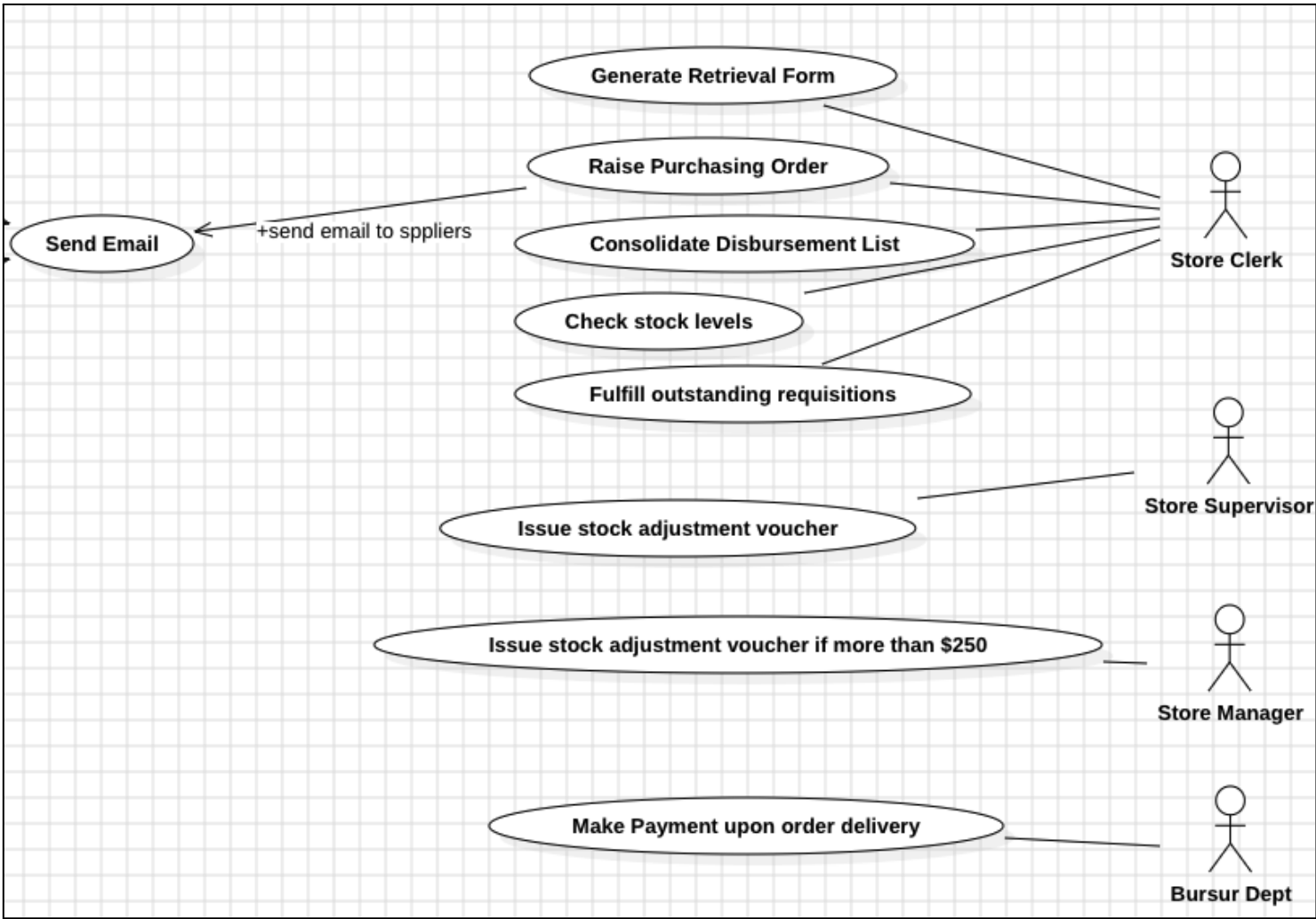
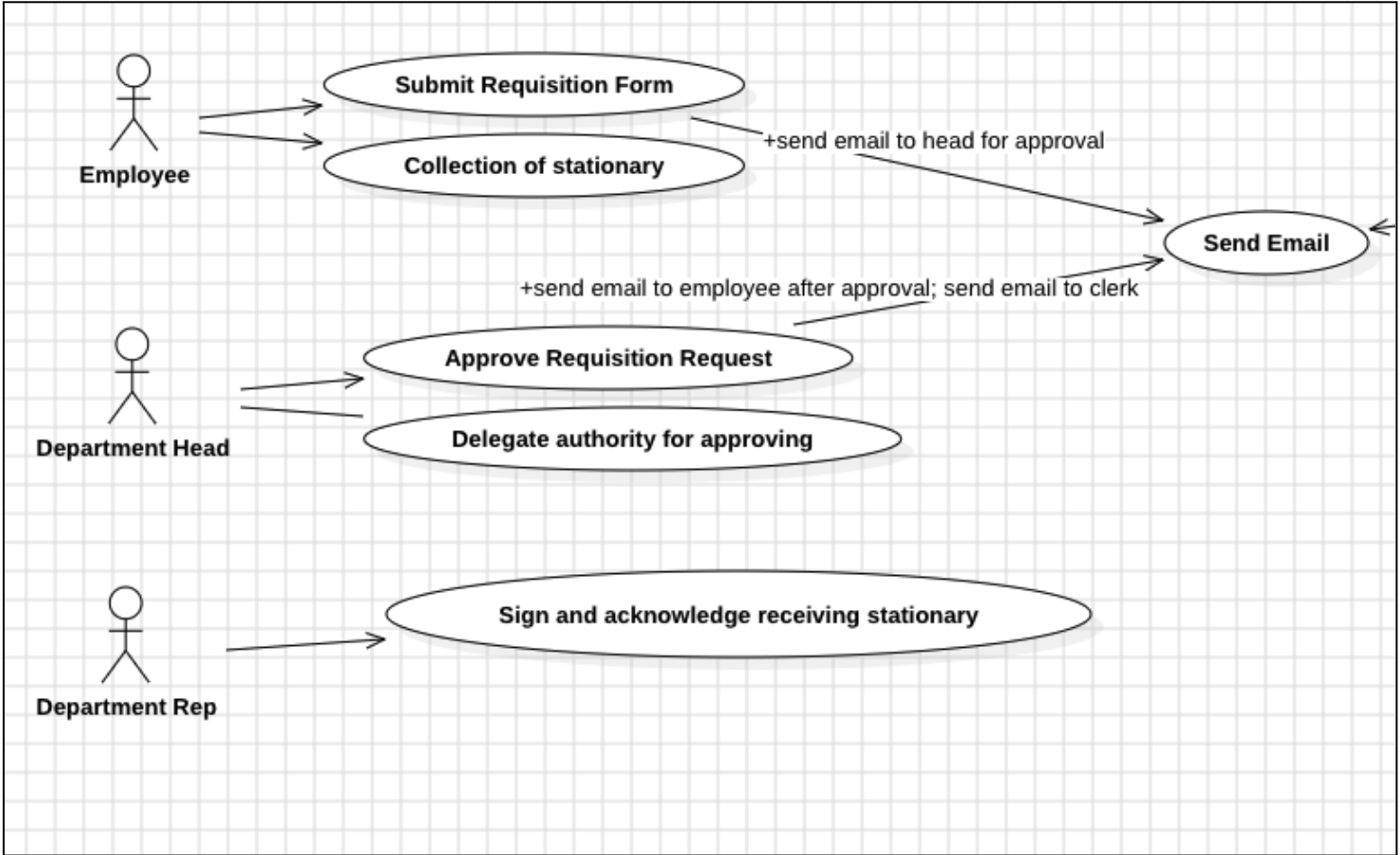


Stationery Store Inventory Application - Team 11

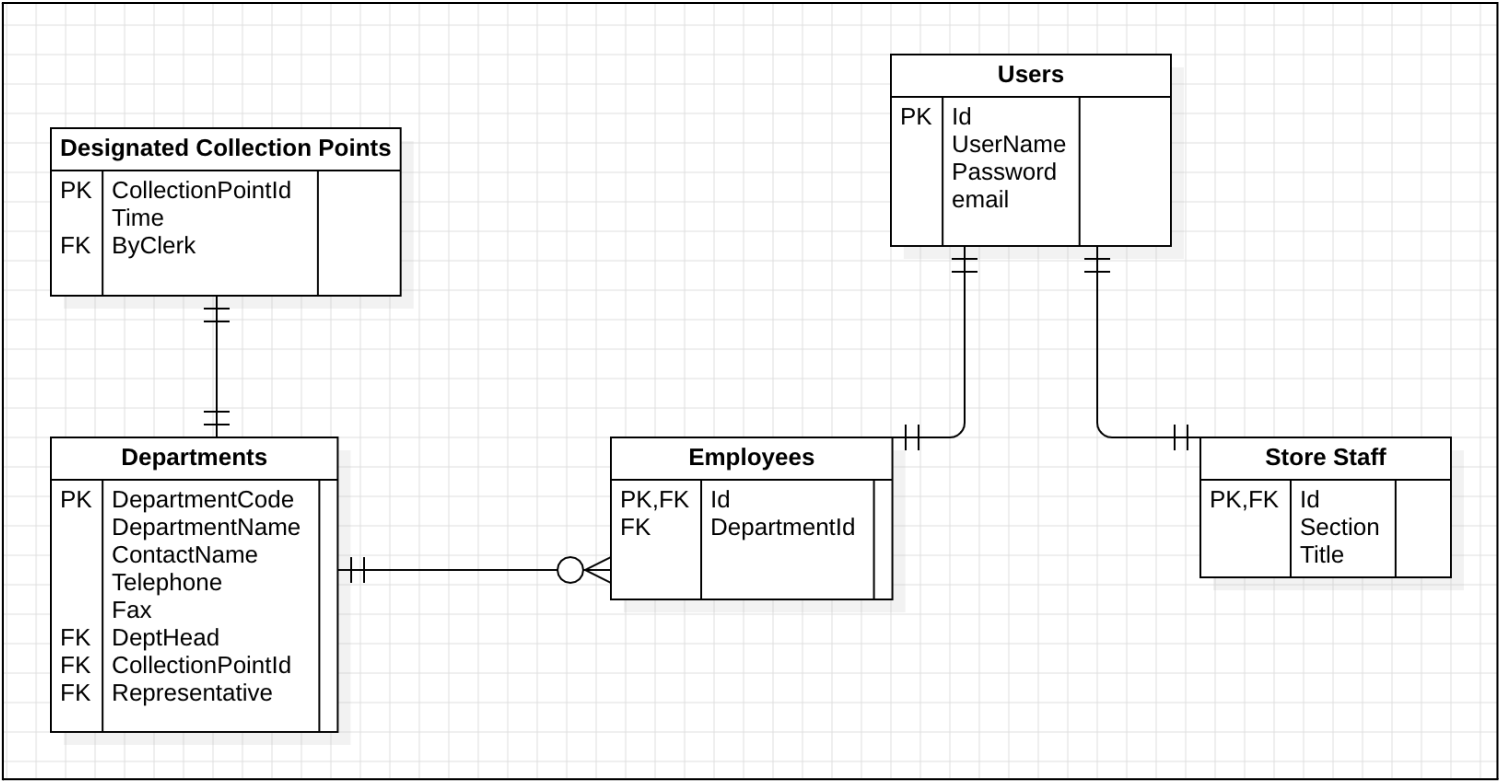
POH YONG QUAN
HE MIAO
LUO ZHENG
LI GENGLAI
TONG CHANG
LIU YUXUAN
WANG LINFENG

Use Case Diagram



Database Design

Logical Data Model & Data Dictionary



Users

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
Id	GUID	16 bytes	System generated GUID
Username	string	30	Username for login
Password	string	30	String of at least 8 characters that includes at least one uppercase letter, one number and a special character
Email	string	30	User email

Employees

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
Id	GUID	16 bytes	System generated GUID
DepartmentId	GUID	16 bytes	System generated GUID

Store Staff

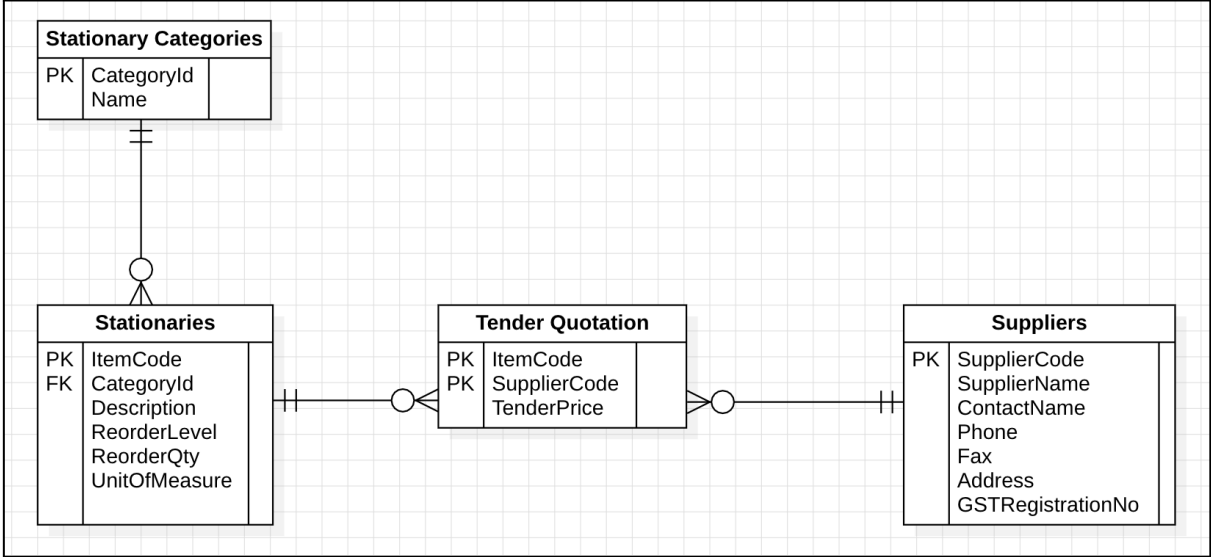
ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
Id	GUID	16 bytes	System generated GUID
Section	string	20	The section name within the university store.
Title	string	20	The employee's title. For e.g., manager or supervisor

