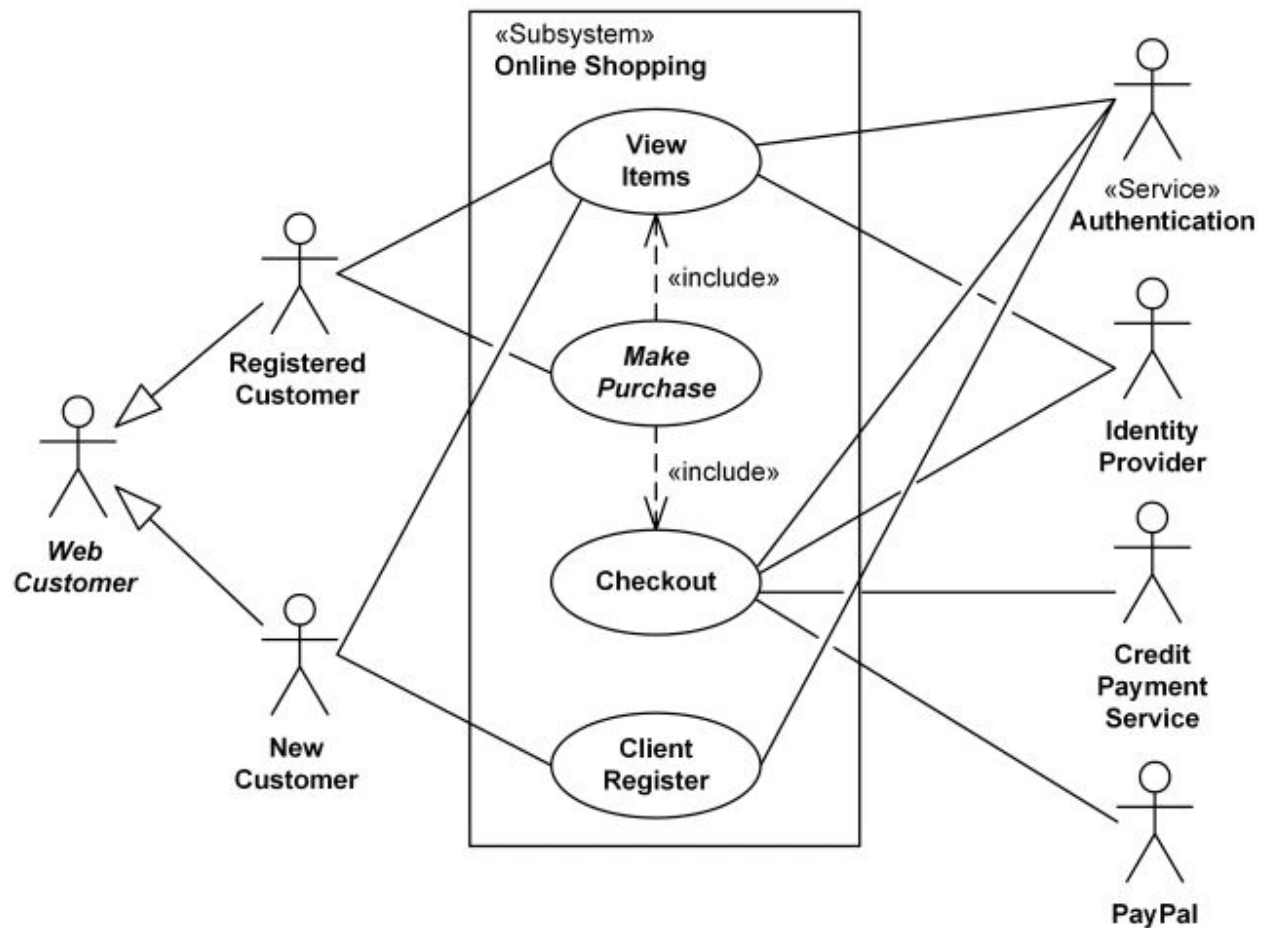


Online Shopping

UML Use Case Diagram Example

Web Customer [actor](#) uses some websites to make purchases online. Top level [use cases](#) are **View Items**, **Make Purchase** and **Client Register**. View Items use case could be used by customer as top level use case if customer only wants to find and see some products. This use case could also be used as a part of Make Purchase use case. Client Register use case allows customer to register on the web site, for example to get some coupons or be invited to private sales. Note, that **Checkout** use case is [included use case](#) not available by itself - checkout is part of making purchase.

