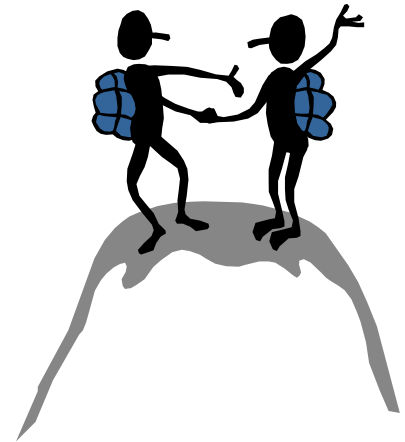


Saving Your Project with Use Cases !

Succeeding with Use Cases



Presented by:

William F. Nazzaro, Nazzaro & Associates / Gary K. Evans, Evanetics

Presentation Outline

- Who Are We?
- Case Study: Background
- Two of the Four Use Case Savers
 - *Use Cases Have Goals.*
 - *People and Skillsets.*
 - *Use Case Description Process.*
 - *How to Avoid Getting Stuck!*

Who Are We?

Gary K. Evans is an independent agile process consultant, and object technology mentor for Evanetics in Columbia, SC. He provides OO and process consulting, training services, and coaches teams in agile development techniques. He is a Contributing Editor with *Software Development* magazine, and is a judge for the acclaimed Jolt Awards.

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William F. Nazzaro is an independent RUP process and object technology consultant for Nazzaro & Associates located in Philadelphia, PA. He provides his clients with consulting, project management & oversight, off-shore development guidance & selection, process adoption & tailoring, mentoring, education delivery & curriculum development, and project execution for J2EE / .NET software development projects.

Website:

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Before we start...

Case Study: North Star Inn

Case Study: North Star Inn's Background - 1

A Little History

North Star Inn is located one hour north of San Francisco just outside the town of Healdsburg, the heart of California's premium wine country. Around the bend from the Russian River and a short drive to the coast you'll find a setting to the perfect hideaway. Your visit to Sonoma County can include bicycling, kayaking, fishing, canoeing, a visit to the redwoods, tennis, golf and of course wine tasting.

North Star Inn's hilltop setting is on twenty-five acres and looks out on rolling hills. The farmhouse, a single story Italianate built around 1873, is the residence of the innkeepers, MaryJo and Bob Hatala. You are invited to share the warmth of the state of the art country kitchen each morning between 7:00 a.m. and 9:00 a.m. for a bountiful ever-changing breakfast.

Our 24 fresh white cottages provide a lovely retreat. Sun-dried sheets, robes for your use and fresh flowers enhance your country stay. For your comfort and convenience all units have individual heat, a/c, ceiling fans, refrigerators and hair dryers.

Bedrooms

Guests may choose from 4 different types of quaint Inn bedrooms. All have views facing the lake, garden, or both.

The Caretaker's Suite ~ A majestic room boasting a king size canopy bed, sitting area with Franklin fireplace and private bath with whirlpool tub for two and shower. Trellised entry-deck with view.

The Terrace Room ~ This gracious room has a king size bed, fireplace and private bath with shower. The whirlpool tub for two views across the valley and terrace.

The Atelier ~ Our large and sunny studio has high vaulted ceiling, queen size canopy bed, sitting area with Vermont Castings fireplace and private bath with standard whirlpool tub and shower.

The Morning Hill Room ~ The French door entry leads to a queen size bed, Vermont Castings fireplace, large window with view and private bath with shower/steam unit.

Case Study: North Star Inn's Background - 2

Reservations Information

Guests are welcome to check in between 4 PM and 7 PM. Check out time is 11 AM.

Reservations are secured by deposit of one night's rate, and can be made via Visa or MasterCard. Two-night minimum stay is required for weekends. Major holidays require a three-night stay with a non-refundable deposit.

Cancellations made by guests are subject to a \$20.00 fee and the balance of the deposit will be refunded (excluding major holidays). All guests that do not check in by 7 PM and have not cancelled their reservation will forfeit their reservation and their deposit will not be refunded.

Rates are double occupancy only, local taxes are not included.

"Last But Not Least..."