Departments

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
DepartmentCode	string	4	Unique code consisting of four upper-case letters
DepartmentName	string	30	A unique name for each department
ContactName	string	30	The name of the person in charge of communication
Telephone	string	30	the telephone number of the department
Fax	string	30	Fax number of the department
DeptHead	GUID	16 bytes	The UserId of the department head
CollectionPointId	GUID	16 bytes	The Id of the designated collection point for this department
Representative	GUID	16 bytes	The UserId of the department representative

Designated Collection Points

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
CollectionPointId	GUID	16 bytes	System generated GUID
Time	string	20	The time of the day for the collection
ByClerk	GUID	16 bytes	The UserId of the clerk in charge



Stationery Categories

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
CategoryId	GUID	16 bytes	System generated GUID, Id of the stationary's category
Name	string	30	The name of the stationary category

Stationeries

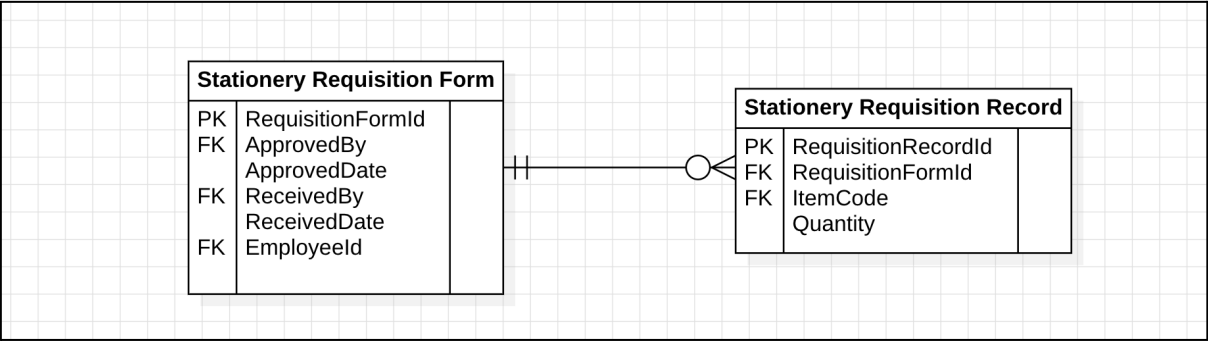
ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
ItemCode	string	4	Unique code for identifying items. It starts with an uppercase letter, followed by three digits
CategoryId	GUID	16 bytes	Id of the stationary's category
Description	string	100	Detailed description of the item
ReorderLevel	int	6	If the stock falls below this number, the store will reorder the item.
ReorderQty	int	6	The amount of units to be reordered.
UnitOfMeasure	string	20	The unit by which the items are measured. For example, one unit of highlighters is one box of them.

Tender Quotation

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
ItemCode	string	4	Unique code for identifying items starting with an uppercase letter, followed by three digits
SupplierCode	string	4	Unique code for each supplier, including inactive ones
TenderPrice	dec	6.2	Price set by suppliers for each item for tender, in US currency

Suppliers

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
SupplierCode	string	4	Unique code as identifier, consists of four uppercase letters
SupplierName	string	30	Name of the supplier company
ContactName	string	30	Name of the person on duty of contact
Phone	string	30	the telephone number of the supplier
Fax	string	30	Fax number of the supplier
Address	string	100	Place where each supplier locates
GSTRegistrationNo	string	30	Unique to each supplier and is issued by the relevant tax authority in local country

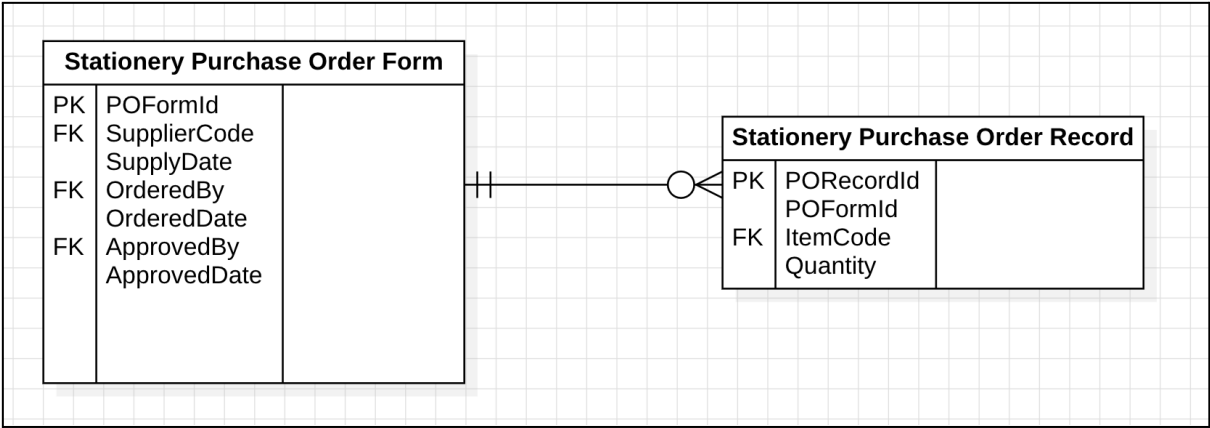


Stationery Requisition Form

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
RequisitionFormId	GUID	16 bytes	Id of the requisition form, with the format: XXX/000/00
ApprovedBy	string	30	The person, theoretically department heads, who determines the request valid or not
ApprovedDate	date	8	Request be approved date(dd/mm/yy)
ReceivedBy	string	30	The person, theoretically store clerks, who receive the valid requisition form
ReceivedDate	date	8	Date when request received by store clerk(dd/mm/yy)
EmployeeId	GUID	16 bytes	System generated GUID, id of person making requisition for stationery

Stationery Requisition Record

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
RequisitionRecordId	GUID	16 bytes	Id of each requisition record
RequisitionFormId	GUID	16 bytes	Id of the requisition form
ItemCode	string	4	Unique code for identifier, starting with an uppercase letter, followed by three digits
Quantity	int	6	Number of each item requested

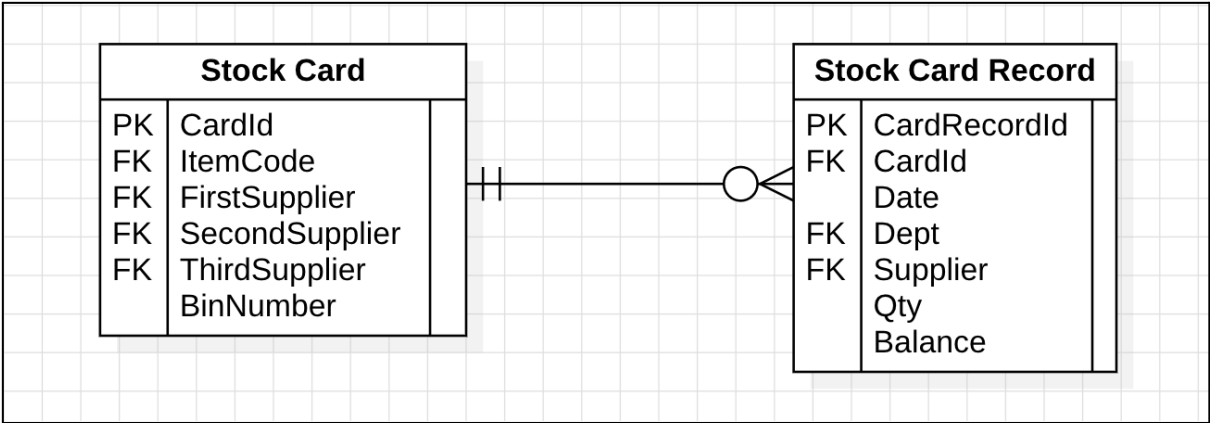


.Stationery Purchase Order Form

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
POFormId	GUID	16 bytes	Id of the purchasing order form, consists 9 digits
SupplierCode	string	4	Unique code as identifier, consists of four uppercase letters
SupplyDate	date	8	The deadline when ordered items will be supplied
OrderedBy	string	20	Name of the person making the order, theoretically the store clerk
OrderedDate	date	8	Date when order made(dd/mm/yy)
ApprovedBy	string	20	Person who approve the purchase order, theoretically department head
ApprovedDate	date	8	Date when order is approved(dd/mm/yy)

Stationery Purchase Order Record

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
POREcordId	GUID	16 bytes	Id of the purchasing record.
POFormId	GUID	16 bytes	Id of the purchasing order form, consists 9 digits
ItemCode	string	4	Unique code for identifier, starting with an uppercase letter, followed by three digits
Quantity	int	6	Number of each item ordered

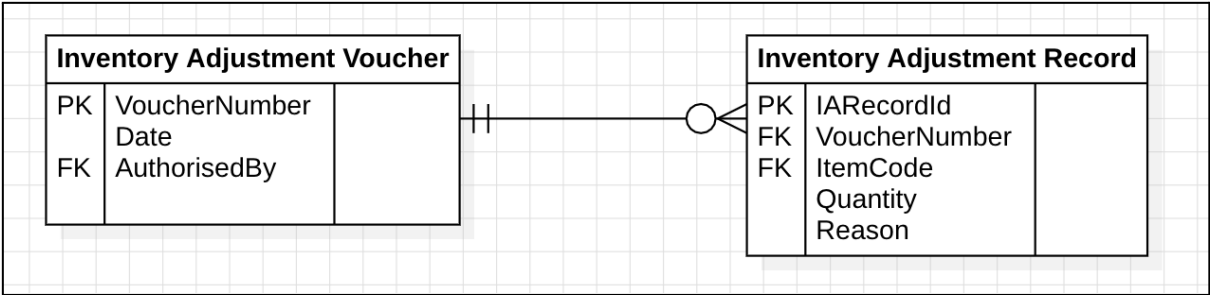


Stock Card

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
CardId	GUID	16 bytes	Id of the stock card.
ItemCode	string	4	Unique code for identifier, starting with an uppercase letter, followed by three digits
FirstSupplier	string	4	SupplierCode of the first supplier
SecondSupplier	string	4	SupplierCode of the second supplier
ThirdSupplier	string	4	SupplierCode of the third supplier
BinNumber	string	8	a location identifier within a warehouse, format like: an uppercase letter with a digit

Stock Card Record

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
CardRecordId	GUID	16 bytes	Id of the stock card record
CardId	GUID	16 bytes	Id of the stock card.
Date	date	8	date when the change of item quantity occur
Dept	string	30	Name of departments which take away items from storage
Supplier	string	30	Name of suppliers which supply items to the storage
Qty	int	6	How many items be taken or added, in format: taken “-0”; added “+0”
Balance	int	6	Number of the rest items in the storage

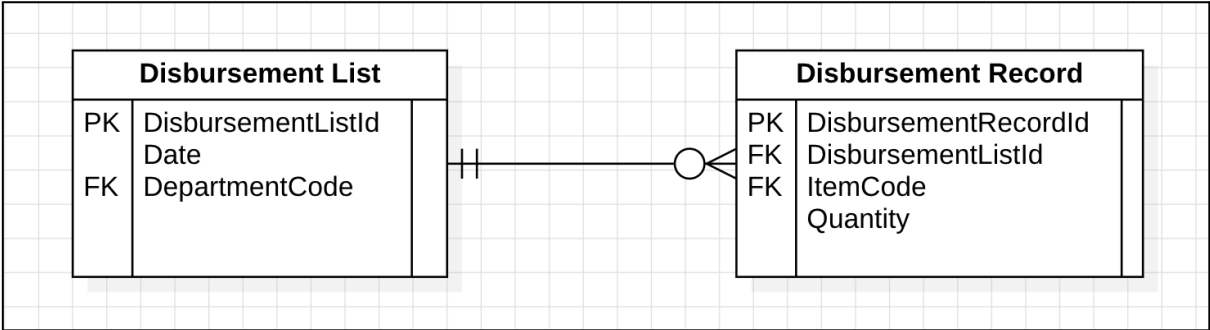


Inventory Adjustment Voucher

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
VoucherNumber	string	30	Identifier for each voucher, in format: [xxx/xxxxxx/99]
Date	date	8	Date issued: dd/mm/yy
AuthorisedBy	GUID	16 bytes	If anything under \$250 per item, should be the UserId of the store supervisor, if over, of the store manager

Inventory Adjustment Record

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
IARecordId	GUID	16 bytes	Id of the adjustment record
VoucherNumber	string	30	Identifier for each voucher, in format: [xxx/xxxxxx/99]
ItemCode	string	4	Unique code for identifier, starting with an uppercase letter, followed by three digits
Quantity	int	6	How many items be taken or added, in format: taken “-0”; added “+0”
Reason	string	50	Brief description of why items are added or removed, eg.broken, expired, or free gift etc.



