



# Developing SMART Requirements

January 06, 2010

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- Purpose
- SMART Concept – Background
- SMART Definition
- Applying SMART Principles



# Purpose

- The presentation discusses in context these ideas:
  - A requirement, at its most basic level, is a desired and predictable outcome; and
  - Consistent methods for creating testable requirements benefit the project bottom-line.

## SMART Concept – Background

- Benefits of using SMART requirements:
  - Budget and schedule advantages are gained;
  - Consensus is more quickly reached; and,
  - Rework is decreased.

## SMART Requirements – alternates in ( ):

- **S**pecific;
- **M**easurable
- **A**ttainable (Achievable, Actionable, Appropriate)
- **R**ealistic (Relevant)
- **T**ime-Bound (Timely)

## SMART Definition – Specific:

- Specific requirements are ***precise*** and:
  - Are not open to interpretation; and
  - Avoid absolutes (ex. – “all”, “never”, “always”).



## SMART Definition – Specific (Poor):

- *The document will contain all customer information:*
  - Which document?
  - What customer information?
  - What format(s)?

## SMART Definition – Specific (Improved):

- This requirement has improved precision:
  - *The Declaration document shall contain this customer information in a text block in the top right corner of the first page:*
    - *Customer Name*
    - *Phone*
    - *Email*



## SMART Definition – Measurable:

- Measurable requirements can be **verified as complete** and:
  - Avoid undefined time periods / quantities; and,
  - Avoid non-fact based measurements such as “best” or “optimal”.



## SMART Definition – Measurable (Poor):

- *The application shall function quickly for end users:*
  - How quickly (seconds, minutes, hours)?
  - Which application features are included?
  - Which users are affected – guests, administrators, everyone?

## SMART Definition – Measurable (Improved):

- This requirement has improved measurability:
  - *The application shall have response times of 4.00 seconds or less for all features, and for all user roles, during business hours of 9 AM – 5 PM ET, Mondays – Fridays.*

## SMART Definition – Attainable:

- Attainable requirements are **able to be achieved given the existing environment** and are:
  - Appropriate for project / limitations; and,
  - Realistic to achieve within project parameters.



## SMART Definition – Attainable (Poor):

- *The monthly cycle will be run on the last Friday of the month, between 7 PM and 8 PM ET:*
  - Has this been verified to be possible?
  - What if the cycle runs longer than 1 hour?

## SMART Definition – Attainable (Improved):

- This requirement has improved attainability:
  - *The monthly cycle will be run on the last Saturday of the month, starting at 7 AM and completing by 7 PM ET.*

## SMART Definition – Realistic:

- Specific requirements are ***relevant*** and:
  - Are appropriate in context with other requirements; and,
  - Consider other related project constraints.



## SMART Definition – Realistic (Poor):

- *The new website will generate over 1,000,000 hits within its first 12 hours of implementation:*
  - Is this likely / necessary to occur?
  - Is there a better way to measure this outcome?



## SMART Definition – Realistic (Improved):

- This requirement has improved relevance:
  - *The new website shall be ranked within the first results page on three (3) major search engines (Google, Bing and Yahoo) within its first 12 hours of implementation.*

## SMART Definition – Time-Bound:

- Time-Bound requirements are ***timely*** and:
  - Clarify how quickly a requirement needs to be finished, executed or implemented.
  - Avoid vague time references such as “fast”, “quick” or “soon”.



## SMART Definition – Time-Bound (Poor):

- *System availability will be achieved soon after the cycle is completed:*
  - How soon (seconds, minutes, hours)?
  - What if the cycle is late?

## SMART Definition – Time-Bound (Improved):

- This requirement has improved timeliness:
  - *System availability shall be achieved after cycle completion and by no later than 6 AM ET on Mondays – Fridays.*

# Questions

