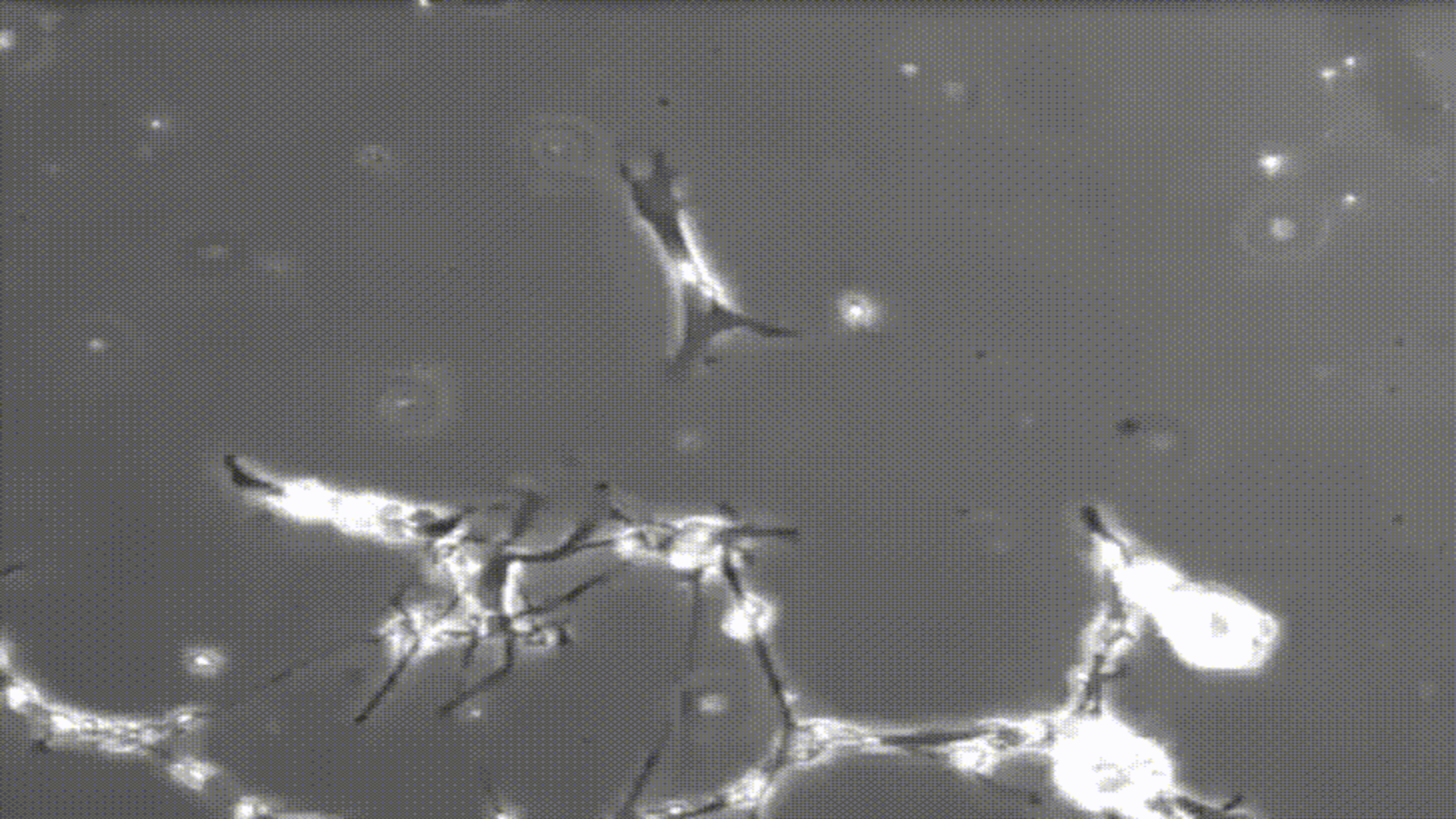


Who are you going to believe –
me or your own eyes?

(Rethinking data visualization
in testing...)





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Teams in Space
Software project



Backlog



Board



Reports



Releases



Issues



Settings



Releases



Quick filters ▾

Version	Status	Progress	Start date	Release date	Description	Actions
Version 4.0	IN PROGRESS	<div><div></div></div>	01/06/17	--	Awesome...	...
Version 3.0	UNRELEASED	<div><div></div></div>	11/06/16	--	Website to...	...
Version 2.0	UNRELEASED	<div><div></div></div>	08/22/16	--	--	...
Version 1.8	RELEASED	<div><div></div></div>	07/05/16	28/09/16	Version 1.8	...
Version 1.5	RELEASED	<div><div></div></div>	06/20/16	10/01/16	Version 1.5	...
Version 1.3	RELEASED	<div><div></div></div>	06/12/16	28/09/16	Version 1.3	...
Version 1.2	RELEASED	<div><div></div></div>	06/12/16	09/12/16	Version 1.2	...
Version 1.0	RELEASED	<div><div></div></div>	05/20/16	09/12/16	Version 1.0	...

