



Fighting Murphy's Law

How Best Practices Can Save Your Software Project





Presenter

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What You'll Learn Today

- **Project Management, Planning and Control**
- **Requirements Gathering and Analysis**
- **Design**
- **Implementation**
- **Quality Assurance**

Murphy's Law

“Anything that can go wrong will go wrong.”

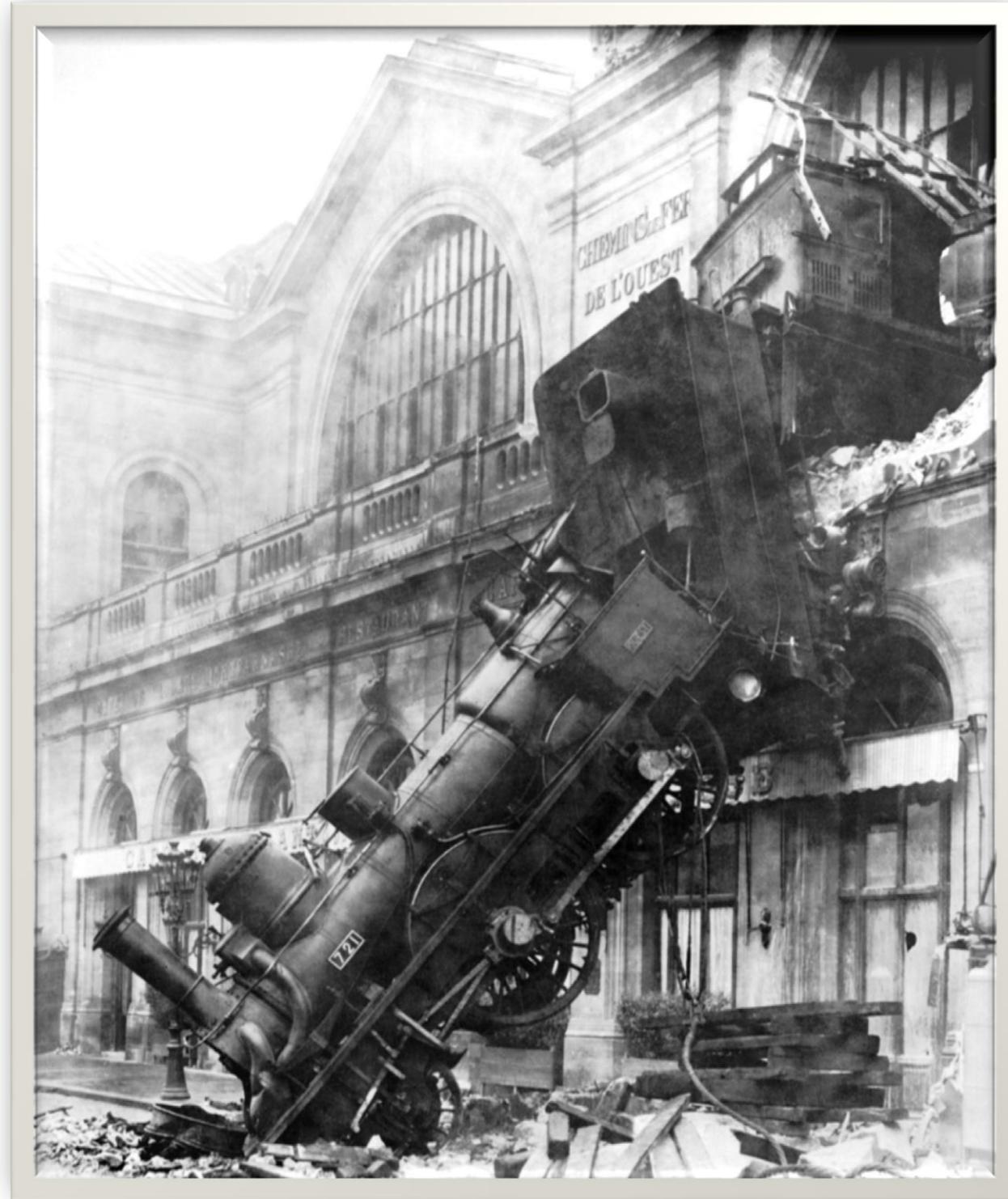


What is a Best Practice?

