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How Do You Balance Agility with Risk Management in Complex Project Environments?

Introducing the
Risk Adjusted Agile Framework (RAAF)

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Tom Cocotis

BS CS, MS, ICAgile ACC, PMI-ACP, A-CSM, A-CSPO, CAL I, CSD

- **Creator of the Risk-Adjusted Agile Framework, enabling software teams to hit critical deadlines**
- **Technical Project Management for Agile Projects**
- **25+ years of Tech Experience in Software Dev, Engineering, Manufacturing, Project Management**
- **Former Agile Coach for California Secretary of State**

Risk Adjusted Agile Framework (RAAF)

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What is RAAF?

- An overlay on the Scrum Framework
- Based on and maintains Agile Principles
- Adds the reality that most business-critical software projects have deadlines
- Manages the delivery timeline by understanding in detail the project risk
- Accounts for variability in both estimates and execution
- Levels-up the productivity of Scrum Teams
- Applies probabilistic metrics to forecast project end-dates

What are the Benefits of RAAF?

- Project portfolios directly account for project Risk
- Scrum Teams maximize their efficiency
- Engineering can balance resources across teams more effectively
- Business can prioritize projects base on realistic project delivery dates
- Employee engagement improved
- Employee turnover dramatically reduced

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How is RAAF Implemented?

- Scrum Teams adopt the RAAF SDLC
- Jira database updated to support the SDLC by adding fields and automations
- Scrum Teams start using Scrum with Kanban
- Agility metrics of the team are collected and reviewed by teams to improve Agility
- Program Increment Planning discipline includes 3-point estimates and probabilistic estimation
- Program tracking with AgileEVM
- Release management includes readiness metrics

RAAF Software Development Lifecycle (SDLC) High-level Outline

- Scrum Framework: Scrum Events, Scrum Artifacts, Definition of Ready & Done
- Running Scrum Projects
- Program Increment Planning for RAAF
- Software Testing and Release Management
- Shortening Release Cycles
- Jira Augmentation for RAAF
- RAAF Project Estimation and Tracking Metrics
- Special Topics

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RAAF Blog References

RAAF Blog #1

https://medium.com/@tcocotis_10922/risk-adjusted-agile-framework-2dda1e023143

RAAF Blog #2

https://medium.com/@tcocotis_10922/risk-adjusted-agile-framework-01aef11421b6

RAAF Customer Testimonial

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Steve Schattmaier, SVP of LightBox

"I run the professional services group at LightBox. My teams work on about a hundred different software projects over a year, and each one has a customer facing deadline.

Before we were using the Risk Adjusted Agile Framework, I had to manage deadlines using a top-down approach that only roughly estimated the project end-dates, and the process required daily updates to keep things in sync.

Now with RAAF, I not only save a high-level headcount, but my team software delivery dates are automatically generated through the bottom-up RAAF technique driven by my engineers.

The data is always arcuate, and I have an early warning whenever something gets off track and needs special attention to prevent a program slip."

Click the Image to Play Video

AgileDash Software and Metrics for RAAF

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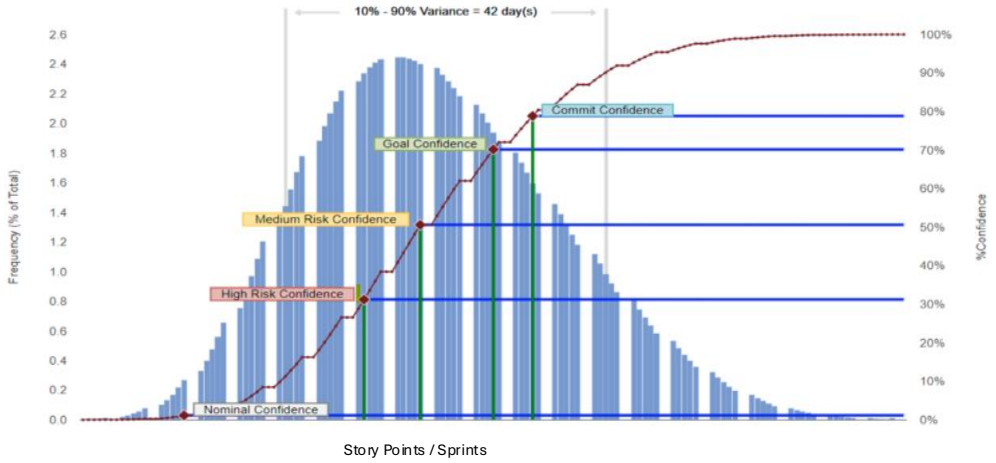
RAAF Metrics Probabilistic Estimation (patented solution)

