**Actor Description:**

https://lh6.googleusercontent.com/m_LViG6hsUiPjdJLx4F2v96dv83y8vX6im6UGD151Arj7hMvTknjrPGsdkbFSd2YNqMMmuSERQsZKmlv_eQ-P5eGnaET3knrGxRD7nkZzdVQFTRr3GaYLX_udGBeRZOCqYKDE_nM

SinEx User

https://lh6.googleusercontent.com/m_LViG6hsUiPjdJLx4F2v96dv83y8vX6im6UGD151Arj7hMvTknjrPGsdkbFSd2YNqMMmuSERQsZKmlv_eQ-P5eGnaET3knrGxRD7nkZzdVQFTRr3GaYLX_udGBeRZOCqYKDE_nM

Customer

https://lh6.googleusercontent.com/m_LViG6hsUiPjdJLx4F2v96dv83y8vX6im6UGD151Arj7hMvTknjrPGsdkbFSd2YNqMMmuSERQsZKmlv_eQ-P5eGnaET3knrGxRD7nkZzdVQFTRr3GaYLX_udGBeRZOCqYKDE_nM

Employee

https://lh6.googleusercontent.com/m_LViG6hsUiPjdJLx4F2v96dv83y8vX6im6UGD151Arj7hMvTknjrPGsdkbFSd2YNqMMmuSERQsZKmlv_eQ-P5eGnaET3knrGxRD7nkZzdVQFTRr3GaYLX_udGBeRZOCqYKDE_nM

Shipment Tracking System

https://lh6.googleusercontent.com/m_LViG6hsUiPjdJLx4F2v96dv83y8vX6im6UGD151Arj7hMvTknjrPGsdkbFSd2YNqMMmuSERQsZKmlv_eQ-P5eGnaET3knrGxRD7nkZzdVQFTRr3GaYLX_udGBeRZOCqYKDE_nM

Credit Card Authorization Authority

**Use Case:** Create Account

**Brief Description:**

This case describes how a customer creates a shipping account and login account.

**Participating Actor:**

Customer

**Basic Flow:**

1. The use case begins when the customer actor chooses to create a customer account.

2. The system displays the interface for creating account.

{Select Account Type}

3. The customer selects the type of shipping account he would like to create and provide the information.

{Enter Personal Shipping Account Information}

3.1. If the CREATE PERSONAL SHIPPING ACCOUNT activity is selected

3.1.1. The system provides a form to the customer for him to indicate related information about its personal shipping account.

3.1.2. The customer specifies personal account information (his name, mailing address, phone number and email address) and his credit card information (card type, card number, security number, cardholder name and card expired time).

{Enter Business Shipping Account Information}

3.2. If the CREATE BUSINESS SHIPPING ACCOUNT activity is selected

3.2.1. The system provides a form to the customer for him to indicate related information about its personal shipping account.

3.2.2. The customer specifies business account information (contact person name, department name, mailing address, phone number and email address) and his credit card information (card type, card number, security number, cardholder name and card expired time).

{Record New Account}

4. The customer sets the username and password of his customer login account and inputs password once more for checking.

5. The customer confirms his registration.

6. The system assigns an account number for the customer and creates the record of the customer’s shipping and login account in the database.

7. The system notifies the customer that his login account is created successfully via email which is registered when shipping account is created.

8. The use case ends.

**Alternative Flows:**

**A1: No Type Selected**

At {Enter Personal Shipping Account Information} or {Enter Business Shipping Account Information} if the customer has not selected the type of shipping account,

1. The system notifies the customer that he must choose the type of shipping account before providing information.

2. The flow of events is resumed at {Select Account Type}.

**A2: Information Incomplete**

At {Record New Account} if some required information is not provided by customer,

1. The system notifies the customer that he need to provide all the information required.

2. The flow of events is resumed at {Enter Personal Shipping Account Information} or {Enter Business Shipping Account Information} depending on the type the customer selected.

**Nonfunctional Requirements:**

1. When creating personal shipping account, all information is required so if some information is empty, the shipping account cannot be created successfully.

