Business Process Management Systems (2II55) Party store "Drankorgel"

GROUP 1 Oliver Schinagl (0580852) Maik Teurlings (0591600) Wilrik De Loose (0601583)

April 13, 2008

1 Settings

1.1 Organizational context

The Party store is composed of four groups - the warehouse, store, administration and logistics department. The organizational model of the party store is presented below where the blue color represents groups and the green color represents roles.

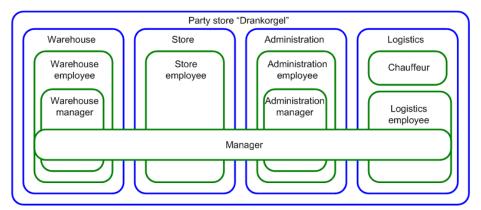


Figure 1: Organizational context of the Party store

1.2 Workflow process A

When someone places an order the good people of "Drankorgel" will prepare the order. Also, for each order there will be some logistics involved. These will be scheduled only when the customer has payed the bill. The customer can directly pay or choose to pay by bill.

When the customer has payed the bill, the order is completed. When the bill is not payed within a week, a reminder will be sent. If the customer does'nt pay after two reminders the order is canceled and the prepared goods are put back into the warehouse.

The preparing of an order will involve picking the order until the entire order is prepared. Then the goods are checked and send if the order is complete. If the order picker made a mistake he will have the opportunity to re-pick until the inspection is ok. If some goods are out of stock and need to be ordered, the order can only be finished upon arrival of the goods.

After preparing the order and receiving the money the goods are ship by the planned logistic means. If the order contained hired wares, that equipment will be retrieved by the company. If, after the inspection, everything seems in order, then the customer will not be bothered until the next order he or she places. If something is wrong, an extra fine has to be paid depending on the damage or missing equipment. If the customer does not pay after getting two reminders, he will be sued and the money will eventually go to the store.

1.3 Workflow process B

Every now and then an employee checks if the warehouse needs to be restocked or if some goods passed their freshness date. This is done by hand and for every item the store sells. If a certain item passed the date, it is thrown away. If not, the next item will be evaluated. If the quantity is low for that item, it will be put on the 'restock list'.

If the employee finished the route in the warehouse and inspected all the goods, the 'restock list' is used to order the items that were running out of stock.

Upon arrival of new goods, the entire order needs to be checked before the item are put in the warehouse. An employee checks for both missing (ordered but not received) and extra (received but not ordered) items. Missing items will be re-ordered and extra goods will be returned.

After checking the order some employee will place the items on the right shelf in the warehouse.

2 Protos models

2.1 Workflow process A

- **2.1.1** Process perspective to do...
- $\begin{array}{ccc} \textbf{2.1.2} & \textbf{Resource perspective} \\ \textbf{to do...} \end{array}$