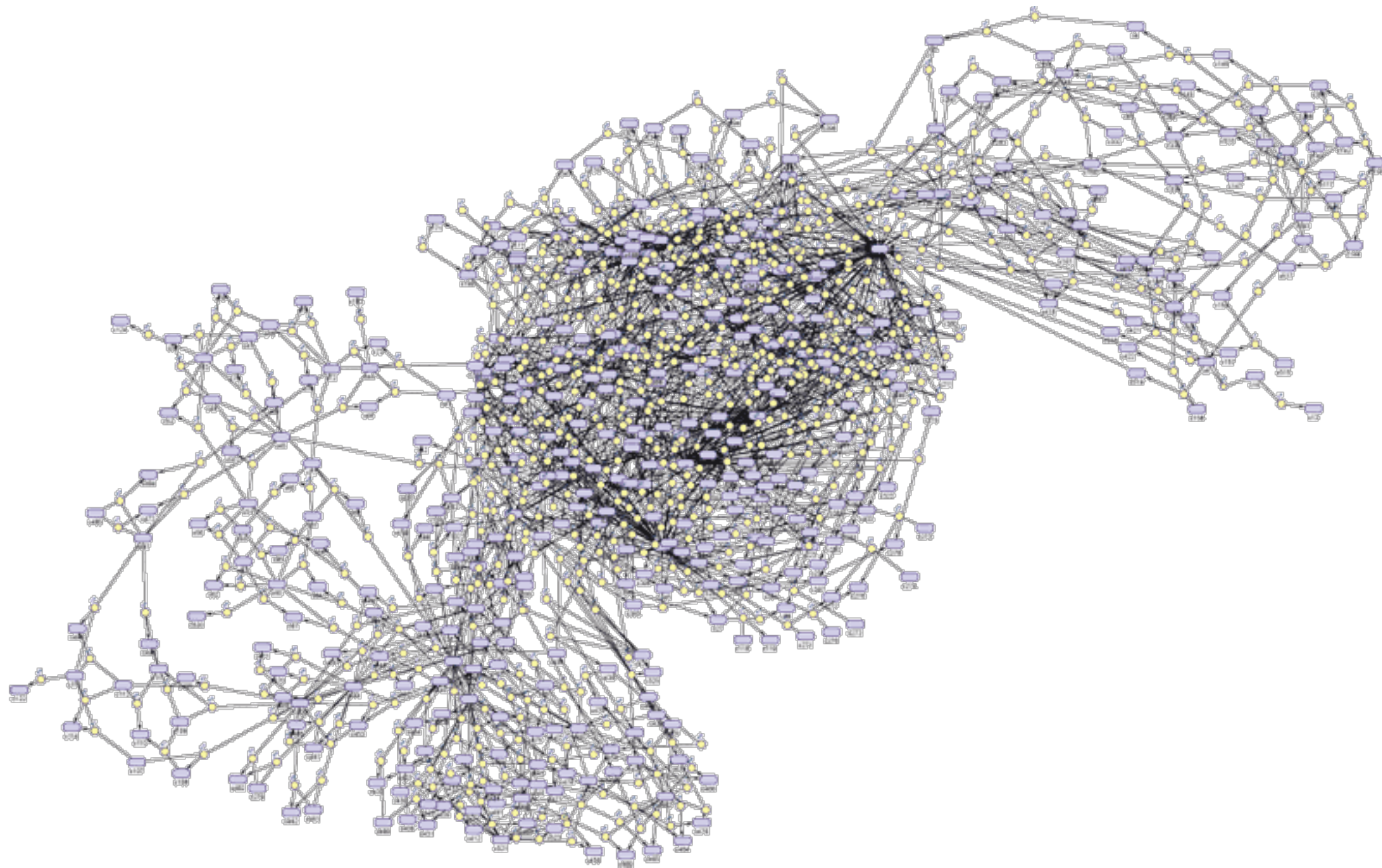
Version name

Start date

Release date

Description

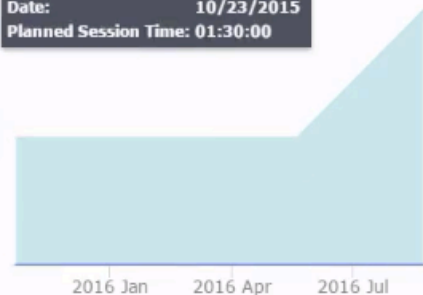
Add



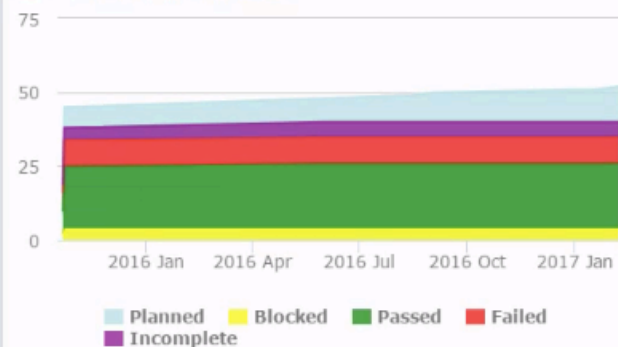


Exploratory Time Actual vs. Planned

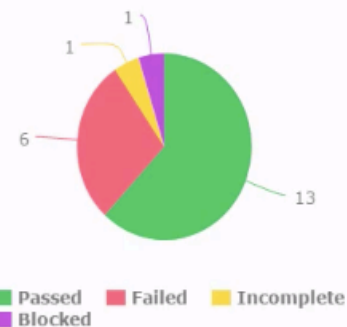
Date: 10/23/2015
Planned Session Time: 01:30:00



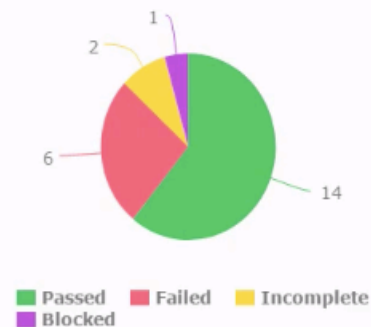
Tests Planned vs. Executed



Requirements Run Results



Latest Test Run Results



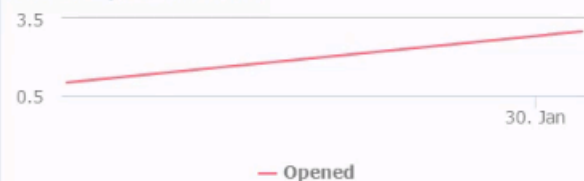
Requirements Test Run Coverage



Defects Per Test Case Run



