

# Ultimate Business Requirements

*Writing Better and More Effective Business Requirements*

*Training, Coaching, Consulting*

# Workshop Approach

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***“I hear, I know.***

***I see, I remember.***

***I do, I understand.”***

Confucius



# Requirementmenting

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*"The act of eliciting, analyzing, specifying and validating business requirements."*

Jim Pellerin

# Requirement Writing as A Career

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Writing good business requirements is a skill that is invaluable to a project. People who become experts in writing Business requirements are well recognized and have sometimes have the following job titles:

- Business Analyst
- Requirements Specialist
- Requirements Engineer

# Structure and Organization of Content

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## Module 1

### Lesson 1

- Intro
- Pretest
- Instruction (Rule, Example, Practice)
- Post Test
- Summary

### Lesson 2

- Intro
- Pretest
- Instruction (Rule, Example, Practice)
- Post Test
- Summary



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# Design Phase



## Disclaimer

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- What you are about to hear and see are based on real life experiences. The names and events have been changed to protect the innocent.
- The approach and methodology presented is based on the experiences of the author and on best practices documented in the SWEEBOK.
- Since business requirements analysis is a soft skill, some of the material presented is subjective. While some students may not agree with all the examples and approaches, this is a solid approach to Business Requirements Analysis.

## Suggested Audience

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- **Business Analysts** who will be gathering and documenting business requirements
- **Project Managers** who will be managing the business requirements activity
- **Systems Developers** who will be receiving the business requirements
- **Testers** who will be defining Test Cases from Business requirements
- **Business owners** who will be defining their business requirements



## Problem Statement

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“Without good requirements, projects fail, are late, come in over budget, or produce systems that are never used.”

*Writing Better Business Requirements, 2002*

“Business Requirements are most often poorly written, poorly understood and poorly communicated. It is left up to the developers to interpret the needs of the business.”

Jim Pellerin

## Course Goals

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- Students must be able to *define* clear manageable Business requirements.
- Students will be able to use various techniques to *gather* business requirements.
- Students must be able to *distinguish* between Business Requirements and other information.
- Students must be able to *understand* the role Business Requirements play in the entire System Development Life Cycle (SDLC) process.
- Students must be able to *develop* Use Cases to document Business Requirements???? TBD

## Course Goals

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- At the end of the course, students will be able to:
  - Gather information about current processes, challenges, and vision.
  - Gather and elicit business requirements.
  - Document good business requirements
  - Model existing business processes.
  - Analyze business requirements in the context of the business environment.
  - Present business requirements.



## What this course is not

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- Will not discuss “system specifications” or system design

# Course Introduction

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- Business Requirements are most often **not stated clearly**. Business requirements must be stated clearly and succinctly.
- Business Requirements must be **defined early** in the process.
- Business requirements must be **documented** and **managed**.
- Business Requirements must be defined **by the business** not the developers
- Business Requirements must represent **business issues**, not system requirements.
- Business Requirements must represent the needs of all the **impacted stakeholders**, not just the business owner.
- Project must support this activity and allocate the **necessary resources**.

# Course Syllabus

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1. Overview
2. Process (EASV)
3. Gathering Techniques
4. Writing Better Requirements
5. Presentation Formats
6. Requirements Management



1. Purpose of Requirements
2. Types of Information
3. Business Requirements (Definition, Classification)
4. Functional vs Non-functional

Many executives fail to understand the purpose of writing and documenting good requirements. As a result, projects end up being late, over budget, and not delivering what the user wanted.

In this lesson the student will learn:

- the purpose of Business Requirements





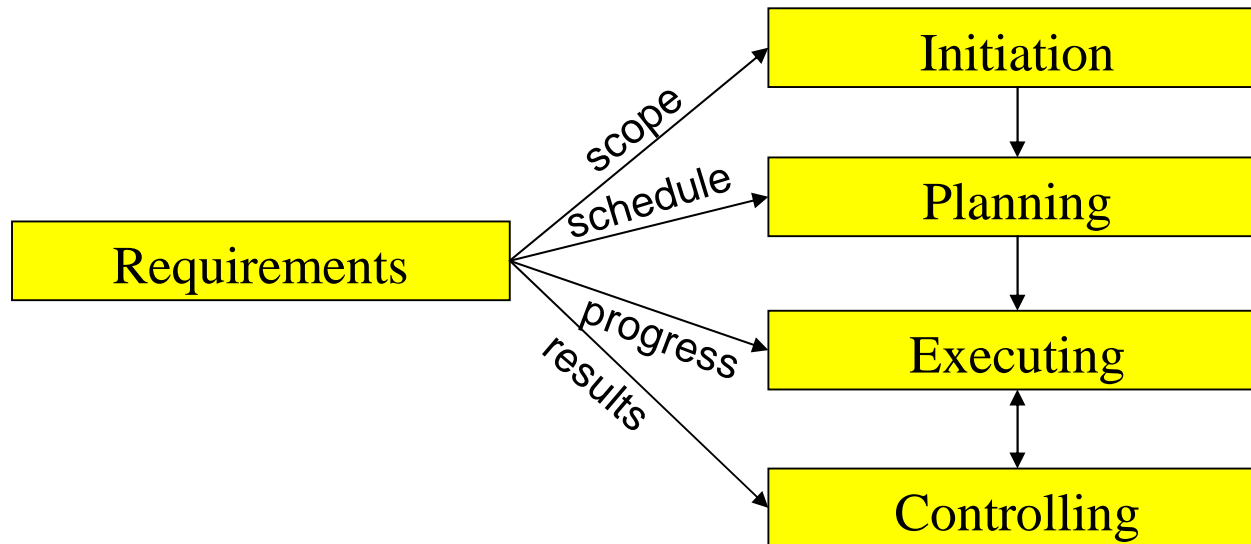
The purpose of writing business requirements is:

- a) to add additional work effort to the project
- b) to participate in fun interactive workshops
- c) to orientate people to the project
- d) to define what the stakeholders want

- To set the scope for the project
- To show what the stakeholders want
- To give stakeholders chance to say what they want
- To represent different viewpoints
- To check the design
- To measure progress
- To accept products against precise criteria

# Topic 1 – Why Business Requirements Rule

How do requirements help PM.



- Jim wants one thing, Joe wants another. Sometimes both can be accommodated. (show example)

# Topic 1 – Why Business Requirements Practice

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Module 1 - Overview  
Lesson 1 - Purpose



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# Topic 1 – Why Business Requirements

## Post Test

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Module 1 - Overview  
Lesson 1 - Purpose



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# Topic 1 – Why Business Requirements Summary

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Module 1 - Overview  
Lesson 1 - Purpose



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# Lesson 2 – Types of Information

## Module 1 - Overview





A big part of the problem in gathering business requirements is that people are already thinking about a solution. If pure **business** requirements are not isolated and documented, solutions may be developed in isolation without any consideration for other stakeholders' needs and requirements. Also, time and money is wasted looking at a solution which may not be the right solution, if the requirements were gathered and analyzed properly.

In this lesson the student will learn:

- the different types of information that is discovered during the business requirements gathering process.
- to differentiate between the different type of information

Which of the following are business requirements:

- a) finance must approve all expenses exceeding \$10,000
- b) the application screens must be consistent with the look and feel of the companies brand
- c) the project must be completed in a timely manner
- d) the project must not exceed \$100,000
- e) the solution must leverage the existing hardware
- f) over 25% of cases have been unresolved with the existing system.

Information for a project can be classified as:

- **Business Requirements**
  - What are the business problems that we are trying to solve.
- **System Specifications**
  - How the system should perform
- **Design Elements**
  - How the system should be designed
- **Planning Information**
  - How the project should be run
- **Background Material**
  - Why we are doing this project
- **Irrelevant Detail**
  - Not relevant to the business problem

- **Business Requirements**
  - The customer must be able to purchase products at 3:00 am.
  - The sales agent must be able to determine a product price within 10 minutes.
  - The customer support representative must be able to access information related to a customer's invoice within 5 seconds.
  - The marketing representative must be able to analyze customer spending patterns for all products for a given period of time.

- **System Specifications**
  - The solution must leverage the existing hardware and software.
  - The solution must run on the central computer system.
  - The solution must be a web service.
  - The project must install 6 computers throughout the plant.

- **Design Elements**
  - The computer screens must follow standard usability principles.
  - The solution must have all the functionality of the existing application.
  - The application must print on 11 x 14 inch paper.
  - The screens must be consistent with the look and feel of the current web pages.

