



New Synergy Group

Systems Thinking... Enterprise Performance

Instrumented Agile Templates

Agile Panel

NJ Spin Meeting

96 Frelinghuysen Road

Rutgers University, Piscataway, NJ

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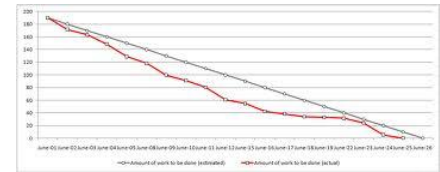
Agenda

- Scrum framework in action
- Why Scrum is extremely challenging to master
- Solutions to help master Scrum
 - 5 practice areas
 - Set of instrumented templates (27) and worksheets (12)
- Demonstrate 5 agile templates
 - Feature with tasks
 - Sprint retrospective
 - Daily Scrum
 - Capacity, Workload, Availability Tracking
 - Product backlog ordering
- Summarize the benefits of instrumented templates



Scrum Framework: In Action

3 Roles, 4 Scrum Artifacts, 5 Scrum Events



3. Burn-down chart



Business Strategy

3. Daily Scrums

Product Envisioning

Release Planning

Feature-Driven Development

1. Sprint Planning Ready

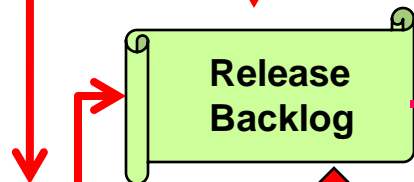
2 Time-boxed Sprint

4. Potentially Shippable Iterations
4. Sprint Review
5. Sprint Retrospective

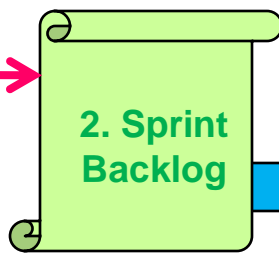
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Release Backlog

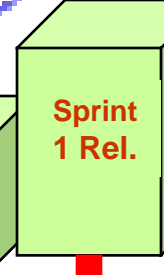


2. Sprint Backlog

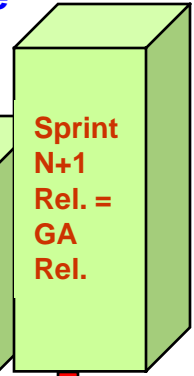
Velocity



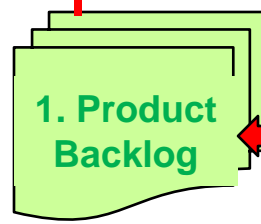
Sprint 0 Rel.



Sprint 1 Rel.



Sprint N+1 Rel. = GA Rel.



1. Product Backlog



Why Scrum is Extremely Difficult to Master

- How to develop and use customized processes and practices within Scrum Framework throughout an organization in a consistent way
- How to scale up
- How not to be a *Scrumbut*
- How to do continuous improvements
- How not to reach wrong conclusions when Scrum fails to deliver the benefits as rapidly as you may expect
 - Scrum is not a silver bullet, but it sure is a silver mirror!



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5 Practice Areas to Support Agile/Scrum Framework

Feature-Driven Develop	Quality First	Backlog Ordering	Transparency and Feedback	Vision, Releases, Sprints workflow
Business need analysis; Feature specs; Non-functional requirements; Feature teams Prototypes; Mock-ups	Design review; Code review; Test case review; Layered testing: Feature Tests, Regression Tests, System tests, Acceptance tests, Beta tests; Defect management; Test-driven development	Business value & Business risks estimation; Tech effort & Tech risks estimation; Backlog ordering based on the DIVE criteria: Dependencies, Insure against Risks (Business and technical), Business Value, Estimated Effort	Burn-down and burn-up charts; Daily Scrums; Sprint Review; Sprint Retrospective; Daily Availability, Capacity and Workload calculator	Product backlog; Time-boxed sprints: Sprint Backlog; Sprint planning workshop; Ready-Ready checklist; Done-Done checklist, Weekly Mini-Sprints; Scrum of Scrum; Time-boxed release cycles: Release data sheet, Release backlog, Release planning workshop
Continuous integration; Build automation; Architecture sprints; Refactoring			Practices Core, Near-to-Mid Term, Mid-to-Long Term	Product vision: Elevator pitch, Product brochure, Product roadmap, Trade journal review



