

Sustainable Development and Enterprise Value

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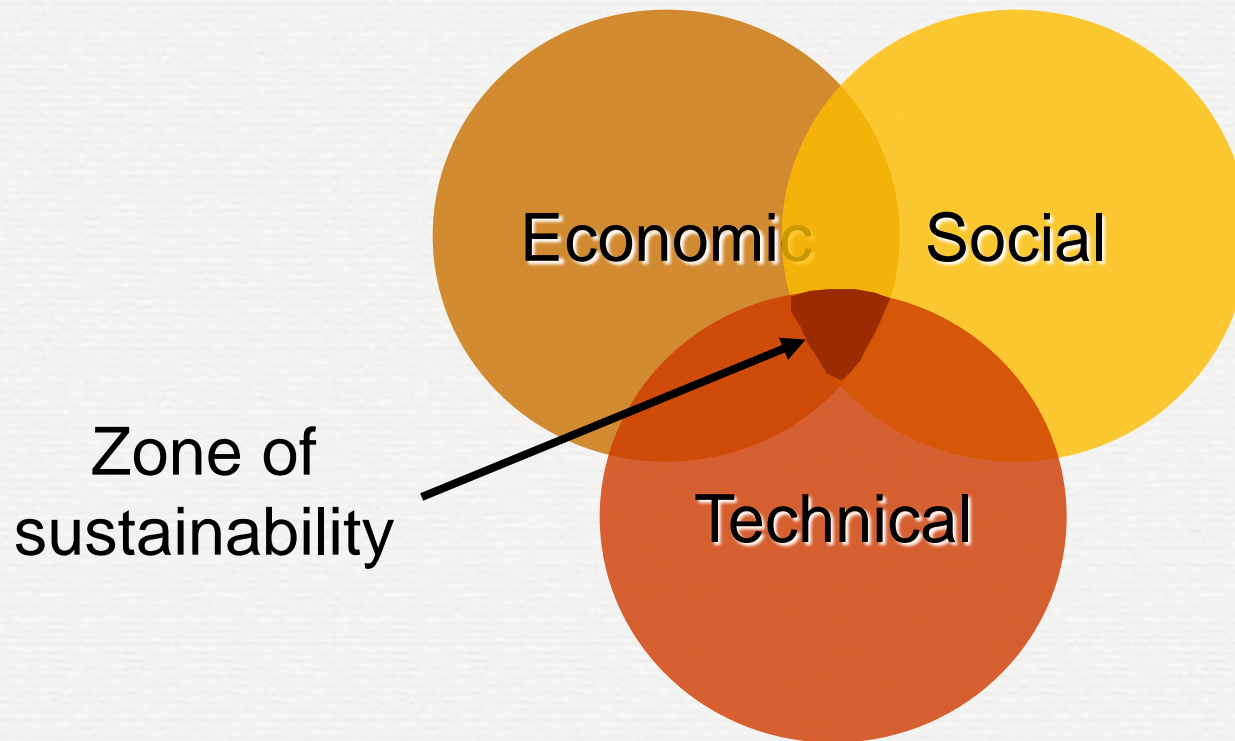