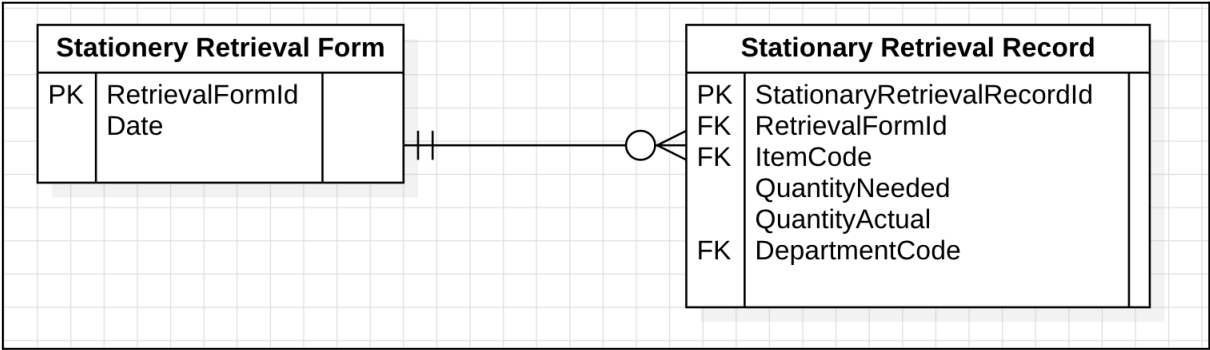
Disbursement List

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
DisbursementListId	GUID	16 bytes	Identifier of the disbursement list
Date	date	8	The date when the disburse occurs

DepartmentCode	string	4	Unique code consisting of four upper-case letters
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Disbursement Record

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
DisbursementRecordId	GUID	16 bytes	Identifier of the disbursement record
DisbursementListId	GUID	16 bytes	Identifier of the disbursement list
ItemCode	string	4	Unique code for identifier, starting with an uppercase letter, followed by three digits
Quantity	int	6	Number of items be disbursed

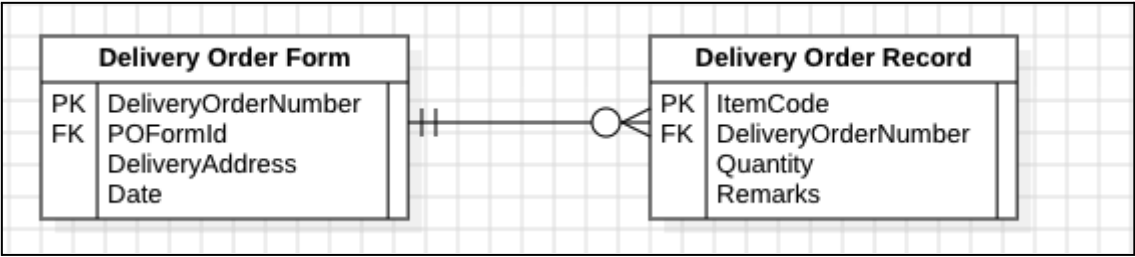


Stationary Retrieval Form

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
RetrievalFormId	GUID	16 bytes	Identifier of the retrieval form
Date	date	8	Retrieval form issued date

Stationary Retrieval Record

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
StationaryRetrievalRecordId	GUID	16 bytes	Identifier of the retrieval record
RetrievalFormId	GUID	16 bytes	Identifier of the retrieval form
ItemCode	string	4	Unique code for identifier, starting with an uppercase letter, followed by three digits
QuantityNeeded	int	6	The number of each item needed
QuantityActual	int	6	The actual number issued for each item
DepartmentCode	string	4	Unique code consisting of four upper-case letters



Delivery Order Form

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
DeliveryOrderNumber	string	9	Format like DO1234567
POFormId	GUID	16 bytes	POFormId of the referenced purchasing order form, consists 9 digits
DeliveryAddress	string	200	Delivery Address
Date	date	8	Retrieval form issued date

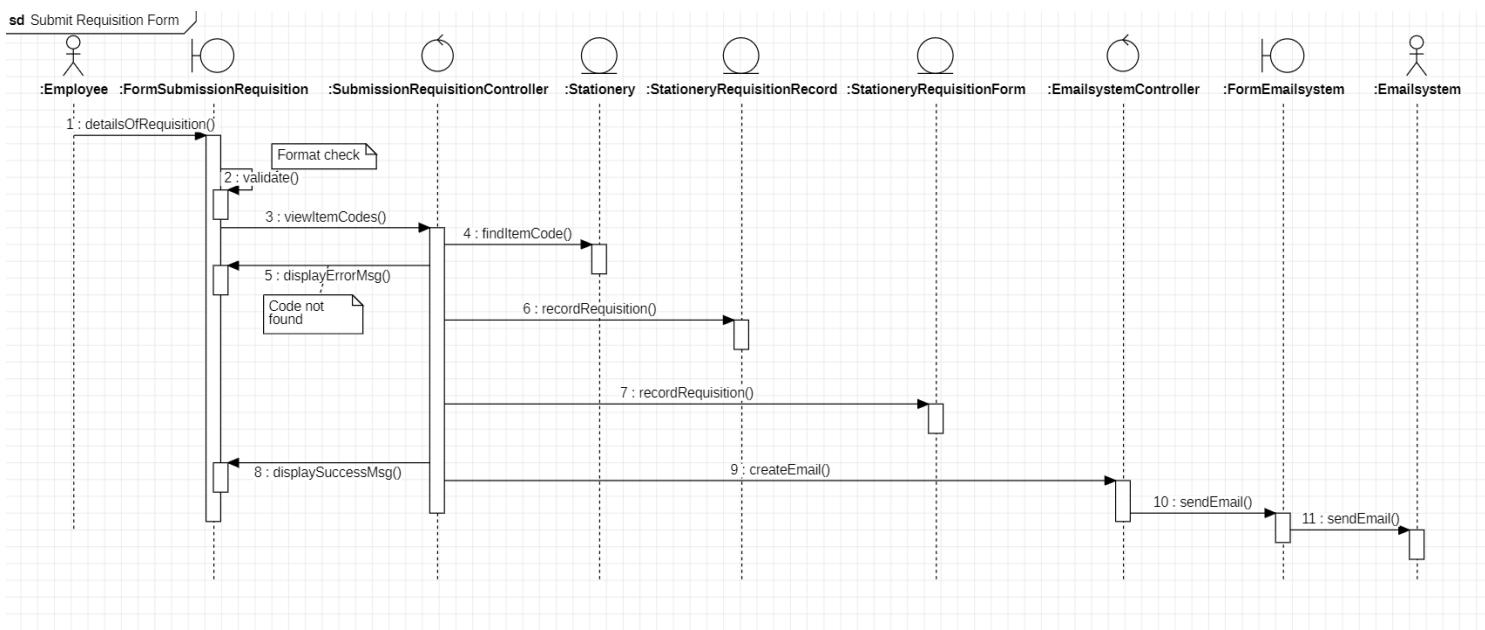
Delivery Order Record

ATTRIBUTE NAME	TYPE	LENGTH	DEFINITIONS AND BUSINESS RULES
ItemCode	string	4	Unique code for identifier, starting with an uppercase letter, followed by three digits
DeliveryOrderNumber	string	9	Format like DO1234567
Quantity	int	6	Number of each item ordered
Remarks	string	100	Remarks for the item

Analysis Model

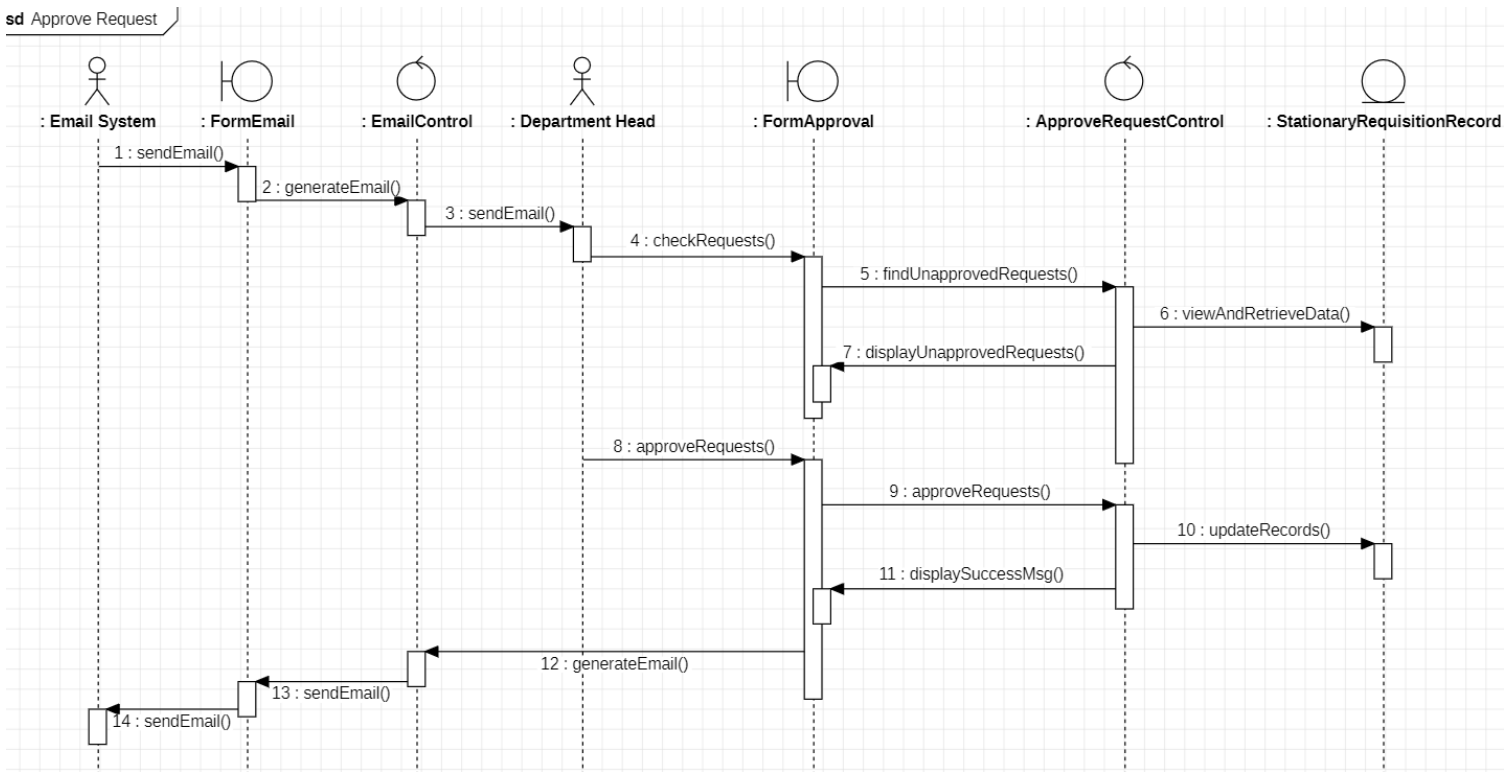
Sequence diagrams

1.Submit Requisition Form:



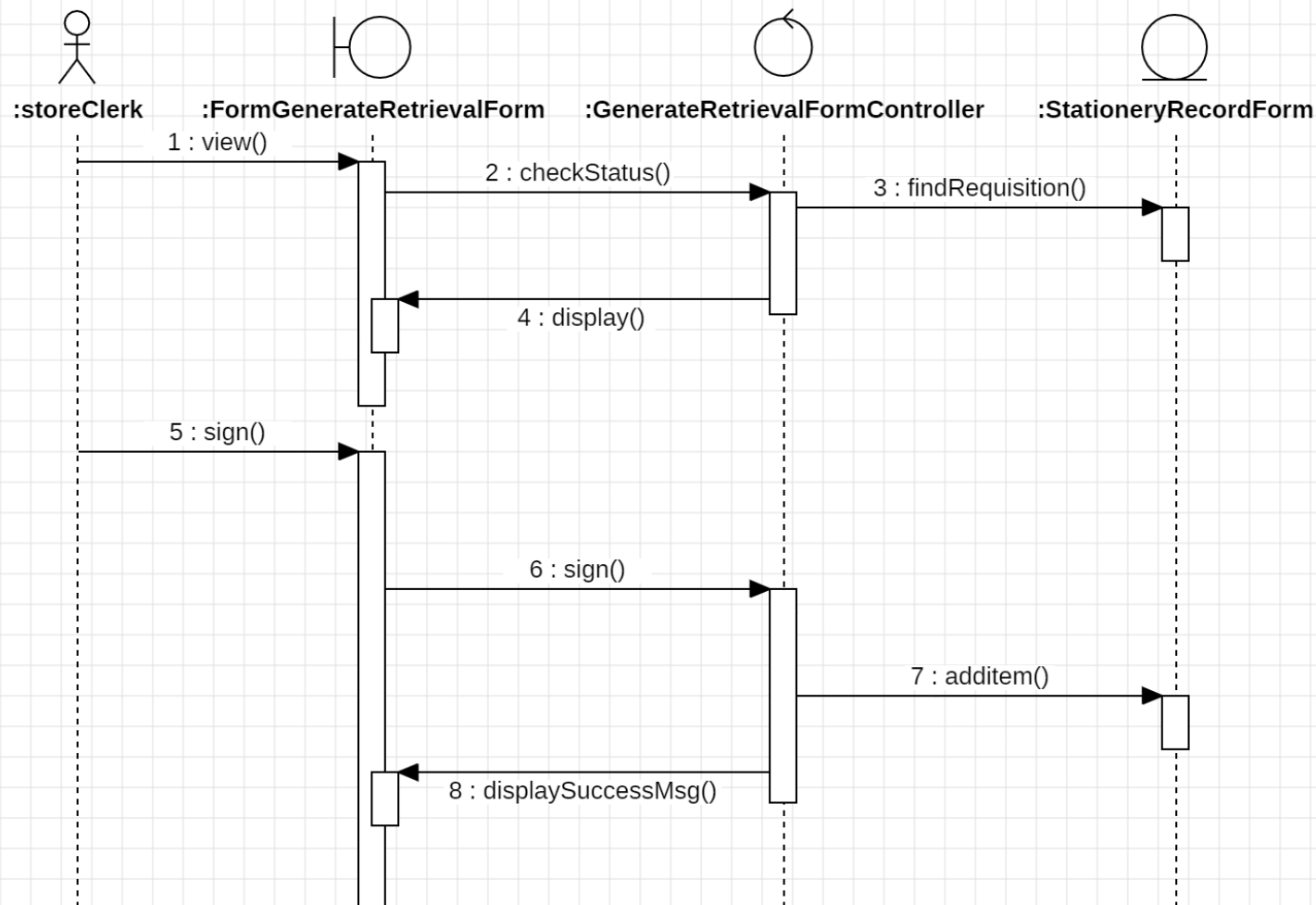
2.Approve Requisition:

The email system will trigger an email to the department head and then the department head will check and approve the unapproved requests, after approving, an email will be sent to the store clerk informing him the request status change.



