subtest. After filling in the subtests, the student can either hand them in, or clear his answers when not satisfied with the answers. The subtests can be hidden when reusing the test when they were previously attempted by a student. When a subtest (consisting out of different smaller boxes possibly) is not fully filled in, it is automatically cleared by the system. When a test is first made, it is in a closed state where no student can attempt any subtests, but where the teacher can do some editing. When the test is started (open), the students can attempt questions, but the teacher cannot edit anything. After ending the test, the test goes into a state where it cannot be modified, only graded. After that, it can be ended or recycled in order to reuse the questions. When reusing as previously said, questions can be hidden or unhidden.

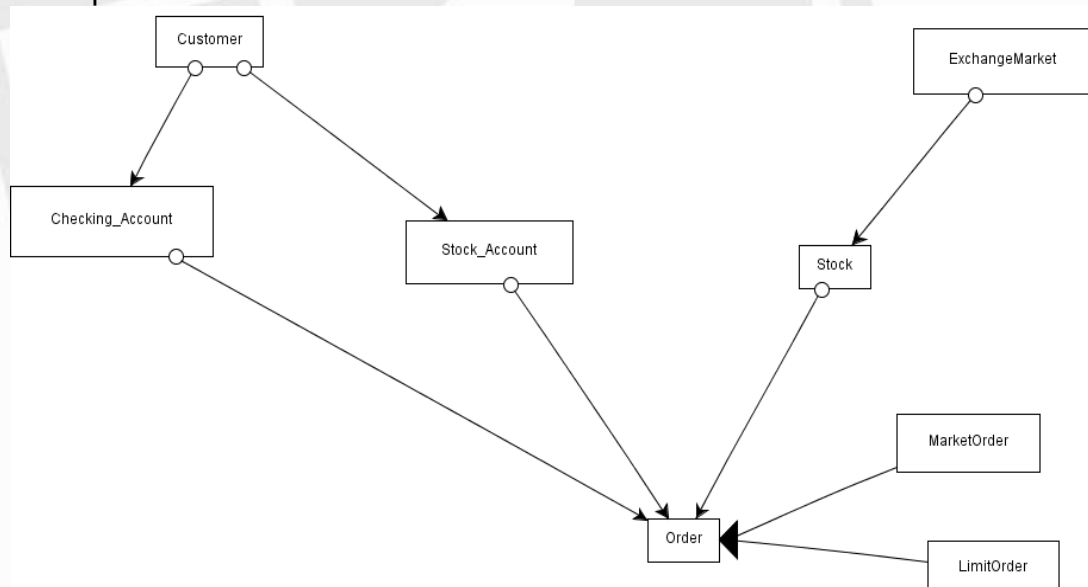


- a) You get the EDG of an automated test system for students. You get a description of the behaviour that is allowed at which moment and you have to fill in the non-default events in the OET and draw the non-default FSM's
 - b) Provide 2 behaviours from the case which cannot be enforced through the finite state machine
3. Explain the differences between the business process layer and object lifecycles through the examples of a basket and basket order from the Bonk Bank group case and how they are connected (based on case description of group assignment)
 4. Given two EDGs and OETs related to the bonk bank case (1 with association object between order, stock and stock account and 1 without). Compare both EDGs in the following situation:

Example A:



Example B:



- a) Buying an order with completion success of 99.9%
 - b) Listing all information of owned stocks
 - c) Selling a stock under 2 conditions
 - d) Give an overall comparison between both EDG's and the given OET
5. "An EDG is not a Database Model", but the application derived from the Merode model still has database objects: where in the development process is the Database Model defined and in which cases might it be different from the EDG. (p248 - 249 in the book : 11.2.2.1 The Database Schema)