- Monte Carlo Simulation on Epics & Stories for Program Increment Plan

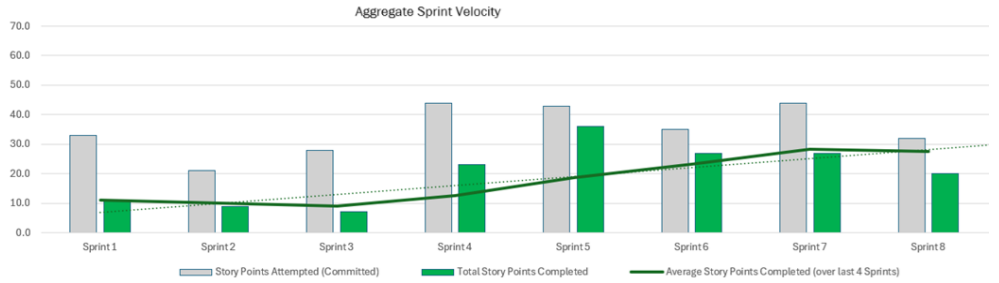


Note: Chart is independent of other figures

RAAF Capacity Planning & Aggregate Velocity (charts not available in Jira)

- Capacity Recommendation base on Trends
- Velocity Forecast based on Trends

Team Members	Sprint 1	Sprint 2	Sprint 3	Sprint 4	Sprint 5	Sprint 6	Sprint 7	Sprint 8
Capacity (person-days)	26.0	30.0	27.0	25.0	30.0	26.0	19.5	25.0
Average Capacity (person-days)	26.0	28.0	27.7	27.0	27.6	27.3	26.2	26.1
Story Points Attempted (Committed)	33	21	28	44	43	35	44	32
Total Story Points Completed	11	9	7	23	36	27	27	20
Average Story Points Completed (over last 4 Sprints)	11.0	10.0	9.0	12.5	18.8	23.3	28.3	27.5
Story Ponts Not Completed (Rollover)	19	16	22	29	14	21	17	22
Average Story Points per Week per Team Member	2.1	1.8	1.6	2.3	3.4	4.3	5.4	5.3
Target Capacity for Next Sprint	20	22	18	19	28	25	27	35



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AgileDash Software and Metrics for RAAF

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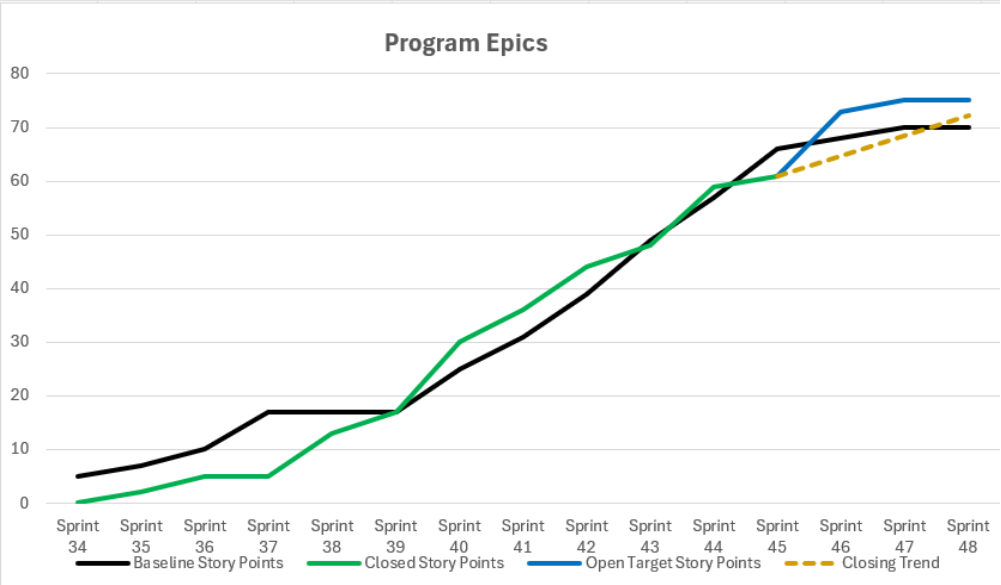
RAAF AgileEVM (patented solution, not available in Jira)

- Epic Burn-Up Chart Sets from Portfolio to Programs, to Individual Epics
- Trend shows when team becomes available for new work



