Example Use Case Scenarios

The following outlines four possible scenarios for the Make Reservation use case. A fifth scenario demonstrates one path through the Make Event Reservation use case.

New Reservation Use Case Scenario I: Room Available and Confirmed

The Customer calls the Receptionist at the Bay View Bed and Breakfast and states that she would like to make a reservation.

The Receptionist clicks on the “Make Reservation” button within the main screen on the Customer Management System’s user interface. A Reservation form is displayed. The Reservation form contains fields for the customer’s name, address, phone number, arrival date, departure date, requested room type, and reservation status of “New” The form also contains buttons titled “Enter Payment Information,” “Start Over,” and “Search.”

The Customer requests a double room from January 31, 2002 to February 5, 2002. This information is entered into the corresponding fields on the form and the Receptionist presses the “Search” button to search the Room Schedule to ensure that a room is available.

The system responds with two rooms fitting the Customer’s criteria.

The Receptionist reads the descriptions of both rooms, including their price, to the Customer. The Customer selects the first room. The Receptionist reserves the first room, which changes the status of the Reservation to “Held,” and asks for the Customer’s first and last name. The Receptionist enters the names and searches the database to see if the customer exists.

The system responds that the customer exists and populates the address and phone number fields in the form.

Finally, the Receptionist asks if the Customer wants to confirm the room with a credit card to ensure the check in process goes quickly. The Customer says “yes,” and provides the credit card type, number, and expiration date to the Receptionist. The Receptionist

enters the information by clicking on the “Enter Payment Information” button and filling out a “Form of Payment” form. The Receptionist also verifies that the Customer can pay for the room by invoking the credit card company’s credit card verification.

The credit card company informs the Receptionist that the Customer can pay for the room (has the credit). The Receptionist informs the Customer that the Reservation is “Confirmed” and changes the state of the Reservation from “Held” to “Confirmed.”

Finally, Receptionist saves the reservation and the Customer Management System generates a unique reservation number to track the Reservation. The Receptionist gives this reservation number to the Customer and thanks her for her business.

New Reservation Use Case Scenario II: No Room Available

The Customer calls the Receptionist at the Bay View Bed and Breakfast and states that he would like to make a reservation.

The Receptionist clicks on the “Make Reservation” button within the main screen on the Customer Management System’s user interface. A Reservation form is displayed. The Reservation form contains fields for the customer’s name, address, phone number, arrival date, departure date, requested room type, and reservation status of “Held.” The form also contains buttons titled “Enter Payment Information,” “Start Over,” and “Search.”

The Customer requests a double room from January 31, 2002 to February 5, 2002. This information is entered into the corresponding fields on the form and the Receptionist presses the “Search” button to search the Room Schedule to ensure that a room is available.

The Customer Management System responds that a room is not available. The Receptionist asks the Customer if he wants to select a different date or room type.

New Reservation Use Case Scenario III: Room Available, Cannot Confirm

The Customer calls the Receptionist at the Bay View Bed and Breakfast and states that she would like to make a reservation.

The Receptionist clicks on the “Make Reservation” button within the main screen on the Customer Management System’s user interface. A Reservation form is displayed. The Reservation form contains fields for the customer’s name, address, phone number, arrival date, departure date, requested room type, and reservation status of “New” The form also contains buttons titled “Enter Payment Information,” “Start Over,” and “Search.”

The Customer requests a double room from January 31, 2002 to February 5, 2002. This information is entered into the corresponding fields on the form and the Receptionist presses the “Search” button to search the Room Schedule to ensure that a room is available.

The system responds with two rooms fitting the Customer’s criteria.

The Receptionist reads the descriptions of both rooms, including their price, to the Customer. The Customer selects the first room. The Receptionist reserves the first room, which changes the status of the Reservation to “Held,” and asks for the Customer’s first and last name. The Receptionist enters the names and searches the database to see if the customer exists.

The system responds that the customer exists and populates the address and phone number fields in the form.

Finally, the Receptionist asks if the Customer wants to confirm the room with a credit card to ensure the check in process goes quickly. The Customer says “yes,” and provides the credit card type, number, and expiration date to the Receptionist. The Receptionist enters the information by clicking on the “Enter Payment Information” button and filling out a “Form of Payment” form. The Receptionist also verifies that the Customer can pay for the room by invoking the credit card company’s credit card verification.

The credit card company informs the Receptionist that the Customer cannot pay for the room (does not have the credit). The Receptionist informs the Customer that the Reservation cannot be “Confirmed” at this time and offers to try another credit card for the Customer. The Customer declines, but asks to have the Reservation Held for the holding period.

Finally, Receptionist saves the reservation and the Customer Management System generates a unique reservation number to track the Reservation. The Receptionist gives this reservation number to the Customer and thanks her for her business.

New Reservation Use Case Scenario IV: Room Available, Price Too High

The Customer calls the Receptionist at the Bay View Bed and Breakfast and states that he would like to make a reservation.

