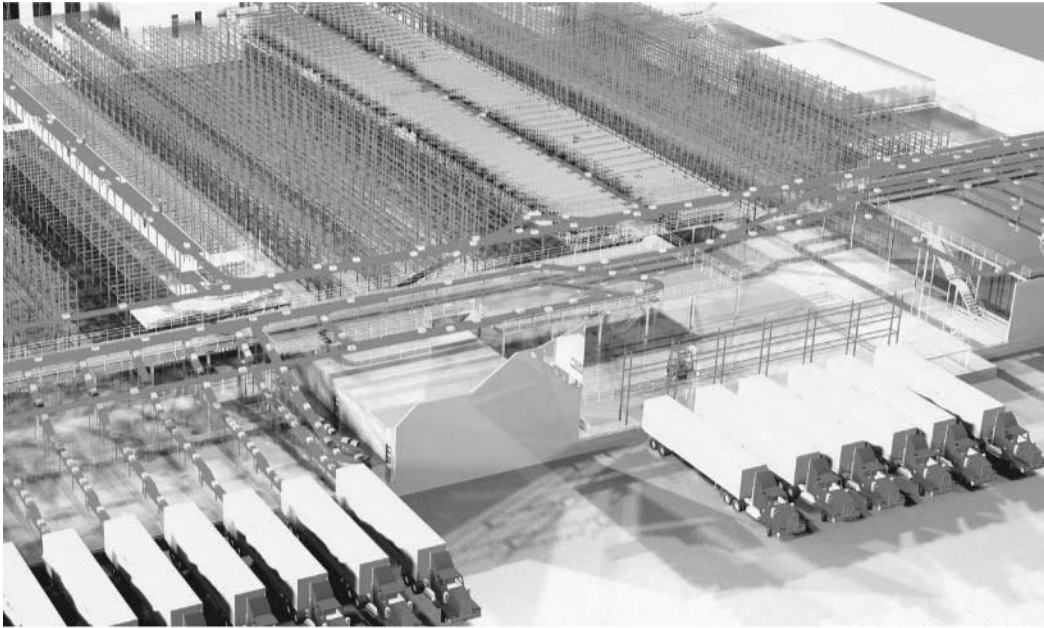




## The 2nd Annual Arizona Supply Chain Symposium



Warehouse Mapping for  
Effective WMS

November 12, 2008

fortna

Driving Supply Chain Results

[www.fortna.com](http://www.fortna.com)

# Class Objectives



- Recognize the Importance of Properly Mapping Processes and Systems Prior the Implementation of a New Warehouse Management System or any Supply Chain Improvements
- Review a Number of Examples that Demonstrate Benefits of Detailed Mapping, Resulting in Fewer Delays and Minimizing Costly Modifications, as Well as Effectiveness in Implementation and Training

# When is Business Process Mapping Beneficial?



- Any Change to your Supply Chain
- System Assessment
- System Selection
- System Implementation
- Process Improvements
- Mergers and Acquisitions