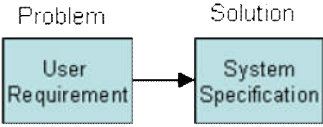
- **Planning Information**
  - The project must be delivered by January, 2005.
  - The team must be made up of company staff only.
  - The budget will be limited to \$2M.
  - The solution must be implemented as two phased approach.

- **Background Material**
  - The sponsor for this initiative is the sales and marketing department.
  - This project was originally conceived in 2003 by Joe Idea.
  - The competition has just released a much more advanced product.
  - The marketing teams has been given a mandate to increase revenues by 25%. This project will support that mandate.



- Irrelevant Material
  - The president is very please that this project is being undertaken.
  - The customer satisfaction will increase if this project is successful.
  - The idea behind this project is very innovative.
  - Santa Claus is Canadian.

# Topic 1 – Types of Information Rule

<div style="text-align: center;"> <b>Characteristic</b>   <b>Info Type</b> </div>	<div style="text-align: center;"> <b>Stage</b> </div>	<div style="text-align: center;">    <b>Domain</b> </div>	<div style="text-align: center;"> <b>View</b> </div>
<b>User Requirement</b>	Idea	Problem	User
<b>System Specifications</b>	Design	Solution	System
<b>Design Elements</b>	Design	Solution	System
<b>Plans</b>	Planning	Solution	N/A
<b>Background Material</b>	Idea	Problem	User
<b>Irrelevant Details</b>	N/A	N/A	N/A

## Handout Assignment

## Handout Test

# Topic 1 – Types of Information

## Summary

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Module 1 - Overview  
Lesson 2 – Types of Information



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## Lesson 2 – Definitions

### Module 1 - Overview



# M1.1 Goals

## M1.1 Goals

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- Goal – A single desired result.
- Begins with “to” unless in a user case title
- Exceptions

Goal: *“To book a flight”*

Requirement: *“The customer must be able to book a flight without having to visit a travel agent”*

# M1.2 Requirement

## M1.2 Requirement

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- Characteristics of “good” requirements:
  - Defined early
  - Specific, not vague
  - Measurable
  - Succinct
- Not a Requirement
  - System specification
  - Defining the solution
  - Not detailed design



# M1.2 Requirements

## M1.2 Requirement Ownership

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- Who owns the requirements?
  - *The Stakeholders*
- *Who are business requirements for?*
  - *User*
  - *Developers (designers, programmers, testers)*
  - *Requirements engineer*
  - *Stakeholders (users, clients, suppliers, managers, regulators, executives)*
  - *Customer*

# M1.2 Requirement

## M1.2 Definition

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- **Business Requirement:** A statement of need, something that some class of user or other stakeholder wants.
  - **Functional Requirement:** (requirement )
    - Something that a system or sub-system would do
  - **Non-Functional Requirement:** (constraint)
    - Use to qualify requirements and limit the solution design.
      - Performance Constraints
      - Development Constraints (time, resources, quality)
  - User Constraint vs System constraint – WBR Pg 10