Sustainable Development

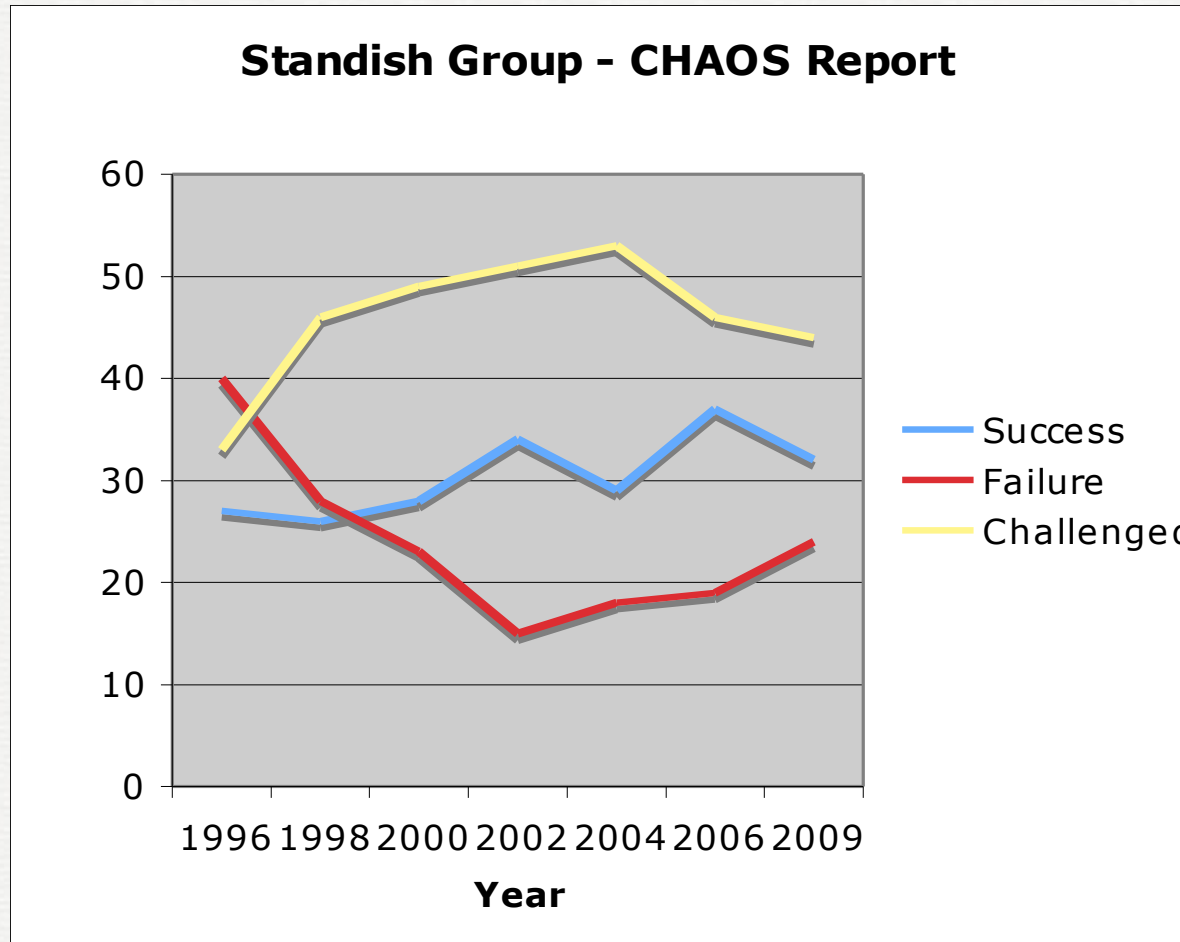
- Development that meets the needs of the present without compromising the ability to meet future needs.



Factors in Sustainable Development



CHAOS: Reports We Love to Hate



Mixed Messages

Nicholas Carr - "IT Doesn't Matter"

Hall and Johnson - "When Should a Process
Be Art, Not Science?"

Nicholas Carr - "The End of
Corporate Computing"

Gartner - "Third Wave of IT
Innovation Can Drive Growth"

Software Strangeness

- Requirements and Interaction
- Problem to Solution Mapping
- Coding, Compiling, Executing
- Malleability
- All of this... in teams!