3.Generate Retrieval form:

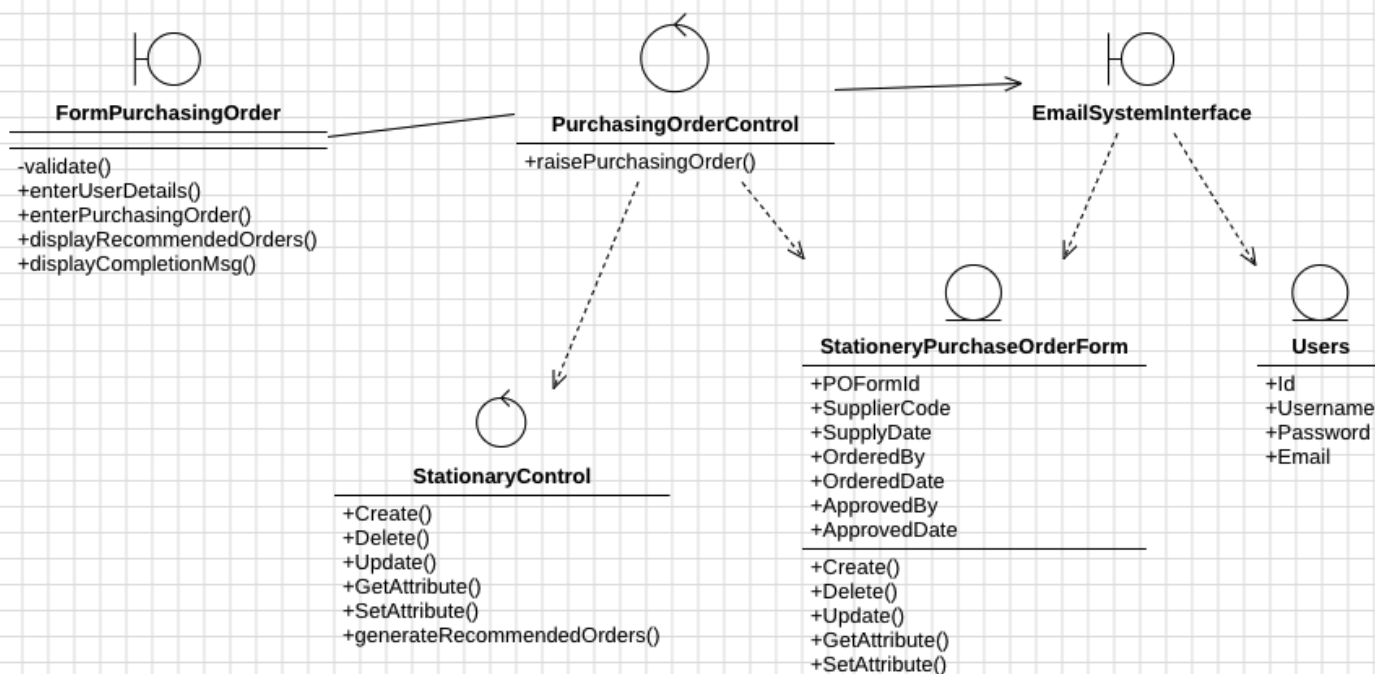
sd Generate Retrieval form



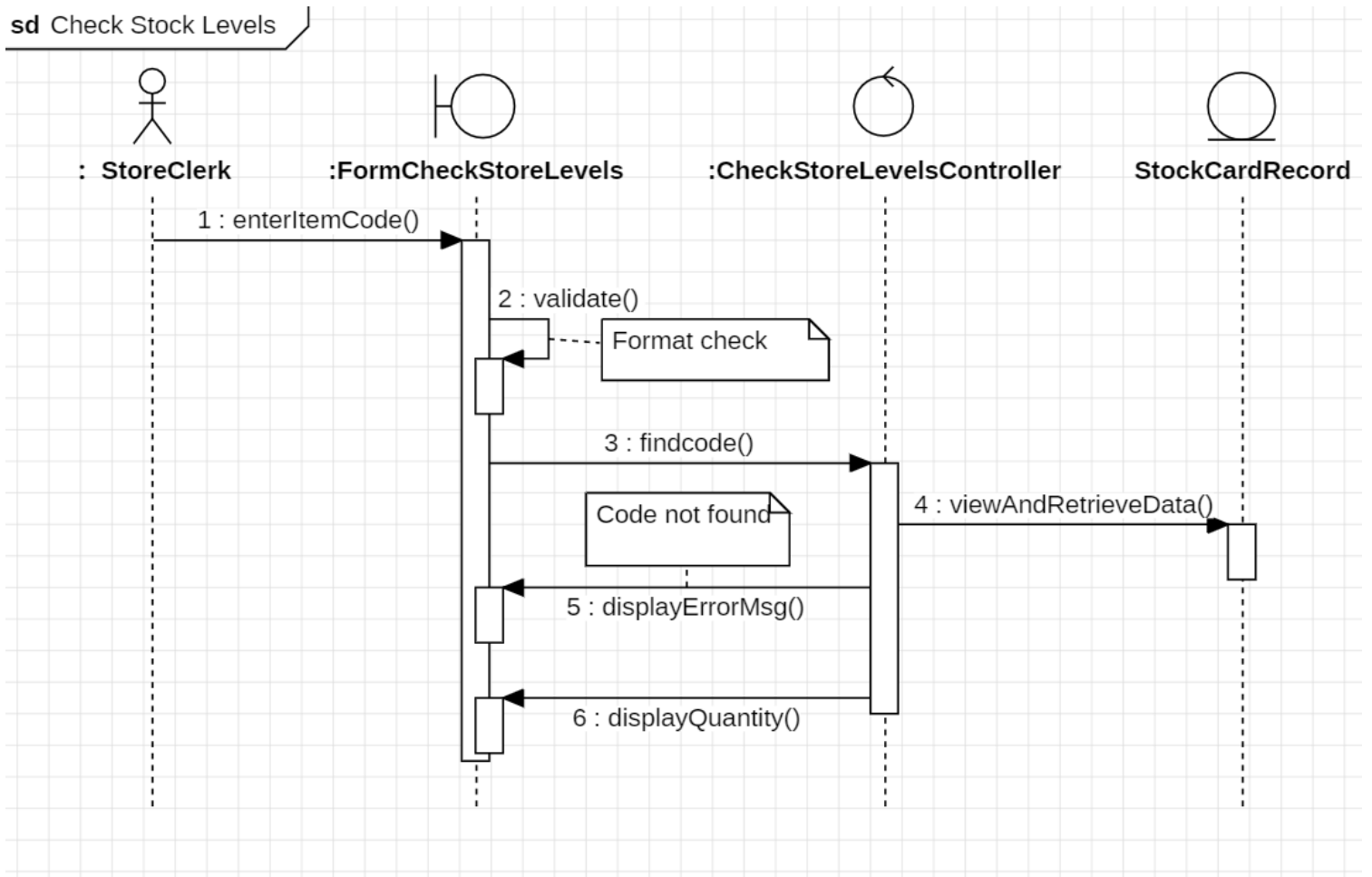
4.Raise PO

The clerk will be able to raise purchase orders any time through the system. System is able to provide recommended items for reordering. Clerk can have the option to enter manually as well.

Class Diagram - Raise Purchasing Order Use Case

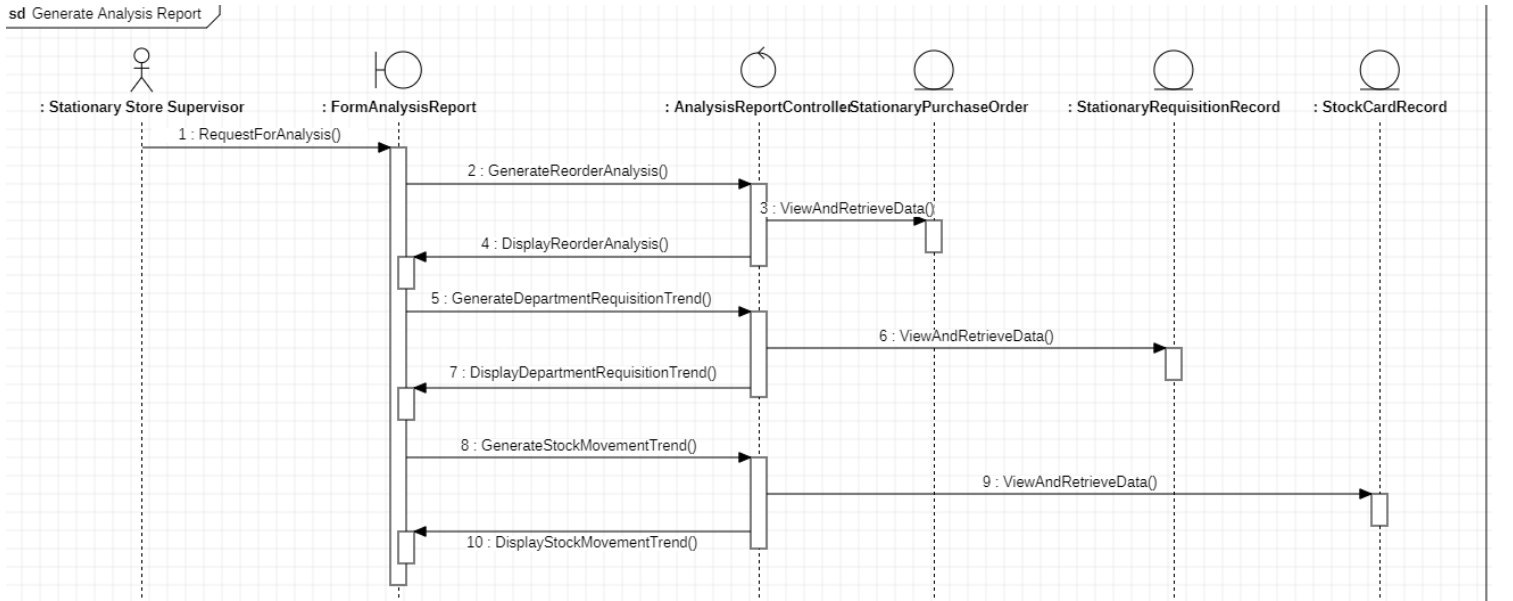


5. Check stock level



6. Print a table and bar chart for trend reporting

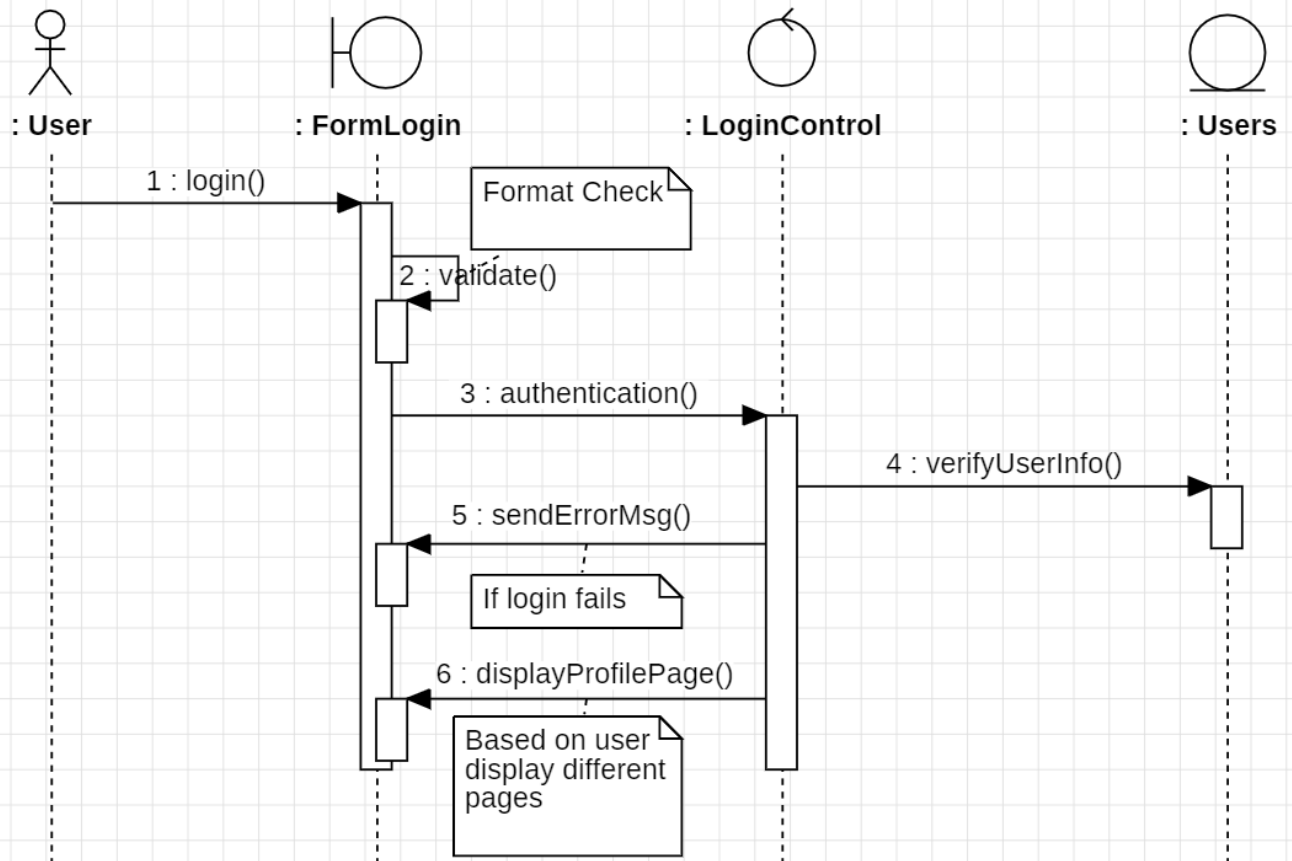
The supervisor of the store will have to generate some reports analysing the sales of different kinds of stationery and showing how different departments' requirements of the stationery changes.