Our woodburning fireplaces are in use from approximately November 1 through April 30 each year. Dates of use vary from season to season in compliance with local fire ordinances and Mother Nature.

We are pleased to announce that all rooms are non-smoking.

Inquire regarding personalized chauffeured backroad and winery tours.

Case Study: North Star Inn's Requirements

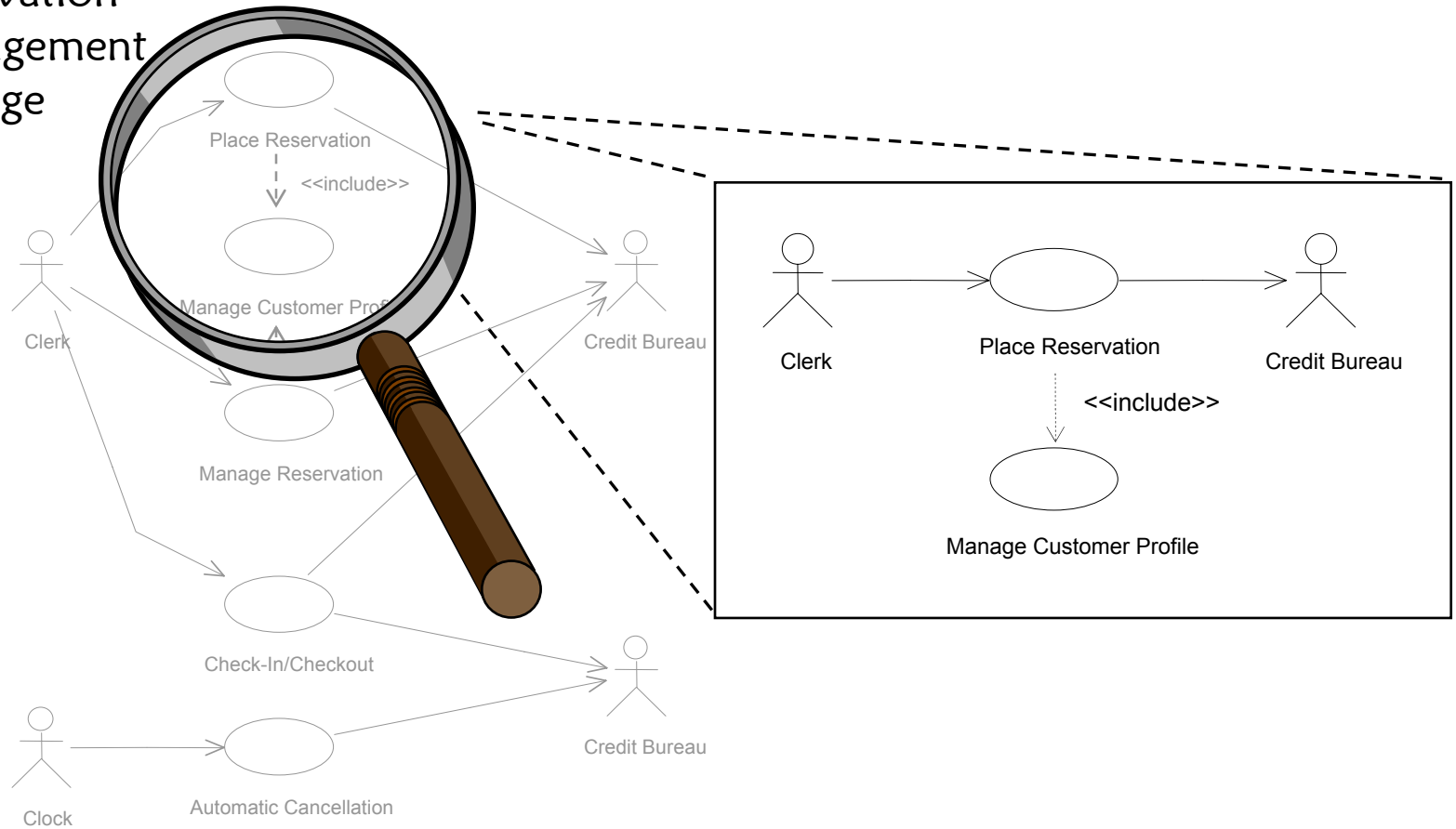
North Star Inn has awarded development of the Reservations System to your consulting firm. The innkeepers have provided a set of requirements that are mandatory and must be included in the Reservations System.