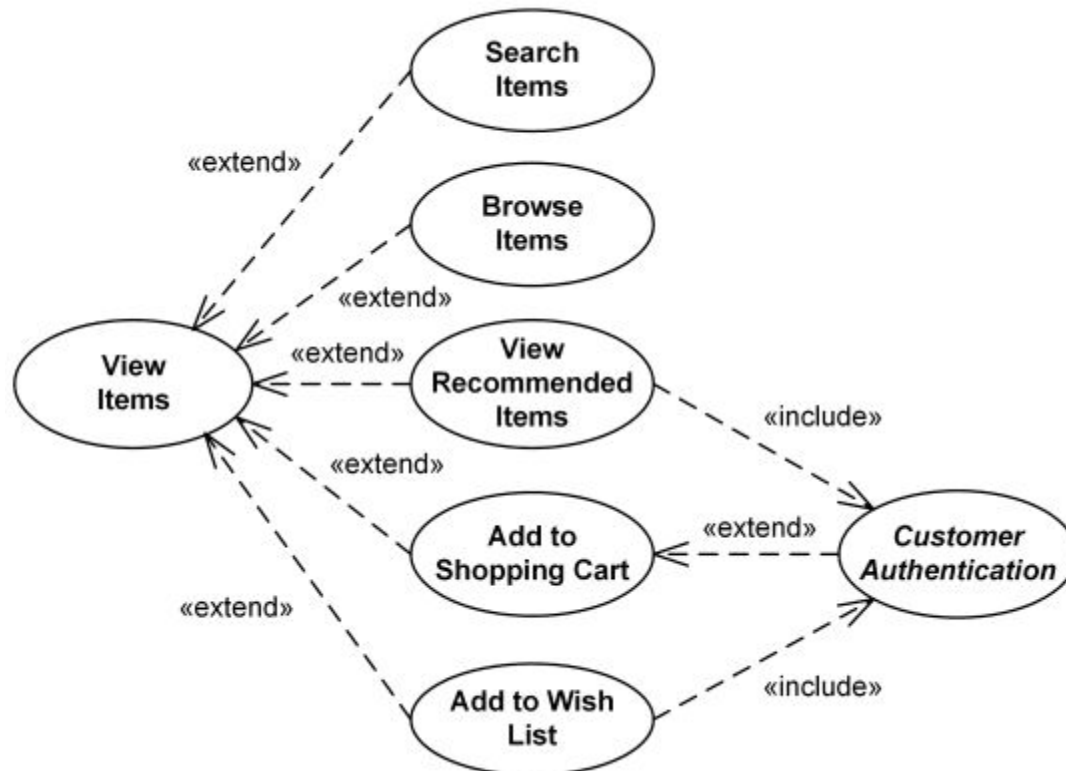
Except for the **Web Customer** actor there are several other actors which will be described below with detailed use cases.



Online shopping UML use case diagram example - top level use cases.

View Items use case is [extended](#) by several optional use cases - customer may search for items, browse catalog, view items recommended for him/her, add items to shopping cart or wish list. All these use cases are extending use cases because they provide some optional functions allowing customers to find items.