7. Login

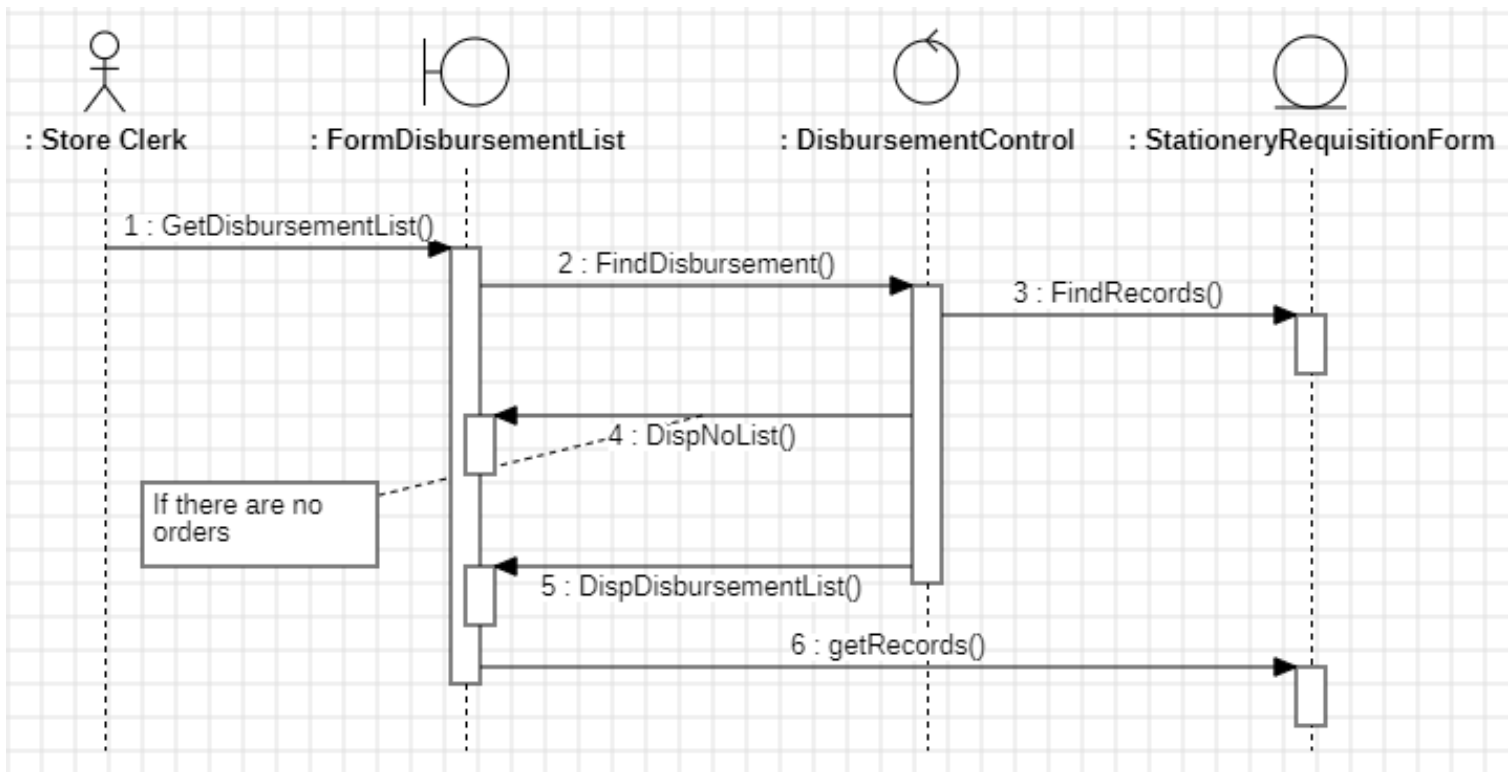
The user needs to login to use the system. After entering the username and password, the system will check whether the password is correct. If logged in, the system will retrieve data from the database and show the respective profile based on the user's title, department and so on.

sd Login



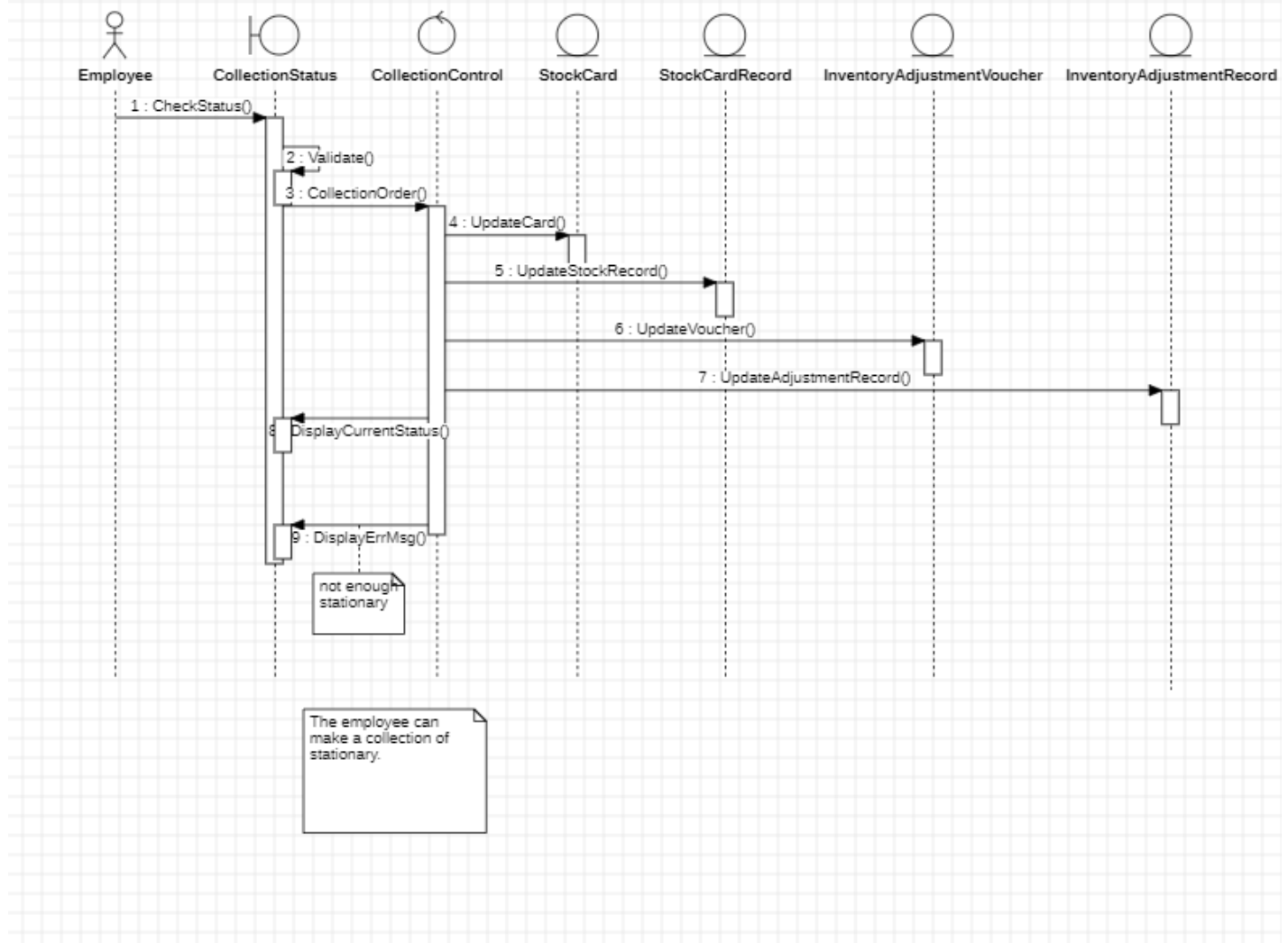
8. Consolidate Disbursement list

Store clerk will request for a disbursement list form the system. The system will then find all the forms submitted by the employees of the departments. If there are no forms at all, the system will display no list. Otherwise, it will display all the disbursement list.



9.Collection of stationary

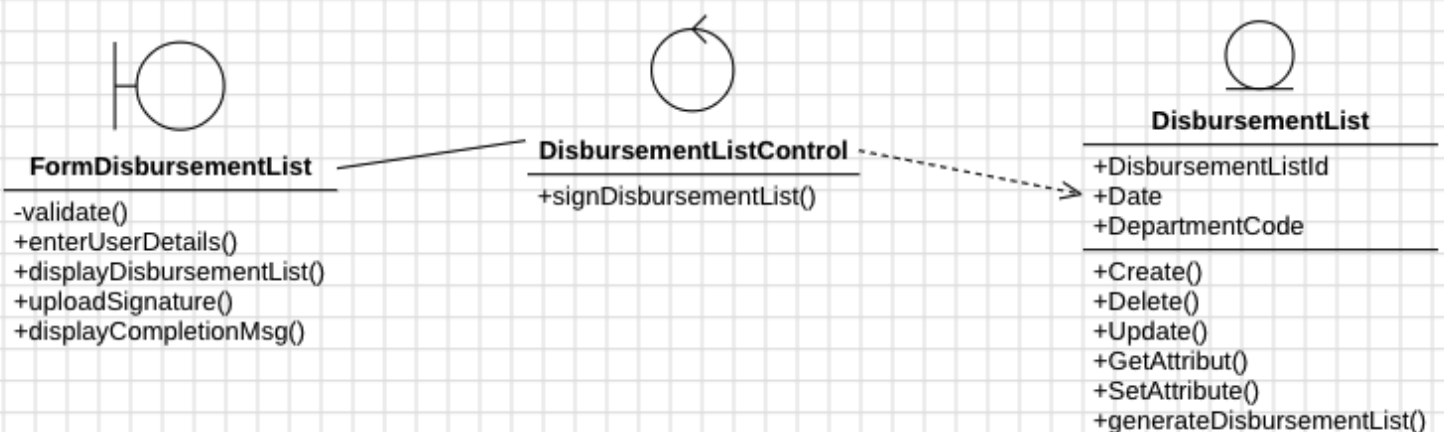
The employee can get the collection of stationary anytime through the system. The system will provide the current inventory adjustment record and stock record.



10. Sign and acknowledge receiving stationary

The new inventory system allows the disbursement list to be digitally signed by representatives receiving the stationary delivery.

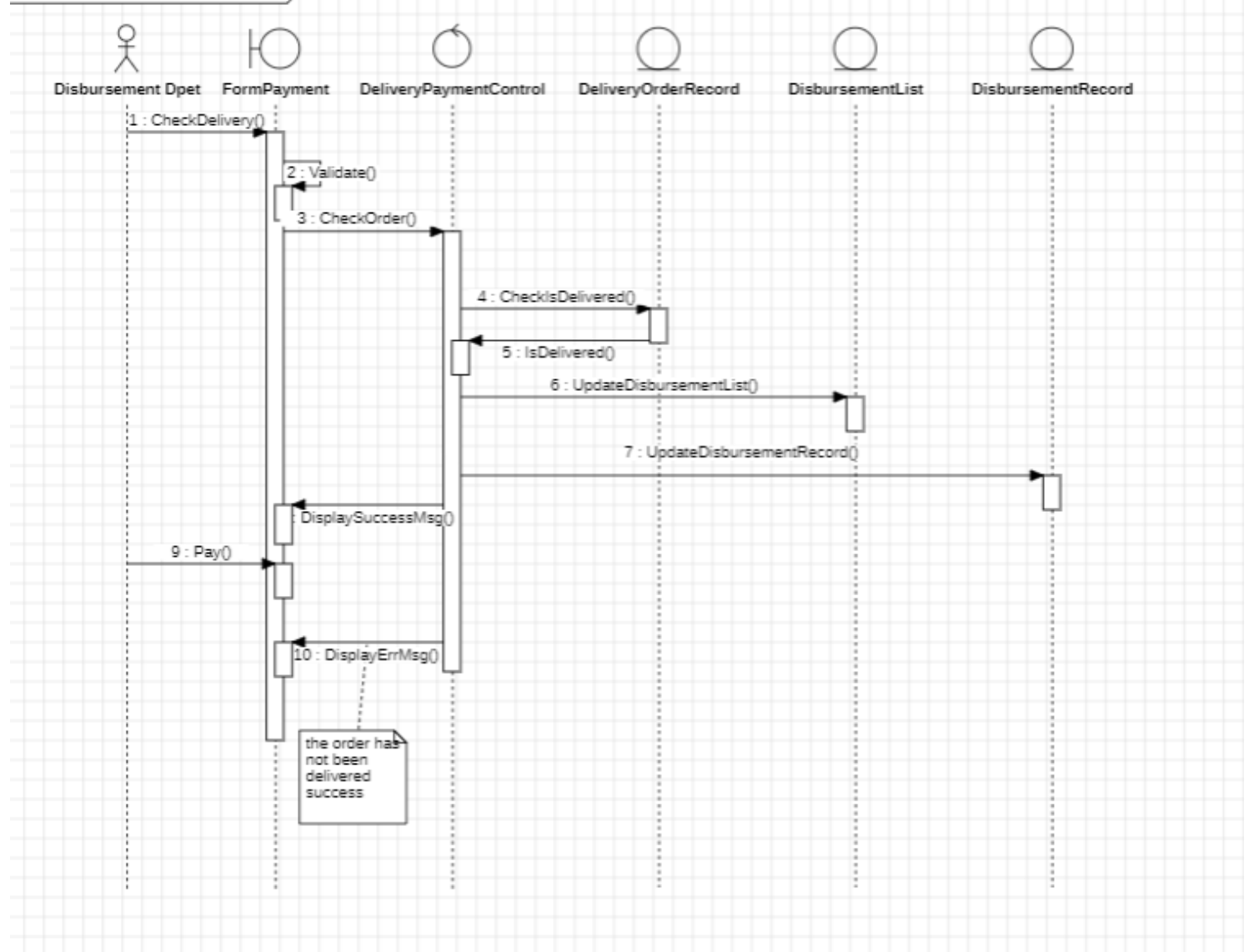
Class Diagram - Sign and Acknowledge Receiving Stationary Use Case



11. Make payment upon order delivery

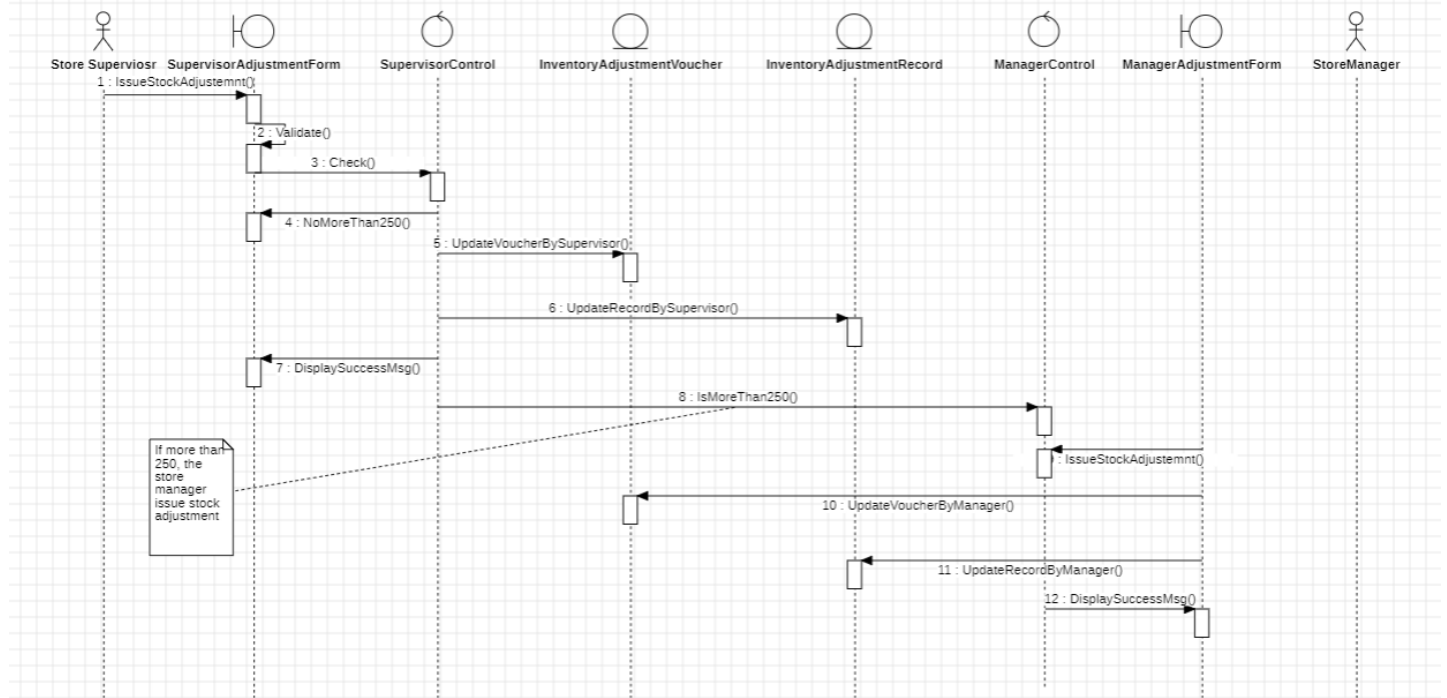
The disbursement dept can check if it is the right time to make the payment. The system will provide if the order is delivered.

