The Problems with Software Engineering

Where do we go wrong?

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

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

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