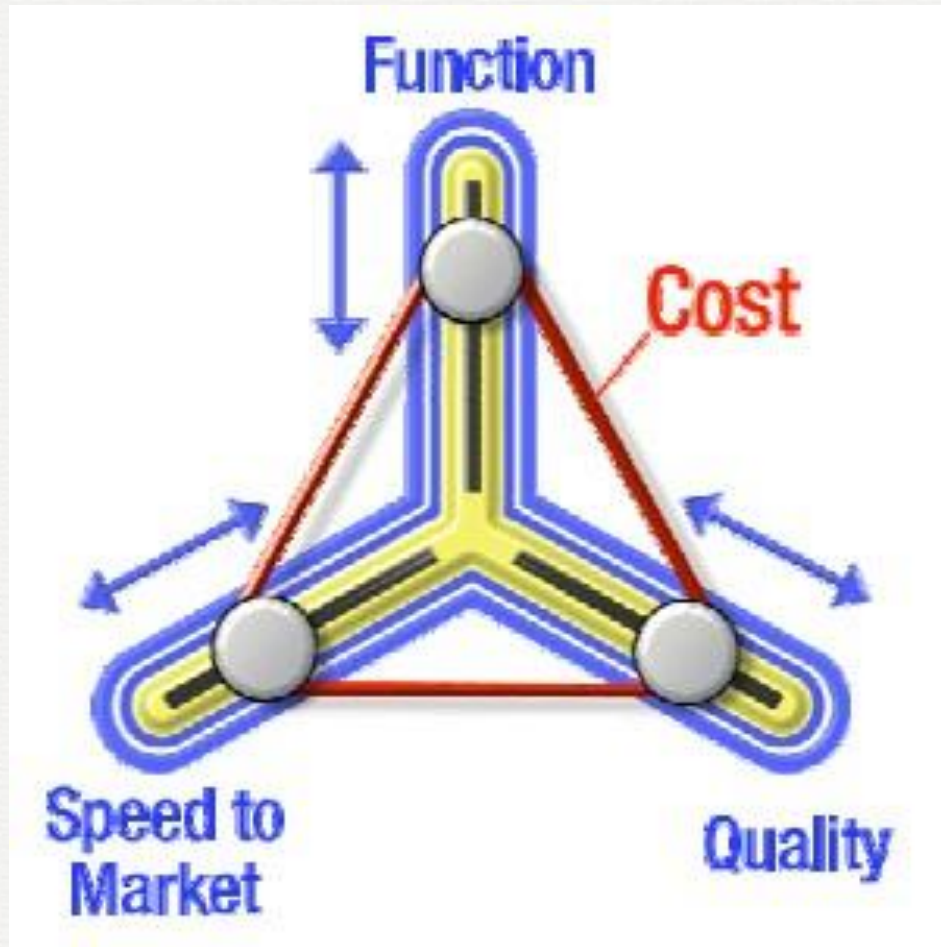


Please stop comparing software to buildings, bridges, and utilities!

Sources of Unsustainability

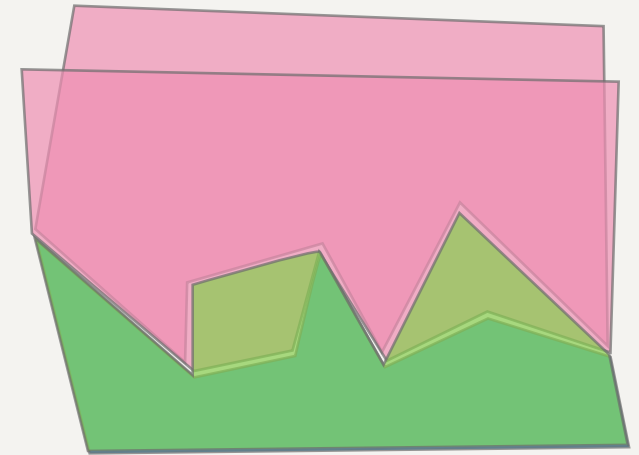
- Executives
 - Managing costs, not value
- Project Manager
 - Poor management of skills and schedule
- Architect
 - Poor management of features and flexibility
- Developer
 - Poor delivery of capability and quality