Defects Opened (Linked)



Defect Status (Linked)





< 3

Dashboard Btl View

- Dashboard 4
- Analysis View
- Dashboard View
- Management 8
- Release
- Libraries
- Requirements 8
- Testing 4
- Defects

- Private
- Public
- Demo
- Memory Tests Release TDD Status

Details Configuration View

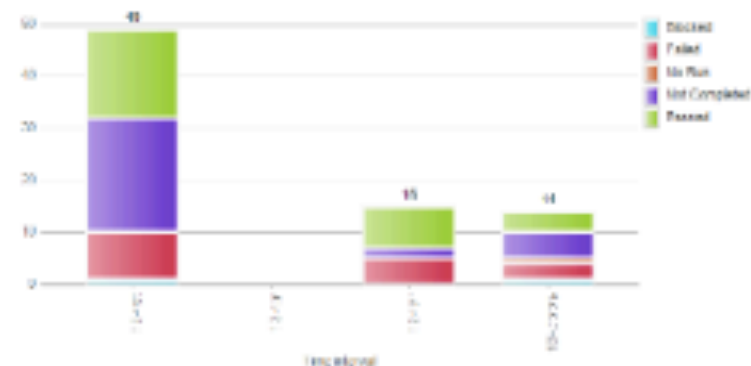
Demo

Unresolved Defects (all themes) Per Severity



Last Generated (Local Time): 24/05/2017 17:13:42

Test Execution Status



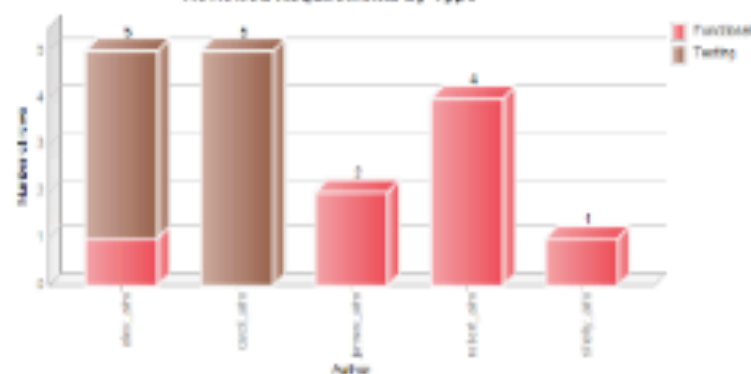
Last Generated (Local Time): 24/05/2017 17:13:42