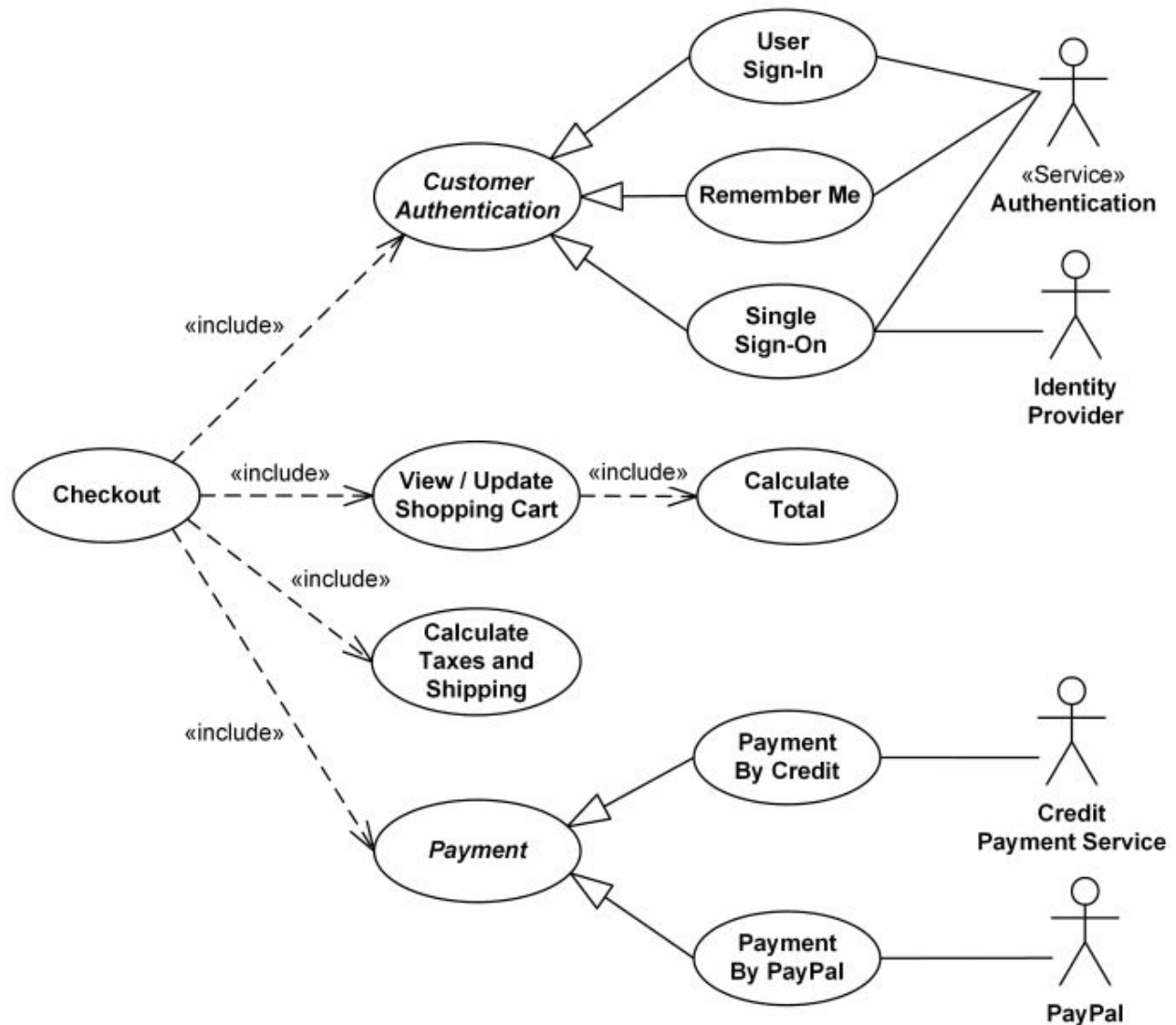
Customer Authentication use case is [included](#) in **View Recommended Items** and **Add to Wish List** because both require the customer to be authenticated. At the same time, items could be added to the shopping cart without user authentication.



Online shopping UML use case diagram example - view items use case.

Checkout use cases include several required uses cases. Web customers should be authenticated. It could be done through user login page, user authentication cookie ("Remember me") or Single Sign-On (SSO). Web site authentication service is used in all these use cases, while SSO also requires participation of external identity providers.

Checkout use case also includes **Payment** use case which could be done either by using credit card and external credit payment service or with PayPal.



Online shopping UML use case diagram example - checkout, authentication and payment use cases.