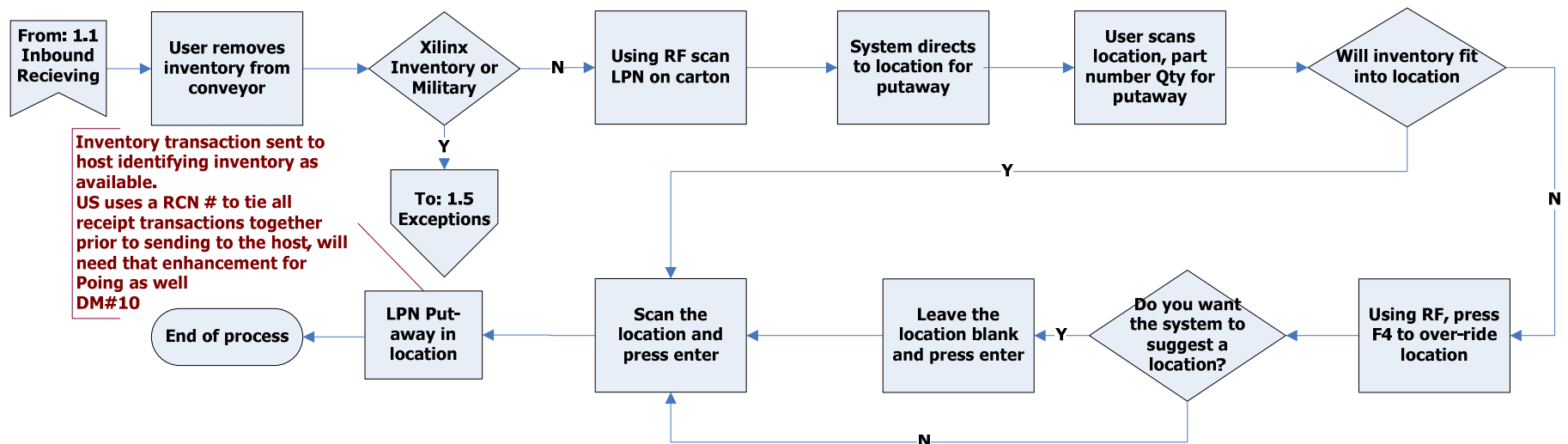
# Process Mapping Flowchart



**The hardest task in Business Process Mapping** is getting everyone to agree what the process looks like

## 1.2 Inbound Putaway

### Shelving Area Putaway:

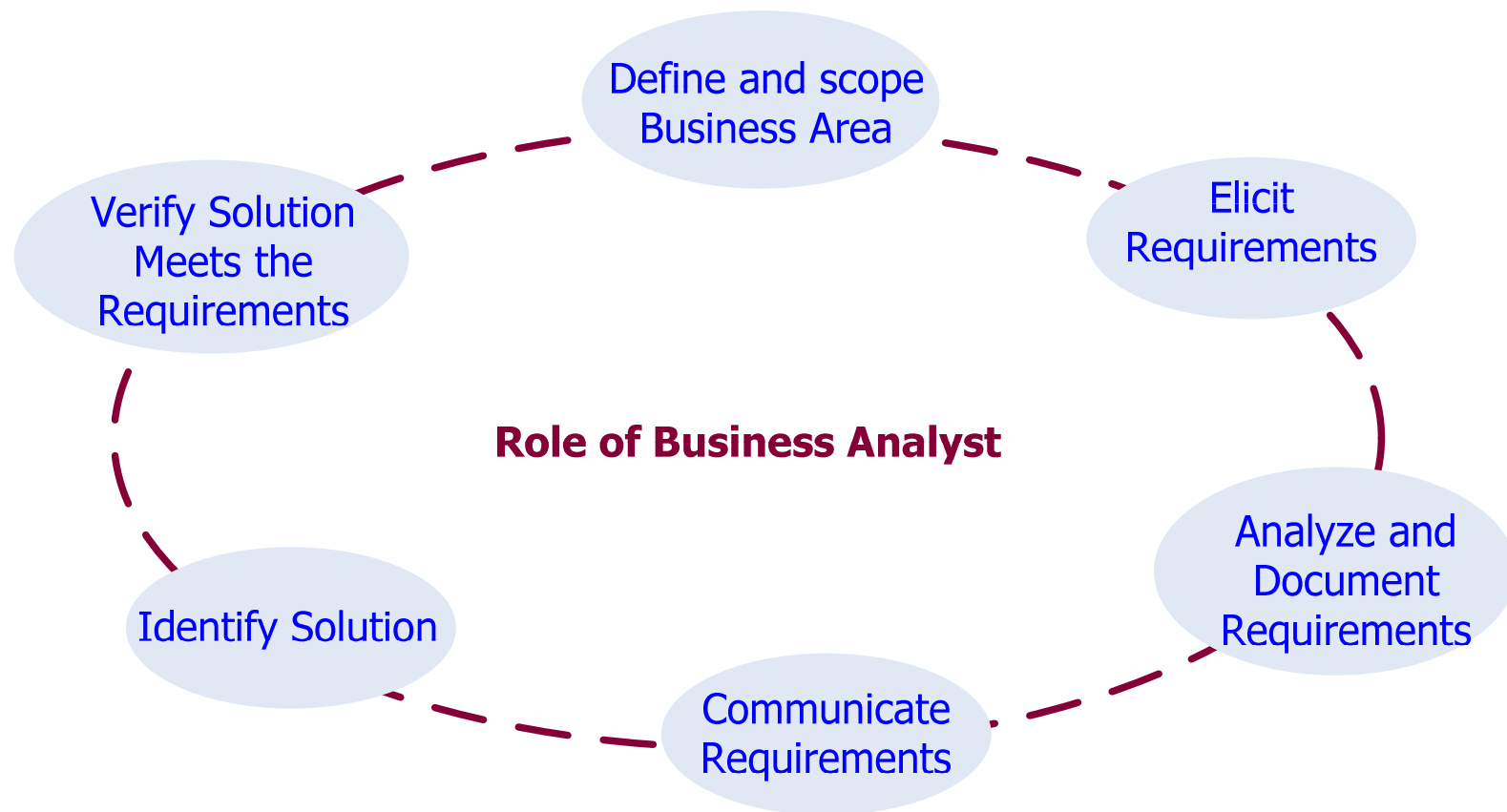


***Mapping Processes is far more than flowcharting***

# Process Mapping – What is It?



**Business Process Mapping** refers to activities involved in defining exactly what a business entity does, who is responsible, to what standard a process should be completed and how the success of a business process can be determined

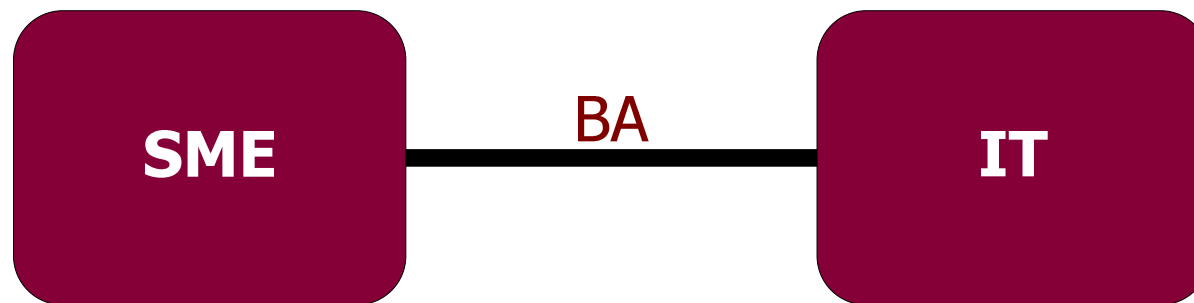


# Role of the Business Analyst – Who?



**An excellent Business Analyst** is one who understands the fundamental business needs before identifying functional requirements

- A Business Analyst works as a liaison among stakeholders in order to elicit, analyze, communicate and validate requirements for changes to business processes, policies and information systems
- The Business Analyst understands business problems and opportunities in the context of the requirements and recommends solutions that enable the organization to achieve its goals
- That is why an excellent BA is one who tries in every project to understand the fundamental business needs before identifying functional requirements to the IT staff or picking out software packages to purchase.