2. When creating personal shipping account, first (given) name is up to 35 characters, last (family) name is up to 35 characters. Mailing address and phone number are between 8 and 14 digits, and email address is up to 30 characters.

3. When creating business shipping account, contact person name is up to 70 characters, company name is up to 40 characters, and department name (if any) is up to 30 characters. Mailing address and phone number are between 8 and 14 digits, and email address is up to 30 characters.

4. The valid value of card type only includes American Express, Diners Club, Discover, MasterCard, UnionPay and Visa. Card number is between 14 and 19 digits and security number is between 3 and 4 digits. The cardholder name is up to 70 characters.

5. A mailing address should include building information (name, floor, flat/suite, block/tower), if any, up to 50 characters, street information (number and name) up to 35 characters, city up to 25 characters, two-character province code2 and postal code3 between 5 and 6 digits, if any.

6. The shipping account number should be unique and 12 digits long.

7. The user name should be unique, between 6 and 10 characters and contain only letters and digits. The user name should be case insensitive while the password should be case sensitive.

8. The password should be between 8 and 15 characters and contain at least two non-alphanumeric characters.

**Use Case:** Manage Account

**Brief Description:**

This case describes how a customer displays, edits the information of his shipping account and change the password of his login account.

**Participating Actor:**

Customer

**Basic Flow:**

1. The use case begins when the customer actor chooses to manage a shipping account.

2. The system displays the interface for managing account.

{Select Activity}

3. While the customer has an activity to perform

3.1. If the DISPLAY SHIPPING ACCOUNT activity is selected

3.1.1. The system retrieves and displays the information of customer’s shipping account.

3.2. If the EDIT SHIPPING ACCOUNT activity is selected

{Begin Editing Shipping Account}

3.2.1. The system retrieves and displays the information of customer’s shipping account.

3.2.2. The customer edits the information he would like to change.

{Confirm Editing Shipping Account}

3.2.3. The customer confirms the changes.

{Update New Information}

3.2.4. The system updates the information of customer’s shipping account in database.

3.3. If the MODIFY PASSWORD activity is selected

{Begin Modifying Password}

3.3.1. The customer input the old password for validation, set new password and input new password once more for checking.

{Confirm Modifying Password}

3.3.2. The customer confirms the changes.

{Update New Information}

3.3.3. The system updates the information of customer’s login password in database.

4. The use case ends.

**Alternative Flow:**

**A1: Cancel Activity**

At any point between {Begin Editing Shipping Account} and {Confirm Editing Shipping Account} or between {Begin Modifying Password} and {Confirm Modifying Password},

1. The customer can cancel the activity.

2. The flow of events is resumed at {Select Activity}.

**A2: Information Incomplete**

At {Update New Information} if some required information is not provided by customer

1. The system notifies the customer that he need to provide all the information required

2. The flow of events is resumed at {Begin Editing Shipping Account}.

**Nonfunctional Requirements:**

1. When editing personal shipping account, all information is required so if some information is empty, the shipping account cannot be created successfully.

2. When editing personal shipping account, first (given) name is up to 35 characters, last (family) name is up to 35 characters. Mailing address and phone number are between 8 and 14 digits, and email address is up to 30 characters.

3. When editing business shipping account, contact person name is up to 70 characters, company name is up to 40 characters, and department name (if any) is up to 30 characters. Mailing address and phone number are between 8 and 14 digits, and email address is up to 30 characters.

4. The valid value of card type only includes American Express, Diners Club, Discover, MasterCard, Union Pay and Visa. Card number is between 14 and 19 digits and security number is between 3 and 4 digits. The cardholder name is up to 70 characters.

5. A mailing address should include building information (name, floor, flat/suite, block/tower), if any, up to 50 characters, street information (number and name) up to 35 characters, city up to 25 characters, two-character province code2 and postal code3 between 5 and 6 digits, if any.

6. The password should be between 8 and 15 characters and contain at least two non-alphanumeric characters.

**Use Case:** Query the fee of a shipment

**Brief Description:**

This case describes how a SinEx user query the total fee of his shipment and fee of each package he wants to ship.