2.1.3 Task description

$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Name	Executor	Description
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			_
		Store employee	- *
bill Send bill Administrative employee is being created. Payment received manager Administrative manager The bill is being send to the customer. Payment received manager Administrative manager The manager marks the order as being payed. Payment timeout System The manager marks the order as being payed. Plan Logistics I ployee Logistics employee The manager plans the logistics used for the shiplogistics I ployee Pay logistics I ployee Logistics employee The manager pays the logistics after the payment has been received. Pick Warehouse employee Marchouse employee ployee The employee picks the needed goods for the order. Order Beccive Marchouse employee Warehouse employee ender the order. The manager orders the goods needed to complete the order. Expuly play the manager order bloyee Warehouse employee ender ployee ender ployee ender the order. Employee e₁ receives the goods ordered by the manager can decide to cancel an order Cancel Manager order bloyee ender bloyee After a order is canceled the goods are placed back into the warehouse. Cancel Order order Manager order stream the logistics order the payment has been done and before the goods are being delivered, the party can be canceled by the manager. Deliver goods After the payment has been done and before the goods		Administrative	
			_
Payment received manager System timeout System Spands System System Spands System System Spands System Spa			
$ \begin{array}{c ccc} Payment \\ received \\ manager \\ System \\ Syste$	Send bin		The bill is being send to the customer.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Dormont		The manager marks the order as being payed
Payment timeout System Plan Logistics 1 ployee em- Interest of the ship- ment of the ordered goods. Confirm Logistics 1 ployee Logistics employee Pay logis- stics 1 Administrative manager The manager pays the logistics after the payment has been received. Pick warehouse empoods Warehouse empoods The employee picks the needed goods for the order. Porder Warehouse empoods ployee Warehouse empoods Employee e₁ receives the goods ordered by the manager to complete the order. Inspect order Warehouse empoods Employee e₂, where e₁ ≠ e₂, inspects the order for completeness. Cancel order Manager The manager can decide to cancel an order Put back goods Store employee After a order is canceled the goods are placed back into the warehouse. Cancel party Manager After the payment has been done and before the goods are being delivered, the party can be canceled by the manager. Deliver goods Chauffeur After the cancelation of a party the manager can refund the money paid by the customer. Plan Logistics employee Inceptities employee The manager pays the money for the logistics of the retrieval of the goods. Confirm Logistics emplosites 2 Ployee The manager pays the money for the fine. <td></td> <td></td> <td>The manager marks the order as being payed.</td>			The manager marks the order as being payed.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		Dystem	
		Logistics em-	The manager plans the logistics used for the ship-
		_	
			9
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	_	1 V	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		0	
			The employee pieks the needed goods for the order.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			The manager orders the goods needed to complete
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			
orderployeecompleteness.Cancel orderManagerThe manager can decide to cancel an orderPut back goodsStore employee goodsAfter a order is canceled the goods are placed back into the warehouse.Cancel partyManagerAfter the payment has been done and before the goods are being delivered, the party can be canceled by the manager.Deliver goodsChauffeurThe chauffeur delivers the goods to the party.goodsAdministrative managerAfter the cancelation of a party the manager can refund the money paid by the customer.Plan logistics 2 ployeeThe manager plans the logistics for the retrieval of the goods.Confirm logistics 2 ployeeThe manager confirms the logistics for the retrieval of the goods.Pay logistics 2 Pay logis amanagerAdministrative manager pays the money for the logistics of the retrieval of the goods.Pick up goodsThe chauffeur retrieves the goods after the party has been held.Inspect goodsWarehouse managerThe manager inspects the retrieved goods for damages or missing parts.Send fineAdministrative employeeThe employee sends a fine for the damaged or missing goods.FineSystem5FineSystem5FineThe manager has received the money for the fine.FineMadministrative managerThe manager has sued the customer and eventually			
Cancel order Put back goods Cancel Manager Put back goods Cancel Manager After the payment has been done and before the goods are being delivered, the party can be canceled by the manager. The chauffeur delivers the goods to the party. After the cancelation of a party the manager can refund the money paid by the customer. The manager plans the logistics for the retrieval of the goods. Confirm Logistics employee Confirm Logistics emplo	_		
orderPut back goodsStore employee into the warehouse.After a order is canceled the goods are placed back into the warehouse.Cancel partyManagerAfter the payment has been done and before the goods are being delivered, the party can be canceled by the manager.Deliver goodsChauffeurThe chauffeur delivers the goods to the party.RefundAdministrative managerAfter the cancelation of a party the manager can refund the money paid by the customer.PlanLogistics employeeThe manager plans the logistics for the retrieval of the goods.ConfirmLogistics employeeThe manager confirms the logistics for the retrieval of the goods.Pay logistics 2ployeeof the goods.Pay logistics 2The manager pays the money for the logistics of the retrieval of the goods.Pick up goodsChauffeur managerThe chauffeur retrieves the goods after the party has been held.Inspect goodsWarehouse managerThe manager inspects the retrieved goods for damages or missing parts.Send fine managerThe employee sends a fine for the damaged or missing goods.Fine timeoutSystem5Receive fine managerThe manager has received the money for the fine.Paid by AdministrativeThe manager has sued the customer and eventually			_