# Business vs Functional Requirements



**Business Requirements**



**Functional Requirements**

# Business Process Mapping – How?



## Define and scope Business Area

- Project scope is clear and complete before you begin detailed requirements gathering.
- Understand why the project has been initiated (*project statement of purpose*) and the goals of the project (*project objectives*).
- A complete project scope will name and define all of the organizations that will be involved with the project; this may include people, systems, internal departments, and outside organizations (*project external interactions*).
- Other important components of the project scope documentation include the *project viewpoint*, *project assumptions*, and *business risks*.
- Project scope should include a high-level description of the business processes that will be included.

# Business Process Mapping – How?

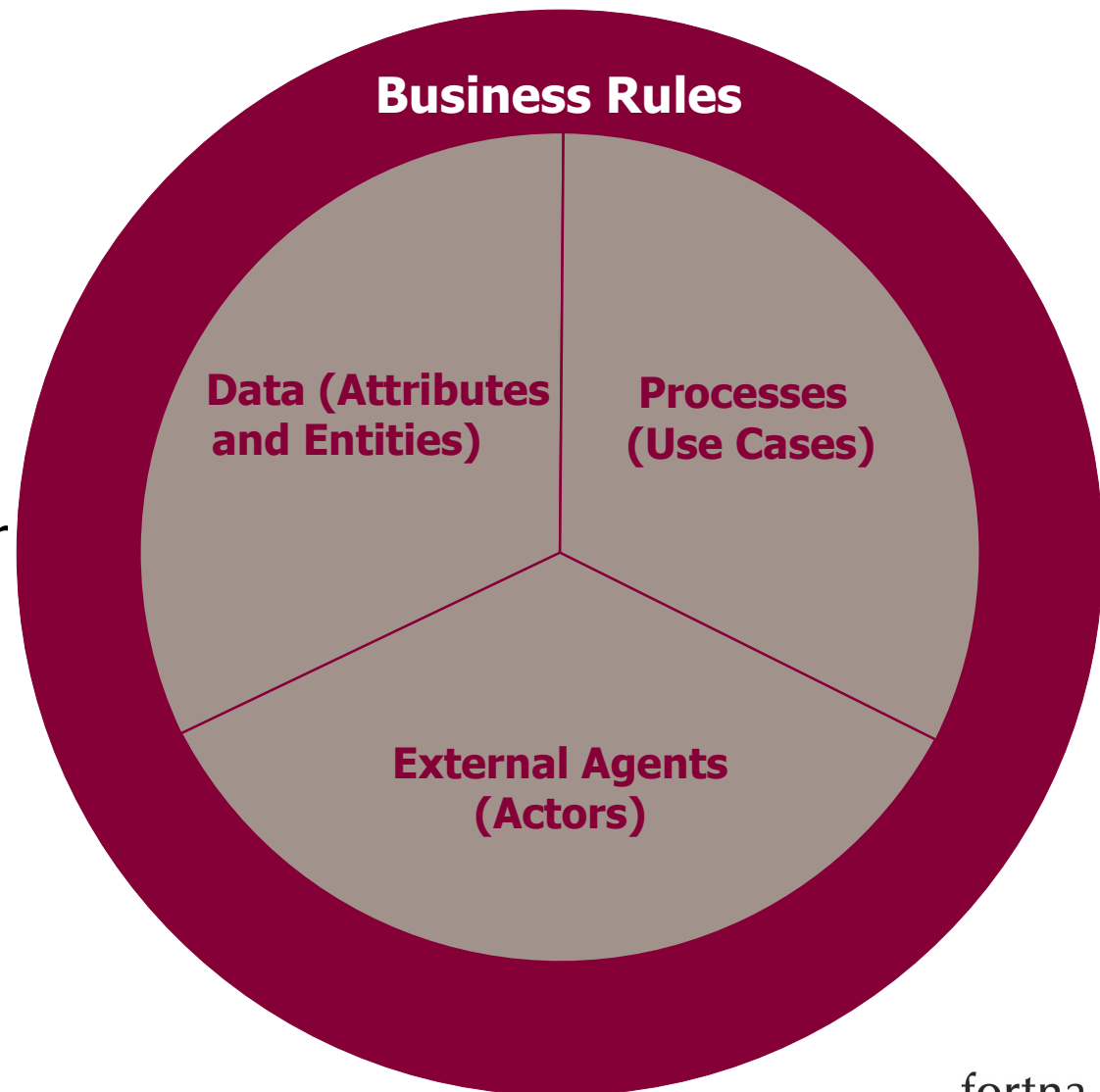


## Elicit Requirements

**A requirement is a condition or capability needed by a stakeholder to solve a problem or achieve an objective**

- Gather the detailed requirements that completely define the project
- Use the terms *business requirements* and *functional requirements* to differentiate between the business needs and the software functionality
- Assess the type of project, the people involved, and the volume of information required; and then determine how and where to find the requirements
- Gathering complete, detailed requirements is an iterative process that involves asking questions, pondering answers, asking follow-up questions, and bringing divergent opinions to consensus

