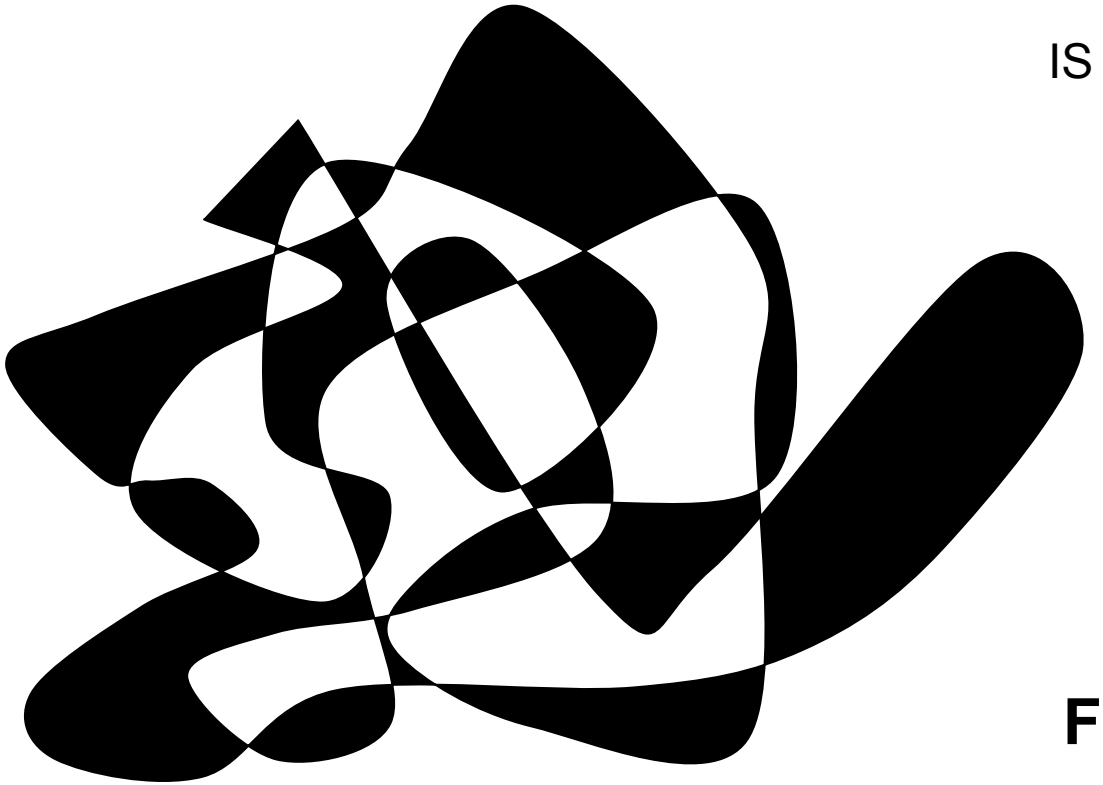
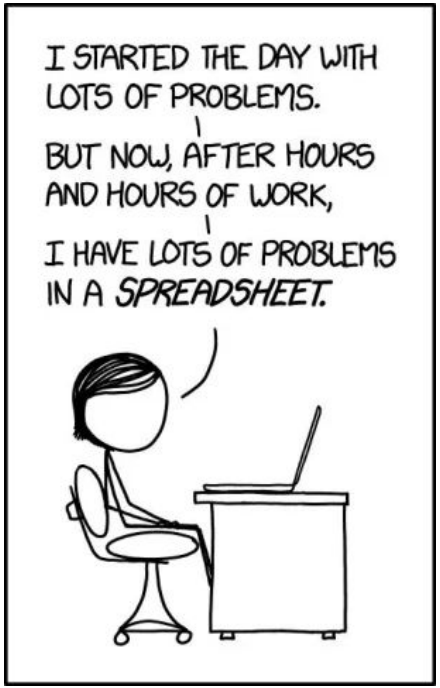
Advanced Project Management

