

# Casi di studio (\*)

*A. University Enrolment*

*B. Video Store*

*C. Contact Management*

*D. Telemarketing*

(\*) MACIASZEK, L.A. (2001): *Requirements Analysis and System Design. Developing Information Systems with UML*, Addison Wesley

# *A. University Enrolment*

## Problem statement

- The **university** offers
  - Undergraduate and postgraduate degrees
  - To full-time and part-time students
- The **university structure**
  - Divisions containing departments
  - Single division administers each degree
  - Degree may include courses from other divisions
- **University enrolment system**
  - Individually tailored programs of study
  - Prerequisite courses
  - Compulsory courses
  - Restrictions
    - Timetable clashes
    - Maximum class sizes, etc.

# *A. University Enrolment*

## Problem statement (2)

- The system is required to
  - Assist in pre-enrolment activities
  - Handle the enrolment procedures
- **Pre-enrolment activities**
  - Mail-outs of
    - Last semester's examination grades to students
    - Enrolment instructions
- **During enrolment**
  - Accept students' proposed programs of study
  - Validate for prerequisites, timetable clashes, class sizes, special approvals, etc.
- Resolutions to some of the problems may require consultation with academic advisers or academics in charge of course offerings

## *B. Video Store*

### Problem statement

- The **video store**
  - Rentals of video tapes and disks to customers
  - All video tapes and disks bar-coded
  - Customer membership also be bar-coded.
- Existing customers can place reservations on videos to be collected at specific date
- Answering customer enquiries, including enquiries about movies that the video store does not stock (but may order on request)

# *C. Contact Management*

## Problem statement

- The **market research company** with established customer base of organizations that buy market analysis reports
- The company is constantly on the search for new customers
- **Contact management** system
  - Prospective customers
  - Actual customers
  - Past customers
- The new contact management system to be developed internally and be available to all employees in the company, but with varying levels of access
  - Employees of Customer Services Department will take the ownership of the system
- The system to permit flexible scheduling and re-scheduling of contact-related activities so that the employees can successfully collaborate to win new customers and foster existing relationships

## *D. Telemarketing*

### Problem statement

- The **charitable society** sells lottery tickets to raise funds
  - **Campaigns** to support currently important charitable causes
  - Past contributors (**supporters**) targeted through telemarketing and/or direct mail-outs
- Rewards (special bonus campaigns)
  - For bulk buying
  - For attracting new contributors
- The society does not randomly target potential supporters by using telephone directories or similar means

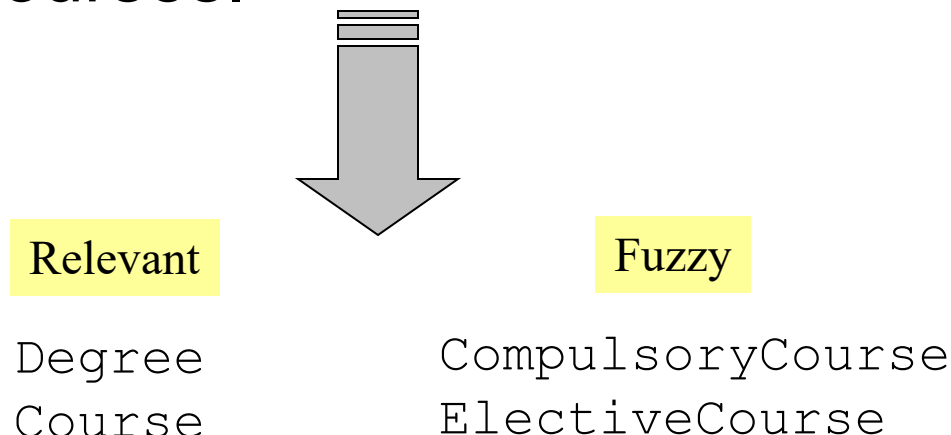
# *D. Telemarketing*

## Problem statement (2)

- **Telemarketing application**
  - To support up to fifty telemarketers working simultaneously
  - To schedule the phone calls according to pre-specified priorities and other known constraints
  - To dial up the scheduled phone calls
  - To re-schedule unsuccessful connections
  - To arrange other telephone callbacks to supporters
  - To records the conversation outcomes, including ticket orders and any changes to supporter records

# Example A.1 – University Enrolment

- Consider the following requirements for the University Enrolment system and identify the candidate classes:
  - Each university degree has a number of compulsory courses and a number of elective courses.