Put back goodsStore employee goodsAfter a order is canceled the goods are placed back into the warehouse.Cancel partyManagerAfter the payment has been done and before the goods are being delivered, the party can be canceled by the manager.Deliver goodsChauffeurThe chauffeur delivers the goods to the party.RefundAdministrative managerAfter the cancelation of a party the manager can refund the money paid by the customer.PlanLogistics employeeThe manager plans the logistics for the retrieval of the goods.ConfirmLogistics employeeThe manager confirms the logistics for the retrieval of the goods.Pay logistics 2ployeeThe manager pays the money for the logistics of the retrieval of the goods.Pick up goodsChauffeurThe chauffeur retrieves the goods after the party has been held.Inspect goodsWarehouse managerThe manager inspects the retrieved goods for damages or missing parts.Send fineAdministrative employeeThe employee sends a fine for the damaged or missing goods.FineSystem5Receive fineAdministrative managerThe manager has received the money for the fine.Paid by AdministrativeThe manager has sued the customer and eventually		Wanager	The manager can decide to cancer an order
goodsManagerAfter the payment has been done and before the goods are being delivered, the party can be canceled by the manager.Deliver goodsChauffeurThe chauffeur delivers the goods to the party.RefundAdministrative managerAfter the cancelation of a party the manager can refund the money paid by the customer.PlanLogistics employeeThe manager plans the logistics for the retrieval of the goods.Confirm logistics 2Logistics employeeThe manager confirms the logistics for the retrieval of the goods.Pay logistics 2ployeeThe manager pays the money for the logistics of the retrieval of the goods.Pay logis agoodsThe chauffeur retrieves the goods after the party has been held.Inspect goodsWarehouse managerThe manager inspects the retrieved goods for damages or missing parts.Send fine employeeAdministrative employee sends a fine for the damaged or missing goods.Fine timeoutSystem5Receive fineAdministrative managerThe manager has received the money for the fine.Paid byAdministrativeThe manager has sued the customer and eventually		Store employee	After a order is canceled the goods are placed back
Cancel party		Store employee	
party goods are being delivered, the party can be canceled by the manager. Deliver goods Refund Administrative manager refund the money paid by the customer. Plan Logistics employee ployee of the goods. Confirm Logistics employee of the goods. Pay logistics 2 ployee of the goods. Pick up goods Inspect goods Send fine amager manager Send fine menut Receive fine manager Paid by Administrative manager Paid by Administrative manager Pick up goods System 5 The manager has received the money for the fine. The manager has sued the customer. The party the manager can refund the money paid by the customer. The manager plans the logistics for the retrieval of the goods. The manager pays the money for the logistics of the retrieval of the goods. The chauffeur retrieves the goods after the party has been held. The manager inspects the retrieved goods for damages or missing parts. Send fine manager The manager has received the money for the fine. The manager has sued the customer and eventually		Manager	
Deliver goods Refund Administrative manager Plan Logistics employee ployee of the goods. Pay logistics 2 manager Pick up Grauffeur manager Pick up goods Inspect Warehouse goods Send fine Pine Manager Send fine Receive Refund Paid by Administrative manager Refund Administrative manager Poid by Administrative manager The manager confirms the logistics for the retrieval of the goods. The manager confirms the logistics for the retrieval of the goods. The manager pays the money for the logistics of the retrieval of the goods. The manager pays the money for the logistics of the retrieval of the goods. The manager inspects the retrieved goods for damages or missing parts. The employee sends a fine for the damaged or missing goods. The manager has received the money for the fine. The manager has sued the customer and eventually		l manager	
Deliver goods Refund Administrative manager refund the money paid by the customer. Plan Logistics employee fice years and provided the goods. Confirm Logistics employee of the goods. Pay logistics 2 Pay logistics 2 Pick up Chauffeur manager plans the logistics of the retrieval of the goods. Inspect Warehouse manager manager manager manager ages or missing parts. Send fine Administrative menager manager manager manager manager goods. Fine System 5 The manager has received the money for the fine. The manager has sued the customer and eventually The manager has sued the customer and eventually	party		
Refund Administrative manager refund the money paid by the customer. Plan Logistics employee the goods. Confirm Logistics employee of the goods. Pay logish and a manager retrieval of the goods. Pay logish and a manager retrieval of the goods. Pick up Chauffeur The manager pays the money for the logistics of the retrieval of the goods. Inspect Warehouse Been held. Inspect Warehouse The manager inspects the retrieved goods for damager ages or missing parts. Send fine Administrative employee goods. Fine System 5 timeout Receive Administrative fine manager Paid by Administrative The manager has sued the customer and eventually	Deliver	Chauffeur	
Refund Administrative manager refund the money paid by the customer. Plan Logistics employee The manager plans the logistics for the retrieval of the goods. Confirm Logistics employee of the goods. Pay logistics 2 ployee The manager plans the logistics for the retrieval of the goods. Pay logistics 2 ployee The manager plans the logistics for the retrieval of the goods. Pay logistics 2 ployee The manager plans the logistics for the retrieval of the goods. Pick up goods The manager plans the logistics for the retrieval of the goods. Pick up goods The manager plans the logistics for the retrieval of the goods. The manager plans the logistics for the retrieval of the goods. The manager plans the logistics for the retrieval of the goods. The manager plans the logistics for the retrieval of the goods. The manager plans the logistics for the retrieval of the goods. The manager plans the logistics for the retrieval of the goods. The manager plans the logistics for the retrieval of the goods. The manager plans the logistics for the retrieval of the goods. The manager plans the logistics for the retrieval of the goods. The manager plans the logistics for the retrieval of the goods. The manager plans the logistics for the retrieval of the goods. The manager inspects the goods after the party has been held. The manager inspects the retrieved goods for damages or missing parts. Send fine Administrative goods. The employee sends a fine for the damaged or missing goods. The manager has received the money for the fine. The manager has received the money for the fine. The manager has sued the customer and eventually and the goods.		0	