A practice which:

- **Is most appropriate under the circumstances**
- **Has reliably led to a desired or optimum result**
- **Is based upon experience and research**

Learning the Hard Way



Why Change?

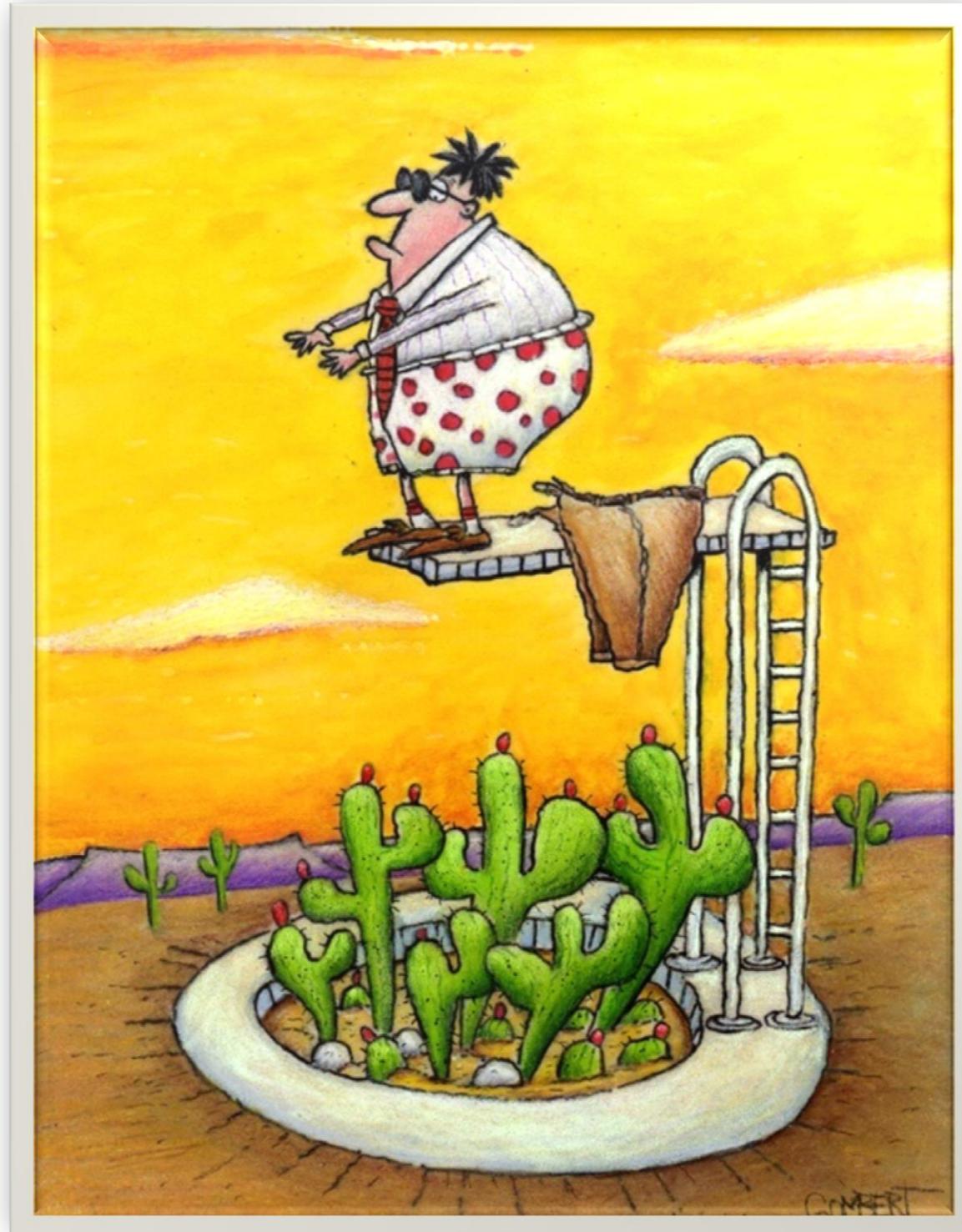
- More positive project outcomes
- Repeatable results
- Higher overall quality, lower maintenance costs
- Higher team morale, lower stress and turnover
- Growing better resources