The Receptionist clicks on the “Make Reservation” button within the main screen on the Customer Management System’s user interface. A Reservation form is displayed. The Reservation form contains fields for the customer’s name, address, phone number, arrival date, departure date, requested room type, and reservation status of “Held.” The form also contains buttons titled “Enter Payment Information,” “Start Over,” and “Search.”

The Customer requests a double room from January 31, 2002 to February 5, 2002. This information is entered into the corresponding fields on the form and the Receptionist presses the “Search” button to search the Room Schedule to ensure that a room is available.

The system responds with two rooms fitting the Customer’s criteria.

The Receptionist reads the descriptions of both rooms, including their price, to the Customer. The Customer rejects the room stating the price was too much for their budget.

New Reservation Use Case Scenario II: Rooms and Conference Room Available and Confirmed

The Customer calls the Booking Agent for the Executive retreat and states that she would like to reserve a conference room and a block of rooms for a 3 day conference.

The Booking Agent tells the customer that their Event Coordinator handles conferences and transfers the call to the Event Coordinator.

The Customer restates that she would like to reserve a conference room and a block of rooms for a 3 day conference. The Event Coordinator said that there is a current promotion of 15% off room rates with 10 or more rooms.

The Event Coordinator clicks on the “Make Event Reservation” button within the main screen on the Customer Management System’s user interface. An Event Reservation form is displayed. The Event Reservation form contains fields for the customer’s name, company name, address, phone number, event name, event duration, event month, number of attendees, number of requested rooms, room type, and discount. The form also contains buttons titled “Enter Payment Information,” “Start Over,” and “Search.”

The Event Coordinator asks the Customer for the name of the conference, the number of attendees per day, and the number of rooms that the Customer would like to have held.

The Customer tells the Event Coordinator that it is a three day conference on advertising for small business owners. She also states that there will be approximately 100 people attending, but only a small number of attendees (20) will be staying at the retreat. Finally, she would like to hold the conference “sometime in June.”

The Event Coordinator enters this information into the corresponding fields on the form and presses the “Search” button. The system searches the Room Schedule to determine when a conference room and 20 individual rooms are available.

The system responds with twenty rooms and a conference room that fit the Customer’s criteria for the weekend of June 21st and 28th.

The Event Coordinator reads the discounted price per room, a description of the conference Room, and a cost to rent the conference room to the Customer.

The Customer holds the rooms and conference room for the weekend of June 21st.

The Event Coordinator also asks if the customer would like to arrange catering and presents the Customer with several menu choices.

The Customer decides to have catering for each of the three days and is given an amount per-person per day.

The Event Coordinator tells the Customer that they must provide a 50% deposit to reserve the conference room, catering, and block of rooms and asks if they would like to use credit card to do this or a check.

The Customer says they will confirm with a credit card and provides the credit card type, number, and expiration date to the Receptionist. The Receptionist enters the information by clicking on the “Enter Payment Information” button and filling out a “Form of Payment” form. The Receptionist also accepts 50% payment by calling the credit card company’s credit card verification.

The credit card company informs the Receptionist that the Customer can pay for the conference. The Receptionist informs the Customer that the Reservation for the conference is “Confirmed” and changes the state of the Reservation from “Held” to “Confirmed.”

Finally, Receptionist saves the reservation and the Customer Management System generates a unique reservation number to track the Reservation. The Receptionist gives this reservation number to the Customer and thanks her for her business.

Use Case Specification

Some notes about use case specifications (forms):

The practical object-oriented analysis and design book discusses how to handle simple use cases (simple meaning that there isn't a lot of alternate flows or branching) and complex use cases.

For simple use cases, the book suggests using a form similar to this:

***Use Case #/ID and Name**	**UC1: Make Reservation**
Description	Use case for making a reservation at the Bay View Bed and Breakfast.
*Actor(s)	Primary: Receptionist Secondary: Customer, Manager
Priority	High / Medium / Low (circle one)
Risk	High / Medium / Low (circle one)
Extension Points	
Extends	
Frequency	
Includes	
Included by	
* Pre-conditions / Assumptions	1. The reservation system is running 2. The main reservation system screen is displayed
Trigger	The Customer calls the Receptionist at the Bay View Bed and Breakfast and states that she would like to make a reservation.
* Flow of Events	
Alternative Flow	1. At any time the Customer may leave the system
*Post-conditions	1. The main reservation system screen is displayed 2. A reservation confirmation letter is mailed to the Customer

***Use Case #/ID and Name**	**UC1: Make Reservation**
Non-functional requirements that must be met by use case	From SRS: E1-102 *E1-105 (scalability) *E1-108 (reliability)

The Trigger can be called out separately or can just be the first item in the Flow of events. The Flow of events lists the steps of the use case. You can use branching such as “if” and “if/else” to indicate a branch. If the branching is a bit more complex, you use the “alternative flows” field. For example, if something can happen at any point in time, alternative flows can be used to document this (see field in above form). The book also goes on to show how to use For and While in the flow of events.

The book does not use the following fields for practicality sake, should we? I suggest keeping description, priority, and risk, but dropping the rest. I just put asterisks in the form next to the required (important) fields - the others are optional.