sd Make payment upon order delivery



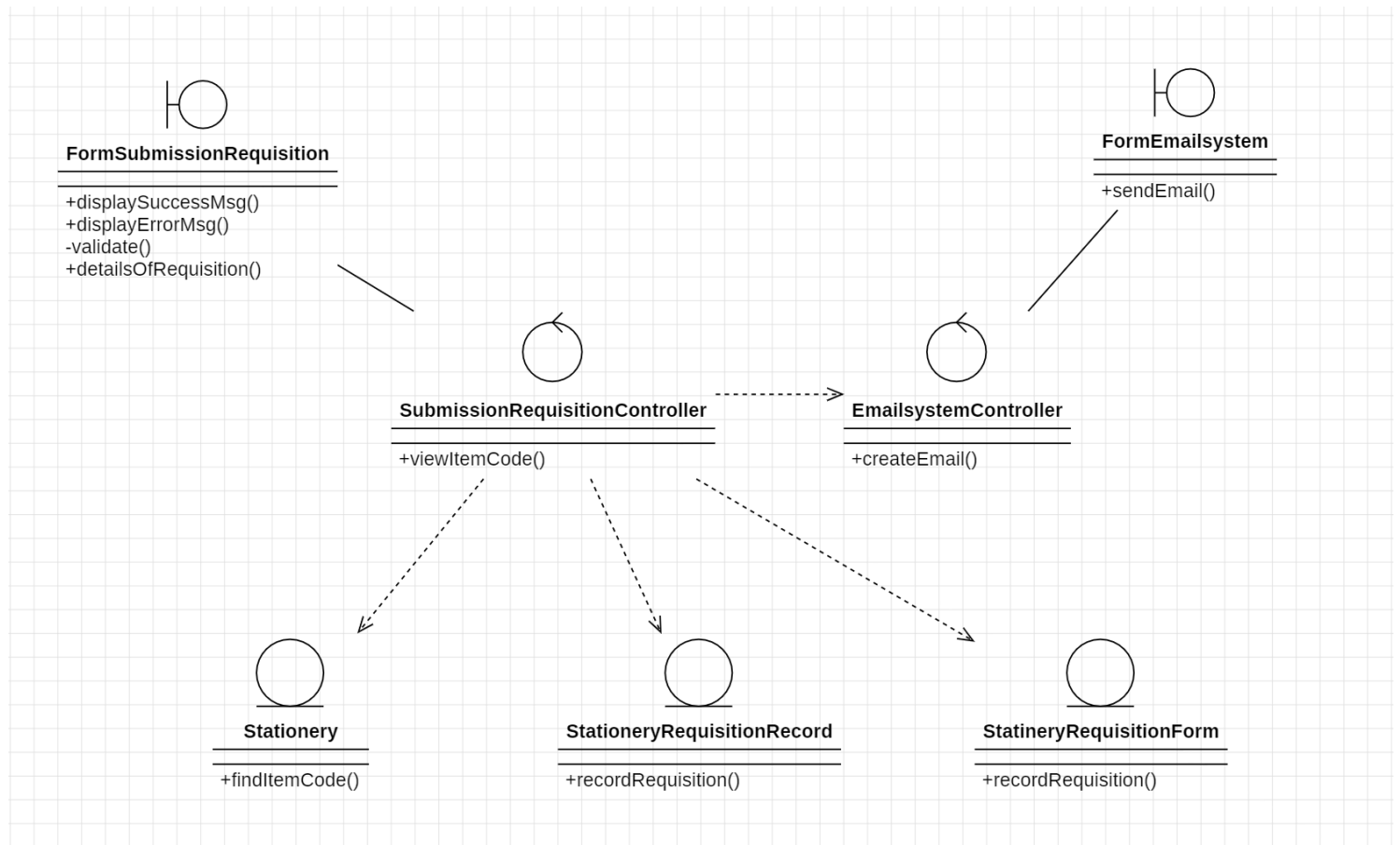
12. Issue stock adjustment voucher

The store supervisor and store manager will be able to issue stock adjustment vouchers. System will provide two ways to deal with stock adjustment vouchers.

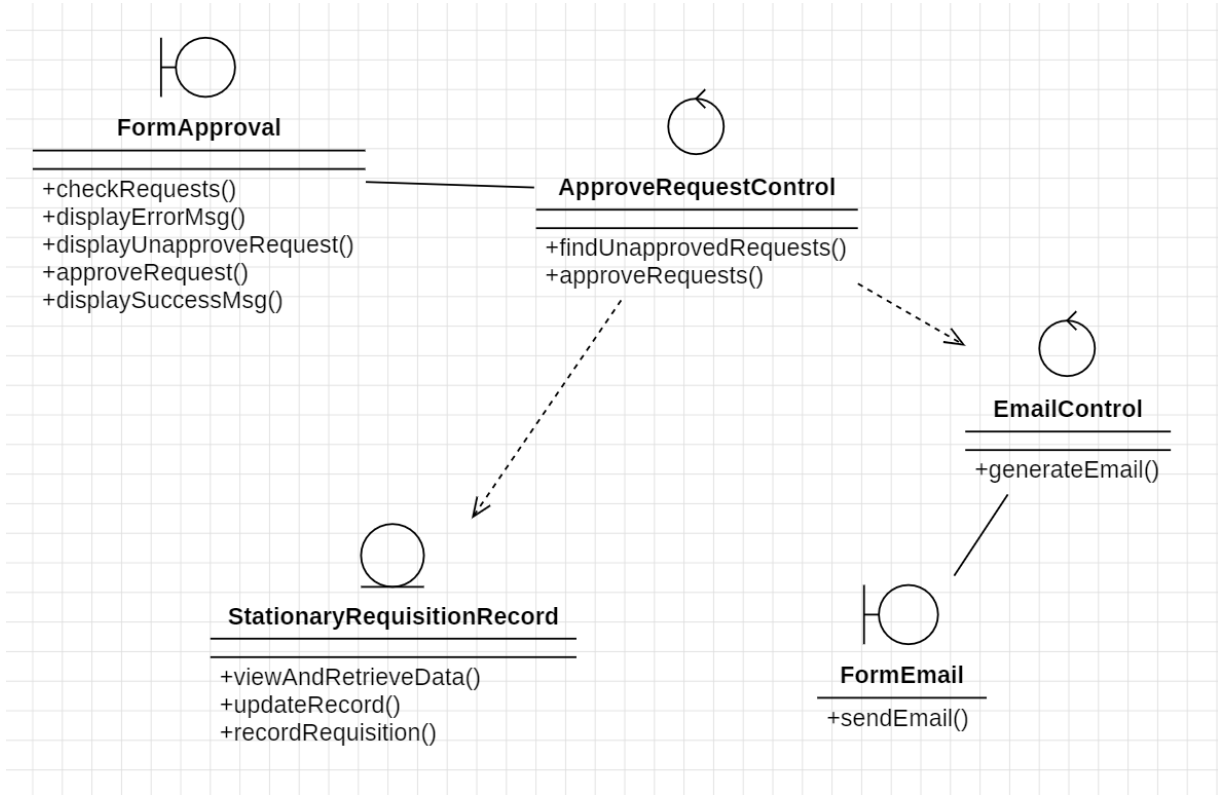


Class diagrams

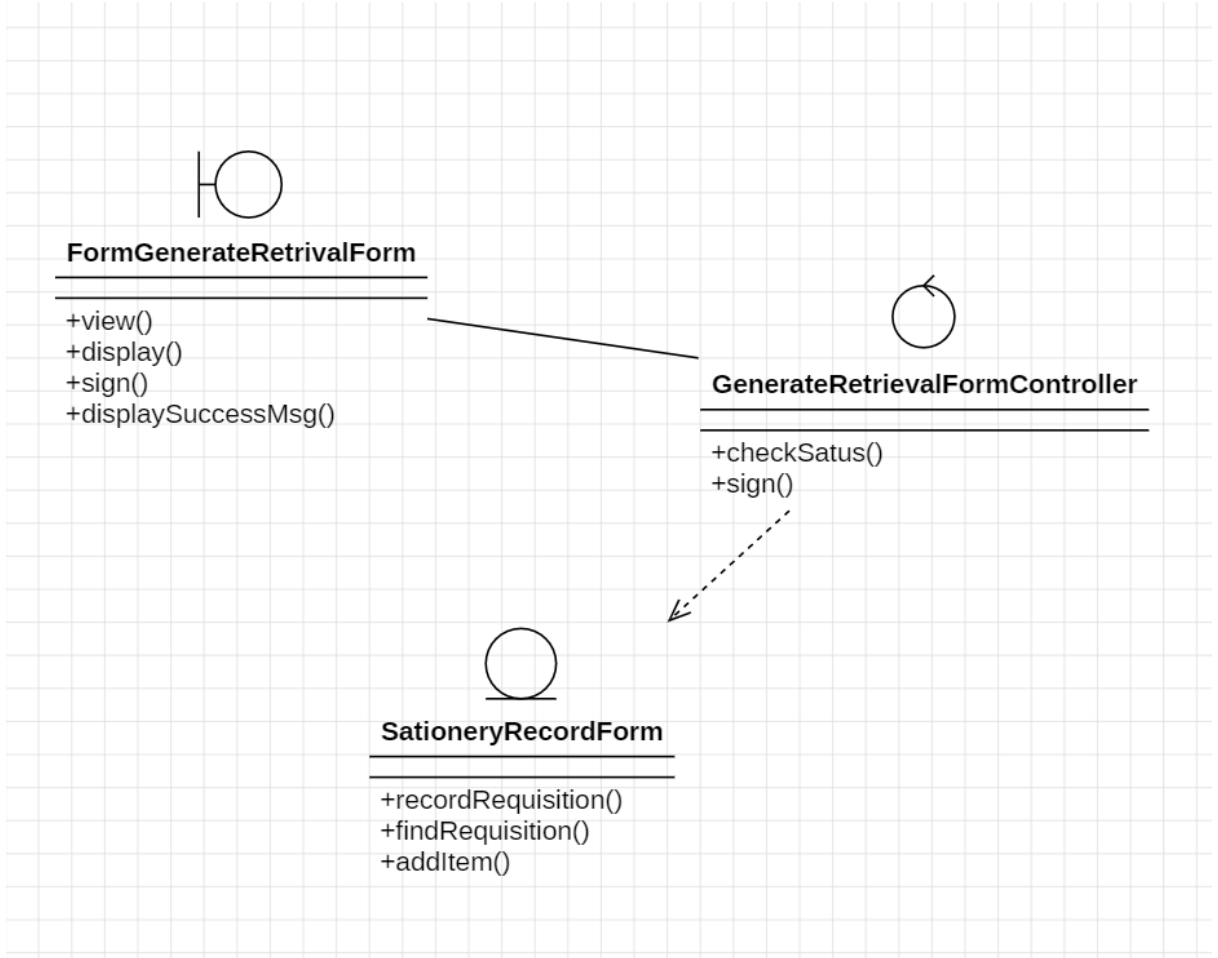
1.submit requisition form:



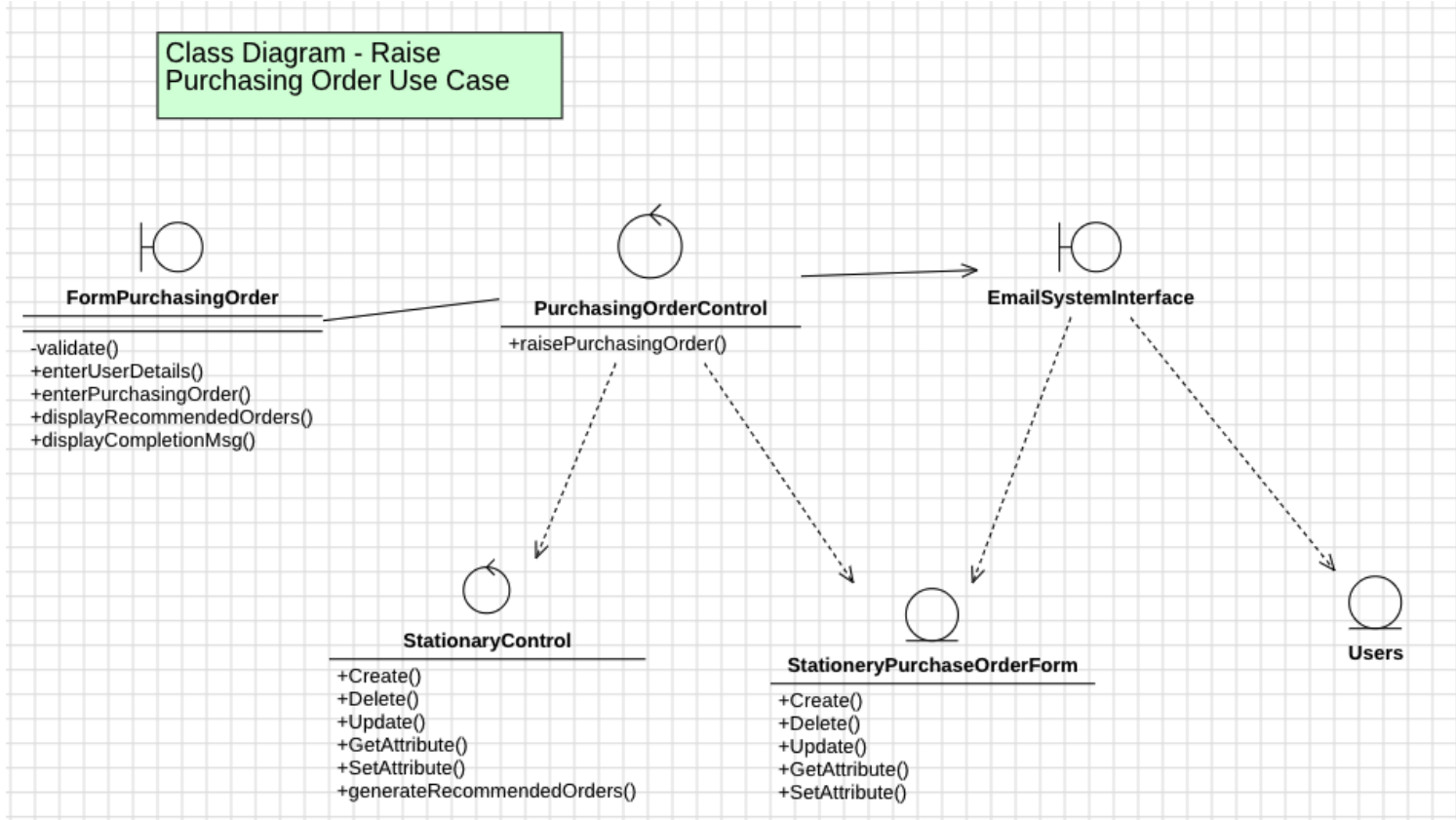
2.Approve Request



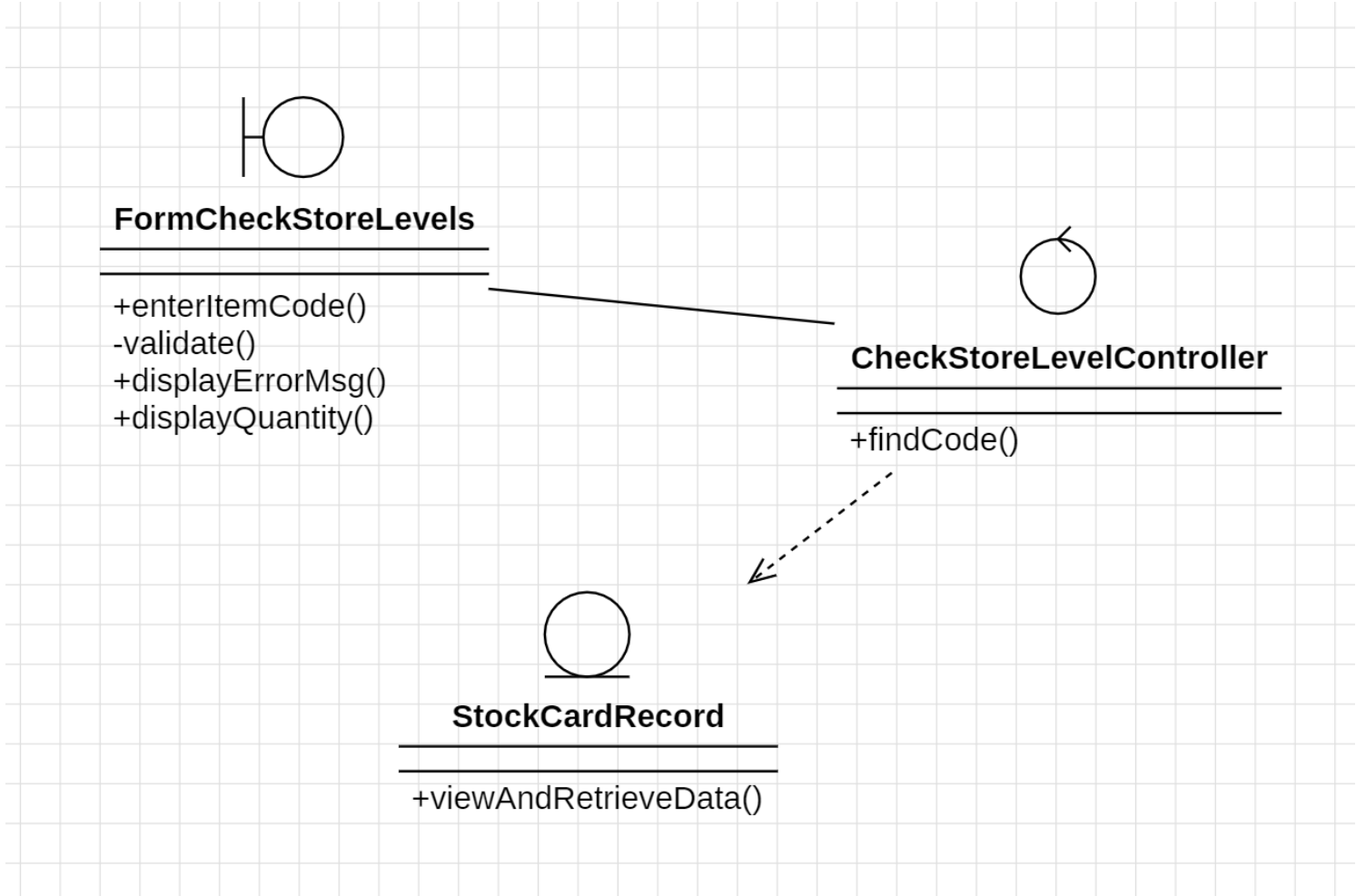
3.Generate Retrieval form:



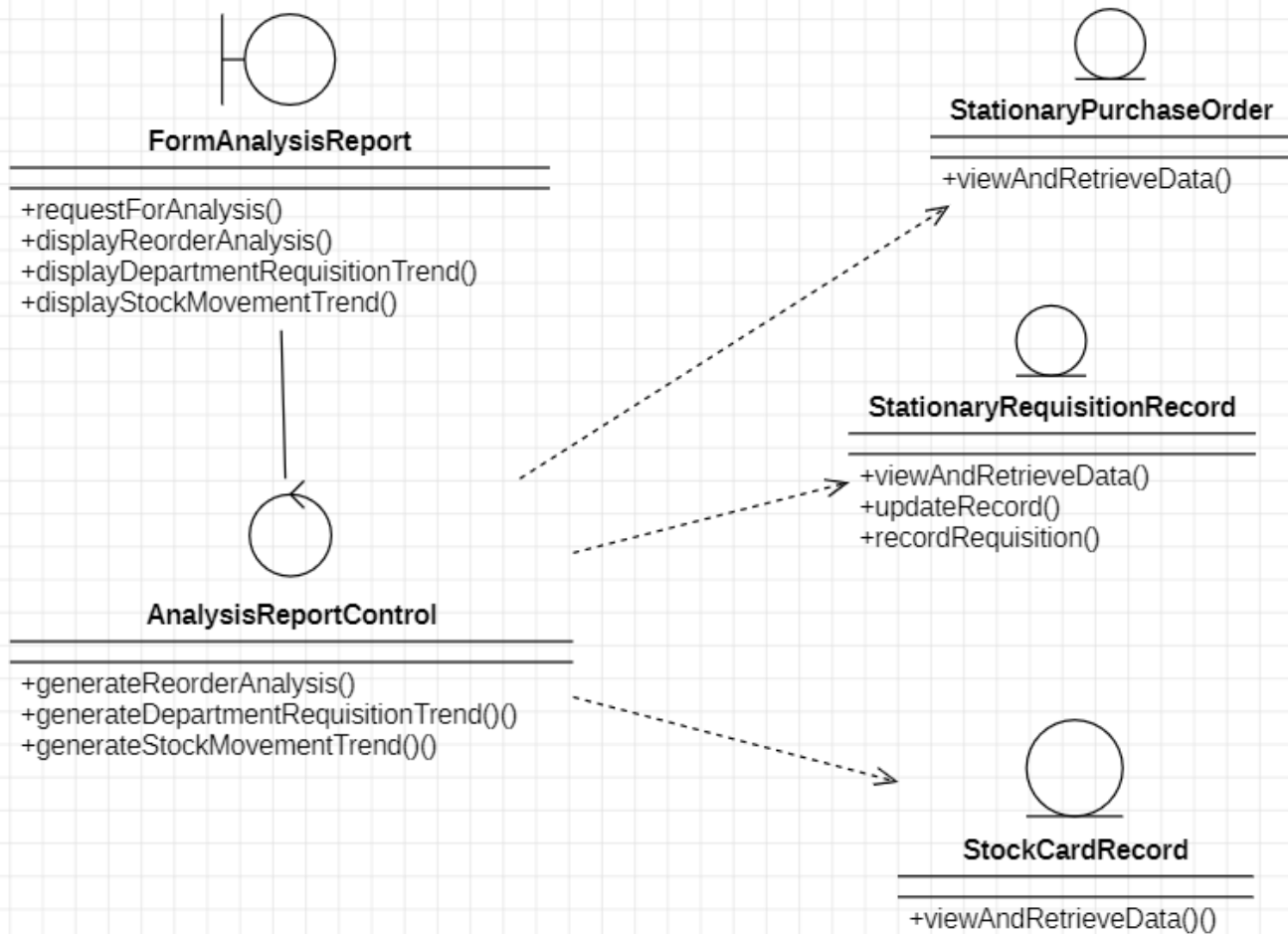
4.Raise PO



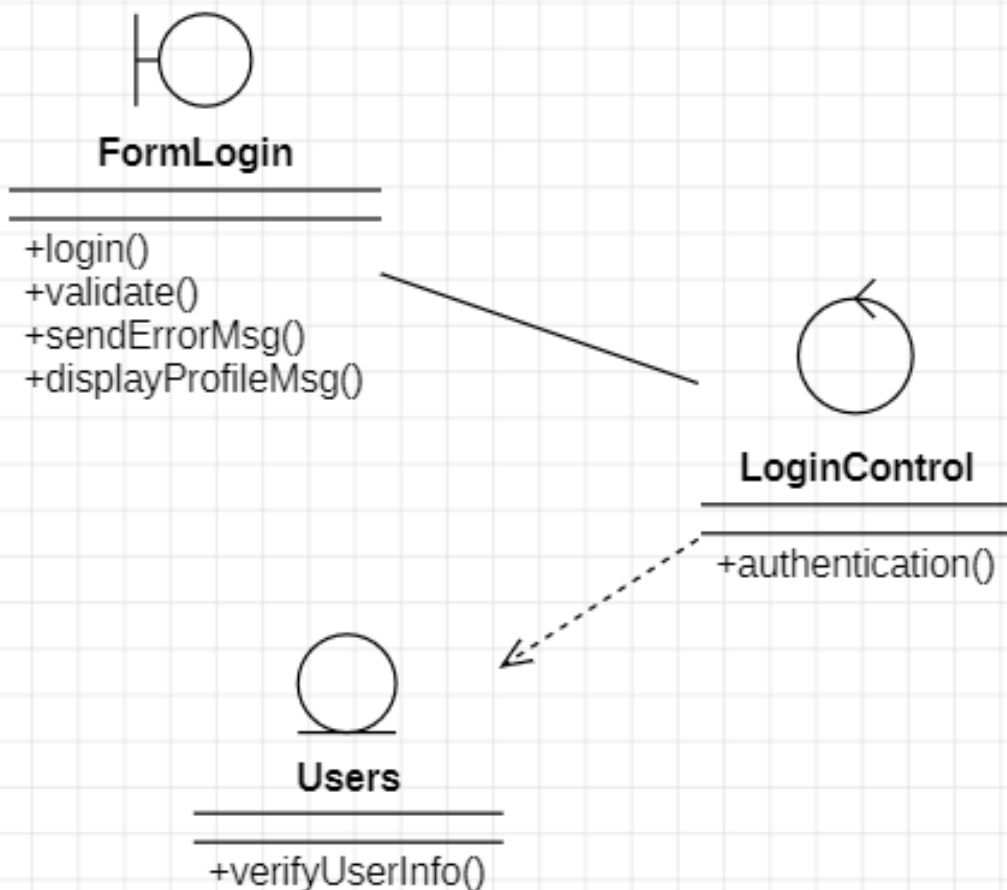
5.Check stock level:



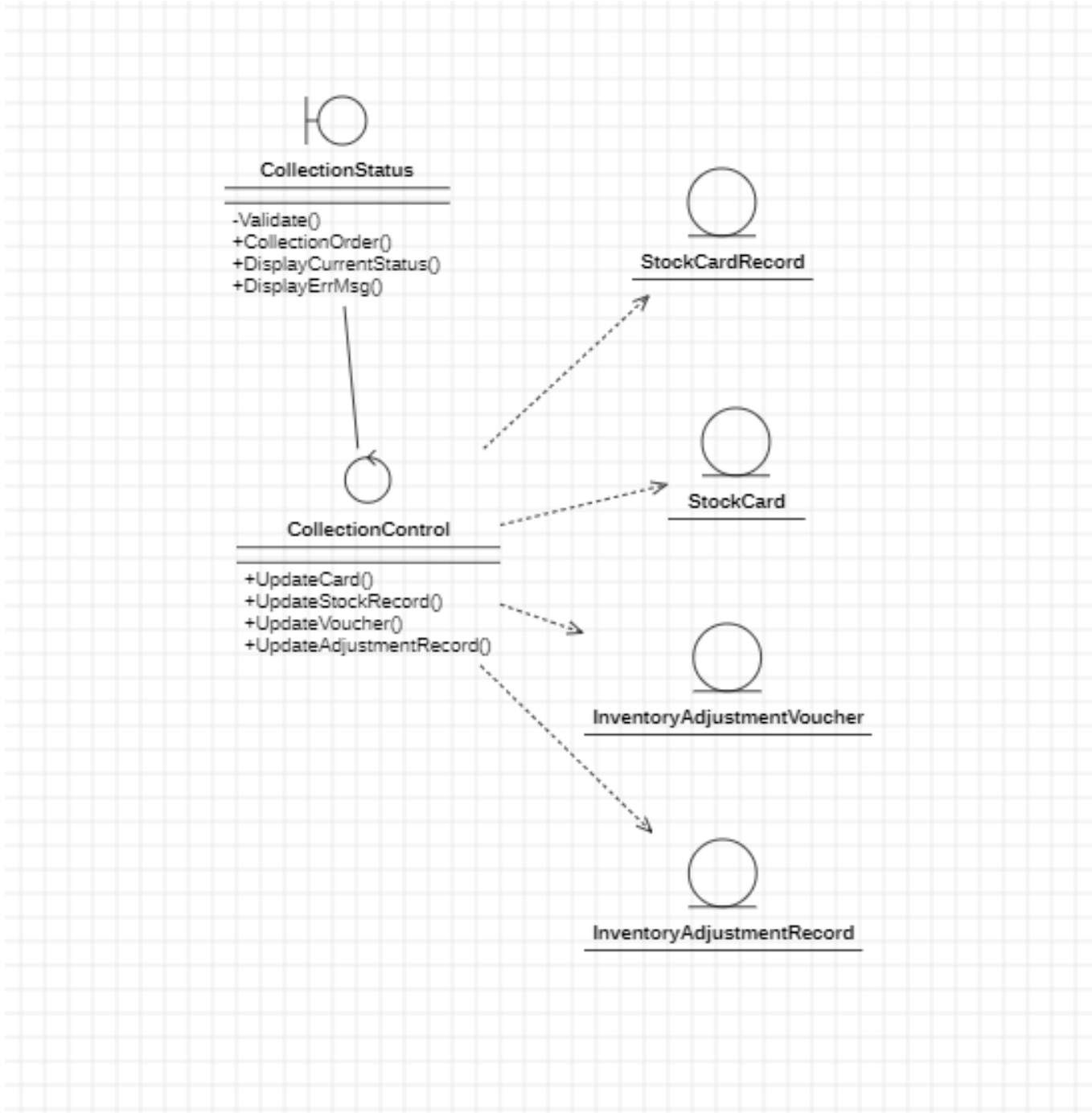
6.Print a table and bar chart for trend reporting



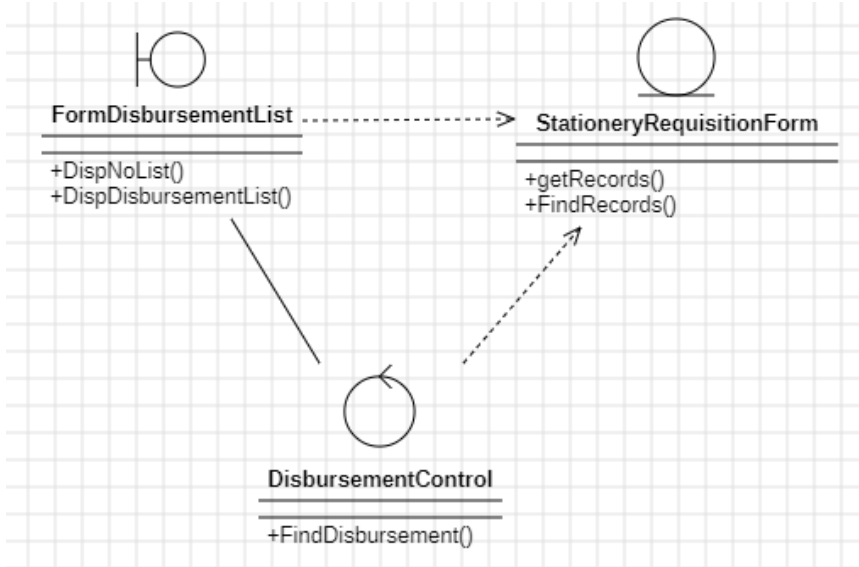
7.Login / logout



8.Collection of stationary

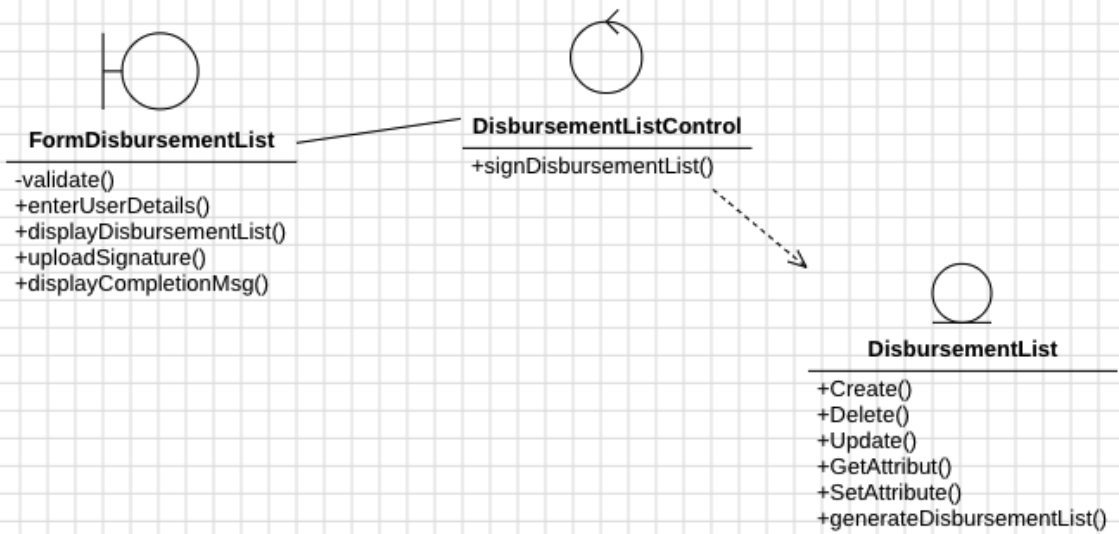


9. Consolidate Disbursement List

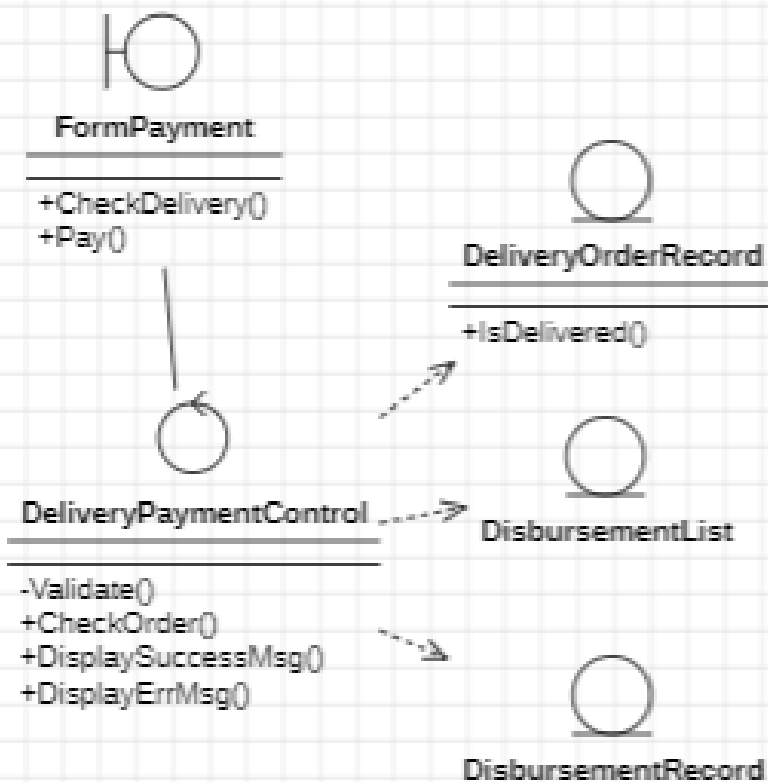


10. Sign and acknowledge receiving stationary

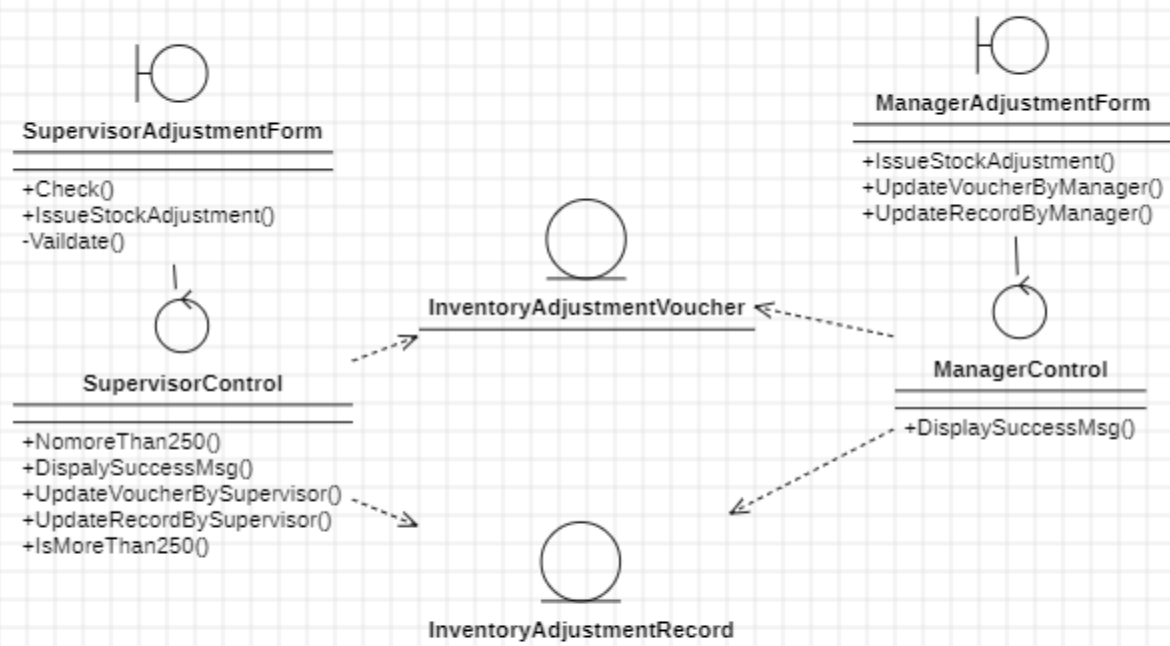
Class Diagram - Sign and Acknowledge Receiving Stationary Use Case



11. Make payment upon order delivery



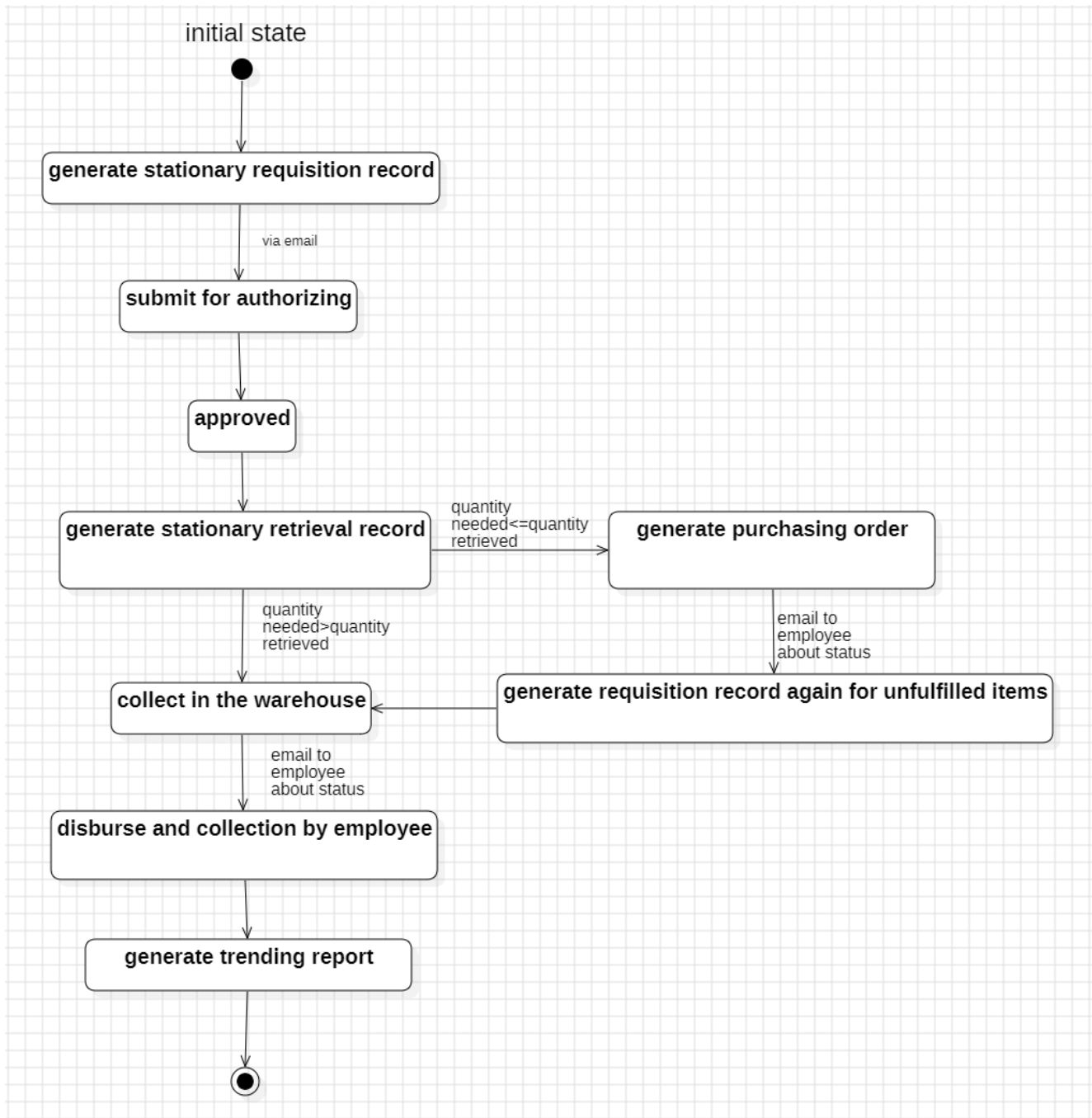
12. Issue stock adjustment voucher



Design Model

Statechart diagram

Object: Stationary Request



Object: Stock Adjustment Voucher