Requirements Coverage (all themes)



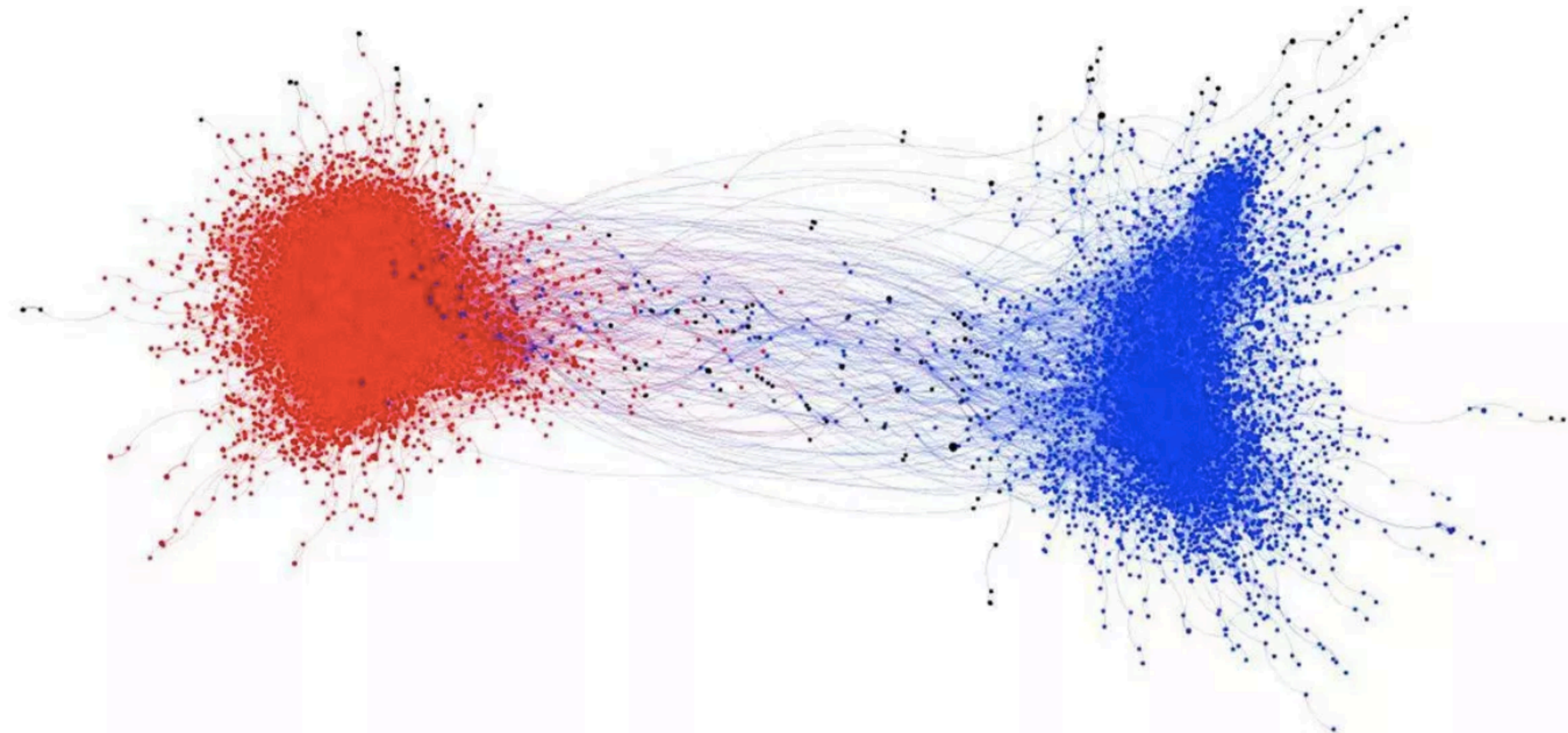
Last Generated (Local Time): 24/05/2017 17:13:57