**Participating actors:**

SinEx user

**Basic Flow:**

1. The use case begins when SinEx user chooses to query the fee of his shipment.

2. The system presents the interface with a form for querying the fee of shipment.

3. The SinEx user specifies the origin, destination, the currency used to display the fee and the number of packages he wants to send in this shipment and the service type.

4. The system displays the origin, destination, the currency used to display the fee and the number of packages and the service type the customer just provides. The system also provides a new form for SinEx user to fill in the types of packages and the weights.

5. The SinEx user specifies the type and weight of each packages in this shipment.

{Calculate Fee}

6. The system calculates the costs of each package and the total cost according the information of cost it stored and displays it for the SinEx user.

{Display Fee}

7. The use case ends.

**Alternative Flows:**

**A1: overweight**

At {Calculate Fee} if the weight of a package is beyond this type’s limit of weight.

1. The system informs the SinEx user `which package is too heavy and add penalty of $500 to the total cost.

2. The flow of event is resumed at {Display Fee}.

**Nonfunctional Requirements:**

1. The system should display the package costs and the total shipment cost in any of the recorded currencies (CNY, HKD, TWD, MOP).

2. For customer package type, the system should not charge any fee of overweight.

**Use case:** Track Shipment

**Brief Description:**

This use case describes how an user track a shipment in the shipment system by providing the waybill number of the shipment.

**Participating actors:**

SinEx user, Shipment Tracking System

**Basic Flow:**

1. The use case begins when a SinEx user chooses to track a shipment.

2. The system displays the interface for tracking shipments.

{Enter the waybill number}

3. The SinEx user enters the waybill number of the shipment for tracking.

4. The system send request for the shipment information to the Shipment Tracking System.

5. The Shipment Tracking System return information of the shipment to the system.

{Retrieve data}

6. The system displays the details of the shipment, including: Waybill number, Destination, Origin, Status, Service type, Package Type, and Weight. The system also provides the Location, Status, and Remarks of the shipment in different period and lists the information in chronological order.

7. The use case ends when the shipment is delivered, returned or lost.

**Alternative flows:**

**A1: The Shipment not Exist**

At {Enter the waybill number} if the entered waybill number of a shipment does not exists,

1. The system informs the customer that the shipment does not exists.

2. The flow of events is resumed at {Enter the waybill number}.

**A2: The Shipment is not picked up**

At {Retrieve data}if the shipment is not picked up,

1. The system informs the customer that the shipment is not picked up.

2. The flow of events is resumed at {Enter the waybill number}.

**A3: The Shipment is delivered**

At {Retrieve data} if the shipment is delivered,

1. The system informs the customer that the shipment not exists.

2. The flow of events is resumed at {Enter the waybill number}.

**A4: The Shipment is returned**

At {Retrieve data} if the shipment is returned,

1. The system informs the customer that the shipment is returned.

2. The flow of events is resumed at {Enter the waybill number}.

**A5: The Shipment is lost**

At {Retrieve data} if the shipment is lost,

1. The system informs the customer that the shipment is lost.

2. The flow of events is resumed at {Enter the waybill number}.

**Nonfunctional Requirements:**

1. An example shipment tracking information should look like that shown below:



**Use case:** Manage Recipient Addresses

**Brief Description:**

This use case describes how a customer manage the address of recipient of shipments.