Today's Constraints



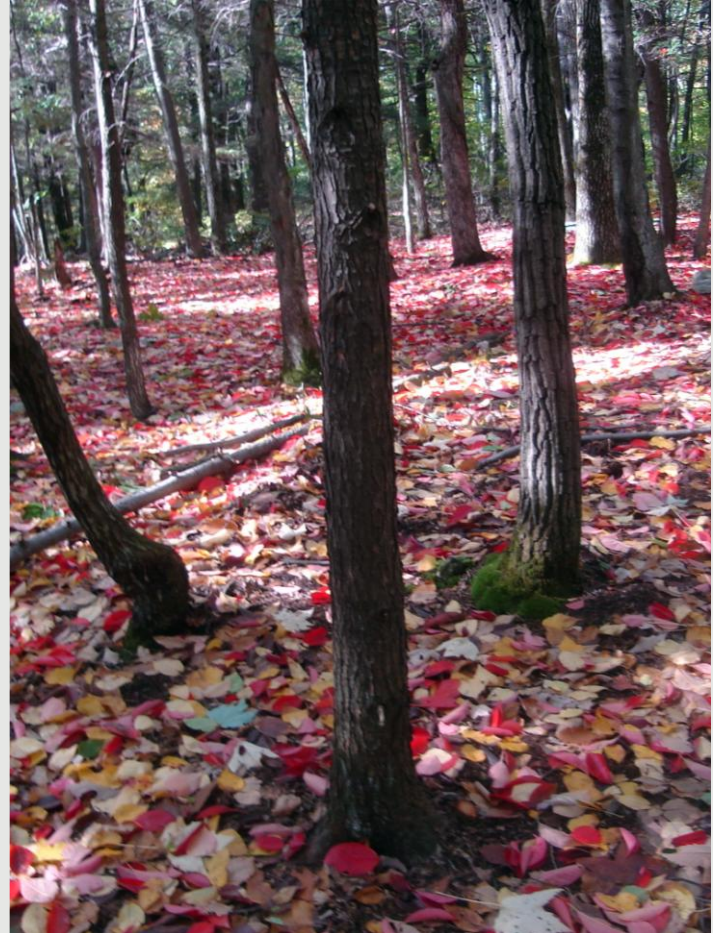
Tomorrow's Constraints

- Constrained by today's elements (function, schedule, quality, cost) AND
- Adaptive Capacity (Largely Architectural)
 - Extensibility
 - Replacement
 - Retirement