Reviewed Requirements by Type



Last Generated (Local Time): 24/05/2017 17:13:57

Project Metrics

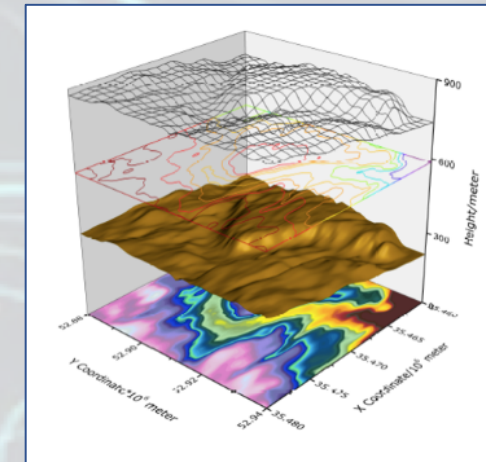
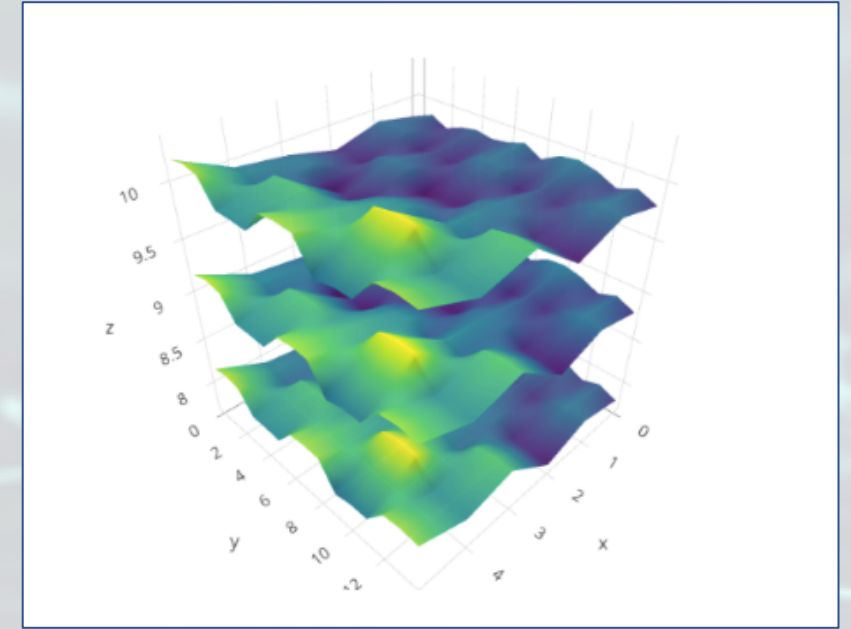


Rethinking Modelling System Quality

- Quality is a multi-dimensional attribute
 - Highly biased and impossible to quantify
 - Difficult to communicate in linear or binary statistics
 - Heavily reliant on anecdotal evidence
 - Passed tests \neq quality
- Software systems act like complex biological networks
 - Complex problems involve too many unknowns and relationships to reduce to rules and processes
 - Software quality can only be managed not solved
 - Over-testing a system builds in fragility

