

Target Business and System Requirements

In the exercise for Introduction to Software Engineering, we will develop a system for a bread manufacturer to support its purchase of materials. (Project Codename: BMPM: Bread Material Procurement Management System)

Bread Material Procurement Procedure

1 Outline of Procedure

- Procedure Name: Bread Material Procurement

(1) Outline of procedure

- The procurement staff receives a list of materials from the manufacturing staff and checks (1) the current stock of material, (2) the availability of budget, and obtains manager's approval if necessary, then initiates the procurement procedure.
- If there is enough stock, procurement is cancelled.
- If there is not enough budget, procurement is cancelled.

(2) Procurement procedure

- The procurement staff records the procurement details (name and amount of material), and informs the order staff.
- The order staff places orders to the material suppliers per the procurement details.
- The procurement staff receives the delivered material. The procurement staff verifies that the delivery matches the procurement details, then forwards the material to the manufacturing staff.
- Payment is processed quarterly (End of June, September, December, and March). Invoices from material suppliers are collected at the end of each quarter and checked by the order staff. Then the order staff requests payment to the accounting staff.

2. General policy of the system

A plan to adopt a computerized system for the target operation has been proposed and necessary authorization has been completed. According the plan, the system should cover the following activity.

- (1) Procedures that are to be excluded from the system
 - The manufacturing staff creates a list of materials from the manufacturing schedule.
 - The procurement staff checks the current stock of material and the availability of budget.
 - The procurement staff obtains manager's approval.
 - The procurement staff informs the order staff of the order details.
 - (2) Tasks of the "procurement staff" that are to be included in the system
 - Procurement procedure
 - Record the procurement details
 - Record the completion of delivery
 - (3) Tasks of the "order staff" that are to be included in the system
 - Quarterly payment procedure
 - Input of invoice details
 - Place payment request
 - (4) Tasks of the "accounting staff" that are to be included in the system
 - Record completion of payment
 - (5) Tasks of the "accounting staff" related to, accepting request for payment, and execution of the payment are already supported by the "accounting system". Coordination with this existing system is considered as the following.
 - Develop a minimal interface
 - Avoid duplicating input of payment request information.
3. Overview of work flow realized by the system
- (1) Common
 - The corresponding procedure is selected through a main-menu.
 - To maximize efficiency, input for each procedure is performed in a dedicated input panel.
 - (2) Procurement procedure
 - Input the material requested by manufacturing staff.
 - Information to be input to the system
Procurement id, material code, amount, requested delivery date, staff code
 - Special considerations
 - The input information (ex. procurement id, etc.) required for this procedure is provided through data sheets etc.
 - An input panel is used to register all input information and store them in

the system

- Exception handling
 - If any of the 5 input data are missing, the entire input is rejected and must be retried.
 - Check the deliveries from the suppliers and forward them to the manufacturing staff, then record the completion of delivery.
 - Information to be input to the system
 - Procurement id, delivery date
 - Special considerations
 - None
 - Exception handling
 - If the input procurement id does not exist in the system, or if the corresponding procurement has been delivered, the input is rejected and must be retried.
- (3) Quarterly payment procedure
- Check invoices from material suppliers, and then input the details, and request payment to accounting department through the accounting system.
 - Information to be input to the system
 - Payment id, supplier code, invoice details (a list of procurement id's), invoice date
 - Special considerations
 - The request to the accounting system is performed automatically once necessary information is correctly input.
 - Exception handling
 - If the input procurement id does not exist in the system, or if the corresponding procurement has not been delivered, the input is rejected and must be retried.
 - When the interface with the accounting system fails, since it is impossible to carry out the procedure, the system is shutdown.
 - After payments to the stores are completed, record the completion of payment.
 - Information to be input to the system
 - Payment id, payment date
 - Special considerations

- None.
- Exception handling
 - If the input payment id does not exist in the system, or if the corresponding payment has already been completed, the input is rejected and must be retried.