# M1.2 Requirements Checklist

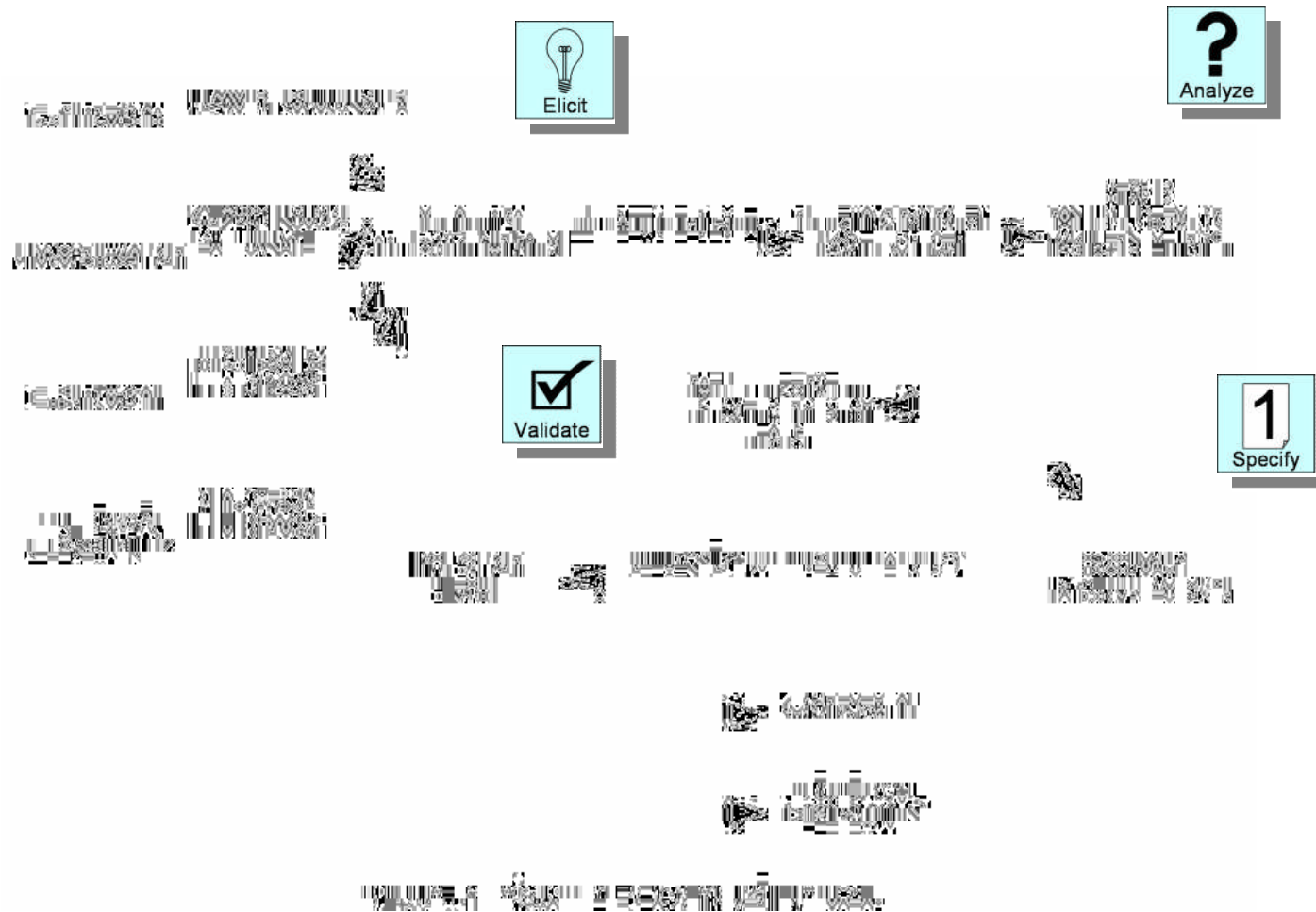
## M1.2 Validation Checklist

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- Is it clear?
- Is it as short as it can be?
- Does it apply to a defined type of user?
- Does it have a reasonable priority?
- Is it verifiable?
- Is it a single requirement?
- Is its source shown?
- Does it have a unique identifier?
- Is it genuinely a requirement and not a design constraint?

# IEEE SyRS Process

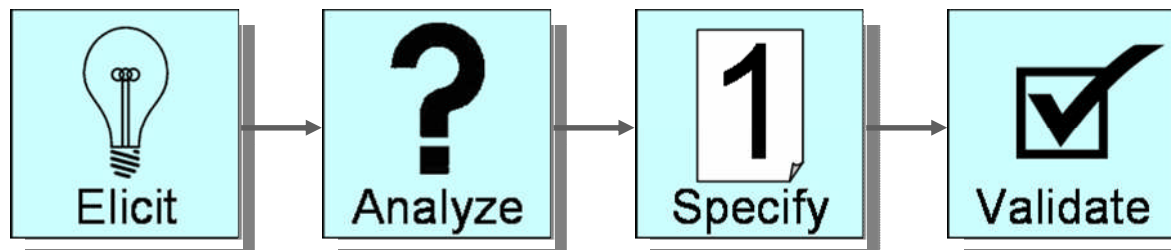
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# Module 2 Process

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1. Elicitation
2. Analysis
3. Specification
4. Validation
5. Sell
6. SDLC



## M2.1 Elicitation

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1. Identify Stakeholders (and roles)
2. Identify Sources of Requirements
3. Plan approach (workshops, interviews)
4. Conduct events
5. Gather requirements

## M2.1.1 Elicitation

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- Identifying Stakeholders
  - **Users**–This group comprises those who will operate the software.
  - **Customers**–This group comprises those who have commissioned the software or who represent the software’s target market.
  - **Market analysts**–A mass-market product will not have a commissioning customer, so marketing people are often needed to establish what the market needs and to act as proxy customers.
  - **Regulators**–Many application domains such as banking and public transport are regulated.