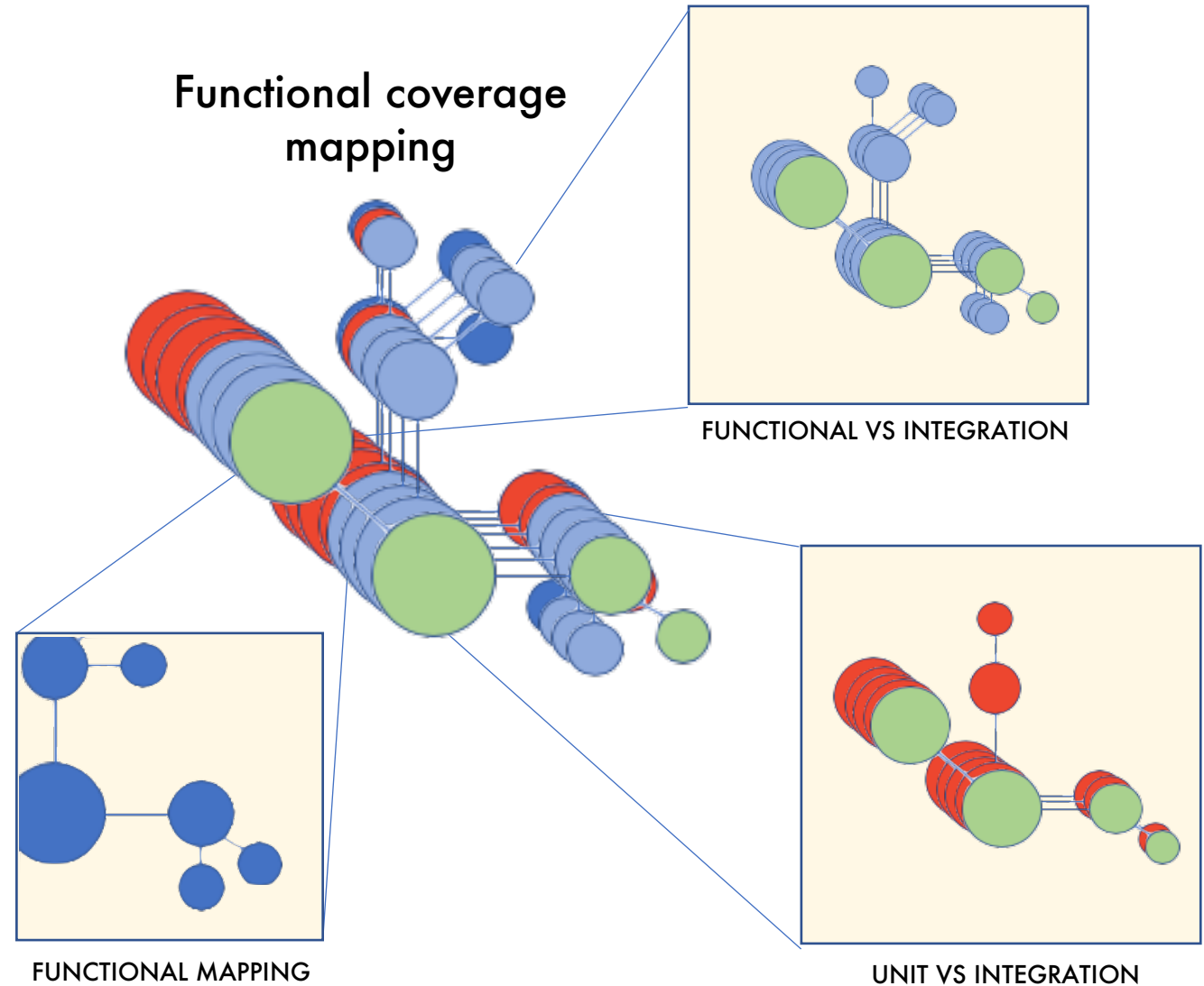
Test Asset Inventory

- Available tests by depth of coverage by type
 - Unit
 - Functional
 - Integration/System
 - UAT
- Identifies breadth and depth of coverage gaps
- Multi-dimensional representation across functions and pipeline



Visual Test Model