1. The system shall provide a clerk with the ability to establish a customer's reservation. A reservation shall be for a specific bedroom and a specific time frame (reservations may be taken up to one year in advance). When establishing the reservation the system must be able to calculate the estimated bedroom price. This includes applying any valid discounts (e.g., AARP, Senior Citizen, and AAA). A reservation can only have one discount applied at any given time.
2. The system shall provide the clerk with the ability to modify an existing reservation. The clerk will be allowed to change the bedroom assignment, the customer's arrival date, and the customer's departure date. When modifying a reservation the system must be able to re-calculate the estimated bedroom price. This includes applying any valid discounts (e.g., AARP, Senior Citizen, and AAA).
3. The system shall provide the clerk with the ability to cancel an existing reservation. The system shall calculate the cancellation fee and determine any potential deposit return.
4. The system shall be able to provide the clerk with the following bedroom information on demand:
 - 4.1. Bedroom availability
 - 4.2. Bedroom description (e.g., Caretaker Room, Terrace Room, Atelier, Morning Hill)
 - 4.3. Bedroom features (e.g., type of bed, view)
 - 4.4. Bedroom price
 - 4.5. Bathroom features (e.g., whirlpool tub for two, steam unit)
5. The system shall provide the clerk with the ability to create a customer's reservation by reservation number, customer name, or check-in date.
6. The system shall be able to provide the clerk with the ability to create a future reservation. This reservation should include the application of any valid discounts (e.g., AARP, Senior Citizen, and AAA).
7. The system shall be able to provide a list of all reservations (past and/or future) for a customer.
8. The system shall allow the clerk to check-in or check-out customer's, as well as produce a customer's bill.
9. The system shall be able to store information about the customer's arrival and departure dates, the bedroom reserved, deposit taken, number of guests staying in the bedroom, and any discounts given.
10. The system shall be able to provide a list of available bedrooms. Available bedrooms are defined as bedrooms that can be reserved or bedrooms that are ready to be occupied.
11. The system shall be able to provide a list of all bedrooms.

- The system shall provide a clerk with the ability to establish a customer's reservation. A reservation shall be for a specific bedroom and a specific time frame (reservations may be taken up to one year in advance). When establishing the reservation the system must be able to calculate the estimated bedroom price. This includes applying any valid discounts (e.g., AARP, Senior Citizen, and AAA). A reservation can only have one discount applied at any given time.

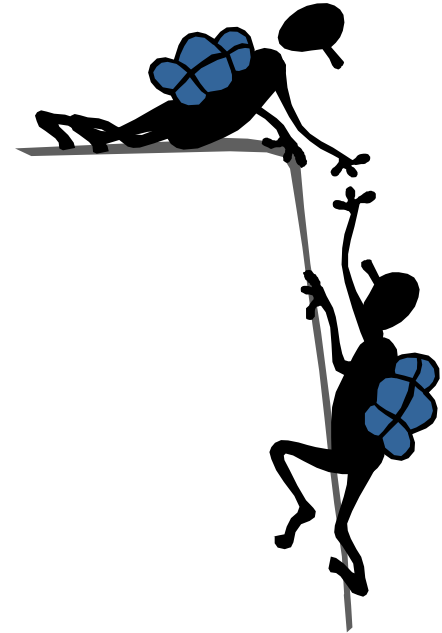
Case Study: North Star Inn's Use Case Diagram

Reservation Management Package



The Right Stuff

- ➔ Use Cases Have Goals.
- ➔ People and Skillsets.
- Use Case Description Process.
- How to Avoid Getting Stuck!



Our full presentation discusses all four items that are key to being successful. Please contact us to learn more about our Use Case Courses and Workshops and how we can transform your team into use case modeling and requirements experts.

