Overview

• Introduction
• Planning to Gather Requirements
• Gathering Process
• What Not to Miss
• Summary
Introduction

• Objectives:
  – Encourage you to treat requirements gathering as a process.
  – Provide some starting points for you to work from.

• Basis for talk:
  – Gathering effective requirements is known to be critical to success.
  – Using a generic hypothetical example.
  – Defined IT project with IT deliverables.
Requirement Definitions

• Characteristic of performance or functionality that the end product must meet or exceed.

• Effective requirements are:
  – Complete
  – Specific
  – Separated into must have and optional.
  – Measureable
  – Prioritized
  – Achievable
  – Connected
  – Signed off by the client(s)
Requirement Categories

Functional
- Tasks
- Activities
- Screens
- Data Flow
- Inputs
- Outputs

Technical
- Availability
- Reliability
- Performance
- Backup
- Recovery
- Archive
- Security

Business Process
- Functional Requirements
- Technical Requirements
- Final Deliverable
Process of Gathering Requirements

Requirements gathering is iterative and cyclical.
Planning for Requirements Gathering

ANALYSIS
SOLUTION
PROCESS
OBJECTIVES
TEAMWORK
VISION
SALES
Planning for Requirements Gathering

**Step 1: Review the Project Scope**

- **Business Process** – What business outcome is needed?
- **Stakeholders** – Who are the stakeholders, and how many business areas do they represent?
- Is this independent development or modifications to an existing system?
- **What are the constraints** – time, project, etc?
- **What is the development method** – waterfall, iterative?
- **Who is sponsoring the project?**

We are estimating the time needed for requirements gathering, the number of different stakeholder groups, and any possible areas of disagreement.
Planning for Requirements Gathering

Step 2: Identify the Interfaces and Constraints

• Where are the interactions?
  – What systems are providing inputs?
  – What systems require outputs?

• What are the constraints?
  – Infrastructure standards, guidelines
  – Architectural standards in products and tools

Can we identify some of the boundaries?
Are some of the requirements pre-determined?
Planning for Requirements Gathering

Step 3: Plan the execution of the process

• Ensure client resources are available and committed.
  • Look for strong subject matter experts
  • Look for diversity
  • Plan to engage groups separately if needed

• Ensure activities are time boxed and allow for review times

• Clearly identify deliverables and their formats.

• Plan follow up time

Create a plan that matches the development method, ensures that the resources understand the full commitment, and sets an expectation for the deliverables and dates.
Gathering Process

- Book short, specific workshops (2-3 hours max)
  - Facilitate
  - Have an agenda and templates
  - Have a parking lot for issues
  - Separate functional from technical
  - Discuss discovered constraints at the first workshop
  - Have the right equipment - projector, computer, flip chart
  - Stay on task and on schedule at each workshop

- Ensure that the business process is understood first
  - Identify process steps
  - Identify expected inputs, outcomes, measures, business rules
  - Plan to iterate as requirements gathering continues
Gathering Process- Example

- Fictitious Call Centre that receives customer inquiries
- Have been keeping track on paper
- Want an electronic data entry system
### Example template - functional requirement

<table>
<thead>
<tr>
<th>Requirement Name:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Function:</td>
<td></td>
</tr>
<tr>
<td>Description:</td>
<td></td>
</tr>
<tr>
<td>Rationale:</td>
<td></td>
</tr>
<tr>
<td>Business Source:</td>
<td>Tester:</td>
</tr>
<tr>
<td>Acceptance Measure:</td>
<td></td>
</tr>
<tr>
<td>Dependencies/Interfaces</td>
<td>Requirement Type:</td>
</tr>
<tr>
<td>Additional Business Rules:</td>
<td></td>
</tr>
</tbody>
</table>
# Example:

<table>
<thead>
<tr>
<th>Requirement Name:</th>
<th>Call record</th>
<th>Date:</th>
<th>09/23/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Function:</td>
<td>Record customer phone inquiries - Initial contact record</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description:</td>
<td>Electronic form that collects data as listed in supporting spreadsheet CustomerInquiry.xls (Initial Call tab)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rationale:</td>
<td>Collect a consistent and complete set of data to support the follow up requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Source:</td>
<td>Jane Smith</td>
<td>Tester:</td>
<td>George Doe</td>
</tr>
<tr>
<td>Acceptance Measure:</td>
<td>Form collects all required information in the correct format.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dependencies/Interfaces:</td>
<td>Uses current customer tables Uses electronic form development stds</td>
<td>Requirement Type:</td>
<td>Must have</td>
</tr>
<tr>
<td>Additional Business Rules:</td>
<td>Business Day: 8:00:00 AM to 9:00:00 PM- outside hours calls to be clearly identified. SLA to respond to messages within 24 hours</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Example data collection template:

<table>
<thead>
<tr>
<th>Item</th>
<th>Meaning</th>
<th>Type</th>
<th>Length</th>
<th>Allowed Values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data Model
Example:

<table>
<thead>
<tr>
<th>Item</th>
<th>Meaning</th>
<th>Type</th>
<th>Len</th>
<th>Allowed Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>The identity of the person who is calling</td>
<td>Char</td>
<td>30</td>
<td>Any Char</td>
</tr>
<tr>
<td>Phone #</td>
<td>Contact Telephone Number</td>
<td>Char</td>
<td>13</td>
<td>International format</td>
</tr>
<tr>
<td>Email</td>
<td>Contact email address</td>
<td>Char</td>
<td>30</td>
<td>Valid email</td>
</tr>
<tr>
<td>Call Transcript</td>
<td>A free flow record of the customer inquiry</td>
<td>Char</td>
<td>Long</td>
<td>Type</td>
</tr>
</tbody>
</table>

**CUST**
- CustID
- LName
- FName
- Init
- Addr1
- Addr2
- WkPhone
- MbPhone
- CEmail

**CUST_INQ**
- CustID
- SPhone
- SEmail
- InqText
Example technical requirement template

<table>
<thead>
<tr>
<th>Application Name:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Function:</td>
<td></td>
</tr>
<tr>
<td>Description:</td>
<td></td>
</tr>
<tr>
<td>Availability:</td>
<td></td>
</tr>
<tr>
<td>Reliability:</td>
<td></td>
</tr>
<tr>
<td>Performance:</td>
<td></td>
</tr>
<tr>
<td>Security:</td>
<td></td>
</tr>
<tr>
<td>Archive:</td>
<td></td>
</tr>
<tr>
<td>Recovery:</td>
<td></td>
</tr>
<tr>
<td>Support Level:</td>
<td></td>
</tr>
</tbody>
</table>
Example:

<table>
<thead>
<tr>
<th>Application Name:</th>
<th>Customer Inquiry Record</th>
<th>Date:</th>
<th>10/14/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Function:</td>
<td>Collect information from phone based customer inquiries that facilitates follow up calls.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description:</td>
<td>Web based system for data collection.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability:</td>
<td>6 am to 6 pm Monday to Friday</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reliability:</td>
<td>Always on – power outages excepted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance:</td>
<td>3 second screen refresh after commit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security:</td>
<td>Internal use only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Archive:</td>
<td>Daily 8 pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery:</td>
<td>3 hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support Level:</td>
<td>Work to completion</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Ending the process

• Use the requirements documents to create a system test plan.
  – Provides an additional deliverable
  – Helps validate that requirements are effective.

• Have the clients sign off on the requirements.
What not to miss

Things that can and do slip through unnoticed to cause rework and more work.
What not to miss

• Common terms that have uncommon meanings

• TIME
  – Exact definition in date time format
  – Week- starts when?
  – Month- starts when?
What not to miss

• Metadata Consistency
  – If it already has a name, stick with it
  – Pay attention to allowed values

• Definitions
  – Business language, complete sentences and validated with stakeholders.

• Historical Aspects of data
  – Data analysis concerns
  – Timestamps, order of events
  – Data warehouse needs
What not to miss

• Business Rules:
  – A rule of operation that is not apparent from the description of the process.
  – Can be very fluid and diverse
  – Often used to deal with exceptions
  – Supplements the definition of a business term.

• Examples:
  – We allow 5 contacts for a customer (except for our top 10 customers who are allowed as many as they wish)
  – We do not follow up customer complaints outside of business hours except by customer request.
  – We never ship direct to a retail customer by courier
What not to miss

• Technical requirements
  – Establish early
  – Manage client expectations.

• Constraints
  – Discover Early
  – Check all types - organization, software, hardware, process

• Iteration and signoff
  – Need at least 2 review cycles
  – Follow up with folks who do not respond to review requests
  – Need signoff by clients and/or sponsors
What not to miss

• Requirements will change after signoff - manage actively

• Have a process that includes:
  – Document the change – reuse the templates
  – Assess the impact, especially
    • The need for rework
    • The need for different or additional resources
    • The benefit of the change
  – Have client signoff against the impact
  – Have a pre-determined freeze point
Summary

- Effective requirements:
  - Complete
  - Specific
  - Necessary/Optional
  - Measureable
  - Prioritized
  - Achievable
  - Connected
  - Signed off by the client(s)

- Gathering Tools include:
  - Templates
  - Base documents
  - Checklists
  - Workshops
  - Signoff
  - Change Process

Requirements gathering is an iterative and cyclical process that should be planned, managed and controlled.
Questions, Contact

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