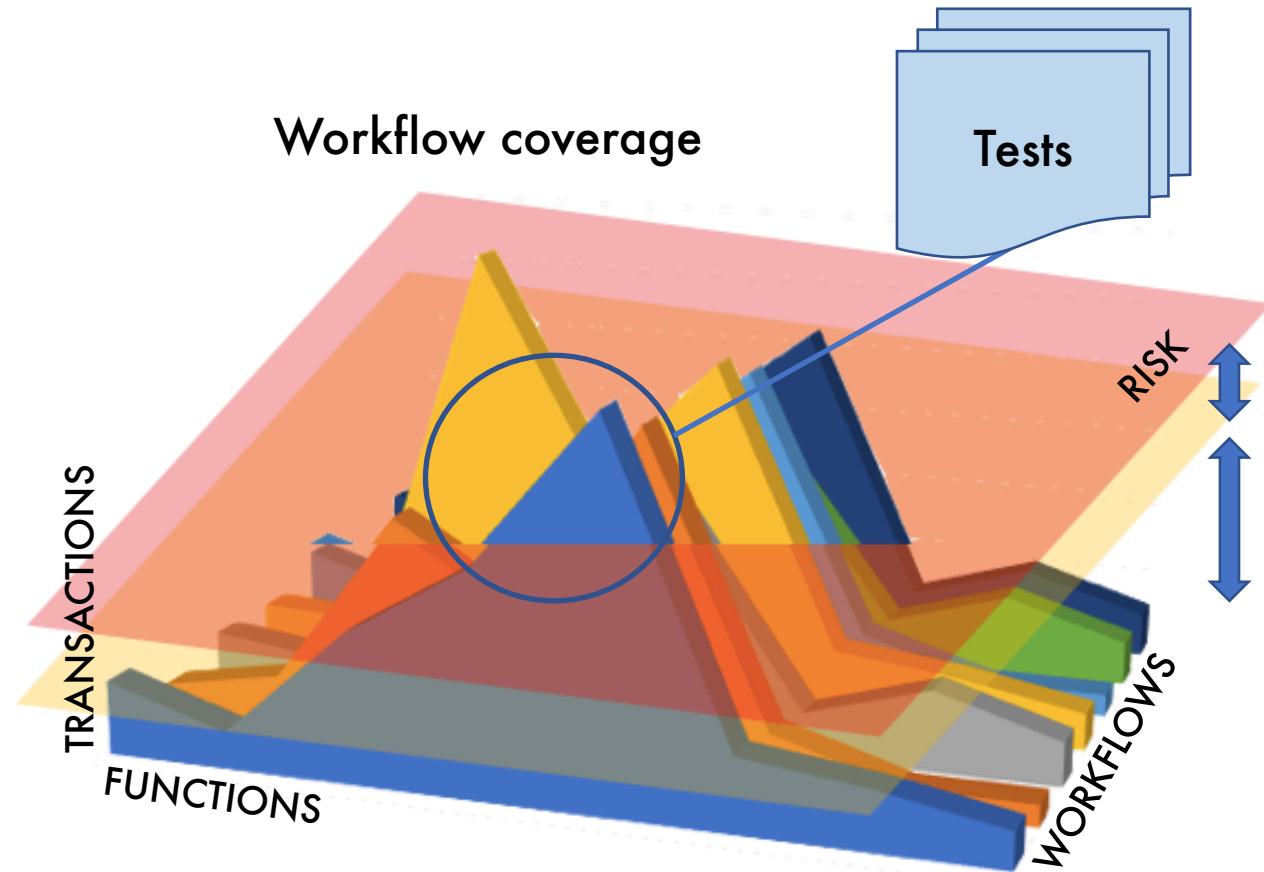
- Functional map of the system under test and the Test Asset Inventory
- Integrates data from unit and functional test tools into a coverage model
- Identifies coverage gaps – breadth and depth
- Heuristic based strategy quickly identifies common tests and approaches