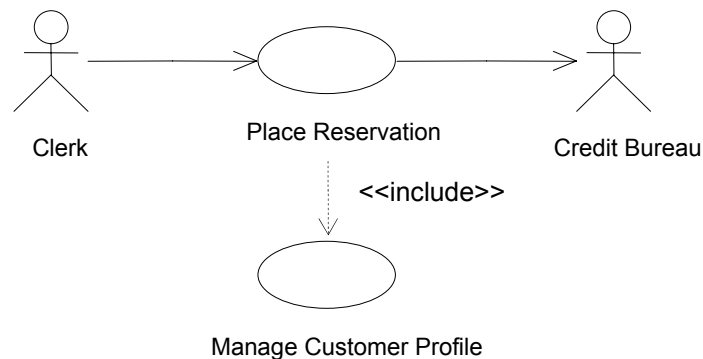
bill@williamnazzaro.com / (610) 831-1151 or
gkevans@evanetics.com / (803) 781-1308

Use Cases Have Goals

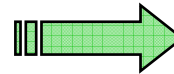
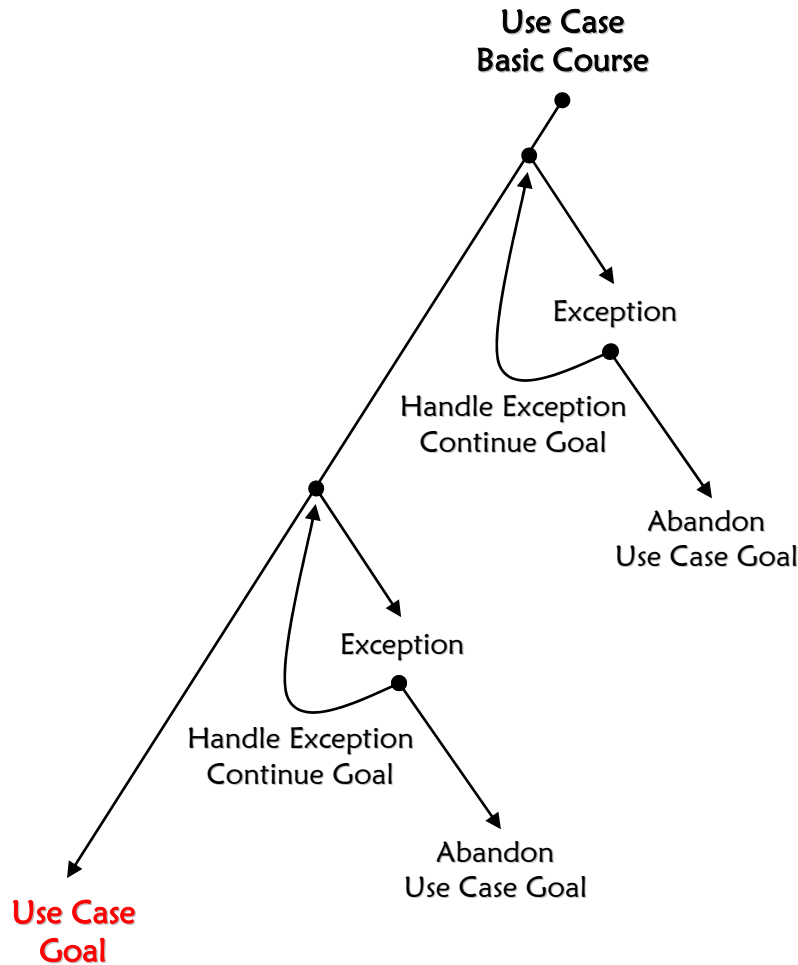
- What is a use case goal?
 - *Simply put, it states the use case's purpose or reason for existing*
 - *It should be easy to state because a use case exists to yield a result that's of some observable/measurable value to the end-users*
 - *The use case's goal articulates this "observable/measurable value"*
- The following questions arise when the goal has been overlooked:
 - *What is my use case supposed to do?*
 - *How do I know when I'm done?*
 - *How do I know my use case has reached the end?*
 - *What are appropriate exceptions?*
- Who defines the use case's goal?
 - *The analyst in conjunction with the subject matter expert (SME)*
- Once the goal is defined, document it in the use case abstract

