Lesson 7

Improving Program Performance with Inspect and Adapt

1. Exploring the Scrum Master Role in the SAFe Enterprise
2. Applying SAFe Principles: A Scrum Master's Perspective
3. Exploring Agile and Scrum Anti-Patterns
4. Facilitating Program Execution
5. Improving Flow with Kanban and XP
6. Building High-Performing Teams
7. Improving Program Performance with Inspect and Adapt

SAFe® Course Attending this course gives students access to the SAFe® Advanced Scrum Master exam and related preparation materials.

Learning objectives

7.1 Explore the Inspect and Adapt process

7.2 Apply Problem-Solving Workshop

7.1 Explore the Inspect and Adapt process

Inspect and Adapt overview

The Inspect and Adapt (I&A) event has three parts:

- The PI System Demo of the Solution's current state to program stakeholders (45 – 60 minutes)
- Quantitative measurement (45 – 60 minutes)
- The retrospective and Problem-Solving Workshop (1.5 – 2 hours)

Suggested timebox:
3 – 4 hours

PI System Demo

Suggested timebox:
45 – 60 minutes

PI 1: Demo agenda

1. System Level Demo
2. Team 1 highlights
3. Team 2 highlights
4. Team 3 highlights
5. ….

At the end of the PI, teams demonstrate the current state of the Solution to the appropriate stakeholders.

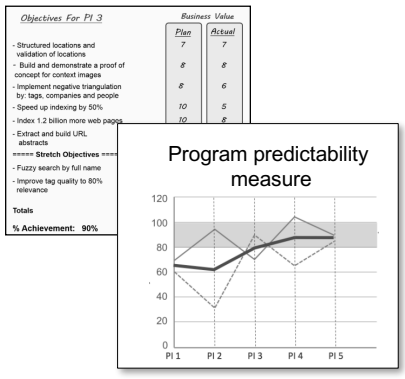
Team performance assessment

How did we do?

Suggested timebox during actual I&A: 45 – 60 minutes

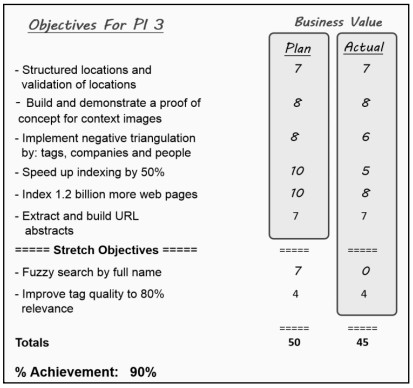
- All teams' PI Objectives were assigned a business value from 1 to 10
- Review and rate your PI achievements:
  - How well did you do against your stated objectives, including (a) timeliness, (b) content, and (c) quality?
  - Scale: 1 to 10, 10 being max total business value
- Average these across all objectives and give yourself a program percent achievement score

Team PI performance report



Team PI performance report

- Planned total does not include stretch objectives
- Actual total includes stretch objectives
- Percent achievement = Actual total/Planned total
- A team can achieve greater than 100% (as a result of stretch objectives achieved)
- Effort required for stretch objectives is included in the load (i.e., not extra work the team does on weekends)



Objectives For PI 3	Business Value: Plan	Business Value: Actual
- Structured locations and validation of locations	7	7
- Build and demonstrate a proof of concept for context images	8	8
- Implement negative triangulation by: tags, companies and people	8	6
- Speed up indexing by 50%	10	5
- Index 1.2 billion more web pages	10	8
- Extract and build URL abstracts	7	7
===== **Stretch Objectives** =====	=====	=====
- Fuzzy search by full name	7	0
- Improve tag quality to 80% relevance	4	4
Totals	**50**	**45**

% Achievement: 90%

- Individual team totals are rolled up into the Program Predictability Report

Team PI performance report

How did we do?

Collect and discuss any other Program Metrics that the team has agreed to collect.

