

## **Directed Work N° 02**

**Duration of the series: two sessions**

### **Course Questions**

- What is a flow ?
- What is diagram flow ?
- Cite some objectives of diagram flow?
- What is the difference between Conceptual Communication Model (CCM) and Conceptual Flow Model (CFM) diagrams,
- What are the Notes and rules to avoid when setting up a diagram?
- Cite the steps to develop a diagram flow.

**Notes : The questions are the same for all exercises :**

1. 1. Identify the actors (internal and external).
2. 2. Identify information flows
3. 3. Establish the Context Model
4. 4. Establish the Data Flow Diagram

#### Exercise 01 (scholarship service)

At the beginning of each year, students wishing to benefit from the university scholarship must register.

The student submits the requested file at the registration desk. The agent checks the submitted documents (list and validity). If a document is missing, the file is returned to the student on the spot. The accepted files are then sent to the headquarters of the university works where a compliance check is carried out. If parts have been found invalid, a list of these parts is sent to the student to bring back new copies. After the submission of these documents and the completion of the file, a letter confirming registration with the university scholarship service is sent to the student.

#### Exercise 02 (Civil status)

To be able to retrieve a civil status document, a citizen must present himself at the town hall headquarters closest to his home. He must go to the counter in charge of the desired document and present his identity card. After verifying his identity, the employee of the counter asks the citizen to specify the document he wants to retrieve and the number of copies. Following the answer given, the employee prepares the documents in question and returns them to the citizen. The latter goes to the counter of the head of the department for verification and signature of the drawn documents.

### Exercise 03 (Claims management in an insurance company)

When a statement of claim arrives, it is examined. If the declaration is admissible, an expert's opinion is requested, otherwise the insured person is notified of the refusal. Upon return of the expertise and after receipt of the invoice from the garage, the amount of the refund is calculated and the check is sent to the customer.

### Exercise 04 (Supply) :

Based on the supply requests established by the sales department, the purchasing department sends price requests to possible suppliers, for new or exceptional supply items.

The suppliers send offers, studied in detail and compared by the buyers; the latter then make a choice. The choice is made no later than 10 days after the sending of the offers.

The purchasing department draws up an order form for the selected supplier. A copy is given to the store for receipt.

When the delivery arrives, the storekeeper quantitatively checks the goods. A quality control is carried out. Delivery usually arrives 2 days after the final choice of the supplier.

The delivery is sent back in bulk if one of the checks is negative. The satisfactory controls lead to the entry into stock of the articles. The store draws up the voucher to be paid to the financial services. When the financial services receive the invoice from the supplier, they verify that it corresponds to the voucher to be paid and issue the payment check.

### Exercise 05 (After-sales Service) :

We are located in a company that produces industrial machines for other companies.

The complaint process involves various internal and external actors to the company.

- The After-sales Service interacts with the customer to try to respond automatically from a database of information related to the product.
- If the case is more complex, the after-sales service transmits the request to the technical service which will study the submitted problem and lead to three types of more precise solutions (either personalized explanation, or a proposal for a standard exchange of the entire product or one of its parts, or a repair proposal).
- If the customer is not always satisfied with the solution provided by the technical service, he is referred to the sales department who will make an adapted final proposal.

### Exercise 06 (Maintenance) :

A maintenance company ensures the follow-up of the electrical equipment installed at the customers' premises.

In the event of a breakdown, the customer submits a maintenance request to the sales department closest to his home. After checking the content of the request, the sales department confirms the request and sends it to the technical department. A technical service team visits the customer's home to check the failure and determine the equipment needed to repair it. The team then returns to the headquarters to collect the necessary equipment and returns later to repair the failure. After the end of the repair, a report confirming the repair is prepared in two copies and given to the customer for verification and signature. The customer signs both copies, he keeps one and returns the second to the repair team. The latter sends the signed copy back to the sales department which draws up an invoice containing the repair costs, the customer then proceeds to payment either by check or by cash.