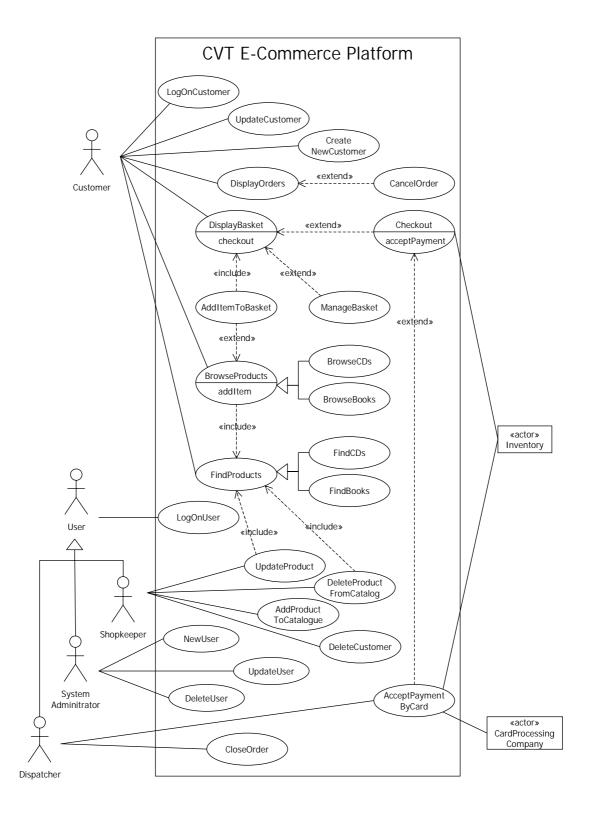
ECP Use Case Model - Structured

Version 2.0

Copyright © 2001, 2002 Clear View Training Limited. All rights reserved.

Materials in this document may not be reproduced electronically or optically without express permission from the copyright holder. For reprint permissions, contact Jim.Arlow@clearviewtraining.com.

Use Case Diagram



Actors

Actor	Customer
ID	A1
Parents	
Semantics	
Someone who buys products from Clear View Training Limited.	

Actor	User
ID	A2
Parents	
Semantics	
Someone who is not a Customer who uses the system.	

Actor	Shopkeeper
ID	A3
Parents	User
Semantics	
A user of the system who is responsible for managing the catalogue of products.	

Actor	SystemAdministrator
ID	A4
Parents	User
Semantics	
A special user of the system who can set up access rights for other Users.	

Actor	Dispatcher
ID	A5
Parents	User
Semantics	
This Actor represents a worker in the Dispatch department of Clear View Training.	

Actor	Inventory	
ID	A6	
Parents		
Semantics		
This Actor represents Clear View Training's Inventory system.		

Actor	CardProcessingCompany	
ID	A7	
Parents		
Semantics		
This Actor represents an external company that processes credit card transactions on behalf of Clear View Training.		

Use Cases

Use case	LogOnCustomer	
Use case ID	UC1	
Actors	Customer	
Preconditions		
1 The Customer is not logged on to the system.		
Primary scenario		
1 The use case begins when the Customer actor accesses the first page of the website.2 The system automatically recognises the Customer.3 The system automatically logs the Customer on to the site.		
Secondary scenarios	ExistingCustomerNotRecognised CustomerAuthenticationFails	
Postconditions		
1 The Customer is logged on to the system.		

Use case	LogOnCustomer	
Secondary scenario	ExistingCustomerNotRecognised	
Preconditions		
1 The Customer has not been recognised by the system.		
1 The scenario begins when the Customer selects "Log On". 2 While the Customer is not logged on and the number of authentication attempts is less than or equal to three 2.1 The system asks the Customer for their user name and password. 2.2 The Customer enters their user name and password. 2.3 The user name and password are correct. 2.4 The system authenticates the Customer.		
Postconditions		
1 The Customer is logged on to the system.		

Use case	LogOnCustomer
Secondary scenario	CustomerLogOnFails

Preconditions

- 1 The Customer has not been recognised by the system.
- 1 The scenario begins when the Customer selects "Log On".
- 2 While the Customer is not logged on and the number of authentication attempts is less than or equal to three
 - 2.1 The system asks the Customer for their user name and password.
 - 2.2 The Customer enters their user name and password.
- 3 On the final authentication attempt he user name and/or password are wrong.
- 4 The system logs a security violation.

