



## The Problems with Software Engineering

Where do we go wrong?

The UML lecture notes are based in part on those developed originally by Mats PE Heimdahl

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## Common Problems

- The requirements are wrong
  - Incomplete, inconsistent, or ambiguous
  - The developer and the customer did not interpret the requirements the same way
- Requirements drift
  - The requirements tend to change throughout the project
  - Late design changes
- Continual change
  - The functionality of the system continually changes
  - Many changes come late in the project
  - Many changes during maintenance
- Breakdown of system structure
  - The system finally becomes unusable

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## Solutions

- Rigorous requirements and planning stage
  - Make sure all stakeholders understand and agree on the requirements
- Structure the system design to accommodate change
  - Isolate parts that are likely to change
  - Modularize so changes are contained
  - Attempt to not compromise system structure during change

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## Use-Cases and Scenarios

- A powerful approach to find out what the requirements on the system are
- Helps the analysts identify
  - The various users of the system
    - ◆ Humans, software, and machines
  - The functions the system must provide
- Provide more stable requirements

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