Phases of the Requirements Process

- 1. Requirement Elicitation
- 2. Requirement Analysis
- 3. Requirement Specification
- 4. Requirements Approval



Categorizing Requirements





Why Categorize Requirements

- Aids in documentation
- Helps to prioritize
- Assists in estimating the system cost
- Identifies areas that require further investigation





Functional Requirements
Non-Functional Requirements
Constraints





Functional Requirements
Non-Functional Requirements
Constraints

- Things the product must do
- Action the product must take





Functional Requirements
Non-Functional Requirements
Constraints

- Properties or qualities the product must have
- How the product will behave





Functional Requirements
Non-Functional Requirements
Product Constraints

- Global requirements
 - Purpose of the project
 - Users of a product





Deriving Requirements



Deriving Requirements

- 1. Parsing Requirements
- 2. Interpreting Requirements
- 3. Focusing Requirements
- 4. Qualifying Requirements



Parsing Requirements

Breaking down requirements that are too broad



Parsing Requirements

Original Requirement:

 "User-completed fields on tax forms shall be converted to electronic text documents."

Parsed Requirements:

- "The system shall be able to convert handwriting to text."
- "The system shall be able to convert machine print to text."
- "The system shall be able to electronically correct user-completed fields."



Parsing Requirements

Removing "and" from requirements

- Risk is high that only one of the conditions will be tested
- Hard to trace the requirement bug/failure



Interpreting Requirements



Interpreting Requirements

Reduce generalness and ambiguity of stated requirements



Interpreting Requirements

Original Requirement:

"Each PC shall have state-of-the-art software installed."

Interpreted Requirement:

• "Each PC shall have Microsoft Office 2013 and Windows 10 installed."

Parsed Requirements:

- "Each PC shall have Microsoft Office 2013 installed."
- "Each PC shall have Windows 10 installed."



Focusing Requirements

Combine overlapping requirements into one focused requirement



Focusing Requirements

Original Requirements:

 "Each PC must have a standard spreadsheet tool installed that runs in Windows."

Focused Requirement:

• "Each PC on the LAN shall have Microsoft Office Excel 2013."



Qualifying Requirements

Add a requirement to provide a method of verficiation or compliance



Qualifying Requirements

Original Requirement:

• "The xxx command must peform the following actions..."

Focused Requirement:

• "Each command shall be executed during system testing to demonstrate its functionality."



Assigning Requirement Attributes



Why Assign Requirement Attributes

- Clarification
- Filtering
- Validation



Typical Attributes

- Unique Identifier
- Acceptance Criteria
- Author
- Complexity
- Ownership
- Performance

- Urgency
- Business Value
- Status
- Type
- Priority
- Source



Typical Attributes

- Unique Identifier
- Acceptance Criteria
- Author
- Complexity
- Ownership
- Performance

- Urgency
- Business Value
- Status
- Type
- Priority
- Source



Prioritizing Requirements



Why Prioritize Requirements

Generally there are too many functions and features to implement within the project schedule and budget.



Prioritization Factors

- Value to the business
- Value to the customer
- Minimize cost to develop
- Time to implement
- Ease of technical implementation
- Ease of business implementation
- Obligation to some external authority



3 Step Prioritization Process

Step 1

Define usefulness to business (critical, important, nice to have)

Step 2

Estimate cost (1-5 scale)

Step 3

Determine timeframe (1-5 scale)

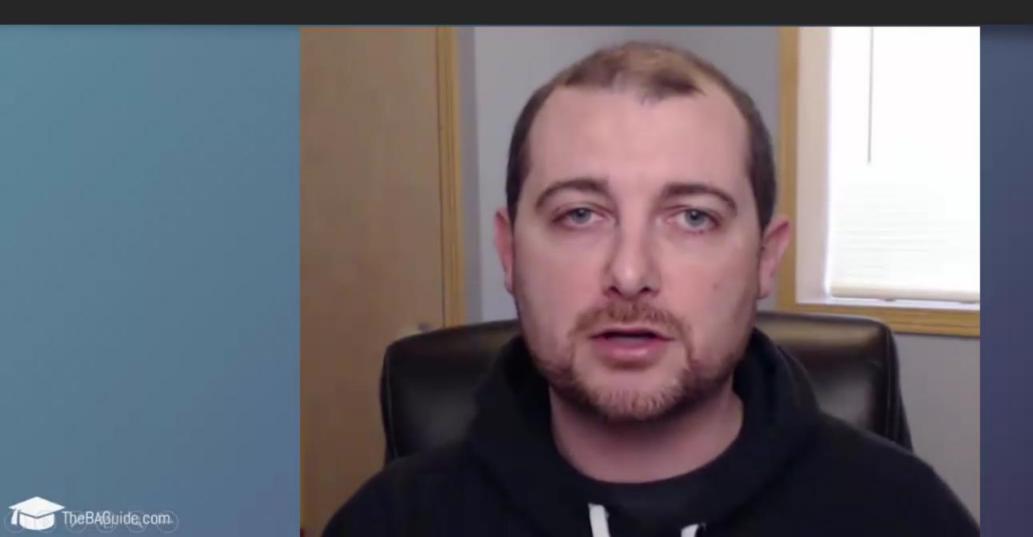


Requirement Prioritization Best Practices

- Keep it simple
- Business value reigns supreme
- Remove prioritization away from politics
- Prioritize (and re-prioritize) after each project iteration



Validating Requirements



The Business Requirements Document (BRD)



Business Requirement Document (BRD) Basics

- What is a Business Requirements Document?
- Who prepares it?
- What is it used for?
- What is the standard format?





BRD Template