Usage Monitoring

- Functional modelling of application/system usage
 - Code coverage, transactions, API calls
 - BDD/Cucumber scripts
- Variable risk thresholds for performance
- Identify test assets allocated to high usage
- Complexity modelling
 - Patterns/Behaviors
 - Agents
 - Interactions



54.197.253.133

54.235.138.192

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wh30641.coltrk.com

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techweb.com

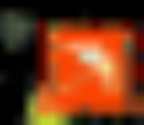
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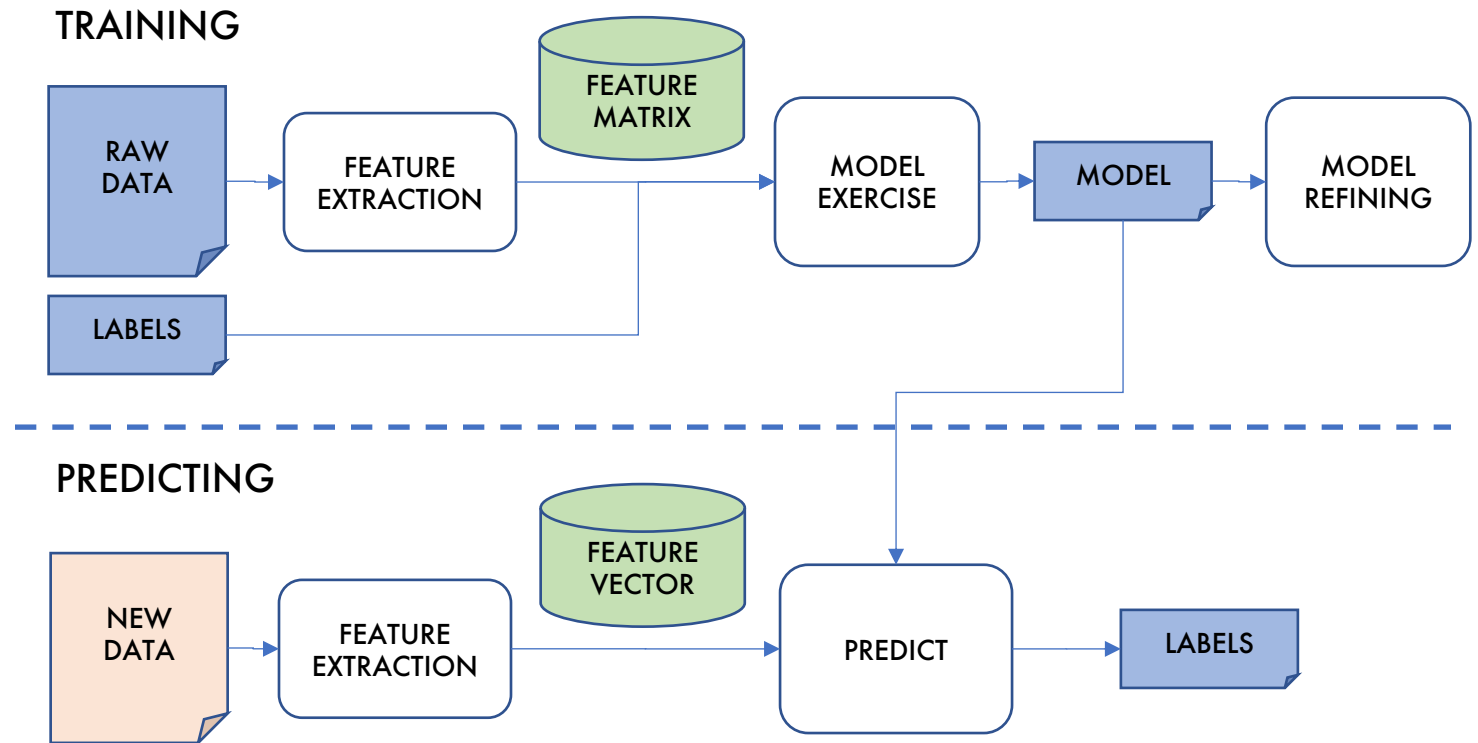
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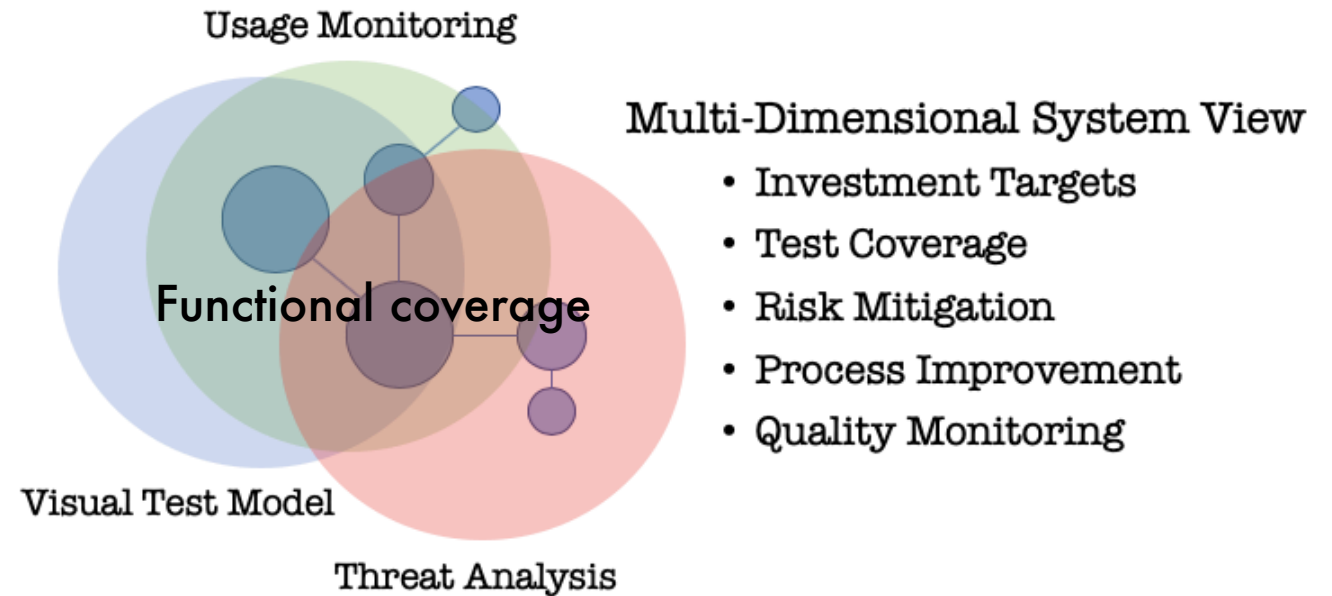
Machine Learning and Model Refinement

- Supervised ML algorithm improves models
 - Functional and usage monitoring
 - Test coverage selection, variance, and type
- Applied heuristics
- Predictive risk analysis and validation



What is the future of quality management decision support?

- **Intelligence** – Identifying risk through coverage and threat analysis
- **Design** – Quality management strategies based on usage and test assets
- **Implementation** – Extends industry standard tools and methods
- **Decisions** – Data visualizations for quick decisions and proactive approach





Thank you!