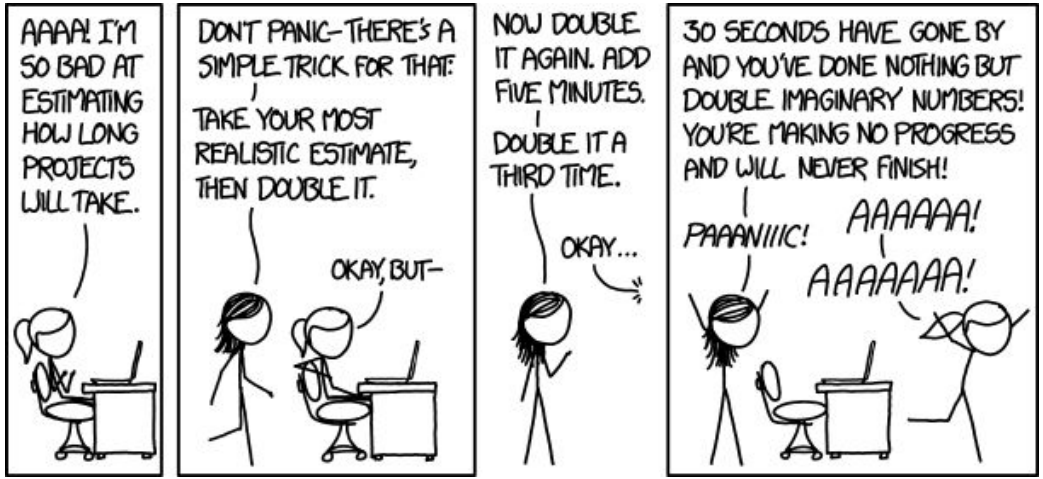
IS 594, Section PJ



Failure Points II

xkcd to the rescue (??)





