

SER 415 Assignment: Use Case Development - Part 1

Below is a narrative describing a Pizza Delivery System:

As the information system head of "ACME Pizza Co." you are tasked with developing an online system for pizza ordering and delivery. The company would like to replace its traditional 'call and place the order' system. The new system will allow customers to order a pizza, select toppings and place the order. It is a human-in-the-loop system with a pizza analyst interacting closely with the system. The pizza analyst should be able to see all the orders, order details, assign delivery drivers and change the state of each order. Each change of state should update the customer. Following are the different states in this process: order received, order confirmed, pizza being cooked, pizza ready for delivery, delivery driver assigned, pizza on the way, order complete.

The customer can see only those toppings which are available to order. The pizza analyst can update the quantity of toppings available. For example, if the analyst updates the quantity as 100, it means that the topping would be available for 100 orders only. After a topping is empty, it should not be available to order.

Once the pizza is cooked the analyst should be able to assign drivers for delivery. There are limited drivers and the pizza analyst should make sure to assign drivers considering the existing orders. If the next delivery is in the same area, the delivery driver will pick up the next order as well. Orders once placed by the customer can be changed if the customer edits the order before the "order confirmed" state. Once the order is complete, a system generated invoice will be emailed to the customer.

Drivers should be able to access the online system to change the state and access the address and contact details of the customer. In addition, the pizza analyst will also send a daily summary report which includes total number of orders and total sales amount received to the owner of ACME Pizza Co.

Based on this narrative, perform the following activities:

- *Perform step 1 of the use case by analyzing the use case and identify actors within it. An actor is any entity outside the system that interacts with it in order to achieve a particular goal.*
- *Perform steps 2 & 3: create the use case catalog and the "bubble" (use case) diagram. For each use case you should identify a title and basic description (feel free to cut and paste from the above text).*