# Example A.1 – University Enrolment

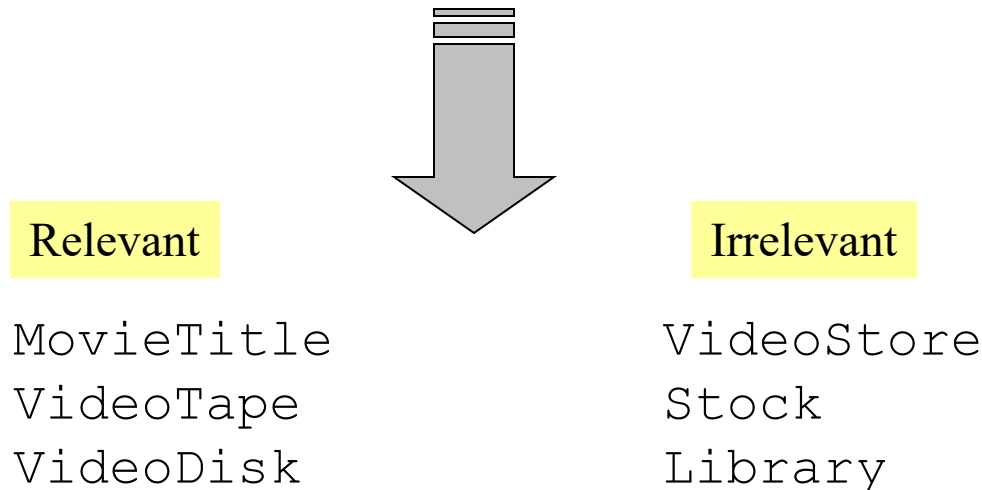
- More requirements:
  - Each course is at a given level and has a credit-point value
  - A course can be part of any number of degrees
  - Each degree specifies minimum total credit points value required for degree completion
  - Students may combine course offerings into programs of study suited to their individual needs and leading to the degree in which enrolled

# Example A.1– University Enrolment (solution)

<b><i>Relevant classes</i></b>	<b><i>Fuzzy classes</i></b>
Course	CompulsoryCourse
Degree	ElectiveCourse
Student	StudyProgram
CourseOffering	

# Example B.1 – Video Store

- Consider the following requirements for the Video Store system and identify the candidate classes:
  - The video store keeps in stock an extensive library of current and popular movie titles. A particular movie may be held on video tapes or disks.



# Example B.1 – Video Store

- More requirements:
  - Video tapes are in either "Beta" or "VHS" format
  - Video disks are in DVD format
  - Each movie has a particular rental period (expressed in days), with a rental charge to that period
  - The video store must be able to immediately answer any inquiries about a movie's stock availability and how many tapes and/or disks are available for rental
  - The current condition of each tape and disk must be known and recorded

# Example B.1 – Video Store (solution)

<i><b>Relevant classes</b></i>	<i><b>Fuzzy classes</b></i>
MovieTitle	RentalConditions
VideoMedium	
VideoTape	
VideoDisk (or DVDDisk)	
BetaTape	
VHSTape	