## M2.1.2 Elicitation

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- Sources
  - Goals
  - Domain Knowledge
  - Stakeholders
  - Operational Environment
  - Organizational Environment



## M2.1.3 Elicitation

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- Techniques (in order of most effective)
  - Facilitated Meetings / Workshops
  - Interviews
  - Prototypes (sequence of slides, animations)
  - Observe users
  - Scenarios (think like a user)
  - Questionnaires

## M2.1.4.a Elicitation

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- Workshops
  - Proposition
  - Action
  - Reaction
  - Reflection
- Conflict is healthy

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- The Power of Why?



# M2.2 Analysis

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# M2.3 Specification

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ID	Requirement	Source	Status
R.0010	The customer must be able to place an order.	Sales	Accepted
R.0020	Marketing must be able to view open sales orders.	Marketing	Pending



# M2.4 Validation

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# Module 3 Gathering Techniques

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- Documents
- Interviews
- JAD Sessions
- Choosing Techniques
- Negotiation
- Signoff

# Module 4 Writing Requirements

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- There is no such thing as a “perfect requirement”.
- Characteristics of a good user requirement:

Component	Example
User type	The <i>customer</i> ...
Result type (verb)	...shall be able to <i>track</i> ...
Object	...the <i>location</i> of their <i>parcels</i> ...
Qualifier	... <i>until delivered to their door</i> .





## M4. Guidelines

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- Do's

- Use simple sentences
- Use limited vocabulary
- Identify user type who wants the requirement
- State a single desired result
- Define verifiable criteria

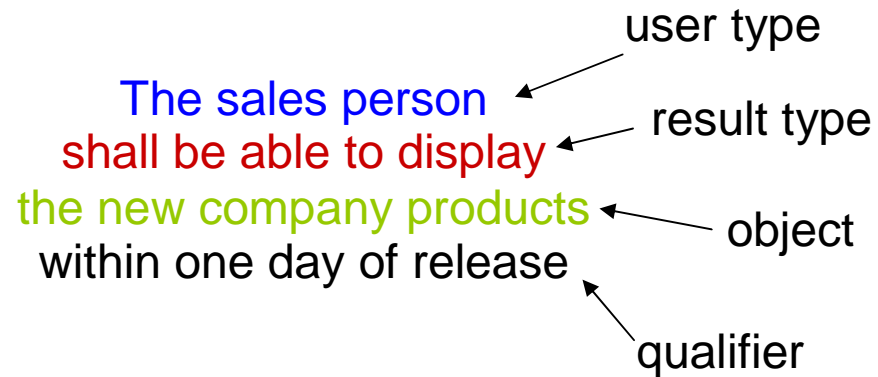
- Don'ts

- Avoid ambiguity
- Don't make multiple requirements
- Don't build in let-out clauses
- Don't ramble
- Don't design the system
- Don't plan the system
- Don't speculate
- Don't be vague
- Don't express possibilities
- Avoid wishful thinking

## M4. Sample Good Requirements

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The sales person shall be able to display the new company products within one day of release



# Module 5 Use Cases

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# Module 6 Presentation

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- **General Description**
  - Product Perspective
  - General Capabilities
  - General Constraints
  - User Characteristics
  - Operational Environment
  - Assumptions and Dependencies
- **Specific Requirements**
  - Capabilities
  - Constraints



# Glossary

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- Business requirement
- Functional Requirement
- Non-functional Requirement
- Stakeholder
- Business Owner
- Customer – WBR Pg 7
- Requirements Engineer – WBR, Pg 6
- Systems Development Life Cycle
- Constraint – WBR Pg 9
- Function, System Function, Capability

# References

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- Writing Business Requirements
- SWEBOK
- Effective Requirements Practices

# Handouts

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- SWEBOK
- Writing Better Requirements
- Hardcopy and Softcopy (course) of Presentation
- Methodology / Checklist
- Templates – Excel Requirements List, Vision, Use Case, etc?