Use Cases Have Goals: Case Study Example

- *Place Reservation* use case has been identified for North Star Inn
 - *Its goal ~ Place a reservation for a North Star Inn customer*
 - *Its abstract ~ This use case documents the process a clerk must go through to establish a customer's new reservation for a specific bedroom on a given set of dates.*
- *Place Reservation's* view of the use case diagram:



Use Cases Have Goals: Use Case Framework



**Use Case Model:
Use Case Description**

Use Case 002: Place Order

Project: Mail Order Mgmt
Use Case Name: Place Order
Use Case Number: 002
Use Case Author: William F. Nazzaro

External Agents: Clerk

Abstract:
This use case documents the process an external agent must go through to enter a customer's order into the system.

Pre Conditions:
External agent is logged onto the system and has permission to perform this function.

Use Case:
Initialization:
This use case starts when the external agent indicates that they want to place a customer's order into the system.

Process:
An order entry screen is displayed to the external agent. The external agent needs to determine if the customer already exists. A search is executed on a "Customer Inquiry" screen.
If the customer exists then the customer's information will be provided to the "Order Entry" screen. If multiple customers exist for the information provided the external agent will have to select the customer from the list provided by the system.
The external agent then enters the items that the customer wants to purchase. The system executes the request.
When no other items are being ordered the external agent enters the method of payment for the order and the system generates an order confirmation number.

Termination:
This use case terminates when the external agent indicates that no other items are being ordered or no other orders are being entered for this customer.

Exceptions:
Item is out of stock: This occurs if there has been a temporary stock outage.

Post Condition(s):
The system has generated an order for the customer and a "Fill Order" notification was sent to the warehouse.

Use Case Framework: Exceptions

- What is an exception?
 - *Any event causing a deviation from the use case's basic course or "happy path".*
- When an exception occurs it is either:
 - Recoverable ~ *The exception will describe what actions need to be taken by the system or actor to cause recovery and then the use case continues with its goal.*
 - Non-recoverable ~ *The exception may describe what actions need to be taken by the system or actor and then the use case abandons its goal and the use case ends.*

Use Case Framework: Case Study Example

- Let's consider the *Place Reservation* use case
- Exception # 1 (Recoverable)

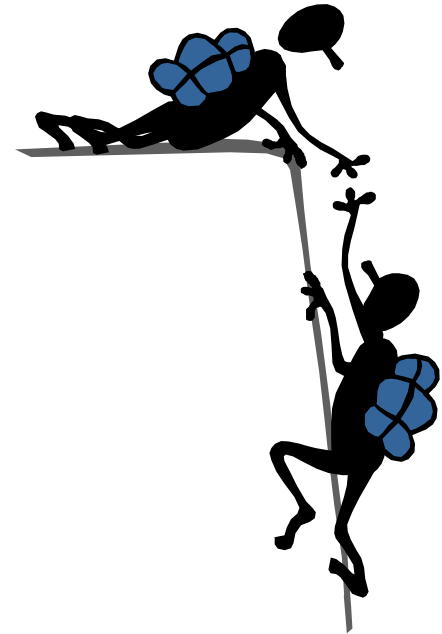
Discount Does Not Apply: This occurs if a selected discount program does not apply to a particular customer. For example, senior citizen discount selected, but the person is not a senior citizen. The selected discount program will be disallowed and the actor has the option to select another discount program and the use case will continue.

- Exception # 2 (Non-recoverable)

Bedroom Unavailable: This occurs if there is no bedroom available for the customer's bedroom type and arrival/departure date. The bedroom can be unavailable for a number of reasons (e.g., room reserved, unclean, or maintenance) the actor has the option to view the bedroom's details to determine if a modification to the customer's arrival date or departure date would make the bedroom available. The actor can also modify the bedroom type to see if a different bedroom is available. If the exception cannot be resolved the system will present the actor with other Inns in the area so the actor can try to aid the customer and the use case will end.

The Right Stuff

- Use Cases Have Goals.
- People and Skillsets.
- Use Case Description Process.
- How to Avoid Getting Stuck!