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Instrumented Templates for Agile-Scrum Framework

Management, Product Owner	ScrumMaster	Development Team		
Business strategy: 8 templates and 8 worksheets: Mission, Vision, Strategic Objectives and Initiatives, Strategic Maps W	Tech effort & Tech risks estimation S	Business need analysis B	Feature-driven Development B	Defects backlog management A
Product vision: 4 templates and 4 worksheets W	Daily Scrums: 2 templates S	Feature specs ^A and Non-functional requirements specs^A divided into tasks: <ul style="list-style-type: none"> • Design • Code development • Code review 	Architecture Sprint B	Layered testing ^A Regression Tests, System tests, Acceptance tests, Beta tests
Release plan W Biz value & Biz risks estimation S Product backlog ordering ^S Sprint reviews W	Capacity _Workload_ Availability _Tracking^S		<ul style="list-style-type: none"> • Unit testing • Test case develop. • Feature testing • Defect fixing • Defect verification • User documents • Acceptance testing 	
Steady pace of sprint S Weekly Mini-Sprints S	Ready-Ready A ; Done-Done A ; Sprint retrospectives: 2 templates S	<p style="text-align: center;">27 Templates and 12 Worksheets</p> <p style="text-align: center;">Legend</p> <ul style="list-style-type: none"> • A: Agile tool • B: White board, camera • S: Spreadsheet • W: Word 		



Feature Template: Encapsulates 19 Tasks

Development	Quality Assurance	Tech Writing
1. Design draft (optional)	8. Test case draft and finalization based on review	15. Tech doc draft
2. Design review (optional)	9. Test case review by software developer	16. Tech doc draft review by software developer
3. Design finalization based on review (optional)	10. Test environment set-up	17. Tech doc draft review by QA tester
4. Code development and finalization	11. Test case execution and defect logging	18. Tech doc draft review by Product Owner
5. Code review (optional)	12. Defect debugging and fixing	19. Tech doc finalization
6. Manual unit testing, defect fixing	13. Defect verification	Note: It is assumed that feature specification was developed and analyzed one time-box ahead.
7. Automated unit tests develop, testing, defect fixing	14. Acceptance testing by product owner	



Sprint Retrospective Template

Product Release ID:

Sprint ID:

What worked and will be continued: Top 3 factors by team consensus

Sprint statistics: Team capacity, Initial estimated effort, Final Actual effort, Sprint Velocity

What did not work, and need better solutions; Lessons learned: Top 3 factors by team consensus

Major impediments and root causes, Action Plan Moving Forward



Daily Scrum Meeting: Examples and Need for Template

Ineffective Scrum

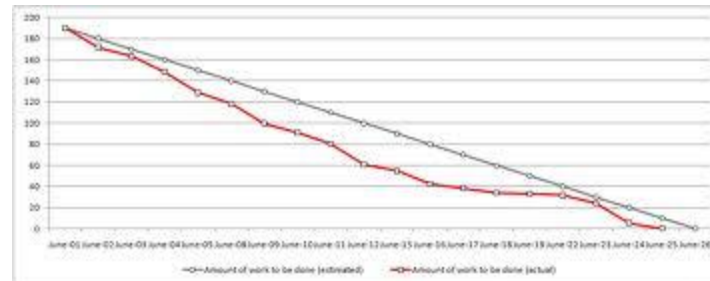
- What did you do since the last Scrum meeting?
 - I was busy with development
- What do you plan to do today?
 - I have a bunch of defects to fix
- What are the impediments getting in your way?
 - Too many meetings, such as this daily Scrum meeting!

Effective Scrum

- What did you do since the last Scrum meeting?
 - I was able to complete the implementation of US37 as planned, but could not complete all unit testing.
- What do you plan to do today?
 - Complete unit testing of US37 and fix Defects 367, 431
- What are the impediments getting in your way?
 - Awaiting clarification on US46 from Joe (analyst).