Postconditions

- 1 The Customer is not authenticated.
- 2 A security violation has been logged.

Use case	CreateNewCustomer
Use case ID	UC2
Actors	Customer
Preconditions	

1 The Customer is not logged on to the system.

Flow of events

- 1 The use case begins when the Customer selects "New Customer".
- 2 The system asks the Customer to enter a user name and password.
- 3 The Customer enters the requested information.
- 4 The system checks to see if the user name is available and the password is valid.
- 5 While the username is not available or the password is invalid
 - 5.1 The system asks for a new user name and/or password.
- 6 The system asks the Customer for the following information: name and address (mandatory), shipping address (optional), email address (mandatory), phone number (optional), fax number (optional), credit card details (mandatory).
- 7 The Customer enters the requested information.
- 8 While mandatory information is missing
 - 8.1 The system asks the Customer for the missing information.
 - 8.2 The Customer enters the missing information.
- 9 The system confirms that the customer information has been accepted.
- 10 The sytem assigns a unique customer identifier to the customer.

Postconditions

- 1 A new customer record has been created.
- 2 The Customer is assigned a user name and password.
- 3 The Customer is assigned a unique identifier.

Use case	UpdateCustomer
Use case ID	UC3
Actors	Customer
Preconditions	
1 The Customer is logged on to the system.	
Flow of events	

- 1 The use case begins when the Customer selects "Update Customer Details".
- 2 The system displays the customer details including name and address (mandatory), shipping address (optional), email address (mandatory), phone number (optional), fax number (optional), credit card details (mandatory). The optional elements may be empty if the Customer had not previously entered them.
- 3 While (not finished changing)
 - 3.1 The Customer selects a field and changes its value.
- 4 The system asks the Customer to confirm the changes.
- 5 The Customer selects OK.

Postconditions

1 The customer details have been updated.

Use case	DeleteCustomer	
Use case ID	UC4	
Actors	Shopkeeper	
Preconditions		
1 The Shopkeeper must be logged on to the system.		
Preconditions		
1 The Shopkeeper selects "Delete Customer". 2 The system asks the Shopkeeper for a customer identifier. 3 The Shopkeeper enters the customer identifier. 4 The system asks the Shopkeeper to confirm the deletion. 5 The Shopkeeper confirms the deletion. 6 The system deletes the customer details.		
Postconditions		
1 The customer details have been deleted from the system.		

Abstract use case	FindProducts	
Use case ID	UC5	
Actors	Customer	
Preconditions	'	
None		
Flow of events		
1 The Customer selects "Find". 2 The system asks the Customer for search criteria. 3 The Customer enters the search criteria. 4 The system searches for products that match the Customer's criteria. 5 If the system finds some products 5.1 The system displays a page containing a maximum of 10 products. This page includes summary information for each product and its price. 5.2 While the Customer is browsing the list of found products 5.2.1 If there are more products to display 5.2.2 The Customer may select "Next" to view the next page of products. 5.2.3 If the Customer is not on the first page of products		

products.

6.1 The system tells the Customer that no matching products were found.

Postconditions	
None	

5.2.4 The Customer may select "Previous" to view the previous page of

Child Use Case	FindBooks
Use Case ID	UC6
Parent Use Case	FindProducts
Actors	Customer
Preconditions	

None.

Flow of events

- 1 The Customer selects "Find Book".
- 2 The system asks the Customer for book search criteria that consist of one or more of the following:title, author, ISBN, topic.
- 3 The Customer enters the search criteria.
- 4 The system searches for books that match the Customer's criteria.
- 5 If the system finds some products
 - 5.1 The system displays page containing a maximum of 10 books. This page includes the following summary information for each book: title, author, publisher, price.
 - 5.2 While the Customer is browsing the list of found products
 - 5.2.1 If there are more products to display
 - 5.2.2 The Customer may select "Next" to view the next page of products.
 - 5.2.3 If the Customer is not on the first page of products
 - 5.2.4 The Customer may select "Previous" to view the previous page of products.

6 Else

6.1 The system tells the Customer that no matching products were found.

Postconditions
None.