USE CASE STEP-BY-STEP PROCESS WORKSHEET

Step 1: Identify Actors

1) Customer

2) Pizza Analyst

3) Delivery Driver

Step 2: Identify Use Cases – Create the Use Case Catalog

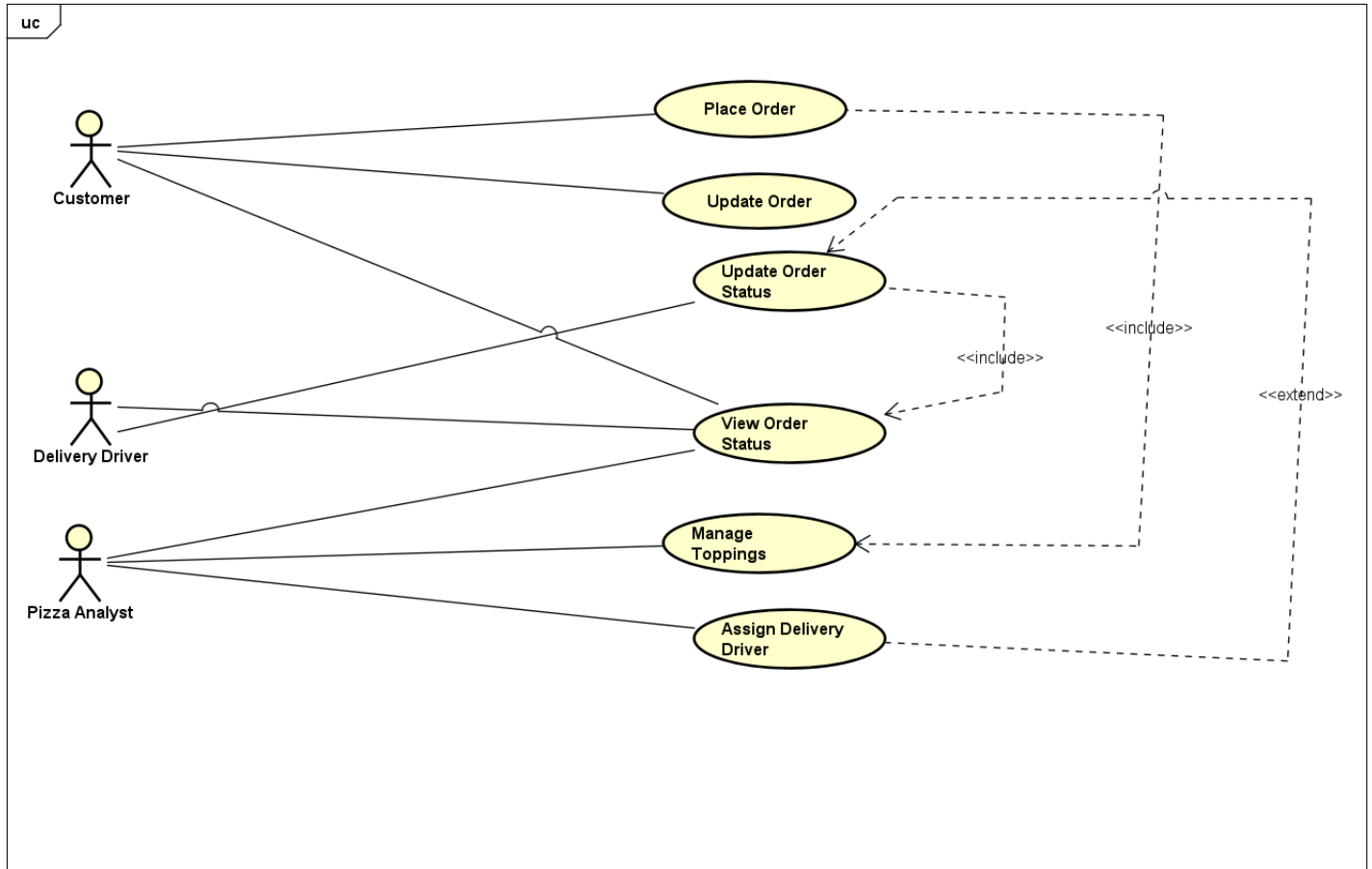
Use Case Name

Short Description

-
- 1) Place Order – The available toppings can be selected and then the order for a pizza can be placed through ACME Pizza’s online system.
 - 2) Update Order - Permits modification to toppings, size, or other order details.
 - 3) Update Order Status - Updates an order's status at each stage as they occur, including orders received, orders verified, pizza being prepared, and pizza on its way.
 - 4) View Order Status - An order's status is viewed for its development to be tracked or aided in the decision-making of the customers and employees.
 - 5) Manage Toppings - Keeping track of the pizza toppings' stock and modifying their availability according to stock levels. A topping is marked as unavailable to customers when it runs out.
 - 6) Assign Delivery Driver - When the pizza is ready, a delivery driver gets assigned to deliver the order. To improve the delivery process, this assignment takes into account the existing orders and their delivery locations.

Step 3: Identify Actor to Use Case relationships

Do this by pasting a use case diagram onto this page. Only (and all) actors from your list of actors in Step 1 should be in the diagram, and only (and all) use cases from Step 2 should be included as well.



Descriptions of the relationships –

- The "Place Order," "Update Order," and "View Order Status" Use Cases are connected to the customer. These associations show how the customer can place, manage, and view the status of their order.
- The "Manage Toppings," "Assign Delivery Driver," "Update Order Status," and "View Order Status" Use Cases are all connected to the Pizza Analyst. The Pizza Analyst manages the entire order process, making sure that drivers are assigned properly, toppings are accessible, and order statuses are updated.
- The "Update Order Status" and "View Order Status" Use Cases are linked to the delivery driver. As an order is delivered, the delivery driver refreshes the status and tracks the order data to ensure a successful delivery completion.
- "Update Order Status" includes "View Order Details" : Viewing an order's details is needed to be able to modify its status to make sure the Pizza Analyst or Delivery Driver has access to all the required information.
- "Place Order" includes "Manage Toppings": The Pizza Analyst controls the toppings, which are handled by the system. The system has to confirm that toppings are available when placing an order.
- "Assign Delivery Driver" extends "Update Order Status": Assigning a delivery driver is a step that extends the process of

updating the order status, specifically after the pizza has been finished for baking/cooking and is ready for delivery.