Plan Logistics employee The manager plans the logistics for the retrieval of the goods. Confirm Logistics employee The manager confirms the logistics for the retrieval of the goods. Pay logistics 2 ployee The manager plans the logistics for the retrieval of the goods. Pay logistics 2 manager The manager pays the money for the logistics of the retrieval of the goods. Pick up Ghauffeur The chauffeur retrieves the goods after the party has been held. Inspect Warehouse The manager inspects the retrieved goods for damages or missing parts. Send fine Administrative employee The employee sends a fine for the damaged or missing goods. Fine System 5 timeout Receive Administrative fine manager Paid by Administrative The manager has received the money for the fine. The manager has sued the customer and eventually		Administrative	After the cancelation of a party the manager can
Plan Logistics emlogistics 2 ployee the goods. Confirm Logistics emlogistics 2 ployee of the goods. Pay logistics 2 ployee of the goods. Pay logistics 2 manager of the goods. Pick up goods Pick up goods Inspect Warehouse manager Send fine Administrative employee Fine timeout Receive Raceive Raceive fine Paid by Administrative The manager plans the logistics for the retrieval of the goods. The manager pays the money for the logistics of the retrieval of the goods. The chauffeur retrieves the goods after the party has been held. The manager inspects the retrieved goods for damages or missing parts. The employee sends a fine for the damaged or missing goods. The manager has received the money for the fine. The manager has sued the customer and eventually	Toording		
logistics 2ployeethe goods.ConfirmLogistics emlogistics 2The manager confirms the logistics for the retrieval of the goods.Pay logistics 2Administrative managerThe manger pays the money for the logistics of the retrieval of the goods.Pick up goodsChauffeurThe chauffeur retrieves the goods after the party has been held.Inspect goodsWarehouse managerThe manager inspects the retrieved goods for damages or missing parts.Send fine employeeAdministrative employee sends a fine for the damaged or missing goods.Fine timeoutThe manager has received the money for the fine.Receive fine managerThe manager has sued the customer and eventually	Plan		v - v
Confirm Logistics employee of the goods. Pay logistics 2 ployee of the goods. Pay logistics 2 manager of the goods. Pick up goods Chauffeur ployee of the goods. Pick up goods Chauffeur of the chauffeur retrieves the goods after the party has been held. Inspect Warehouse manager of the goods. The chauffeur retrieves the goods after the party has been held. The manager inspects the retrieved goods for damages or missing parts. Send fine Administrative employee goods. Fine System 5 The manager has received the money for the fine. Receive Administrative manager Paid by Administrative The manager has sued the customer and eventually		_	
logistics 2ployeeof the goods.Pay logistics 2Administrative managerThe manger pays the money for the logistics of the retrieval of the goods.Pick up goodsChauffeurThe chauffeur retrieves the goods after the party has been held.Inspect goodsWarehouse managerThe manager inspects the retrieved goods for damages or missing parts.Send fine employeeAdministrative goods.Fine timeoutSystem5Receive fine managerAdministrative fine managerThe manager has received the money for the fine.Paid by AdministrativeThe manager has sued the customer and eventually			9
Pay logis- tics 2 manager retrieval of the goods. Pick up goods Inspect Warehouse manager ages or missing parts. Send fine Administrative employee goods. Fine timeout Receive Administrative fine manager Paid by Administrative The manager pays the money for the logistics of the retrieval of the goods. The chauffeur retrieves the goods after the party has been held. The manager inspects the retrieved goods for damages or missing parts. The employee sends a fine for the damaged or missing goods. The manager has received the money for the fine. The manager has sued the customer and eventually		_	
tics 2 manager retrieval of the goods. Pick up Ghauffeur The chauffeur retrieves the goods after the party has been held. Inspect Warehouse The manager inspects the retrieved goods for damager ages or missing parts. Send fine Administrative employee goods. Fine System 5 timeout The manager has received the money for the fine. Receive Administrative manager Paid by Administrative The manager has sued the customer and eventually			
Pick up goodsChauffeurThe chauffeur retrieves the goods after the party has been held.Inspect goodsWarehouse managerThe manager inspects the retrieved goods for damages or missing parts.Send fine employeeAdministrative employee sends a fine for the damaged or missing goods.Fine timeoutSystem5Receive fineAdministrative managerThe manager has received the money for the fine.Paid by AdministrativeThe manager has sued the customer and eventually			
goods been held. Inspect Warehouse The manager inspects the retrieved goods for damgoods manager ages or missing parts. Send fine Administrative employee goods. Fine System 5 timeout Receive Administrative fine manager Paid by Administrative The manager has sued the customer and eventually			
Inspect Warehouse ages or missing parts. Send fine Administrative employee goods. Fine System 5 Receive Administrative fine manager Paid by Administrative The manager has sued the customer and eventually			,
goodsmanagerages or missing parts.Send fineAdministrative employeeThe employee sends a fine for the damaged or missing goods.Fine timeoutSystem5Receive fineAdministrative managerThe manager has received the money for the fine.PaidbyAdministrativeThe manager has sued the customer and eventually	_	Warehouse	
Send fine	_		
Fine System 5 timeout The manager has received the money for the fine. Paid by Administrative The manager has sued the customer and eventually	-		
Fine timeout 5 Receive Administrative manager Paid by Administrative The manager has received the money for the fine. The manager has sued the customer and eventually			
Receive Administrative The manager has received the money for the fine. Fine manager Paid by Administrative The manager has sued the customer and eventually	Fine		
Receive Administrative fine manager has received the money for the fine. Paid by Administrative The manager has sued the customer and eventually			
fine manager Paid by Administrative The manager has sued the customer and eventually		Administrative	The manager has received the money for the fine.
Paid by Administrative The manager has sued the customer and eventually			
v		_	The manager has sued the customer and eventually