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RAAF AgileEVM Components

- Black – Baseline Story Points:
  - Baseline set by on initial Sprint Story distribution in Program Increment
- Green – Completed Story Points:
  - Stories Completed Each Sprint
- Blue – Planned Story Points
  - Allocation of Stories of Remainder of Program Increment
- Yellow – Completion Trend:
  - Trend showing velocity forecast from the Green Line
- *Story propagation through Program Increment Reflects Program Slippage*
- *Slope of Green Line shows team velocity and impediments, and other delays*

AgileDash Software and Metrics for RAAF

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RAAF Defect Resolution vs Complexity measures (combination not in Jira)

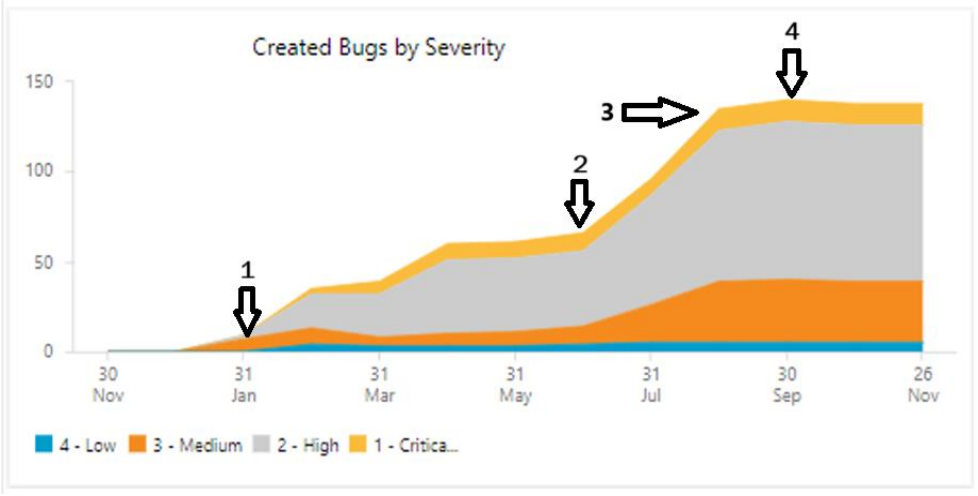
- Shows trends of testing being insufficient, compare:
  - Bug fix & Fix rate per Sprint
  - Lines of Code per Sprint
- Track Learning Curve
  - Issues taking 2.5x longer than planned require POCs

RAAF Sprint Burndown Interpretation (not in Jira)

- **Generative AI interpretation of Sprint Burn-down charts**
- **Burn-down shows trend of:**
  - **Healthy Team**
  - **Too Much Risk**
  - **Too Aggressive on Scope**
  - **Poor Team Communication**

RAAF Release Readiness (not in Jira)

- Cumulative Defect Chart Shows trend of software system stability and readiness for release
  1. End of first Sprint,
  2. Principal development complete,
  3. Initial round of testing complete
  4. Stability period complete and ready to ship



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AgileDash & Risk Adjusted Agile Framework (RAAF)

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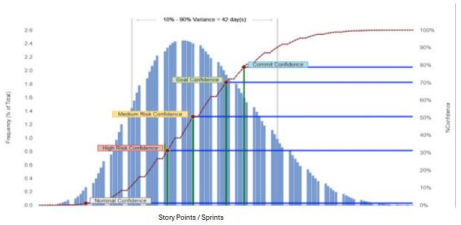
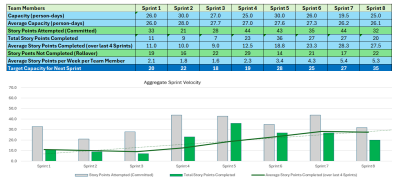
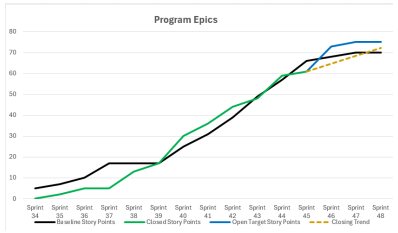
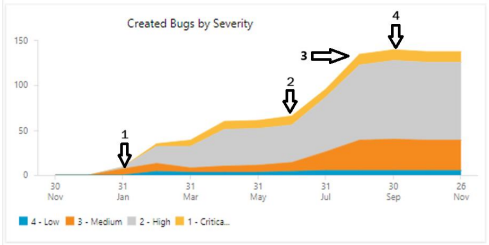
AgileDash - Software and Metrics for RAAF









AgileDash Features

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