OOA/D Exercise - The Pizza Delivery Company

The world famous chain of 'Pizza Hovel' restaurants has decided to open a number of branches offering home delivery to households in the Bournemouth area. After an expensive advertising campaign promising prompt and efficient service, the company has decided to ditch their original paper-based system and totally computerise the delivery operation.

Pizza Hovel offers the customer the chance to custom-build the pizza of their choice. All pizzas are covered with melted cheese, the type and thickness being at the discretion of the paying customer. The pizza base may be either 'thin 'n' crispy' or 'deep pan'. Custom pizzas may be 'built' from the following categories:

- Neptune - anchovies, trout, herring, prawns, jalapeno peppers
- Redneck - pepperoni, beef, salami, chicken, ham, extra cheese
- Herbivore - tomato, carrot, cucumber, extra cheese, Quorn
- Deviant - custard, noodles, sprouts, squirrel, banana
- Angina - all of the above.

When a pizza is ordered it is placed in a queue and served in a first-in, first-out fashion. If the pizza remains in the queue for longer than 40 minutes then the customer is not charged. Pizzas are loaded into vans and delivered to any household in the Bournemouth 'catchment' area. If the total turnaround time between the customer phoning and the delivery to the door is greater than 60 minutes then the customer is not charged. As the Pizza Hovel chain does not take credit cards, the customer at the door makes payment by cash or cheque.

In order to make 'mailshots' to customers at a later date, the system requires information about the clientele of each branch (taken when they phone through the order). As well as the usual marketing data the system must also be able to distinguish between 'casual' customers and those householders that are members of the 'Bargain Scoff Club' that allows the accumulation of 'Nosh Points' that give discounts on future purchases. Each delivery awards club member 100 points, and each 200 points allow a discount of 10%.

Using UML model the problem domain and synthesise a solution.

Warning: there are ambiguities and poorly detailed requirements in the description, hunt them out!