2.1.4 Data perspective

Order specifications:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Order	✓	√		
Main process	Receive	√			
	cash				
Main process	Create	✓			
	bill				
Main process	Send bill	√			
Main process	Payment	✓			✓
	timeout				
Main process	Pick	✓			
	order				
Main process	Inspect	✓			
	order				
Main process	Plan	✓			
	logistics 1				
Main process	Cancel	✓			
	order				
Main process	Put back	✓			✓
	goods				
Main process	Cancel	✓			
	party				
Main process	Refund	✓		✓	
Main process	Plan	✓			
	logistics 2				
Main process	Confirm	✓			
	logistics 2				
Main process	Inspect	✓			
	goods				
Main process	Send fine	✓			√
Main process	Receive	✓		✓	
	fine				
Main process	Fine	✓			√
	timeout				
Main process	Paid by	✓		√	
	lawsuit				

 ${\bf Customer\ specifications:}$

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Order	✓	✓		
Main process	Receive	✓			
	cash				
Main process	Create	✓			
	bill				
Main process	Send bill	✓			
Main process	Payment	√			√
	timeout				
Main process	Payment	✓			✓
	received				
Main process	Cancel	✓			
	order				
Main process	Cancel	✓			
	party				
Main process	Refund	✓		✓	
Main process	Send fine	✓			✓
Main process	Receive	✓		✓	
	Fine				
Main process	Fine	✓			✓
	timeout				
Main process	Paid by	✓		√	
	lawsuit				

