



Project Description

Benefits

- What will you gain over status quo?
- For example:
 - People use web-ordering because they are too busy
 - We will obtain customer profiles that can analyzed and sold for profit

7 01 - Project Description 11/26/2007

Project Description

Risk Factors

- These are the reason information systems fail
- For example:
 - Will users refuse to accept the new technology?
 - Can the system handle the volume expected?
 - Do we have the people to build it?

8 01 - Project Description 11/26/2007

Actors

- It is best to incorporate the use case model
- This means identifying actors and use cases
- An actor is an outside entity while a use case is an inside entity
- Thus the first step is understanding this model

9 01 - Project Description 11/26/2007

Actors

- Actors are anything that interfaces with the system
- Mostly they are people playing different roles
- For example:
 - employee, customer, manager, clerk
- Sometimes people play more than one role

10 01 - Project Description 11/26/2007

Actors

- They also can be:
 - companies
 - other computer systems
 - clocks
- There are two ways of identifying clocks
 - treat it as an actor
 - treat it as part of the use case because all computers have system clocks – instructors favorite

11 01 - Project Description 11/26/2007

Actors

To find actors:

- Who uses the system ?
- Who starts it up ?
- Who shuts it down ?
- Who gets information from the system ?
- Who provides data to the system ?
- What happens at preset times ?

12 01 - Project Description 11/26/2007

Actors

- Actors are classes not instances
- Thus one does not model a particular person or company but a class or group of people or companies
- For example:
 - Shipping Company, not UPS, USPS, DHL, or FedEx
 - Employee, not Bill, Sally, Dat, or Thuy

13 01 - Project Description 11/26/2007

Use Cases

Use Cases

- The system is divided into potential computer systems that provide a function
- Each use case interfaces with one or more actors
- Each use case is single purpose
- The name should adequately tell what processing is occurring

14 01 - Project Description 11/26/2007

Use Cases

- The big problem is deciding if an entity is a use case or an actor
- This is called a boundary problem
- The problem is some actors do more than transmit or receive information
- They make decisions or do computations
- If this is the case this entity becomes a use case

15 01 - Project Description 11/26/2007

Use Cases

16 01 - Project Description 11/26/2007

2. Discerning Use Cases

- Problem in discerning use cases
- Using event analysis to discern a use case
- Example using event analysis

17 04 Discerning Use Cases 11/26/2007

Problem in Discerning Use Cases

- How does one find a use case ?
- How does one know they have a proper use case ?
- How does find use cases quickly ?

18 01 - Project Description 11/26/2007

Problem in Discerning Use Cases

- Definition
- Discern
 - To separate
 - To perceive
 - Recognize clearly
 - Having good judgment
 - Astute

19

01 - Project Description

11/26/2007

Problem in Discerning Use Cases

- How does one know that they have a good use case ?
- Two criteria exist:
 - The use case must be complete
 - The use case must deliver something of value to an actor or to the system

20

01 - Project Description

11/26/2007

Problem in Discerning Use Cases

- A complete use case means
 - At rest
 - Done
 - Some end value has been produced
 - Several communications may be necessary to complete a use case
 - A common mistake is to decompose a use case into smaller use cases each having only one communication with an actor

21

01 - Project Description

11/26/2007

Problem in Discerning Use Cases

- Deliver something of value means
 - A tangible result reached the actor
 - Something tangible was saved in the system
 - The tangible deliverable does not have to be salient
 - The tangible deliverable does have to exist afterwards either in the
 - actors possession
 - System storage
 - The tangible deliverable does have to be discernable

22

01 - Project Description

11/26/2007

Using Event Analysis to Discern a Use Case

- Definition
- Event
 - Occurrence
 - Outcome
 - Important
 - Memorable
 - Incident
 - Specific time
 - Initiates

23

01 - Project Description

11/26/2007

Using Event Analysis to Discern a Use Case

- Events can be classified
- External – An event that occurs outside the system boundary
- Internal – An event that occurs inside the system boundary
- Temporal – An event that occurs a a specific time