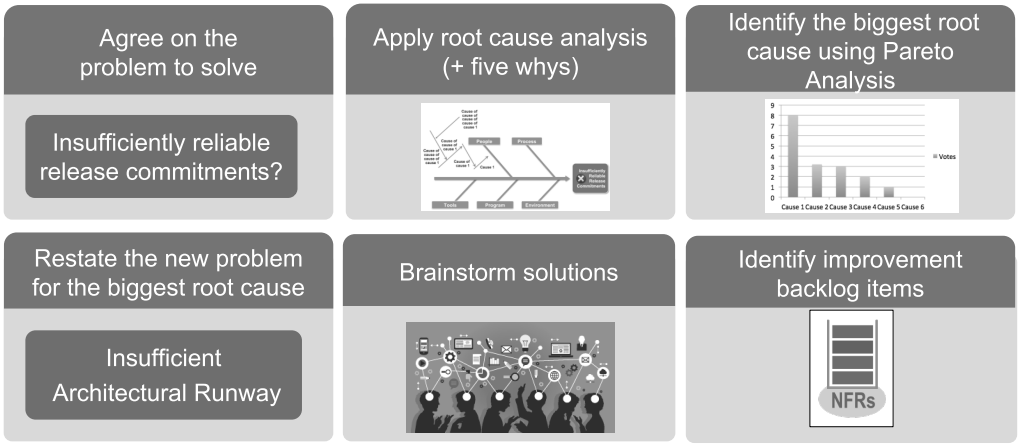
Suggested timebox during actual I&A: 45 – 60 minutes

Functionality	PI 1	PI 2	PI 3
Program velocity			
Predictability measure			
# Features planned			
# Features accepted			
# Enablers planned			
# Enablers accepted			
# Stories planned			
# Stories accepted			
Quality			
Unit test coverage %			
Defects			
Total tests			
% automated			
# NFR tests			

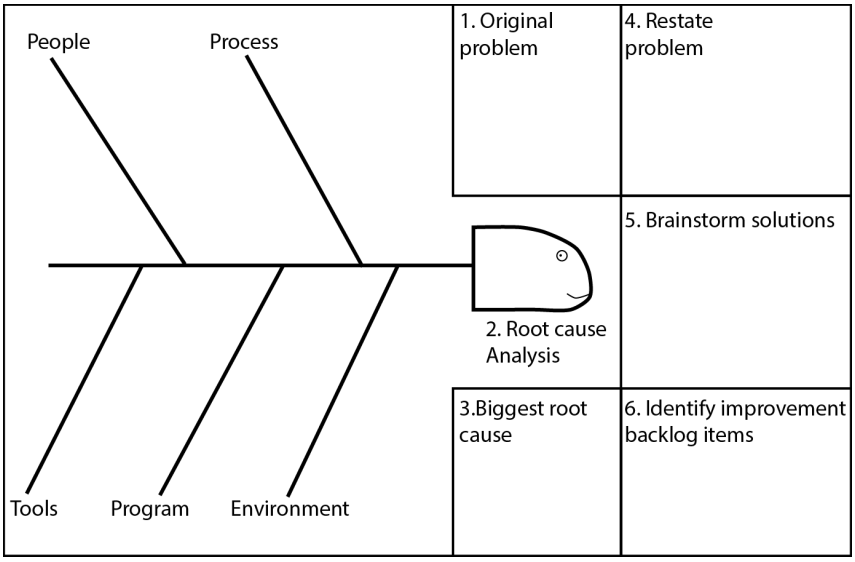
7.2 Apply Problem-Solving Workshop

The Problem-Solving Workshop

Teams conduct a short retrospective, then systematically address the larger impediments that are limiting velocity.