Daily Remaining Availability, Capacity and Workload Calculation



Burn-down chart



Need to track day-by-day remaining engineering capacity of the Scrum team based in individual remaining availability of each team member in the current sprint time-box

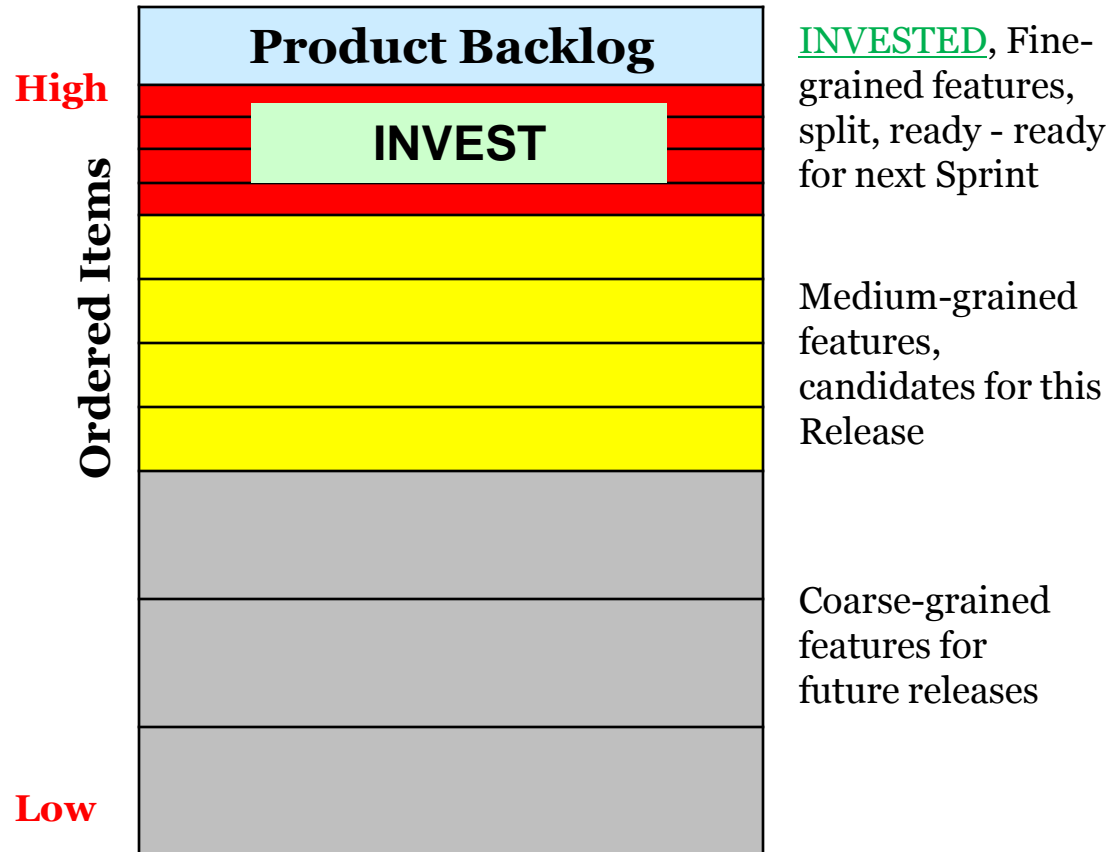


Product Backlog is **DEEP**; **DIVE** Carefully

- **D**etailed appropriately
- **E**stimated
- **E**mergent
- **P**rioritized (ordered)

Product backlog items are **linearly ordered** based on the **DIVE** criteria:

- **D**ependencies
- **I**nsure against Risks:
Business and technical
- Business **V**alue
- Estimated **E**ffort





Summary of Instrumented Agile Templates

- **Goals:**

- Avoid different flavors of agile practices with different agile projects
- Overcome difficulties in enforcing agile process compliance
- Improve productivity and support scalability of agile teams

- **Our Approach:**

- Develop and use instrumented agile templates, integrated with Agile tool of your choice to drive most agile work

- **Benefits:**

- Consistent use of same agile processes by all agile teams in an enterprise
- Reduction in process errors with very low process compliance overhead
- Improvement in productivity of agile teams
- Agile process improvements based on precise process measurements
- Scalable agile processes by ensuring alignment of different stakeholders
- **Agile processes run smoothly so you can focus on results**



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