

# Lecture 08: Techniques for Gathering Requirements

"The goal of requirements engineering is to develop high quality – not perfect – requirements that allow you to proceed with construction at an acceptable level of risk."  
-- from "Software Requirements", Karl Wiegers

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## Outline

- n Techniques:
  - n Use Cases / Usage Scenarios
  - n Commonality and Variability Analysis
  - n Frequent Customer Feedback
  - n Throwaway Prototyping
- n Risks from Inadequate Requirements Processes
- n Discussion Questions

**Note:** The list of techniques is necessarily incomplete.

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## Resources

- n "Software Requirements", by Karl Wiegers
- n "Use Cases and The Ever Unfolding Story", seminar by Dan Rawsthorne
- n "Rapid Development", by Steve McConnell
  - n Ch. 10, 14.1
- n "The Pragmatic Programmer", by Andrew Hunt and David Thomas
  - n Ch. 7 – all of it is relevant

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## Use Cases

- n Describe the typical paths for a user to interact with a system
- n Increasing level of detail depending on the complexity of the interaction
  - n "The ever unfolding story" (Dan Rawsthorne)
- n Questions to consider (in that order):
  1. Who are the actors?
  2. What are they (normally) doing? (a.k.a. Main success scenario, MSS)
  3. What can go wrong with that?
  4. How do we then handle this situation?

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## Use Cases: Suggested Template

<b>Goal</b>	
<b>Primary Actor</b>	
<b>Precondition</b>	
<b>Successful Postcondition</b>	
<b>Unsuccessful Postcondition</b>	
<b>Trigger</b>	
<b>Main Success Scenario</b>	
<b>Failure Scenario</b>	

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## Use Case Example using the Suggested Template

<b>Goal</b>	Reading one's web-based email
<b>Primary Actor</b>	Email account owner
<b>Precondition</b>	User has email account with a site; user knows site's address
<b>Successful Postcondition</b>	Emails retrieved
<b>Unsuccessful Postcondition</b>	Emails not retrieved
<b>Trigger</b>	User's incoming read request via the site's web
<b>Main Success Scenario</b>	...
<b>Failure Scenario</b>	...

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## Use Case Example: Main Success Scenario

- n Example: Reading your web-based mail (e.g., @ hotmail, yahoo, gmail, etc.)

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## Commonality and Variability Analysis

- n Commonalities are the enduring concepts of the domain you're modeling.
  - n They would give stability to your designs.
- n Variabilities are only defined in the context of existing commonalities.

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## Commonality and Variability Analysis

- n Example: Computing the price for a purchase at an e-commerce site

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