People and Skillsets

- The 3 most likely roles to develop use cases:
 - *Developers*
 - *Subject Matter Experts (SMEs)*
 - *Analysts*
- Who should develop the use cases?
- Why is a given role appropriate / inappropriate?



People and Skillsets

- Developers
 - *Usually the first choice, because they are available.*
 - *Almost always the wrong choice for writing use cases.*
 - *Focus on technical implementation rather than business understanding. Use cases are not technical documents.*
- SMEs
 - *Provide raw material for the use case description.*
 - *Must understand the business “as-is”.*
 - *Responsible for the vision of the system “to-be”.*
 - *Often do not see the reason for use cases:*
 - » *“It’s obvious to everyone how we do business.”*
 - *Too often, 5 SMEs will give 5 different answers on the business.*



People and Skillsets

- Analysts
 - *Facilitate the use case development and mentor the SMEs.*
 - *Must know*
 - » *How to ask the right questions to elicit feedback from the SMEs.*
 - » *How to obtain consensus when SMEs disagree.*
 - » *How—and when—to listen.*
 - *Must*
 - » *Have high tolerance for incompleteness.*
 - » *Be able to think abstractly.*
 - » *Understand the goals and process of use case development.*
- SMEs have a focused role: provide business knowledge and vision
- Analyst's role is to ask the right questions and mold the SMEs answers into a use case description.

It is the analysts who analyze and write the use cases—period!

People and Skillsets

Don't let SMEs write the use cases!

- Why not?
 - *Because everything is obvious or intuitive to them!*
 - *To them, documenting the obvious is a waste of time.*
- The Truth: Nothing is obvious or intuitive.
- A SME may say: “...if the member is eligible for medical benefits...”
- Analyst must explore this
 - *“What defines eligibility?”*
 - *“What is a medical benefit?”*
 - *“Do we all agree on what a member is?”*
- The analyst must lead the discovery and document the results.

People and Skillsets

Don't let Developers write the use cases!

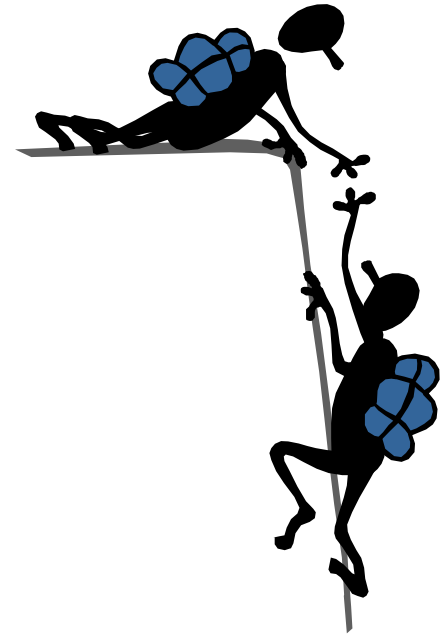
- Why not?
 - *Because they are usually very linear thinkers.*
 - *A linear thinker*
 - » *One who starts at point A, and proceeds one by one through intermediate steps to arrive at point Z.*
 - » *Cannot comfortably jump around within the use case process.*
 - *Developers gravitate to “how” the system works and have trouble limiting their view to “what” the system does.*
- A use case:
 - *Is closer in style to writing a short story than writing a technical specification or a program.*
 - *Grows in fits and starts, almost organically until it realizes its goal.*

People and Skillsets

- In use case development our total focus is on what work the system must do for the user, not how the work will be done.
- Have you seen the stereograms, or “hidden pictures”?
 - *No matter how long someone tells them the secret, some people just cannot see the hidden picture and some never will.*
- That's the way it is with linear thinkers:
 - *Some will just never be able to think abstractly, and will never be able to produce useful use cases.*
- The bottom line:
 - *Choose your use case writers very, very wisely.*
 - *They are not technical documents, so why would you have left-brain, linear thinking persons writing them?*

The Right Stuff

- ☑ Use Cases Have Goals.
- ☑ People and Skillsets.
- ☐ Use Case Description Process?
- ☐ How to Avoid Getting Stuck!



Thank You!

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For More Information

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