**Participating actors:**

Customer

**Basic Flow:**

1. The use case begins when the customer actor chooses to manage recipient addresses.

2. The system displays the interface for managing recipient addresses.

3. While the customer has an activity to perform

3.1. If ADD RECIPIENT ADDRESS is selected,

{Display Add Recipient Address Interface}

3.1.1. The system display the interface for adding recipient address.

3.1.2. The customer enters an address and a nickname to the address that is unique for easy selection.

3.1.3. The customer confirms the changes.

{Confirm Recipient Address Changes}

3.1.4. The system adds a new recipient address to database.

3.1.5. The system notifies the customer that the modifications have been made.

3.2. If EDIT RECIPIENT ADDRESS is selected,

3.2.1. The system displays the interface for editing recipient addresses.

3.2.2. The customer selects a recipient address by nickname and modify the address or the nickname.

3.2.3. The customer confirms the changes.

3.2.4. The system changes the value of recipient address to database.

3.2.5. The system notifies the customer that the modifications have been made.

3.3. If DELETE RECIPIENT ADDRESS is selected,

3.3.1. The system displays the interface for deleting recipient addresses.

{Delete recipient address}

3.3.2. The customer selects and delete a recipient address.

3.3.3. The customer confirms the changes.

3.3.4. The system deletes the recipient address from database.

3.3.5. The system notifies the customer that the modifications have been made.

4. The use case ends.

**Alternative flows:**

**A1: The Nickname Already Exists**

At {Confirm Recipient Address Changes} if the entered nickname of a recipient address already exists,

1. The system informs the customer that the nickname already exists.

2. The flow of events is resumed at {Display Add Recipient Address Interface}.

**A2: The Recipient Address not Exist**

At {Delete recipient address}if the entered nickname of a recipient address not exists,

1. The system informs the customer that the address not exists.

2. The flow of events is resumed at {Delete recipient address}.

**Use case:** Manage Pickup Locations

**Brief Description:**

This use case describes how a customer manage the pickup locations of shipments.

**Participating actors:**

Customer

**Basic Flow:**

1. The use case begins when the customer actor chooses to manage the pickup locations of shipments.

2. The system displays the interface for managing pickup locations.

{Select Activity}

3. While the customer has an activity to perform

3.1. If ADD PICKUP LOCATION is selected

{Display Add Pickup Location Interface}

3.1.1. The system display the interface for adding pickup location.

3.1.2. The customer enters a nickname to the pickup location that is unique for easy selection.

3.1.3. The customer confirms the changes.

{Confirm Pickup Location Changes}

3.1.4. The system adds a new pickup location to database.

3.1.5. The system notifies the customer that the modifications have been made.

3.2. If EDIT PICKUP LOCATION is selected

3.2.1. The system display the interface for editing pickup location.

3.2.2. The customer select a pickup location by nickname and modify the pickup location.

3.2.3. The customer confirms the changes.

3.2.4. The system changes the value of pickup location to database.

3.2.5. The system notifies the customer that the modifications have been made.

3.3. If DELETE PICKUP LOCATION is selected

3.3.1. The system display the interface for deleting pickup locations.

3.3.2. The customer select and delete a pickup location.

3.3.3. The customer confirms the changes.

3.3.4. The system deletes the pickup location from database.

3.3.5. The system notifies the customer that the modifications have been made.

4. The use case ends.

**Alternative flows:**

**A1: The Nickname Already Exists**

At {Confirm Pickup Location Changes} if the entered nickname of a pickup location already exists,

1. The system informs the customer that the nickname already exists.

2. The flow of events is resumed at {Display Add Pickup Location Interface}.

**A2: The Pickup Location not Exist**

At {Delete pickup location} if the entered nickname of a pickup location not exists,

1. The system informs the customer that the location not exists.

2. The flow of events is resumed at {Delete pickup location}.

**Use case:** Generate Shipping History Report

**Brief Description:**

This use case describes how a user generate report of shipping history.

**Participating actors:**

Customer, Employee

**Basic Flow:**

1. The use case begins when a user actor chooses to generate shipping history report.

2. The system displays the interface for generating shipping history report.

2.1. If the user is an employee

2.1.1. The system display the corresponding interface for generating shipping history report.

2.1.2. The employee select a shipping account for generating shipping history report by account ID.

2.1.3. The employee specifies a date range for displaying shipments.

2.1.4. The system retrieves and displays a list of the shipments of the account in specified order. Information of each shipment consist of the shipment waybill number, ship date, delivery date, recipient name, origin city, destination city, service type and total number of packages.

