Analysis, Design, and Process
## Analysis and Design

<table>
<thead>
<tr>
<th>Analysis — “what”</th>
<th>Design — “how”</th>
</tr>
</thead>
<tbody>
<tr>
<td>investigation of the problem and requirements</td>
<td>description of a software solution</td>
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<table>
<thead>
<tr>
<th>Requirements</th>
<th>Objects</th>
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<tbody>
<tr>
<td>Use cases</td>
<td>Architecture</td>
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<tr>
<td>Constraints</td>
<td>Deployment</td>
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<tr>
<td>Vocabulary</td>
<td>UI</td>
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Terminology Wars

- Terms not fixed, but used along a continuum.

More analysis oriented

More design oriented
Object-oriented Analysis and Design

- Object-oriented analysis
  - What are the domain objects?
    Described in a domain object model

- Object-oriented design
  - Describing the software solution in terms of collaborating objects, with responsibilities.
The Unified Modeling Language

- The UML is standard diagramming language to visualize the results of analysis and design.
- Notation (the UML) is a simple, relatively trivial thing.
- Much more important: Skill in designing with objects.
  - Learning UML notation does not help
- The UML is not
  - a process or methodology
  - object-oriented analysis and design
  - guidelines for design
Software Development Processes

- Process is useful, but only a 2nd-order effect.
  - Number 1: Good people, well educated.

- Good people + good process = lower risk

- The *Unified Process* has emerged as a de facto industry standard.