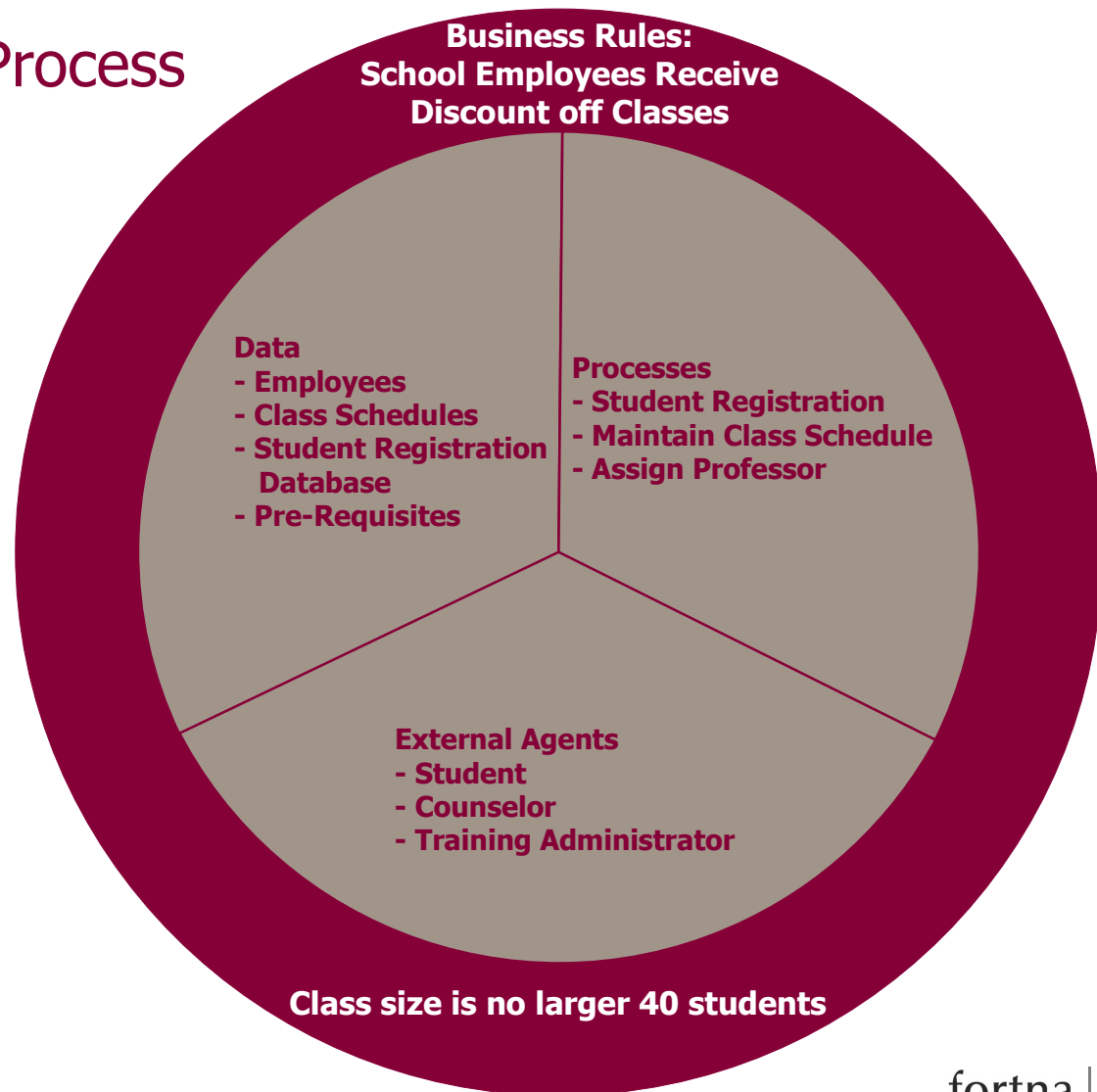
- View each requirement or set of requirements from a unique perspective
- Techniques and approaches used to analyze must encompass these four components or you will miss an important part of your analysis



# Core Requirements Example



## School Registration Process



# Business Process Mapping – How?



## Analyze and Document Requirements

- Use an iterative approach to analyze and document requirements
- Consider the best format for communicating with the information technology team and the best format for communicating with the business area experts
- Typically there are many requirements. To organize them and make them easy to review, divide into categories or groupings; business, functional, and technical



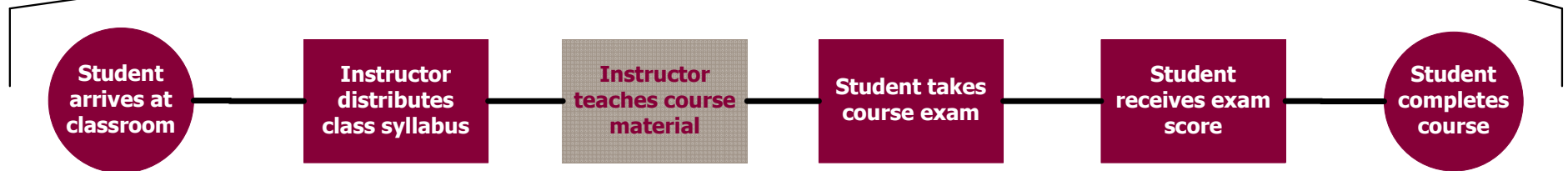
**Presenting requirements** refers to communicating the requirements to the appropriate stakeholder in the most appropriate format