Order price:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Order	✓	✓		
Main process	Receive	✓			
	cash				
Main process	Create	✓			
	bill				
Main process	Send bill	✓			
Main process	Payment	✓			
	received				
Main process	Payment	✓			✓
	timeout				
Main process	Refund	✓		✓	
Main process	Send fine	✓			✓
Main process	Receive	✓		✓	
	fine				
Main process	Fine	✓			✓
	timeout				
Main process	Paid by	✓		✓	
	lawsuit				

Ordering list:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Order	✓	✓		
	goods				
Main process	Receive	✓		✓	
	goods				

Order pick list:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Pick	✓	✓		
	order				
Main process	Order	✓			
	goods				
Main process	Receive	✓			
	goods				
Main process	Inspect	✓			
	order				
Main process	AND-join	✓		✓	

Logistics plan:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Plan	✓	✓		
	logistics 1				
Main process	Confirm	✓			
	logistics 1				
Main process	Pay logis-	✓			
	tics 1				
Main process	Deliver	✓		✓	
	goods				
Main process	Plan	✓	✓		
	logistics 2				
Main process	Confirm	✓			
	logistics 2				
Main process	Pay logis-	✓			
	tics 2				
Main process	Pick up	✓		✓	
	goods				

Chauffeur id:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Plan	✓	✓		
	logistics 1				
Main process	Confirm	✓			
	logistics 1				
Main process	Pay logis-	✓			
	tics 1				
Main process	Deliver	✓		✓	
	goods				
Main process	Plan	✓	✓		
	logistics 2				
Main process	Confirm	✓			
	logistics 2				
Main process	Pay logis-	✓			
	tics 2				
Main process	Pick up	✓		✓	
	goods				

Jurisdictional rules:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Send fine	✓	✓		
Main process	Receiver	✓			
	fine				
Main process	Fine	✓			
	timeout				
Main process	Paid by	✓		✓	
	lawsuit				

Warehouse employee id:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Inspect	✓	✓	✓	
	order				
Main process	Inspect	✓	✓	✓	
	goods				

Cancelation form:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Cancel	✓	✓		
	order				
Main process	Put back	✓		✓	
	goods				
Main process	Cancel	✓	✓		
	party				
Main process	Refund	✓		√	

2.2 Workflow process B

2.2.1 Process perspective

to do...

2.2.2 Resource perspective

to do...

2.2.3 Task description

Name	Executor	Description
Inspect	Warehouse em-	The employee inspects the goods inside the ware-
goods	ployee	house for both freshness date and quantity.
Check	Warehouse em-	The employee checks the freshness date of a partic-
date	ployee	ular item.
Throw	Warehouse em-	The employee discards of the item if it expired it's
away	ployee	date.
Update	Warehouse	The manager updates the inventory after an item is
inventory	manager	discarded.
1	Ü	
Check	Warehouse em-	The employee checks the quantity of a particular
quantity	ployee	item.
Add to	Warehouse em-	The employee adds the out of stock item to the or-
order	ployee	dering list.
AND-join	System	
Order	Warehouse	The manager orders the goods that are on the order-
goods	manager	ing list.
Check	Warehouse em-	The employee checks the goods after an order arrives
goods	ployee	if it's complete.
Check	Warehouse em-	The employee checks the quality of the incoming
quality	ployee	goods.
Return	Warehouse em-	The employee returns the goods which were lacking
goods	ployee	quality.
Check	Warehouse em-	The employee checks if the quantity of the goods is
quantity	ployee	correct.
Order ex-	Warehouse	The manager re-orders the missing items.
tra goods	manager	
AND-	System	
Join	***	
Put in	Warehouse em-	The employee puts the incoming goods inside the
ware-	ployee	warehouse.
house	11 7 1	
Update	Warehouse	The manager updates the inventory after the new
inventory	manager	items arrived.
Search	Managar	The manager geometric for a guitable new weeth-
	Manager	The manager searches for a suitable new warehouse.
new		
ware- house		
Return to	Chauffeur	The chauffeur returns the goods to the supplier be-
supplier	Chauncui	cause of the lack of space in the warehouse.
Plan &	Logistics em-	The manager plans and confirms the logistics for the
confirm	ployee	reshipment of the goods.
logistics	r · · · · · · · ·	r 0 0
Pay logis-	Logistics em-	The manager pays the logistics for the reshipment of
tics	ployee	the goods.
Deliver	Chauffeur	The chauffeur delivers the goods to the new ware-
at ware-		house.
house		
		ı