Use case	FindCDs
Use case ID	UC7
Parents	FindProducts
Actors	Customer
Preconditions	
None.	

Flow of events

- 1 The Customer selects "Find CD".
- 2 The system asks the Customer for CD search criteria that consists of one or more of the following: title, artist, composer, label and catalog number, format
- 3 The Customer enters the search criteria.
- 4 The system searches for CDs that match the Customer's criteria.
- 5 If the system finds some products
 - 5.1 The system displays a list of up to 10 found CDs. This list includes summary information for each CD including title, artist, composer, label and catalog number, format and its price.
 - 5.2 While the Customer is browsing the list of found products
 - 5.2.1 If there are more products to display
 - 5.2.2 The Customer may select "Next" to view the next page of products.
 - 5.2.3 If the Customer is not on the first page of products
 - 5.2.4 The Customer may select "Previous" to view the previous page of products.

6 Else

6.1 The system tells the Customer that no matching products were found.

Postconditions

None.

Use case	BrowseProducts
Use case ID	UC8
Actors	Customer
Preconditions	
None	

Flow of events

- 1 The use case begins when the Customer selects a type of product to browse.
- 2 The system displays a list of all categories for that type of product.
- 3 The Customer selects a category.
- 4 The system displays a page comtaining a maximum of 10 products in the category. This page includes summary information for each product and its price.
- 5 While the Customer is browsing
 - 5.1 If there are more products to display
 - 5.1.1 The Customer may select "Next" to view the next page of products.
 - 5.2 If the Customer is not on the first page of products
 - 5.2.1 The Customer may select "Previous" to view the previous page of products.
- 6 The Customer selects a product.
- 7 The system displays full details of the product including its price. <addItem>

Postconditions

- 1 The Customer has selected a product.
- 2 The system has displayed full details of the product.

Alternative flow 1

1 At any point, include(FindProduct).

Use case	BrowseBooks
Use case ID	UC9
Parents	BrowseProducts
Actors	Customer
Preconditions	

None

Flow of events

- 1 The use case begins when the Customer selects a "Browse Books".
- 2 The system displays a list of all book categories.
- 3 The Customer selects a category.
- 4 The system displays a page comtianing a maximum of 10 books in the category. This page includes the following summary information for each book: title, author, publisher, price.
- 5 While the Customer is browsing
 - 5.1 If there are more products to display
 - 5.1.1 The Customer may select "Next" to view the next page of products.
 - 5.2 If the Customer is not on the first page of products
 - 5.2.1 The Customer may select "Previous" to view the previous page of products.
- 6 The Customer selects a book.
- 7 The system displays full details of the book: thumbnail of cover, title, author, publisher, IS-BN, price, rating (optional), review (optional). <addItem>

Postconditions

- 1 The Customer has selected a book.
- 2 The system has displayed full details of the book.

Alternative flow 1

1 At any point, include(FindProduct).

Use case	BrowseCDs
Use case ID	UC10
Parents	BrowseProducts
Actors	Customer
D 1111	

Preconditions

None.

Flow of events

- 1 The use case begins when the Customer selects a "Browse CDs".
- 2 The system displays a list of all CD categories.
- 3 The Customer selects a category.
- 4 The system displays a page comtianing a maximum of 10 CDs in the category. This page includes the following summary information for each CD: title, artist, composer, label and catalog number, format.
- 5 While the Customer is browsing
 - 5.1 If there are more products to display
 - 5.1.1 The Customer may select "Next" to view the next page of products.
 - 5.2 If the Customer is not on the first page of products
 - 5.2.1 The Customer may select "Previous" to view the previous page of products.
- 6 The Customer selects a CD.
- 7 The system displays full details of the CD: thumbnail of cover, title, artist, composer, labe and catalog numberl, price, rating (optional), reviews (optional). <addItem>

Postconditions

- 1 The Customer has selected a CD.
- 2 The system has displayed full details of the CD.

Alternative flow 1

1 At any point, include(FindProduct).

Extension Use Case	ManageBasket	
Use case ID	UC11	
Actors	Customer	
Preconditions		
1 The Customer is viewing the shopping basket.		
Flow of events		
1 While the Customer is upating the basket 1.1 The Customer selects an item in the basket. 1.2 If the Customer selects "Remove Item" 1.2.1 The system displays the message "Are you sure you want to remove the selected item from your basket?". 1.2.2 The Customer confirms the removal. 1.2.3 The system removes the selected item from the basket. 1.3 If the Customer enters a new quantity for the selected item 1.3.1 The system updates the quantity for the selected item.		