- In order that business processes can be improved they must first be illustrated
- The starting point is an illustration of the process
- The production of a process illustration is an iterative activity. The more widely circulated the draft illustrations then the more accurate the final illustration

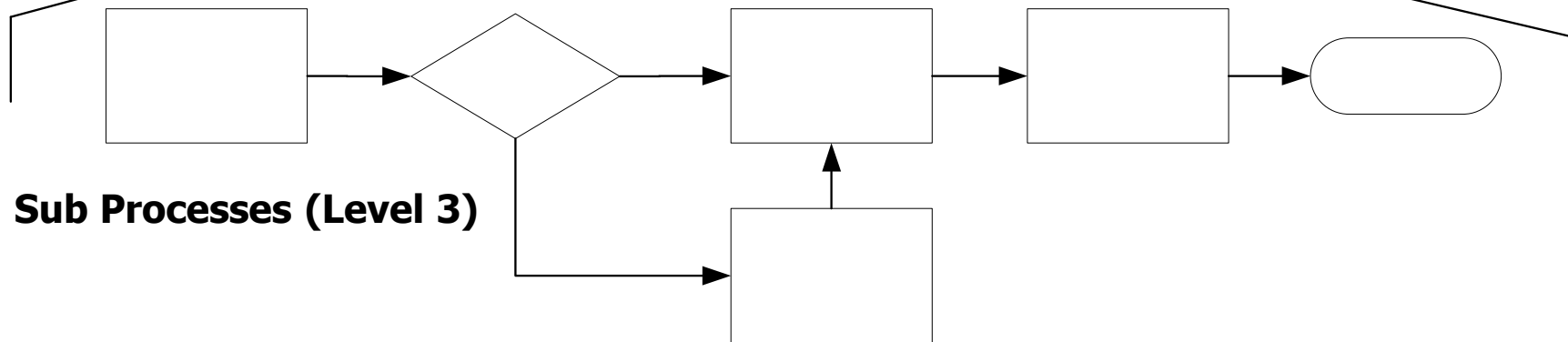
# What is the Right Level of Detail?



## Core Processes (Level 1)



## Sub Processes (Level 2)



## Sub Processes (Level 3)

# Why Document Requirements?



- People forget things
- Verbal communication is fraught with errors
- People sometimes answer the same question differently if asked twice
- Writing something down forces a person to think about it more carefully
- Having a second person try to write down a user request and then have the user review it for accuracy highlights ambiguity and poorly defined requirements
- New people joining a project need to get familiar with the requirements
- Evaluating and managing a developer assignment requires the assignment to be clear and documented

# Why Do Requirements Need to Be Detailed?



- Assures the business stakeholders have answered detailed questions about their business and clearly communicated their needs
- To give the solution team clear direction about the expectations
- High-level requirements are interpreted differently
  - Until detailed discussions about how the business process will be accomplished, analysis work is not complete
- Complex business rules must be found
  - They seem inconsequential or business takes for granted everyone knows them.
  - These business rules often drive exception processing and cause major errors if omitted
- Requirements must be translated

# Business Process Mapping – How?



## Communicate Requirements

**Understand your audience.** Summaries of the requirements or various graphical representations may be appropriate as part of the reviews

- The business analyst should be the best communicator on the project team. His or her role is to act as a liaison between the business area experts and the technical team
- Critical communication skills required are active listening skills, the ability to ask pointed, open-ended questions, and facilitation skills to conduct group meetings and bring a group to consensus on joint requirements
- As the requirements documentation is being created the BA conducts informal and formal requirements reviews. These review sessions increase the quality of the document by identifying missing or unclear requirements
- Information should be presented to the business and technical audiences in a manner that is most appropriate for their understanding

# Business Process Mapping – How?



## Identify Solution

- The business analyst should work closely with the business area experts to make a recommendation for a solution and work with the technical team to design it
- If software automation is part of the solution, the business analyst should assist with the screen design, report design, and all user interface issues by providing detailed functional requirements
- If a software package is going to be purchased, the business analyst works with the business area experts, IT personnel, and the potential vendors to discuss the requirements and verify that the package selected will meet the needs