One Size Does Not Fit All

- Process should be flexible
- Only apply enough to mitigate the risk
- Too much process can be as bad as not enough
- Think
- Don't get religious, get results

Look Before You Leap...



Planning and Control

- Have a visible project plan
- Break your project into smaller pieces
- Have a feedback loop
- Manage change
- Embrace iterative approaches



Estimation

- What is an estimate?
- Break it down and write it down
- Expect ranges
- Don't accept or give “off the cuff” estimates!
- A continuous activity

Understanding Requirements

- The “what” or “why” and “for whom” in a solution
- One of the highest overall value activities
- Up to a \$200 payback for every dollar spent
- Provides guidance for all future activities
- Many times, the most neglected part of a project



Requirements Guidelines

- **Must be testable**
- **Use diagrams and pictures wherever possible**
- **Must be in the language of the user**
- **Complex projects = complex requirements**

Requirement Examples

Ambiguous:

The web site must be fast.

Better:

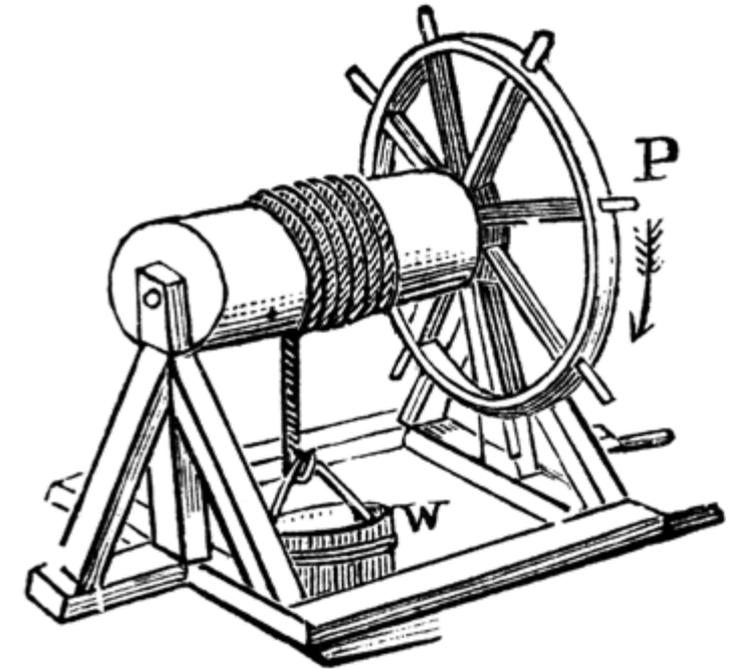
Web pages must completely load within five (5) seconds when browsed by a user having high speed Internet access (DSL, Cable, etc.) at a peak load of 50 concurrent users.

A Requirements Diversion...



Design

- Must be mapped directly to requirements
- The “how” in the solution
- Strive for simplicity
- Design for reuse
- Design directly influences maintenance costs



Design Problem...