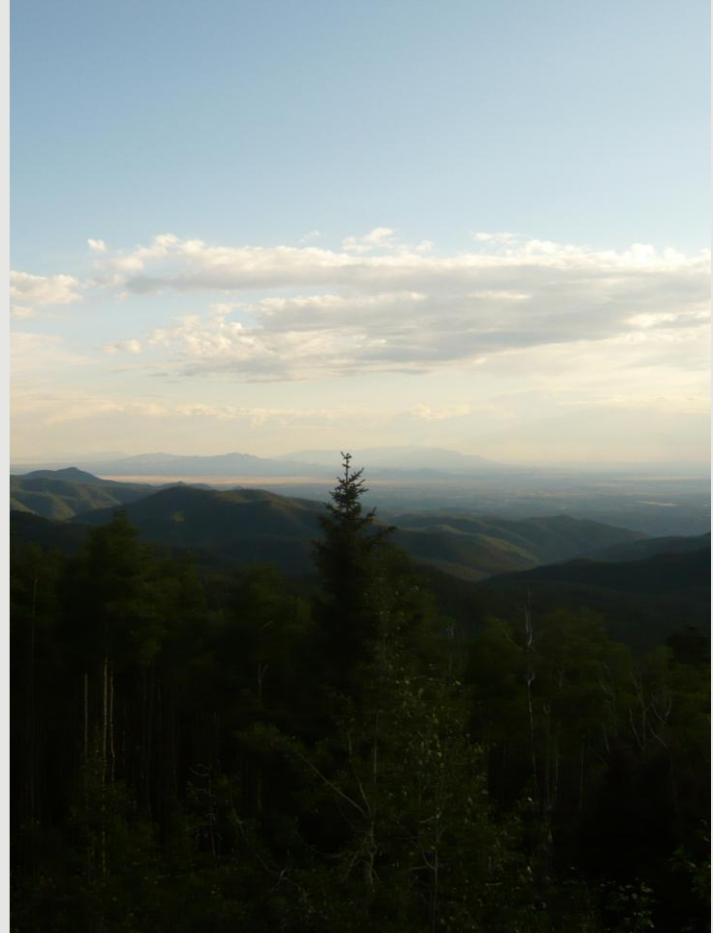
Sustainable Software Development

- Value Today:
 - Building the right features using the right skills
 - On a reasonable schedule
 - At a reasonable cost
 - With sufficient quality that problems don't break the bank
 - With sufficient adaptive capacity to respond to future needs
 - Using a reasonable pace of work
- Value Tomorrow:
 - Adapting to changing demands, while managing schedule, cost, quality, flexibility, and sanity