# Business Process Mapping – How?



## Verify Solution Meets the Requirements

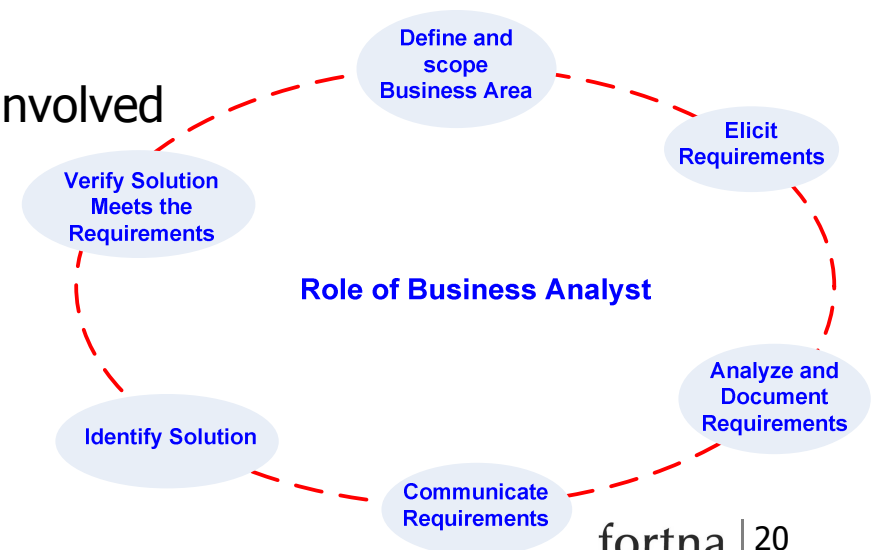
- The business analyst should remain involved in the project even after the technical team takes over. The business analyst reviews the technical designs proposed by the design team for usability issues and to assure the requirements are being satisfied.
- Once the solution is developed into software the business analyst is uniquely qualified to assess the software and determine how well it meets the original project objectives
- Some organizations have a quality assurance team that is responsible for software testing and quality review. The business analyst should work closely with this group to assist with the entire testing process. Testing is based on requirements, so the business analyst's intimate knowledge of the requirements allows accurate design of test cases.
- Whether or not a quality assurance team is available, the business analyst can assist with user acceptance testing, the time when the business area experts are asked to approve the software for implementation

# Business Process Mapping is a Process



## Key points -

- Complex and Iterative process
- Understand your business requirements before jumping into functional requirements or solution
- High degree of Communication skills required
  - Facilitate and build consensus
  - Active Listening
  - Conduct Requirements Reviews
- Do not under estimate the effort involved
- Not just flowcharting



# Process Mapping – Why is it Important?



## Essentially, Mapping Business Processes Is a **Tool To Manage Risk**

- Mitigate Miscommunication Of Requirements And Responsibilities Resulting In Costly Modifications
- Minimize Delays In Development And Testing Due To Misunderstanding
- Helps Prepare The Organization For The Future State Supporting The Business Requirements Through Training And People Readiness Efforts
- Is A Repeatable Tool For All Future Improvements In Your Supply Chain



**Analysis technique** provides a structured, thinking approach to understand a business problem, opportunity, and requirements from different perspectives and different angles

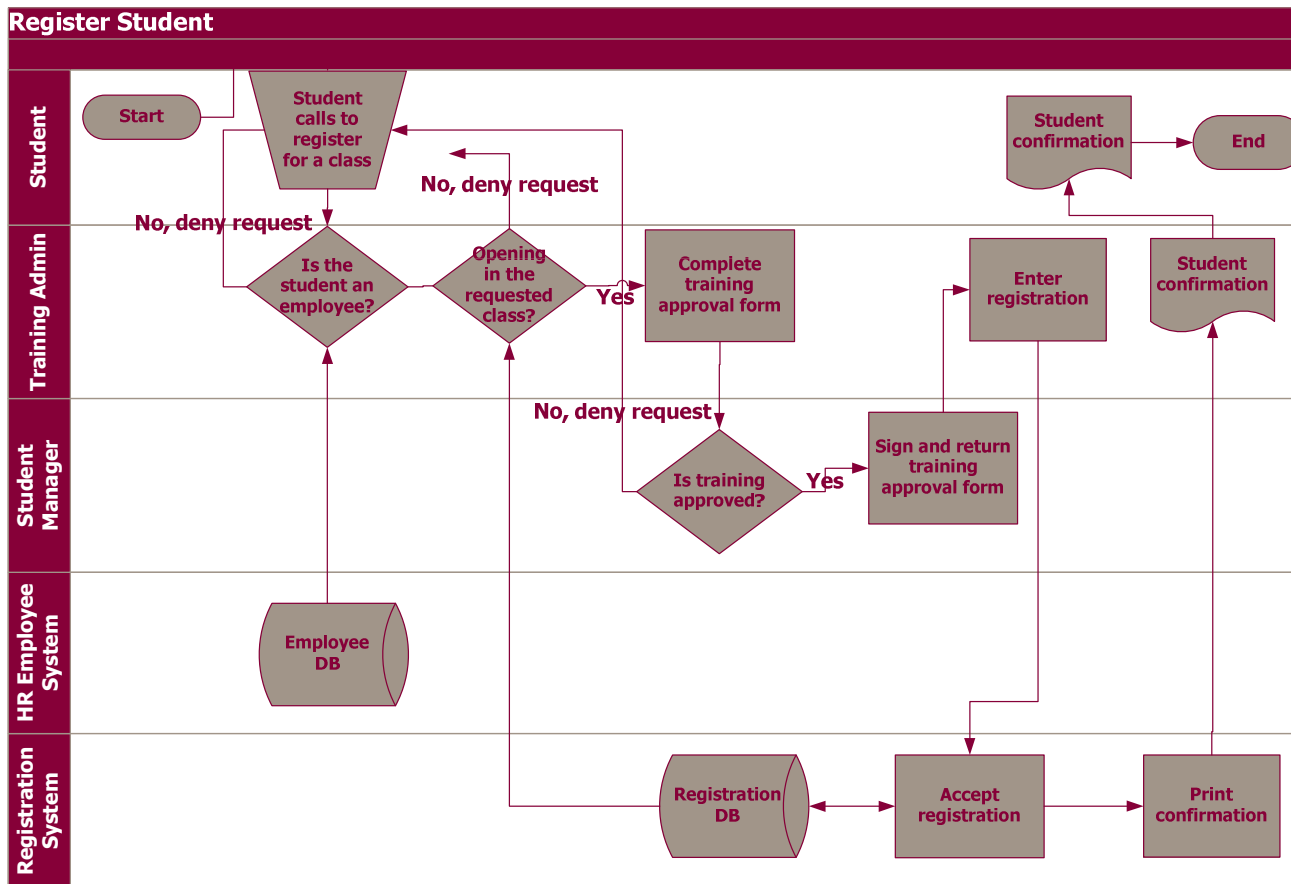
- Many techniques for analyzing and presenting requirements
- Each technique focuses on particular requirement components
- There is no wrong way to “analyze” or “think”
- Multiple techniques will help the BA see a problem or situation from a different perspective
- Most Projects will benefit from the use of several techniques