Build the problem-solving board



Agree on the problem to solve

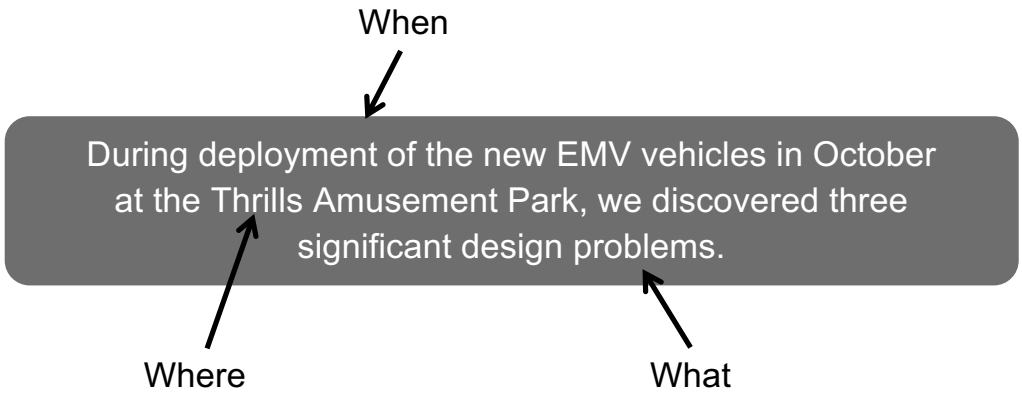
A problem well-defined is a problem half-solved.

- Clearly stating the problem is key to problem identification and correction.
- You must define the undesirable problem or situation, so that everyone involved in the countermeasures understands.
- A clearly-defined problem focuses your investigation efforts and saves time. Honest effort at careful definition will avoid the “ready, fire, aim” approach that is so common in problem-solving.

A problem that is not well-defined may result in failure to reach the proper countermeasure.

Anatomy of a well-defined problem

Think about the What, When, Where, Frequency, and any gaps



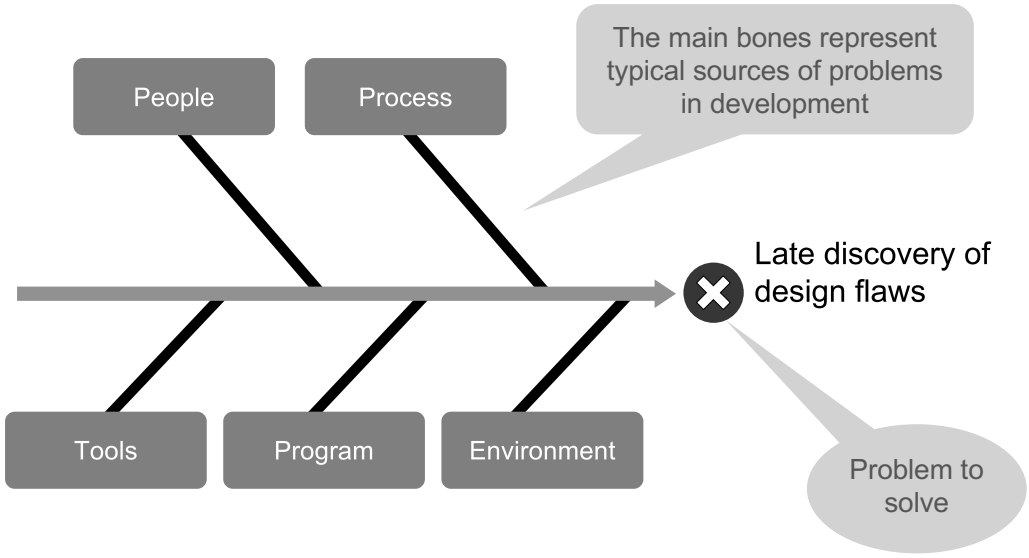
Concept contributed by Beth Miller

Exercise: Agree on the problem

- Review the systemic impediments you identified in previous lessons
  - Pick one problem to work on at your table, or in affinity groups
  - Agree on a clear problem statement

Note: Don't worry about a well-formed problem or impact statement here. There isn't sufficient time in this exercise.

Root cause analysis (fishbone or Ishikawa) diagram



Finding the root cause: The 5 whys

"By repeating why five times, the nature of the problem, as well as its solution, becomes clear." —Taiichi Ohno

- The '5 Whys' is a proven problem-solving technique used to explore the cause-and-effect relationships underlying a particular problem
- The key is to avoid assumptions and logic traps
- Instead, trace the chain of causality in direct increments from the effect to a root cause

The Problem: My car will not start.

Why? - The battery is dead (first why).