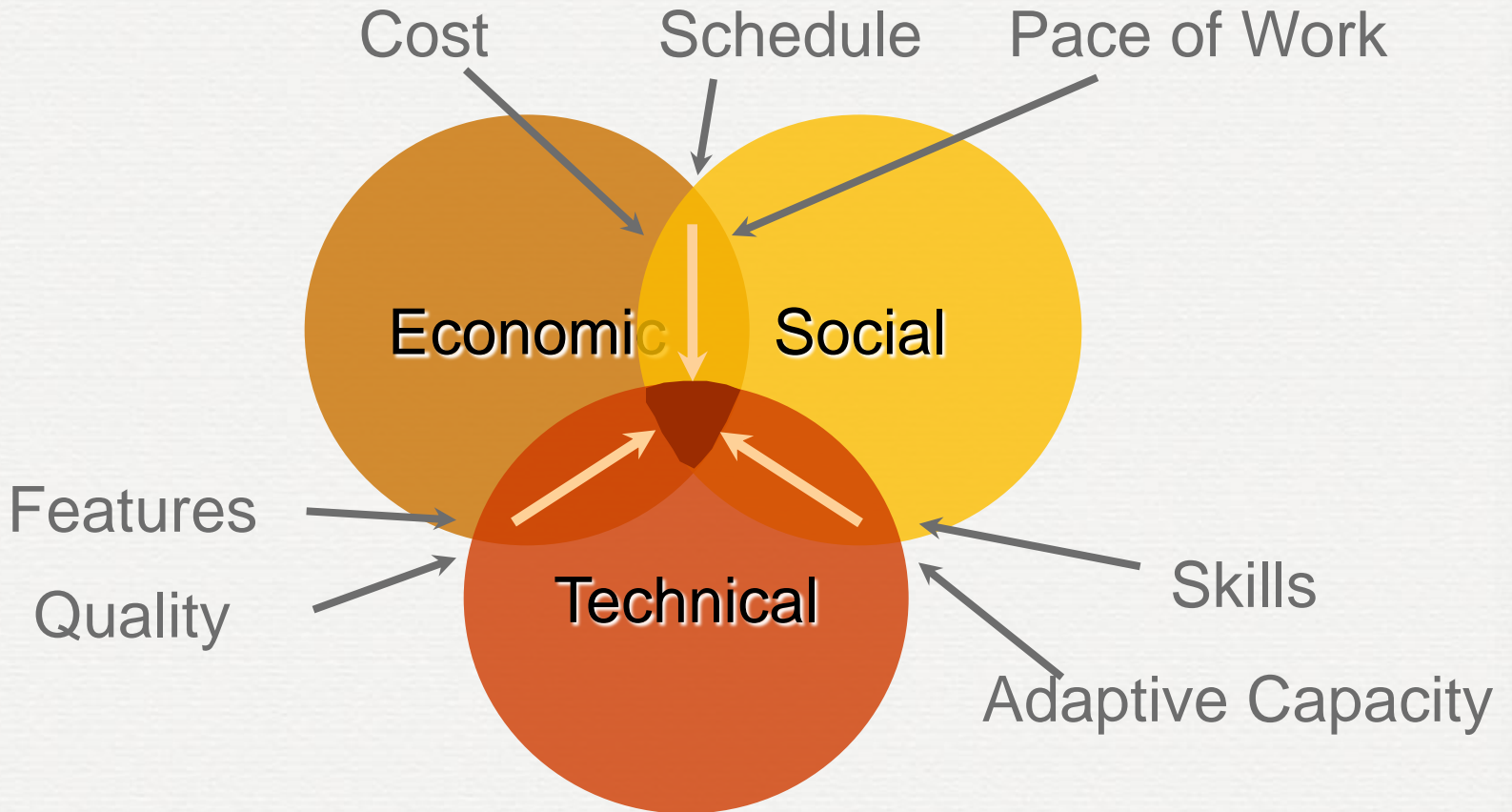


Sustainable Software Development

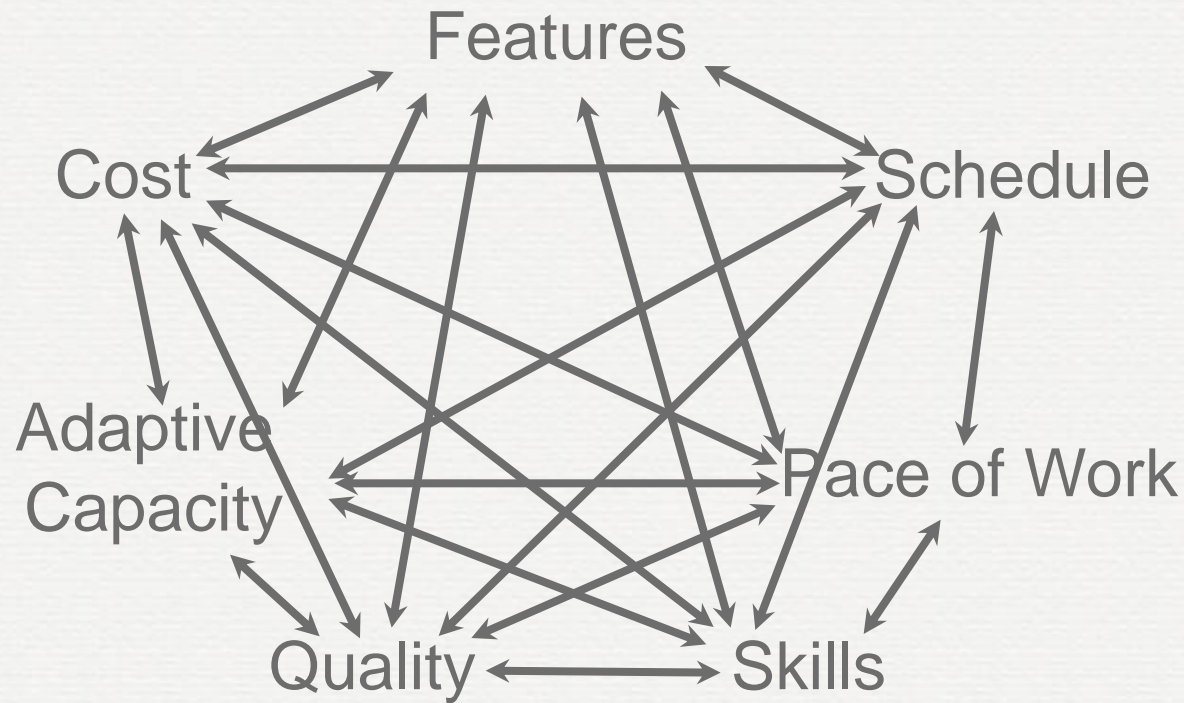
- Value Today:
 - Building the **right features** using the **right skills**
 - On a reasonable **schedule**
 - At a reasonable **cost**
 - With sufficient **quality** that problems don't break the bank
 - With sufficient **adaptive capacity** to respond to future needs
 - Using a reasonable **pace of work**
- Value Tomorrow:
 - Adapting to changing demands, while managing schedule, cost, quality, flexibility, and sanity



