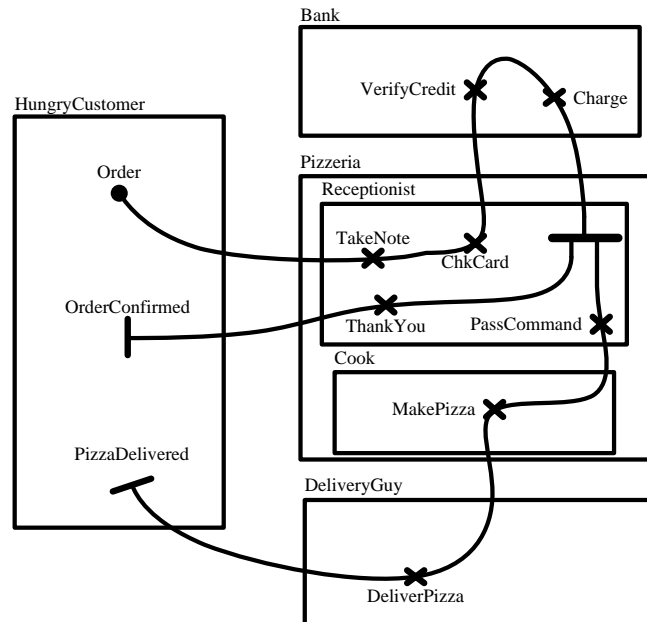# Use Case Maps Workshop

Pizzeria System

The UCM on the right presents an overview of the process of ordering, making, and delivering pizzas in a typical pizzeria. The primary scenario illustrated here represents the normal case.

However, making a pizza is something more complex than what is captured here. Using jUCMNav, substitute the *MakePizza* responsibility by a static stub with a plug-in (sub-UCM) that specifies the following process:

a) When a pizza order is received from the receptionist, the cook prepares the crust, adds all the ingredients, and bakes the pizza, which results in a pizza ready to be delivered.

However, several exceptional situations may happen. You are asked to modify this UCM in jUCMNav to cover the following situations:

b) Some of the requested ingredients are missing. In this case, the cook only adds some of the ingredients (no substitution because the customer might be allergic…) and the pizzeria reimburses some amount of money on the customer's credit card while the pizza is in the oven.

c) The credit card is a stolen credit card! The bank requests the address of the customer from the receptionist, who provides it. However, in order not to raise any suspicion, the bank pays the pizza as usual and the pizza is made and delivered as if nothing happened.

In order to validate your new model, use jUCMNav to add 3 scenario definitions that will cover all the UCM path segments in your improved specification. Do not forget to:

- Bind your plug-in UCM to its parent stub
- Add (Boolean) variables to be used in your conditions
- Add conditions to the branches exiting OR-Forks (in the Properties view)
  - Add suitable condition labels (free text, shown between [and] on the diagram)
  - Add Boolean expressions. "!" is the NOT operator, "&&" is AND, and "||" is OR)
- Create your three scenario definitions by providing initial values to the variables and by selecting the appropriate start point (there should be only one).
- Check your scenarios using scenario highlight (by selecting a scenario in the Scenarios and Strategies view, and then clicking on its Execution View icon: 🟨).

Document your new responsibilities, start/end points, and guarding conditions (for alternative branches) precisely. Experiment by adding expected end points with post-conditions in your definitions, or by creating non-deterministic / blocking conditions in the model.