# Workflow Diagram



**The Workflow diagram** is the most flexible technique, with few rules for its creation

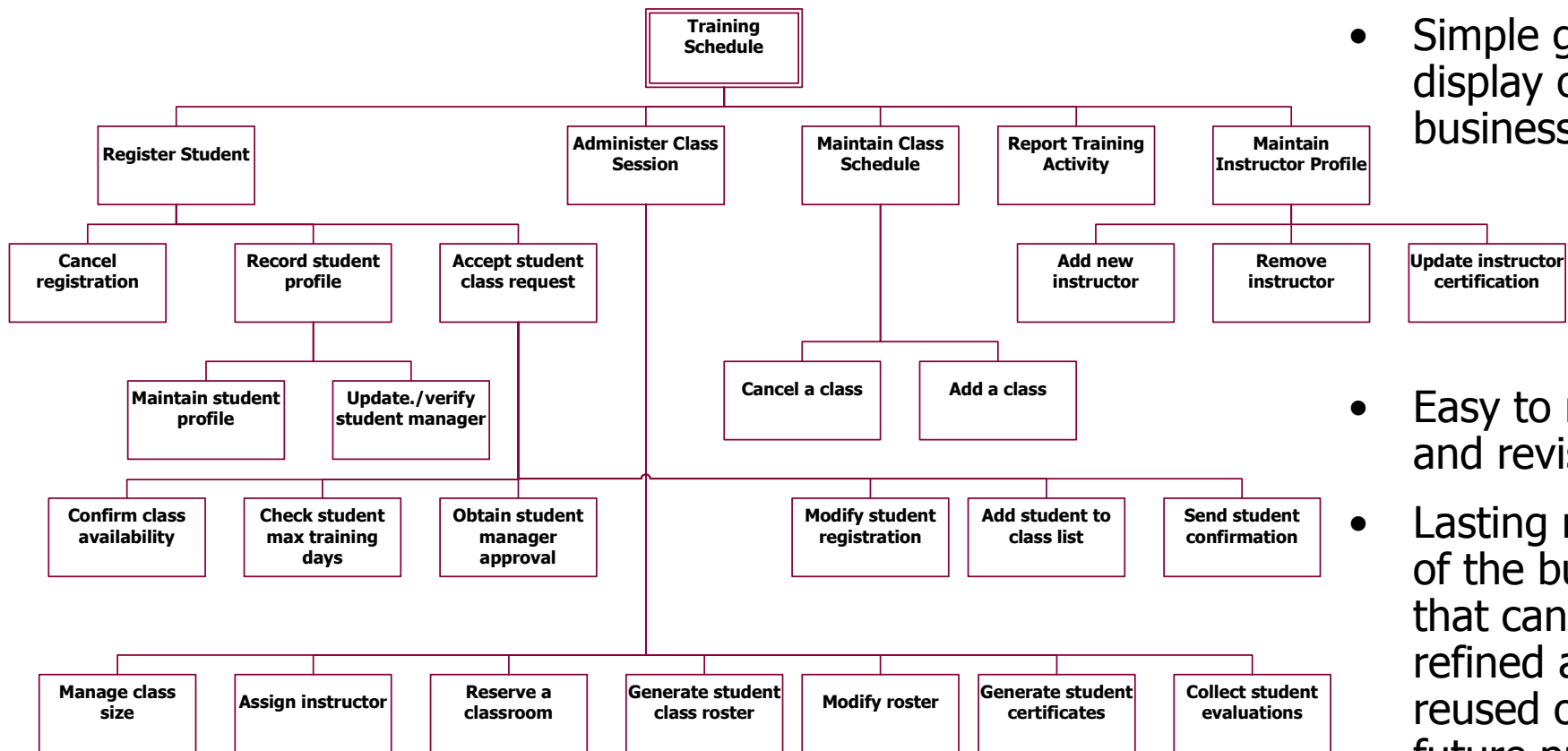
- Details one or more business processes to clarify understanding
- Shows how work is accomplished, including sequence
- Shows information flows through the processes and how business people and other external agents are involved with the process
- Can be divided into sections to show departments or divisions within an organization (swim lanes)