2.2.4 Data perspective

Inspect Date List:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Inspect	✓	✓		
	goods				
Main process	Check	✓			
	date				
Main process	Throw	✓			✓
	away				
Main process	Update	✓			
	inventory				
	1				
Main process	And-join	✓			

Throw Away Documents:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Inspect	✓	✓		
	goods				
Main process	Check	✓			√
	date				
Main process	Throw	✓			
	away				
Main process	And-join	√		✓	

Inspect Quantity List:

inspect Quantity List.						
Subprocess	Object	Mandatory	Created	Deleted	Changed	
Main process	Inspect	✓	✓			
	goods					
Main process	Check	✓			✓	
	quantity					
Main process	Add to	✓				
	order					
Main process	And-join	✓		✓		

Ordering list:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Inspect	✓	✓		
	goods				
Main process	Check	✓			
	quantity				
Main process	Add to	✓			✓
	order				
Main process	And-join	✓			
Main process	Order	✓			
	goods				
Main process	Check	✓			
	goods				
Main process	Check				
	quality				
Main process	Return				
	goods				
Main process	Check	✓			
	quantity				
Main process	Order ex-	√			
	tra goods				
Main process	And-join	√		√	

Complaint form:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Check	✓	✓		
	goods				
Main process	Check	✓			✓
	quality				
Main process	Return	✓			
	goods				
Main process	And-join	√		✓	

Item list:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	And-join	✓	✓		
Main process	Put in	✓			✓
	ware-				
	house				
Main process	Update	✓		✓	
	inventory				
	2				
Main process	Search	✓			
	new				
	ware-				
	house				
Main process	Return to	✓			
	supplier				
Main process	Plan &	✓			
	confirm				
	logistics				
Main process	Pay logis-				
	tics				
Main process	Deliver	√			
	goods				

Item checklist:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Put in	✓	✓		
	ware-				
	house				
Main process	Update	✓		✓	
	inventory				
	2				

Warehouses list:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Search	✓	✓		
	new				
	ware-				
	house				
Main process	Return to	✓		✓	
	supplier				
Main process	Plan &	✓			
	confirm				
	logistics				
Main process	Deliver	✓		✓	
	goods				

Logistics documents:

14

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Return to	✓			
	supplier				
Main process	Plan &	√	√		
	confirm				
	logistics				
Main process	Pay logis-	✓			
	tics				
Main process	Deliver	✓		✓	
	goods				

Supplier documents:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Add to	✓			
	order				
Main process	Order	✓			
	goods				
Main process	Check	✓			
	goods				
Main process	Check				
	quality				
Main process	Return	✓			
	goods				
Main process	Check				
	quantity				
Main process	Order ex-	✓			
	tra goods				
Main process	Return to	√		·	
	supplier				

Warehouse inventory:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Inspect	✓			
	goods				
Main process	Update	✓			✓
	inventory				
	1				
Main process	Put in	✓			
	ware-				
	house				
Main process	Update	✓			✓
	inventory				
	2				
Main process	Return to	✓			✓
	supplier				
Main process	Search	✓			
	new				
	ware-				
	house				
Main process	Deliver	✓			
	goods				

Financial register:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Order	✓			
	goods				
Main process	Order ex-	✓			
	tra goods				
Main process	Return to	✓			
	supplier				
Main process	Search	✓			
	new				
	ware-				
	house				
Main process	Plan &	✓			
	confirm				
	logistics				
Main process	Pay logis-	✓			✓
	tics				

Employee ID:

Subprocess	Object	Mandatory	Created	Deleted	Changed
Main process	Check	✓			
	date				
Main process	Check	✓			
	quantity				
Main process	Check	✓			
	quality				
Main process	Check	✓			
	quantity				