Making Progress: https://xkcd.com/1906/

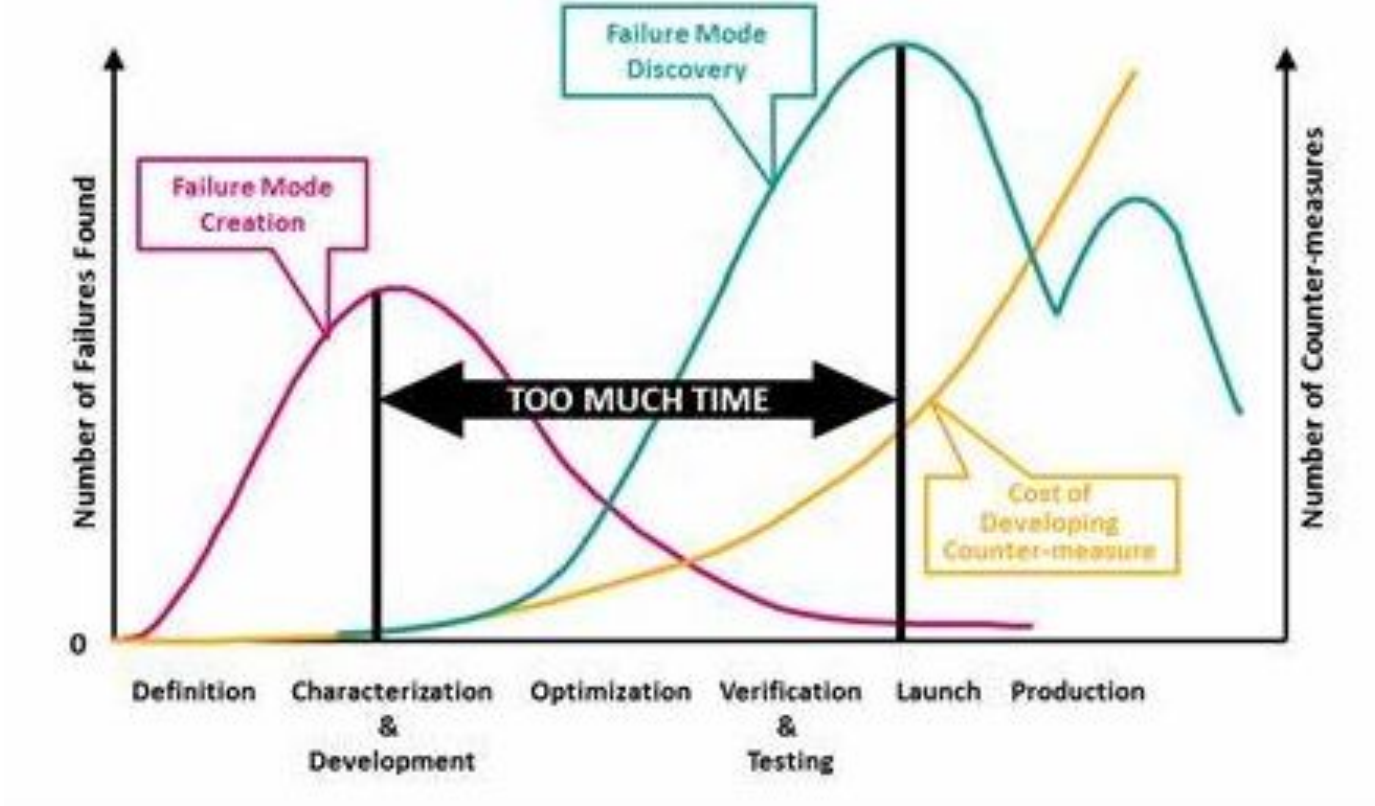
Time Estimation: https://xkcd.com/1658/

Failure Mode Analysis (FMA)

For each step in a workflow, identify blast radius of multiple failure types.

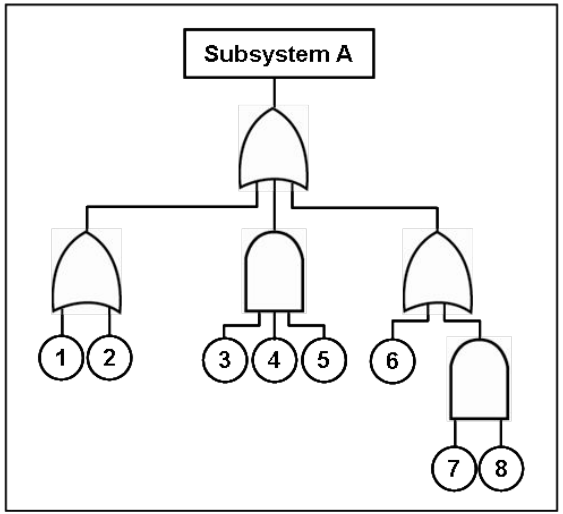
- you can and will have failures no matter how resilient your process.
- what are the full range of effects for a specific failure?

Mitigation: activities that address problems either proactively or retroactively.


Failure Mode Discovery
Failure Mode Creation
TOO MUCH TIME
Cost of Developing Counter-measure
Number of Failures Found
Number of Counter-measures
0
Definition
Characterization & Development
Optimization
Verification & Testing
Launch
Production

Failure Mode and Effects Analysis (FMEA)

A ‘failure mode’ in FMEA refers to the way in which a component, subsystem, system, process, or design could potentially fail to meet the expected performance standards.



Fault Tree Analysis

Design for minimal failure!

Six sigma and the minimization of error rate: errors come at a high cost.

What is Resilience?

Resilience capability in an organization:

- capacity, characteristics, outcome, process, behavior strategy, type of performance.
- project resilience: a capacity or capability → respond to and prepare for failure, reduce impact of disruptions, ensure completion of goals.
- anticipate risks, respond to crises, and flexibility adapt to complex and changing environments.

What if we've lost all hope!?!

https://github.blog/2016-03-15-kindly-closing-pull-requests/

What to do if people submit subpar or out of scope work?

How do you keep contributor workflows moving?

Close pull requests you will never accept

Outside contributors may submit pull requests for changes that you don’t want made to your project.

Close pull requests you cannot accept

Contributors may be unable or unwilling to make the changes required for the pull request to be merged.

Close pull requests on unmaintained projects

Project solved a particular problem, no longer a problem or open-sourced.

Close pull requests that turn sour

Pull requests can sometimes deviate from the original intent of the pull request and may even become unpleasant.

Would merging this pull request make the project better or worse for them?

Project Completion

From Adrienne Watt, *Project Management* book

Review and document all phases of project and organization:

1) risk mitigation: how can risk be lessened, and what have you learned during this project?

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4) document archiving (documentation updates, make notes as updates).

Agile approach: Fail fast and move on. This is acceptable at low stakes, but unacceptable in a high-stakes environment (cockpit design).