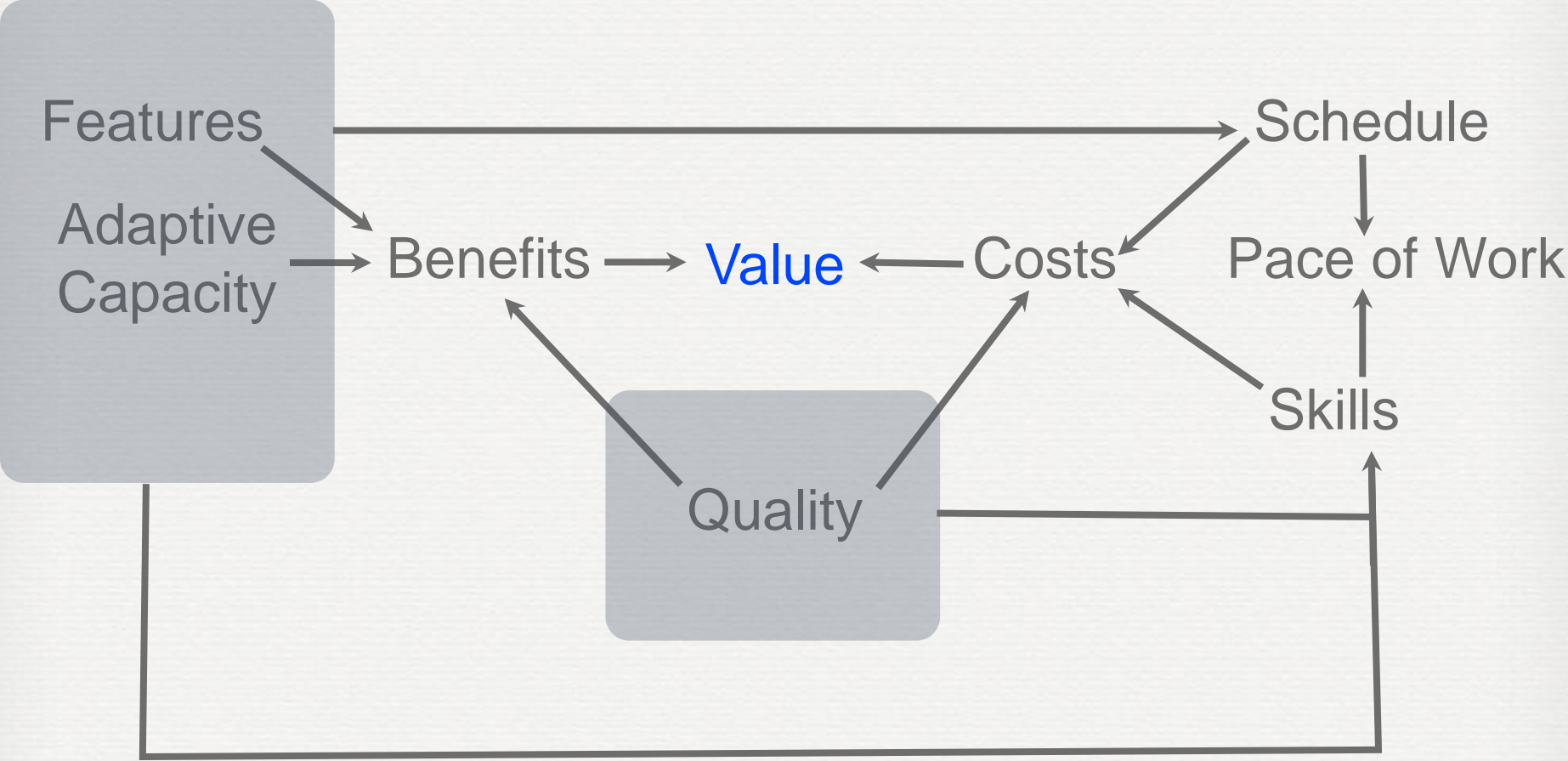
Factors in Sustainable Development