2.2. If the user is a customer

2.2.1. The system display the corresponding interface for generating shipping history report.

2.2.2. The customer specifies a date range for displaying shipments.

2.2.3. The system retrieves and displays a list of the shipments of the account in specified order. Information of each shipment consist of the shipment waybill number, ship date, delivery date, recipient name, origin city, destination city, service type and total number of packages.

3. The use case ends.

**Nonfunctional Requirements:**

1. Date

1.1. For date ranges, the default start date and end date should be the current date.

1.2. If no date range is specified, then all dates should be included.

2. Sorting Order

2.1. It should be possible to order this listing by ship date, delivery date, recipient name, origin city, destination or service type.

3. For the reports, it is only necessary to be able to view them as a web page.

**Use case:** Generate Invoices Report

**Brief Description:**

This use case describes how a user generate report of invoices.

**Participating actors:**

Customer, Employee

**Basic Flow:**

1. The use case begins when a user actor chooses to generate report of invoices.

2. The system displays the interface for generating report of invoices.

2.1. If the user is an employee

2.1.1. The system display the interface for generating report of invoices.

2.1.2. The employee select a shipping account for generating report of invoices by account ID.

2.1.3. The employee specifies a date range for displaying invoices.

2.1.4. The system retrieves and displays a list of the invoices of the account in specified order. Information of each invoices consist of the shipment waybill number, ship date, recipient name, origin city, destination city, service type and total invoice amount.

2.2. If the user is a customer

2.2.1. The system displays the interface for generating report of invoices.

2.2.2. The customer specifies a date range for displaying invoices.

2.2.3. The system retrieves and displays a list of the invoices of the account in specified order. Information of each invoices consist of the shipment waybill number, ship date, recipient name, origin city, destination city, service type and total invoice amount.

3. If a shipment is selected,

3.1. The system retrieves and displays the invoice detail of the shipment, including: the shipping account number of the invoice payer, shipment waybill number, ship (pickup) date, service type, sender’s reference number, sender and recipient information, credit card type, credit card number, the authorization code, total amount payable and, for each package, the package type, the actual weight and the cost.

4. The use case ends.

**Nonfunctional Requirements:**

1. Date

1.1. For date ranges, the default start date and end date should be the current date.

1.2. If no date range is specified, then all dates should be included.

2. Sorting Order

2.1. It should be possible to order this listing by ship date, recipient name, origin city, destination city, service type or total invoice amount.

3. Invoice detail of a shipment

3.1. Display the recipient information with full name 4/5 and mailing/delivery address.

3.2. Display only the last four digits of the credit card number.

4. For the reports, it is only necessary to be able to view them as a web page.

**Use Case:** Create Waybill

**Brief Description:**

This use case describes how a customer create make a shipment request.

**Participating Actor**:

Customer

**Basic Flow:**

1. The use case begins when a customer actor chooses to order a shipment for a specified sender and a specified recipient.

2. The system displays an interface for entering the information of a shipment waybill.

{Enter Shipment Information}

3. The system automatically retrieves and display the corresponding shipping account number, full name, mailing address, phone number and email address.

{Enter Reference Number}

4. Customer enters information for the recipient including recipient’s full name, company name and department name, delivery address, phone number and email address. Customer enters information for each package including the package type, a description of its contents, the value of the contents including in what currency and its weight. Customer enters information for each package including the package type, a description of its contents, the value of the contents including in what currency and its weight. Customer enters the service type of the shipment.

5. The customer choose the shipment payer,

5.1. If the customer choose recipient as the shipment payer

5.1.1. System should display an input field for customer to enter the shipping account number of the recipient.

5.1.2. Customer enter the shipping account number of the recipient.

5.1.3. System set the payer’s account information as recipient’s shipping account information.

5.2. If the customer chooses sender as the shipment payer

5.2.1. System set the payer’s account information as sender’s shipping account information.

6. The customer choose the duties and taxes payer

6.1. If the duties and taxes payer is the recipient

6.1.1. System should display an input field for customer to enter the shipping account number of the recipient.

6.1.2. Customer enter the shipping account number of the recipient.

6.1.3. System set the duties and taxes payer’s account information as recipient’s shipping account information.

6.2. If the duties and taxes payer is the sender

6.2.1. System set the duties and taxes payer’s account information as sender’s shipping account information.

{Choose Pick-up Email Notification option}

{Choose Deliver Email Notification option}

7. System generates a waybill number for the shipment.

8. System computes and displays the estimated cost for each package and the total estimated cost for the shipment based on the user-provided weight for each package and the current SinEx fees to the customer.