None.

Use case	DisplayBasket
Use case ID	UC12
Actors	Customer
Preconditions	
None.	
Flow of events	
1 The Customer selects "Display Basket". 2 If there are no items in the basket 2.1 The system displays the message "No items in basket yet". 2.2 The use case terminates 3 For each item in the basket 3.1 The system displays the product id, quantity, summary details, item price and total price. <managebasket> <checkout></checkout></managebasket>	
Postconditions	
None.	

Extension Use Case	Checkout
Use case ID	UC14
Actors	Customer Inventory

Preconditions

1 The Customer is logged on to the system.

Postconditions

- 1 The use case begins when the Customer selects "Checkout".
- 2 The system asks the Inventory actor to provisionally reserve the items in the shopping basket.
- 3 For each item that is out of stock
 - 3.1 The system informs the Customer that the item is unavailable and has been removed from the order.
- 4 The system presents the final order to the Customer. The order includes the shipping address and credit card details. The order includes an order line for each product that shows the product identifier, the product name, the quantity, the unit price, the total price for that quantity. The order also includes the total cost of the order including tax and postage and packing.
- 5 The system asks the Customer to accept or decline the order
- 6 The Customer accepts the order.

<acceptPayment>

Postconditions

- 1 The Customer has accepted the order.
- 2 The products have been provisionally reserved by the Inventory actor.

Extension Use Case	AcceptPaymentByCard
Use case ID	UC15
Actors	Customer CardProcessingCompany Inventory Dispatcher
Preconditions	•
1 The Customer is logged on to the system.	
Segment	
1 The system retrieves the Custome 2 The system sends a message to the	er's credit card details. e CardProcessingCompany which includes: merchant

- 2 The system sends a message to the CardProcessingCompany which includes: merchant identifier, merchant authentication, name on card, number of card, expiry date of card, amount of transaction.
- 3 The CardProcessingCompany authorises the transaction.
- 4 The system notifies the Customer that the card transaction has been accepted.
- 5 The system gives the Customer an order reference number for tracking the order.
- 6 The system tells the Inventory actor to reserve the required items.
- 7 The system sends the order to the Dispatcher.
- 8 The system changes the order's state to pending.

Secondary scenarios	CreditLimitExceeded BadCard CreditCardPaymentSystemDown
---------------------	---

Postconditions

- 1 The order status has been set to pending.
- 2 The Customers credit card has been debited by the appropriate amount.
- 3 Inventory items have been reserved to cover the order.
- 4 The order has been sent to the Dispatcher.

Extension Use Case	AcceptPaymentByCard
Alternative flow 1	

- 1 After ten minutes elapses the system tells the Inventory actor to release any inventory reserved for this order.
- 2 The system displays a message stating that for security reasons the payment transaction has been cancelled and that the Customer should select "Checkout" again to continue.

Extension Use Case	AcceptPaymentByCard
Secondary scenario	CreditLimitExceeded

- 1 The system retrieves the Customer's credit card details.
- 2 The system sends a message to the CardProcessingCompany which includes: merchant identifier, merchant authentication, name on card, number of card, expiry date of card, amount of transaction.
- 3 The CardProcessingCompany does not authorise the transaction because the credit limit on the card would be exceeded.
- 4 The system displays a message telling the Customer that there was not enough credit available on the card to pay for the order.
- 5 The system displays a message asking the Customer to change their card details or contact their credit card company to extend their credit rating.
- 6 The system tells the Inventory actor to release the inventory reserved for this order.

Postconditions

1 Inventory that had been provisionally reserved for this order is released.

Extension Use Case	AcceptPaymentByCard
Secondary scenario	BadCard

- 1 The system retrieves the Customer's credit card details.
- 2 The system sends a message to the CardProcessingCompany which includes: merchant identifier, merchant authentication, name on card, number of card, expiry date of card, amount of transaction.
- 3 The CardProcessingCompany does not authorise the transaction because the credit card is invalid.
- 4 The system displays a message telling the Customer that their credit card is invalid.
- 5 The system displays a message asking the Customer to change their card details or contact their credit card company to get a new card.
- 6 The system tells the Inventory actor to release the inventory reserved for this order.