Online Shopping - Credit Cards Processing

UML Use Case Diagram Example

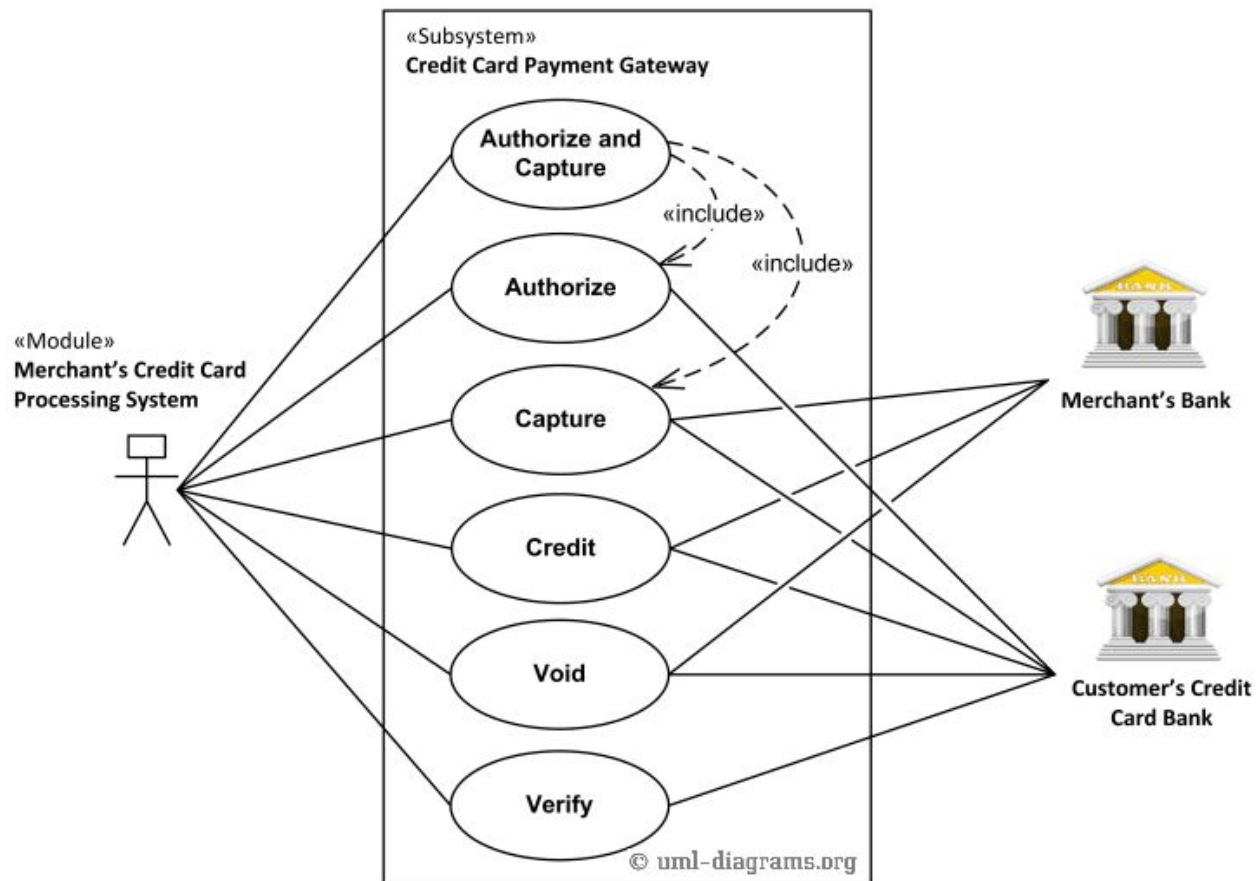
This UML use case diagram example shows some use cases for a system which processes credit cards.

Credit Card Processing System (aka Credit Card Payment Gateway) is a [subject](#), i.e. system under design or consideration. Primary [actor](#) for the system is a **Merchant's Credit Card Processing System**. The merchant submits some credit card transaction request to the credit card payment gateway on behalf of a customer. Bank which issued the customer's credit card is the actor which could approve or reject the transaction. If a transaction is approved, funds will be transferred to the merchant's bank account.

Authorize and Capture use case is the most common type of credit card transaction. The requested amount of money should be first authorized by **Customer's Credit Card Bank**, and if approved, is further submitted for settlement. During the settlement funds approved for the credit card transaction are deposited into the **Merchant's Bank** account.

In some cases, only **authorization** is requested and the transaction will not be sent for settlement. In this case, usually if no further action is taken within some number of days, the authorization expires. Merchants can submit this request if they want to verify the availability of funds on the customer's credit card, if the item is not currently in stock, or if the merchant wants to review orders before shipping.

Capture (request to capture funds that were previously authorized) use case describes several scenarios when a merchant needs to complete some previously authorized transaction - either submitted through the payment gateway or requested without using the system, e.g. using voice authorization.



UML use case diagram example for a credit card processing system.

Credit use cases describe situations when customers should receive a refund for a transaction that was either successfully processed and settled through the system or for some transaction that was not originally submitted through the payment gateway.

Void use case describes cases when it is needed to cancel one or several related transactions that were not yet settled. If possible, the transactions will not be sent for settlement. If the Void transaction fails, the original transaction is likely already settled.