24

01 - Project Description

11/26/2007

Using Event Analysis to Discern a Use Case

- Events can be classified
- External event
 - Occurs outside the system
 - Generated by an actor
 - Of interest to the system
- External event is not
 - System input
 - System output
 - An action by the system

25 01 - Project Description 11/26/2007

Using Event Analysis to Discern a Use Case

- External event examples
 - Customer makes a withdrawal from a bank account
 - Passenger makes an airline reservation
 - Customer drops off film for development
 - Student drops a class they have signed up for

26 01 - Project Description 11/26/2007

Using Event Analysis to Discern a Use Case

- Events can be classified
- Internal event
 - Occurs inside the system
 - Not initiated by an actor
 - May have system inputs or outputs
- For example an inventory system notes that the quantity on hand is low and triggers an order for more products

27 01 - Project Description 11/26/2007

Using Event Analysis to Discern a Use Case

- Events can be classified
- Temporal event
 - Occurs when the clock reaches a certain time
 - Occurs when the calendar reaches a certain date
 - There is no system input
 - There may system outputs
 - An action by the system

28 01 - Project Description 11/26/2007

Using Event Analysis to Discern a Use Case

- Temporal event event examples
 - Time to produce bank statements
 - Time to cancel reservations not confirmed
 - Time to produce class rosters for instructors
 - Time to notify customers that they have not picked up their pictures
 - Time to run the weekly payroll

29 01 - Project Description 11/26/2007

Using Event Analysis to Discern a Use Case

- First one must list the events
- Second one must must analyze the events
- Third one must convert them to use cases

30 01 - Project Description 11/26/2007

Example using event analysis

- First one must list the events
- In a film processor operation they might be
 1. Customer drops off film order
 2. Customer check film order status
 3. Customer picks up film order
 4. Customer returns film order
 5. Employee notifies system of film order status
 6. Time to notify customer that film order has not been picked up

31 01 - Project Description 11/26/2007

Example using event analysis

- Second one must must identify the initiator of the external events (analyze events)
 1. Initiator - customer
 2. Initiator - customer
 3. Initiator- customer
 4. Initiator - customer
 5. Initiator - employee
 6. Initiator - none (temporal event)

32 01 - Project Description 11/26/2007

Example using event analysis

- Second one must must find the participants (analyze events)
 1. Participant - employee
 2. Participant - employee
 3. Participant - employee and credit authorization service
 4. Participant - employee and credit authorization service
 5. Participant - none
 6. Participant - employee

33 01 - Project Description 11/26/2007

Example using event analysis

- Second one must identify the inputs (analyze events)
 1. Input - film order claim check
 2. Input - claim check number
 3. Input - claim check number
 4. Input - film order receipt
 5. Input - status
 6. Input - none

34 01 - Project Description 11/26/2007

Example using event analysis

- Second one must identify the outputs (analyze events)
 1. Output - film order claim check
 2. Output - status report
 3. Output - film order receipt
 4. Output - film order adjustment
 5. Output - none
 6. Output - notice film has not been picked up

35 01 - Project Description 11/26/2007

Example using event analysis

- Second one must identify the data stored (analyze events)
 1. Stored - film order
 2. Stored - none
 3. Stored - film order receipt
 4. Stored - film order adjustment
 5. Stored - film order update
 6. Stored - notice

36 01 - Project Description 11/26/2007

Example using event analysis

- Third one must convert them to use cases
 1. Drop Off Film Order
 2. Check Film Order Status
 3. Pick up Film Order
 4. Return Film Order
 5. Notify System
 6. Notify Customer

37

01 - Project Description

11/26/2007

Example using event analysis

- What happens to the inputs and outputs discovered in event analysis ?
- They are used to build the prototype interfaces during analysis
- They are use to build the interaction diagrams during design

38

01 - Project Description

11/26/2007

Summary

- Problem in discerning use cases is solved using event analysis
- Event analysis identifies more than use cases (initiator, participants, inputs, outputs, and data stored)

39

01 - Project Description

11/26/2007