Description
Priority
Risk
Extension Points
Extends
Frequency
Includes
Included by

However, if we are documenting different scenarios (for a complex use case like Make Reservation) using use case forms, the book suggests using primary/secondary scenarios. See the below forms.

Following is a use case specification (use case form) for the Make Reservation use case.

***Use Case #/ID and Name**	**UC1: Make Reservation**
Description	Use case for making a reservation at the Bay View Bed and Breakfast.
*Actor(s)	Primary: Receptionist Secondary: Customer, Manager
Priority	High / Medium / Low (circle one)
Risk	High / Medium / Low (circle one)
Extension Points	
Extends	
Frequency	
Includes	
Included by	
* Pre-conditions / Assumptions	1. The reservation system is running 2. The main reservation system screen is displayed
Trigger	The Customer calls the Receptionist at the Bay View Bed and Breakfast and states that she would like to make a reservation.

***Use Case #/ID and Name**	**UC1: Make Reservation**
* Primary Scenario Flow of Events	1. The Customer calls the Receptionist at the Bay View Bed and Breakfast and states that she would like to make a reservation. 2. The Receptionist selects “Make Reservation.” 2.1 A Reservation form is displayed. 2.2 The system searches for a list of properties. 2.3 The system generates and displays a list of properties with “Bay View Bed and Breakfast” as the default. 3. The Receptionist enters search criteria. 3.1 The Receptionist enters arrival date and departure date. 3.2 The Receptionist enters type of room. 4. The Receptionist presses the “Search” button to search the Room Schedule for available rooms. 5. The system searches a database for rooms, of the specific room type, that are available during the date range (arrival date to departure date). 7. The system generates and displays a list of available rooms. 8. The Receptionist selects a room. 9. The system creates a reservation 10. The system changes the status of the reservation from “Available” to “Held” 11. The Receptionist enters the Customer’s first and last name 12. The Receptionist presses the “Search” button to search the database for the customer. 13. If a customer match is not found then 13.1 The Receptionist enters the customer’s address in the Reservation form. 13.2 The Receptionist enters the customer’s phone number in the Reservation form. 13.3 The Receptionist presses the “Add New Customer” button to add the customer to the database. 13.4. The system adds the customer to the database (continue on step 15). 14. Else 14.1 The system generates and displays a list of possible customers 14.2 The Receptionist selects the correct customer 14.3 The system populates the address and phone number fields in the Reservation form 15. The Receptionist clicks on “Enter Payment Information” to confirm payment. 16.1 The system displays a Payment form 16. The Receptionist enters credit card type, number, and expiration date in the Payment form 17. The Receptionist presses “Confirm” to confirm that the Customer has good credit. 18. The system verifies credit with the credit card company 19. The system changes the Reservation status from “Held” to “Confirmed” indicating valid credit 20. The Receptionist presses “Save” to save the reservation 15.1 The system adds the reservation to the database 21. The Customer Management System generates a unique reservation confirmation number 22. The Receptionist presses “Done” to return to the main reservation system screen
*Post-conditions	1. The main reservation system screen is displayed 2. A reservation confirmation letter is mailed to the Customer
*Secondary Scenarios	RoomNotFound CustomerNotFound InvalidCredit

***Use Case #/ID and Name**	**UC1: Make Reservation**
Non-functional requirements that must be met by use case	From SRS: E1-102 *E1-105 (scalability) *E1-108 (reliability)

Using this method, I do one form for the “happy day” or “perfect world” scenario where everything in make reservation goes as expected: a room meeting the criteria is found, the customer is already in the DB, and the credit card validates just fine (this is the form above). There is exactly 1 primary scenario per use case.

Then, I do separate forms for secondary scenarios: 1 for RoomNotFound, 1 and 1 for InvalidCredit. You should only document the most important secondary scenarios, so I made the decision not to document PriceTooHigh which is really just an alternative flow - Receptionist can back out of system at any point.

***Use Case #/ID and Name**	**UC1: Make Reservation** **Secondary Scenario: RoomNotFound**
*Actor(s)	Primary: Receptionist Secondary: Customer, Manager
* Secondary Scenario	1. The use case begins in step4 of the use case Make Reservation when the Receptionist presses the “Search” button to search the Room Schedule for available rooms. 2. If a room is not found: 2.1 The Receptionist enters new search criteria. 2.1.1 The Receptionist enters arrival date and departure date. 2.1.2 The Receptionist enters type of room. 3. (resume on step 5)
Alternative Flow	1. The Customer can decide not to make a reservation if a room is not available.

***Use Case #/ID and Name**	**UC1: Make Reservation** **Secondary Scenario: InvalidCredit**
*Actor(s)	Primary: Receptionist Secondary: Customer, Manager
* Secondary Scenario	1. The use case begins in step 18 of the use case Make Reservation when the Receptionist presses “Confirm” to confirm that the Customer has good credit. 2. If the customer’s credit card is invalid: 2.1 The Receptionist enters credit card information for another credit card. 3. (resume on step 18)
Alternative Flow	1. The Customer may not have another credit card so the reservation status remains as “Held.” (resume on step 21).