# Decomposition Diagram

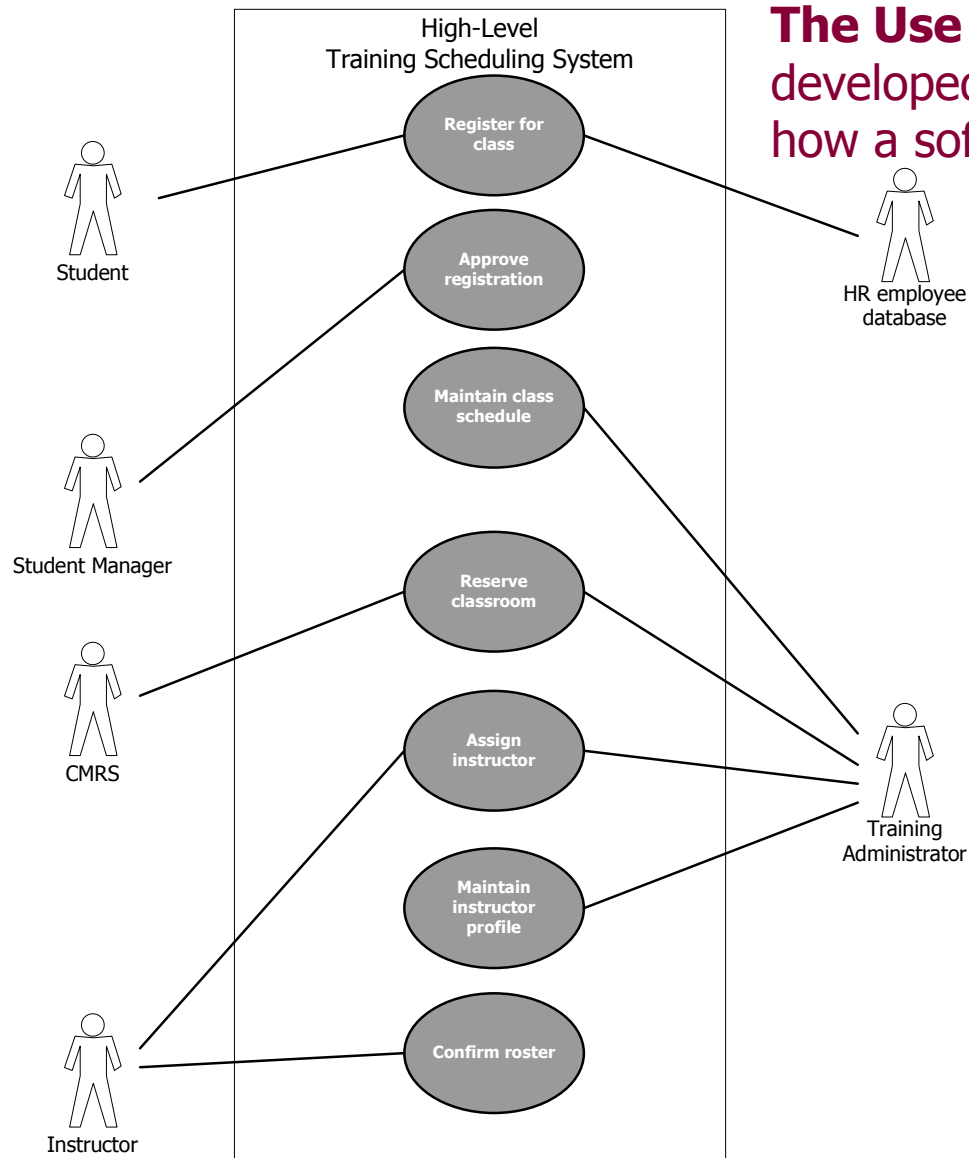


**The Decomposition diagram** is a proven approach for breaking a complex system into manageable pieces



- Simple graphic display of a business area
- Easy to review and revise
- Lasting model of the business that can be refined and reused on future projects

# Use Case Diagram



**The Use Case diagramming** technique was developed to show functional requirements – how a software system interacts with users

- Simple diagram to review
- Can ease the communication between business and technical stakeholders
- Great technique to use w/business stakeholders, specifically decision makers, because it requires decisions about how people will work with the software
- Great for brainstorming with software users about design options

# Advantages and Disadvantage Graphical Diagrams



- Advantages
  - Flexible
  - Easy to review and approve
- Disadvantages
  - Require a more skilled and knowledgeable analyst to create and present them
  - Reviewers must understand the symbols used
  - Diagram symbols often force short names which may not be descriptive enough

# Business Process Mapping Tips



**The main reason for consistency and reviews** is to help ensure we have elicited and documented clear and complete requirements

- **Use a consistent format.** By using a consistent terminology, phrases, and formats the readers of the deliverables become familiar with the document. You want the reader to focus on what is being communicated, not how you are communicating
- **Produce drafts quickly and have them reviewed.** By having your documents reviewed early and often you get instant feedback on the accuracy and completeness of your document.
- **Understand your audience.** This is critical to the successful communication of the requirements

# Summary of Key Points



**The rare ability** to see the big picture while being very detailed oriented is key to successful business process mapping

- The core requirements components of data, process, business rules, and external agents must always be considered
- Understand the differences between business requirements, solution requirements, and technical requirements
- Use analysis techniques not only to understand the business needs but also to communicate them to all of the project stakeholders
- Know your audience. Establish trust with your stakeholders. Business stakeholders must feel confident that that analyst understands their true needs and will represent them accurately to the solution team

Open



Questions?

# Core Requirements Example II



## Grocery Store