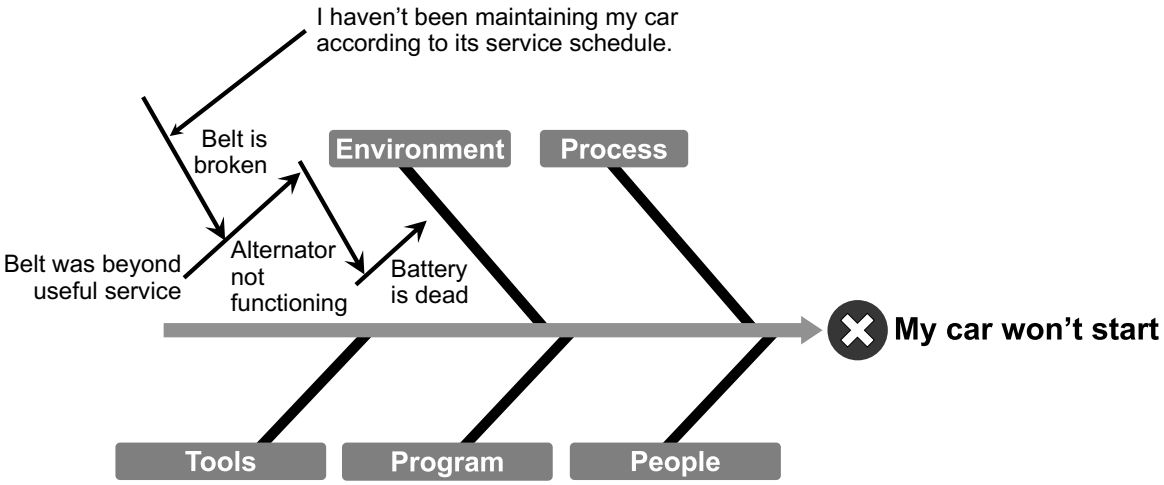
Why? - The alternator is not functioning (second why).

Why? - The alternator belt has broken (third why).

Why? - The alternator belt was well beyond its useful service life (fourth why).

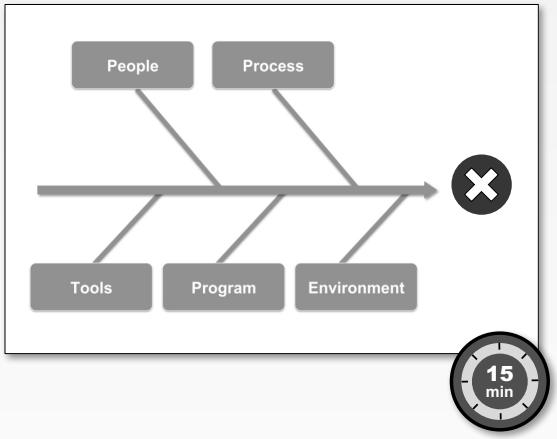
Why? - I have not been maintaining my car according to the recommended service schedule (fifth why, the root cause).

Use the 5 Whys to identify root causes



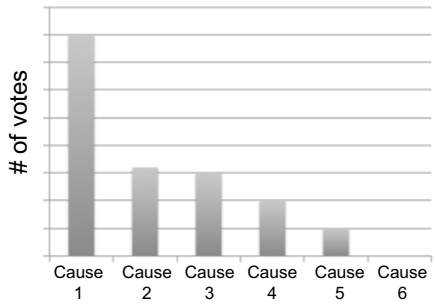
Exercise: Root cause analysis

- Create a fishbone diagram for your problem statement
- Brainstorm potential causes of the problem and place them on the chart
- For each cause identified, use the '5 Whys' technique to get to a potential root cause