{Shipment Waybill Completed}

9. Customer chooses to save the completed shipment waybill.

10. System updates the customer’s pre-confirmed shipment records in the database.

11. System notifies the customer that the shipment waybill has been saved.

12. The use case ends.

**Alternative Flows:**

**A1: Entering reference number for sender**

At {Enter Sender Reference Number} if customer choose to enter a reference number for the shipment,

1. System should add the reference number to the shipment.

2. The flow of events is resumed at {Enter Sender Reference Number}.

**A2: Send Pick-up Email Notification**

At {Choose Pick-up Email Notification Option}, if customer chooses to send the email notification to the recipient when the shipment is picked up,

1. An email containing pickup notification, waybill number, sender name and address, and pickup date should be sent to the email address of the recipient.

2. The flows of event is resumed at {Choose Pick-up Email Notification Option}.

**A3: Send Deliver Email Notification**

At {Choose Deliver Email Notification Option}, if customer chooses to send the email notification to the sender when the shipment is delivered,

1. An email containing delivery notification, recipient name and address, and delivery date should be sent to the email address of the sender.

2. The flows of event is resumed at {Choose Deliver Email Notification Option}.

**A4: Cancel Shipment**

At any point between {Enter Shipment Information} and { Shipment Waybill Completed} ,

1. The customer can cancel the shipment.

2. Use case ends.

**Nonfunctional Requirements:**

1. The pickup location can either be the same as the sender’s mailing address or it can be different. While every shipment should be from a single sender to a single recipient, a pickup may be for packages going to several recipients (i.e., for several shipments).

2. When customer enters the name of the recipient, the name must be a person.

3. When customer enters information of the recipient, the department is not required.

4. When customer enters the value of each package, the value must be specified in CNY, HKD, TWD or MOP.

5. When customer enters the weight of each package, the weight must be specified in kilograms to one decimal place.

6. The maximum number of packages allowed in one shipment should be 10.

7. Each shipment can have only one service type while it can contain multiple package types.

8. The waybill number of each shipment should be unique and consist of 16 digits.

**Use Case**: Manage Waybill

**Pre-Condition:**

The shipment waybill has already been completed and saved but not been confirmed yet.

**Brief Description:**

This use case describes how a customer modify or delete the shipment waybill.

**Participating Actor:**

Customer

**Basic Flow:**

1. The use case begins when the customer chooses to manage the shipment waybill saved previously.

2. System display an interface for searching the stored shipment waybill.

{Enter Waybill Number}

3. The customer enters the shipment waybill number for the shipment he would like to manage.

4. The system retrieves and displays the shipment waybill.

{Select Activity}

5. While the customer has an activity to perform

5.1. If the MODIFY activity is selected

{Being Modifying Shipment Waybill}

5.1.1. The customer can modify recipient, shipment or notification information of the shipment.

{Confirm Modifying Shipment Waybill}

5.1.2. The customer confirms the changes.

5.1.3. The system updates the customer’s shipment waybills in the database.

5.1.4. The system notifies the customer that the modifications have been made.

5.2. If the DELETE activity is selected

{Confirm Deleting Shipment Waybill}

5.2.1. The customer confirms the deletion.

5.2.2. The system removes this shipment waybill in the database.

5.2.3. The system notifies the customer that the deletion have been made.

6. The use case ends

**Alternating Flow:**

**A1: Waybill Not Exist**

At {Select Activity}, if the waybill number entered by the customer does not refer to any saved waybill,

1. The system notifies the customer that the shipment waybill does not exist.

2. The flow of events resumes at {}

**A2: Cancel Activity**

At any point between {Being Modifying Shipment Waybill} and {Confirm Modifying Shipment Waybill},

1. The customer can cancel the activity.

2. The flow of events is resumed at {Select Activity}.

**Nonfunctional Requirements:**

1. The waybill number should consist of 16 digits.

2. The pickup location can either be the same as the sender’s mailing address or it can be different. While every shipment should be from a single sender to a single recipient, a pickup may be for packages going to several recipients (i.e., for several shipments).

