# 1.0 Use Case Modelling

The first iteration of the Use Case model is a simple diagram with only one or at most two use cases and a use case description for each

It can cover the complete system functionality in summary form

System Name

(Automated Sales System)

Actor

(Student)

## 1.1 Use Case Description

The use case description is developed from analysing the description of the use case. This is the statement of the goal of the use case.

For the first iteration this will be a description of the how the system operates.

Use Cases focus on functional requirements and specific system behaviour.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **USE CASE** | | <number> | <Name of Use Case>  <the name is the goal as a short active verb phrase> | |
| **Description of Goal in Context** | | <a longer statement of the goal for this Use Case in context > | | |
| **Preconditions** | | <what we expect is already the state of the system>  <list> | | |
| **Post Conditions, Success End Condition** | | <the state of the system upon successful completion> | | |
| **DESCRIPTION** | | < The use case description is a paragraph identifying behaviour, it comes from the requirements gathering> | | |
| **Main Flow** | | | | |
| **Step** | **Action** | | | **Alternate** |
| n.1 | <put here the steps of the scenario from trigger to goal delivery, and any clean-up after> | | |  |
| n.2 | **<…>** | | |  |
| n.3 | **<…>** | | |  |
| n.4 | **<…>** | | |  |
| n.5 | **<…>** | | |  |
| n… | **<…>** | | |  |
|  | | | | |
| **EXCEPTIONS or ERROR Flow Description** | | | | |
| **Step** | **Branching Action**  < Exception number m of Use Case n> | | | **Alternate** |
| n.m.1 | < condition causing exception>  <Action, steps of scenario to goal delivery> | | |  |
| n.m.2 | < condition causing exception>  <Action, steps of scenario to goal delivery> | | |  |
| n.m.3 | < condition causing exception>  <Action, steps of scenario to goal delivery> | | |  |
| n.m.4 | < condition causing exception>  <Action, steps of scenario to goal delivery> | | |  |
|  | | | | |
| **ALTERNATIVE or VARIATION Flow Description** | | | | |
| **Step** | **Branching Action** | | | **Alternate** |
| n.m.1 | <condition causing alternative>  <list of variation>  <Action, steps of scenario to goal delivery> | | |  |
| n.m.2 | <Action, steps of scenario to goal delivery> | | |  |

Non-functional requirements, management issues and decisions required to be made, can be identified in the following table

|  |  |  |
| --- | --- | --- |
| **RELATED INFORMATION** | Use Case: <number> | <Use case name> |
| **Priority:** | <how critical to your system/organization> | |
| **Performance** | <the amount of time this use case should take> | |
| **Frequency** | <how often it is expected to happen> | |
| **Channels to actors** | <e.g. interactive, static files, database, timeouts> | |
| **OPEN ISSUES** | <list of issues awaiting decision affecting this use case> | |
| **Due Date** | <date or release needed> | |

## Iteration 2

From the main flow of iteration 1 a number of use cases can be identified

These form the basis for the functional specifications of the system.

Consider the following example for buying goods

System Name

(Automated Sales System)

Actor

(Sales DataBase)

Actor

(Customer)

Five use case narratives are required to complete the model.

Each narrative and each use case requires to be considered independently. The aim is to complete all the details for one use case, then consider the next use case in detail.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **USE CASE** | | 5 | Buy Goods | |
| **Description of Goal in Context** | | Buyer issues request directly to our company, expects goods shipped and to be billed | | |
| **Preconditions** | | We know Buyer, their address, etc (UC 4) | | |
| **Post conditions, Success End Condition** | | Buyer has goods, we have money for the goods | | |
| **DESCRIPTION** | |  | | |
| **Main Flow** | | | | |
| **Step** | **Action** | | | **Alternate** |
| 5.1 | Buyer calls in with a purchase request | | | AF 5.1 |
| 5.2 | Company captures buyers name, address, requested goods, etc | | |  |
| 5.3 | Company gives buyer information on goods, prices delivery dates etc | | | EF 5.3 |
| 5.4 | Buyer signs for order | | | EF 5.4 |
| 5.5 | Company creates order, ships order to buyer | | |  |
| 5.6 | Company ships invoice to buyer | | |  |
| 5.7 | Buyer pays invoice | | | AF5.7, EF 5.7 |
| 5.8 | **End Use Case 5** | | |  |
|  | | | | |
| **EXCEPTIONS ERRORS** | | | | |
| **Step** | | **Branching Action**  < Exception number m of Use Case n> | | **Alternate** |
| 5.3.1 | | Company is out of one of the ordered items: at step 5.3  3a1. Renegotiate order | |  |
| 5.4.1 | | Buyer pays directly with credit card: at step  4a1. Take payment by credit card (use case 44) | |  |
| 5.7.1 | | Buyer returns goods: at step 7  7a. Handle returned goods (use case 105) | |  |
|  | | | | |
| **ALTERNATIVE VARIATIONS** | | | | |
| **Step** | | **Branching Action** | | **Alternate** |
| At step 5.1 | | Buyer may use:  Phone in,  Fax in,  Use web order,  Electronic interchange | |  |
| At step 5.7 | | Buyer may pay by:  cash or money order  check  credit card | |  |

|  |  |  |
| --- | --- | --- |
| **RELATED INFORMATION** | Use Case 5 | Buy goods |
| **Priority:** | Top | |
| **Performance** | 5 minutes for order, 45 days until paid | |
| **Frequency** | 200/day | |
| **OPEN ISSUES** | What if we have part of the order?  What if credit card is stolen? | |
| **Due Date** | Release 1.01 | |