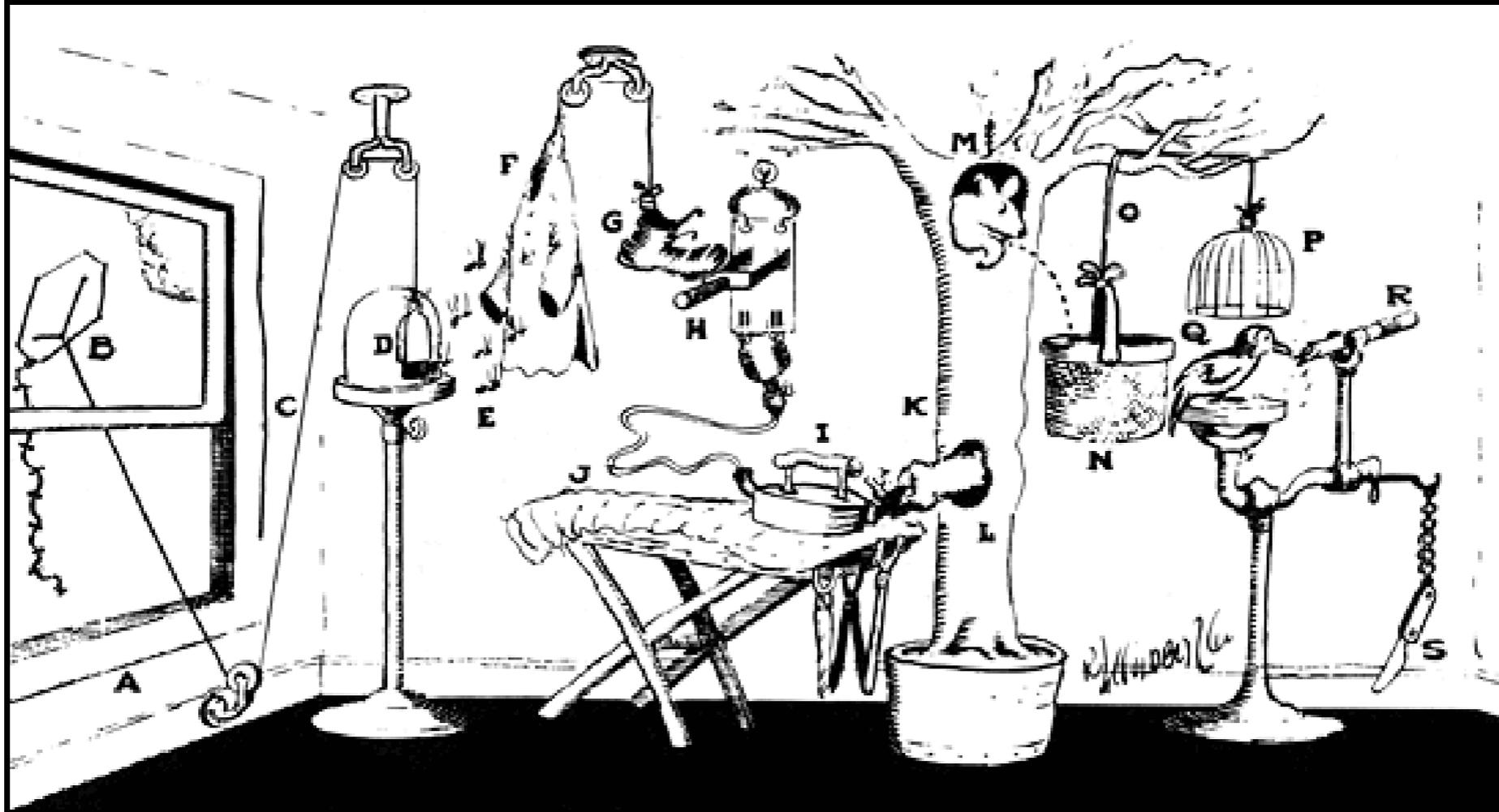
I need to sharpen this:



 This...



Not This...



Implementation

- Standards, Get Some
- Tools help, a lot, but only with planning
- Build on a Standard Platform
- Avoid gold plating
- Avoid big bang approaches

Quality Assurance

- Don't cut this corner
- Automate where possible
- Measure and track
- Release at zero known defects
- Peer review: Better software, better peers

Where Do I Go From Here?

- Start small
- Go after the highest value activities first
- Incrementally improve
- Continuously measure, review and adjust
- Market your successes





Additional Resources

Software Project Survival Guide

Steve McConnell

Software Estimation, Demystifying the Black Art

Steve McConnell

Software Requirements, Second Edition

Karl E. Weigers

Dynamics of Software Development

Jim McCarthy



Thank You!

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