Postconditions

1 Inventory that had been provisionally reserved for this order is released.

Extension Use Case	AcceptPaymentByCard
Secondary scenario	CreditCardPaymentSystemDown

- 1 The system retrieves the Customer's credit card details.
- 2 The system sends a message to the CardProcessingCompany which includes: merchant identifier, merchant authentication, name on card, number of card, expiry date of card, amount of transaction.
- 3 The CardProcessingCompany can't be contacted.
- 4 The system displays a message telling the Customer that their order can't be processed at this point in time and to try again later.
- 5 The system tells the Inventory actor to release the inventory reserved for this order.

Postconditions

1 Inventory that had been provisionally reserved for this order is released.

DisplayOrders		
UC16		
Customer		
Preconditions		
1 The Customer is logged on to the system.		
Flow of events		
1 The use case begins when the Customer selects "Display Orders". 2 The system displays a one line summary of each order the Customer has made. Orders are displayed in chronological order, and the information on each line is the date, the order number, the amount and the status. 3 The Customer selects an order. 4 The system displays full details of the order. <cancelorder></cancelorder>		

Postconditions

1 The system is displaying full details of an order.

Extension Use Case	CancelOrder	
Use case ID	UC17	
Actors	Customer	
Preconditions		
1 The Customer is logged on to the system. 2 The system is displaying full details of an order. 3 The order is still pending.		
Segment		
1 The use case begins when the Customer selects "Cancel Order". 2 The system asks the Customer for confirmation. 3 The Customer confirms the cancellation. 4 The system marks the order as cancelled. 5 The system records the time and date that the order was cancelled.		
Postconditions		

1 The order is cancelled.

Extension Use Case	AddItemToBasket	
Use case ID	UC13	
Actors	Customer	
Segment		
1 The Customer selects "Add Item". 2 The system adds the item to the Customer's shopping basket. 3 include(DisplayBasket)		
Postconditions		
1 A product has been added to the Customer's basket.		

Use case	CloseOrder
Use case ID	UC18
Actors	Dispatcher

Preconditions

- 1 The order has been forwarded to the Dispatcher.
- 2 The Dispatcher is logged on to the system.
- 3 The order status is "pending".
- 4 The order is about to be processed by the Dispatch Department.

Flow of events

- 1 The use case begins when the Dispatcher selects "Close Order".
- 2 The system asks the Dispatcher to enter an order number, the date on which the order was shipped, the shipping company and tracking number if available.
- 3 The Dispatcher enters the requested information.
- 4 The system finds the order and changes the status of the order to "closed".
- 5 The system records the shipping date, shipping company and tracking number on the order.
- 6 The Dispacher processes the order.

Postconditions

- 1 The order status has been changed to "closed".
- 2 The order has been updated to include the date of shipping and the shipping company.
- 3 The order has been dispatched.

Use case	AddProductToCatalog
Use case ID	UC19
Actors	Shopkeeper
Preconditions	
1 The Shopkeeper is logged on to the system.	

Flow of events

- 1 The use case begins when the Shopkeeper selects "Add Product".
- 2 The system asks the Shopkeeper whether the product is a book or a CD.
- 3 If the product is a book
 - 3.1 The system asks the Shopkeeper to enter the following product information: thumbnail of cover, title, author, publisher, ISBN, price, rating (optional), review (optional).
- 4 If the product is a CD
 - 4.1 The system asks the Shopkeeper to enter the following product information: thumbnail of cover, title, artist, composer, labe and catalog numberl, price, rating (optional), reviews (optional).
- 5 The Shopkeeper enters the requested information.
- 6 The system asks the Shopkeeper to confirm that the new product should be added to the catalog.
- 7 The Shopkeeper confirms that the new product should be added.
- 8 The system adds the new product to the catalog.

Postconditions

1 A new product has been added to the catalogue.

Use case	UpdateProduct
Use case ID	UC20
Actors	Shopkeeper
Preconditions	

1 The Shopkeeper is logged on to the system.

Flow of events

- 1 The use case begins when the Shopkeeper selects "Update Product".
- 2 The system asks the Shopkeeper to enter a product identifier.
- 3 If the Shopkeeper knows the product identifier
 - 3.1 The Shopkeeper enters the product identifier.