# Example C.1 – Contact Management

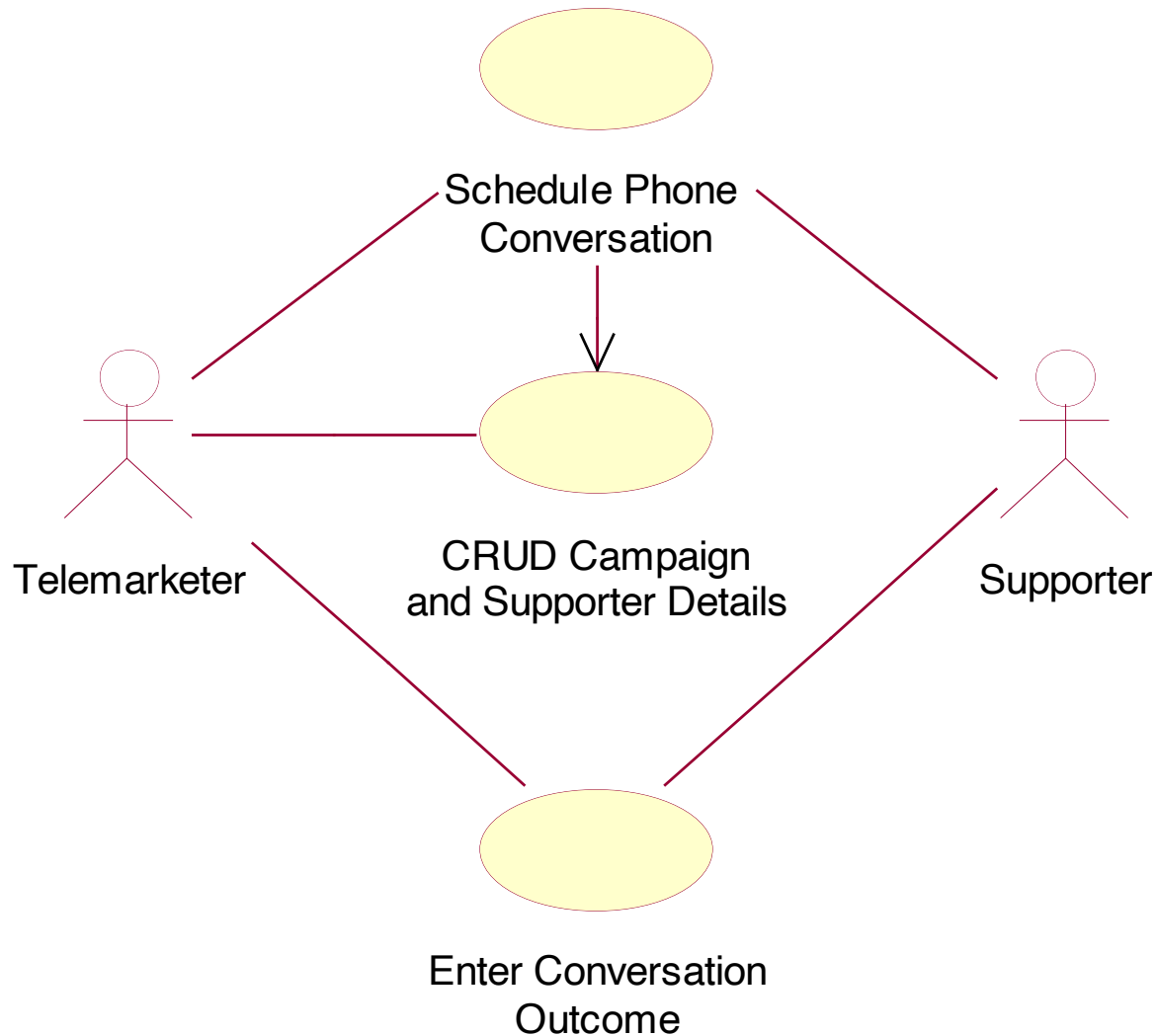
- Consider the following requirements for the Contact Management system and identify the candidate classes:
  - To "keep in touch" with current and prospective customer base
  - To store the names, phone numbers, postal and courier addresses, etc. of organizations and contact persons in these organizations
  - To schedule tasks and events for the employees with regard to relevant contact persons
  - Employees can schedule tasks and events for other employees or for themselves
  - A task is a group of events that take place to achieve a result (e.g. to solve customer's problem)
  - Typical types of events are: phone call, visit, sending a fax, arranging for training, etc.

## Example C.1 – Contact Management (solution)

<b><i>Relevant classes</i></b>	<b><i>Fuzzy classes</i></b>
Organization	CurrentOrg
Contact	ProspectiveOrg
Employee	PostalAddress
Task	CourierAddress
Event	

# Example D.1 – Telemarketing

## *Business use case diagram*





# Example D.1 - Telemarketing

- Consider the following textual description for the Telemarketing system's use cases and identify the candidate classes:
  - The telemarketer requests the system that the phone call to a supporter be scheduled and dialed up
  - Upon successful connection, the telemarketer offers lottery tickets to the supporter. During a conversation, the telemarketer may need to access and modify both campaign and supporter details (*CRUD*, *create* – *read* – *update* – *delete*)
  - Finally, the telemarketer enters the conversation outcome, i.e. the successful or unsuccessful results of the telemarketing action

# Example D.1 – Telemarketing (solution)

Campaign

CallSchedule d

Supporter (from Use Case View)

CampaignTicket

CallOutcome

Telemarketer (from Use Case View)