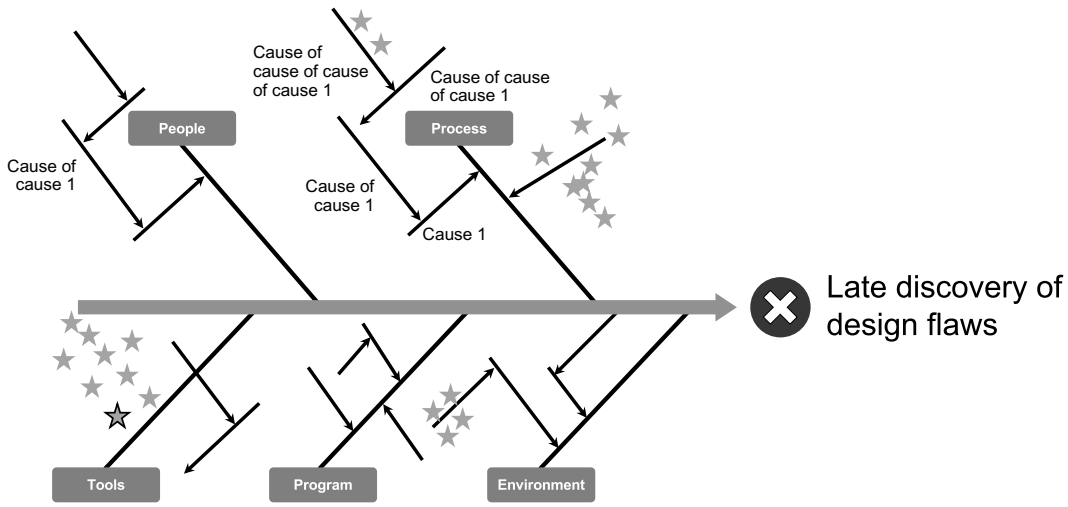


Pareto analysis – Identify the biggest root cause

- Pareto analysis, also known as the '80/20 rule,' is a statistical decision technique used to narrow down the number of actions that produce the most significant overall effect
- It uses the principle that 20% of root causes can cause 80% of problems
- It is useful where many possible sources and actions are competing



Vote on root causes



Exercise: Restate the new problem

- Dot vote to identify the biggest problem on your chart
- Use Pareto analysis to visualize the biggest root cause
- Succinctly restate the problem to address the identified root cause

  Example: We did not have the ability to measure or test the full electrical load on vehicles in real operating conditions.

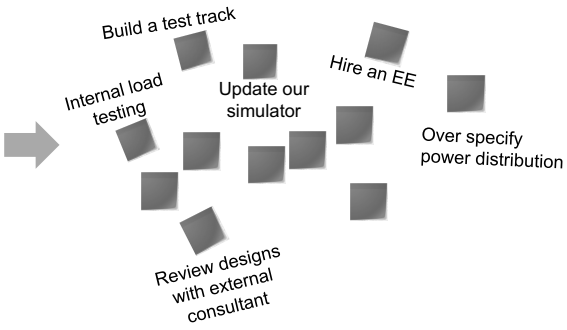
  Impact: We had to upgrade the deployed power distribution system beyond what was specified. Major cost and schedule overrun.

Exercise: Brainstorm potential solution ideas

- Brainstorm some potential solutions
- All ideas are welcome, no criticisms or comments
- Don’t worry about sorting or filtering yet, just write them down

Brainstorm potential solution ideas

Brainstorming session

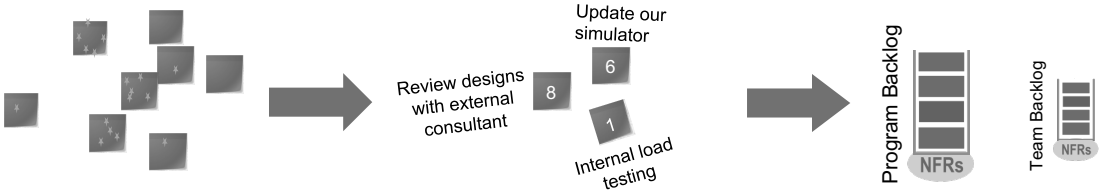


Exercise: Identify improvement backlog items

- Feel free to combine, modify, and mutate ideas
- Using cumulative voting, agree on the top three most viable solutions
- Be ready to discuss with the group

Brainstorm potential solution ideas

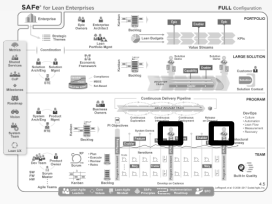
Cumulative voting



Lesson summary

In this lesson, you:

- Explored how to improve program performance using an Inspect and Adapt event
- Experienced a Problem-Solving Workshop



Suggested Scaled Agile Framework reading:
"Inspect and Adapt" article