4 Else

- 4.1 Include(FindProduct)
- 4.2 The Shopkeeper selects a product.
- 5 The system displays all details of the product.
- 6 The Shopkeeper changes one or more details of the product but not the product identifier.
- 7 The Shopkeeper enters the changes.
- 8 The system asks the Shopkeeper to confirm the changes.
- 9 The Shopkeeper confirms the changes.
- 10 The system saves the changes in the product catalog.

Postconditions

- 1 Some product details have been changed.
- 2 The product identifier remains unchanged.

Use case	DeleteProductFromCatalog	
Use case ID	UC21	
Actors	Shopkeeper	
Preconditions	Preconditions	
1 The Shopkeeper is logged on to the system.		
Flow of events		
1 The use case begins when the Shopkeeper selects "Delete Product". 2 The system asks the Shopkeeper to select a product. 3 If the Shopkeeper knows the product identifier 3.1 The Shopkeeper enters the product identifier. 4 Else 4.1 Include(FindProduct) 4.2 The Shopkeeper selects a product. 5 The system displays all details of the product. 6 The Shopkeeper selects "Delete". 7 The system asks the Shopkeeper to confirm the deletion. 8 The Shopkeeper confirms the deletion. 9 The system deletes the product from the catalog.		
Postconditions		

1 A product has been deleted from the catalogue.

Use case	LogOnUser	
Use case ID	UC22	
Actors	User	
Preconditions		
1 The User logged on to the system.		
Primary scenario		
1 The use case begins when the User selects "Log On". 2 While the User is not authenticated and the number of authentication attempts is less than or equal to three 2.1 The system asks the User for their user name and password. 2.2 The User enters their user name and password. 3 The user name and password are correct. 4 The system authenticates the User.		
Secondary scenarios	UserAuthenticationFails	
Postconditions		
1 The User is logged on.		

Use case	LogOnUser
Secondary scenario	UserAuthenticationFails

- 1 The scenario begins when the User selects "Log On".
- 2 While the User is not authenticated and the number of authentication attempts is less than or equal to three
 - 2.1 The system asks the User for their user name and password.
 - 2.2 The User enters their user name and password.
- 3 On the final authentication attempt the user name and/or password is wrong.
- 4 The system logs a security violation.
- 5 The system freezes the User account.

Postconditions

- 1 The User is not logged on.
- 2 The system has logged a security violation.
- 3 The User's account has been frozen pending investigation of the security violation.

Use case	NewUser	
Use case ID	UC23	
Actors	SystemAdminitrator	
Preconditions		
1 The SystemAdministrator has been authenticated by the system.		
Flow of events		
1 The use case begins when the SystemAdministrator selects "New User". 2 The system asks the SystemAdministrator to input the following information: user name, password, name of user, email address, security role. 3 The system asks the SystemAdministrator to confirm that a new user should be created. 4 The SystemAdministrator confirms that the system should create a new user.		
Postconditions		

1 A new user account has been created.

Use case	UpdateUser	
Use case ID	UC24	
Actors	SystemAdministrator	
Preconditions		
1 The SystemAdministrator is logged on to the system.		
Primary scenario		
 The use case begins when the SystemAdministrator selects "Update User". The system displays a list of all users of the system The SystemAdministrator selects a user. The system displays all the user's account details: user name, password, name of user, email address, security role. The SystemAdministrator changes one or more details. The system asks the SystemAdministrator to confirm the changes. 		
o the system asks the system Authinistrator to commit the changes.		

1 A user's account details have been updated.

7 The SystemAdministrator confirms the changes. 8 The system stores the updated account information.

Use case	DeleteUser	
Use case ID	UC25	
Actors	SystemAdministrator	
Preconditions		
1 The SystemAdministrator is logged on to the system.		
Flow of events		
1 The use case begins when the SystemAdministrator selects "Delete User". 2 The system displays a list of all users of the system 3 The SystemAdministrator selects a user. 4 The system asks the SystemAdministrator to confirm the deletion. 5 The SystemAdministrator confirms the deletion. 6 The system deletes the user's account.		
Postconditions		
1 A user's account has been deleted.		