3. When customer enters the name of the recipient, the name must be a person.

4. When customer enters information of the recipient, the department is not required.

5. When customer enters the value of each package, the value must be specified in CNY, HKD, TWD or MOP.

6. When customer enters the weight of each package, the weight must be specified in kilograms to one decimal place.

7. The maximum number of packages allowed in one shipment should be 10.

8. Each shipment can have only one service type while it can contain multiple package types.

**Use Case:** Confirm Shipment

**Brief Description:** This use case describe how a customer confirms and initiates a shipment.

**Participating Actors:** Customer

**Basic Flow:**

1. This use case begins when the Customer confirms the shipment waybill.

{Confirm Shipment}

2. The system notifies the user that the shipment waybill has been confirmed

3. The Customer indicates the pickup types between immediate shipment pickup or prearranged pickup up to 5 days in advance.

4. The Customer prints and signs it and attaches it to the shipment.

{Finish Confirmation}

5. The use case ends.

**Alternative Flow:**

**A1: Cancel Shipment Waybill**

At any point between {Confirm Shipment} and {Finish Confirmation},

1. The Customer can cancel the shipment.

2. System inactivates the shipment record in the database.

3. System notifies the customer that the shipment has been confirmed.

4. The use case ends.

**Nonfunctional Requirements:**

1. For prearranged pickup, a pickup date should be specified as well as a time. All the packages in a shipment should be picked up together and in the same location.

2. All shipment information should be retained even if the shipment is subsequently cancelled.

**Use Case**: Generate invoice and payment

**Pre-condition:**

The shipment package should have already been picked up by the SinEx Company. In addition, the actual weight of the package as well as the duties and taxes payable should have already been determined.

**Brief Description:**

This use case describes how the Employee create an invoice for a shipment and how the payment of the shipment is made.

**Participating Actors:**

Employee, Credit Card Authorization Authority

**Basic Flow:**

1. This use case begins when the Employee chooses to generate an invoice for a shipment.

{Select Shipment}

2. The system displays an interface for Employee to select the shipment.

3. The Employee enters the shipment waybill number.

4. The system displays the shipment waybill of the shipment.

5. The employee enters the actual weight, package types, duties and taxes payable of the shipment.

6. The employee confirms the input.

{Confirm Input}

7. The system notifies the Employee that the change has been saved.

8. The system generates an invoice containing the shipping account number of the invoice payer, shipment waybill number, ship (pickup) date, service type, sender’s reference number, sender and recipient information including full name, mailing/delivery address, credit card type, credit card number, the authorization code, total amount payable and, the package type, the actual weight and the cost for each package.

9. The system sends the invoice to the email address of the shipping account designated as the payer.

10. The system sends a request to the Credit Card Authorization Authority according to the credit card number of the payer’s Shipping Account.

11. The Credit Card Authorization Authority sends an approval to the system, sends a payment notification email to the card holder’s email address and the payment is completed.

12. The system sends an email to the recipient if the optional email notification has been chose by customer during creating this shipment waybill.

13. The use case ends.

**Alternative Flow:**

**A1: Cancel Activity**

At any point between {Select Shipment} and {Confirm Input},

1. The Employee can cancel the input activity.

2. The flow of events is resumed at {Select Shipment}.

**Nonfunctional Requirement:**

1. The credit card number should contain only the last four digits.

2. The monetary amounts of an invoice should be in the currency of the city in which the payer is located.

3. When the shipment payer and the duties and taxes payer are different, an invoice for the respective charges should be sent to each payer.