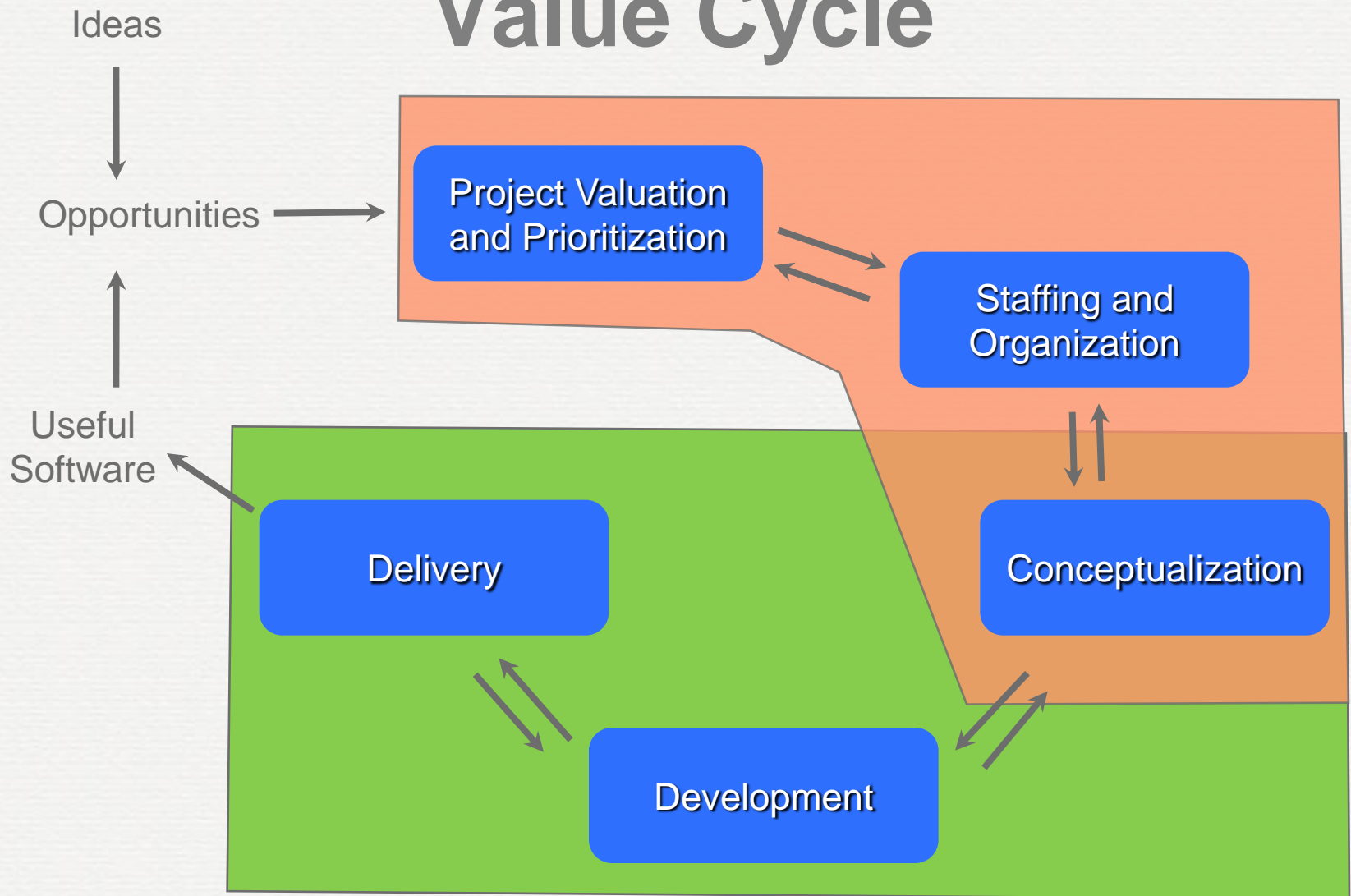
The Gordian Knot



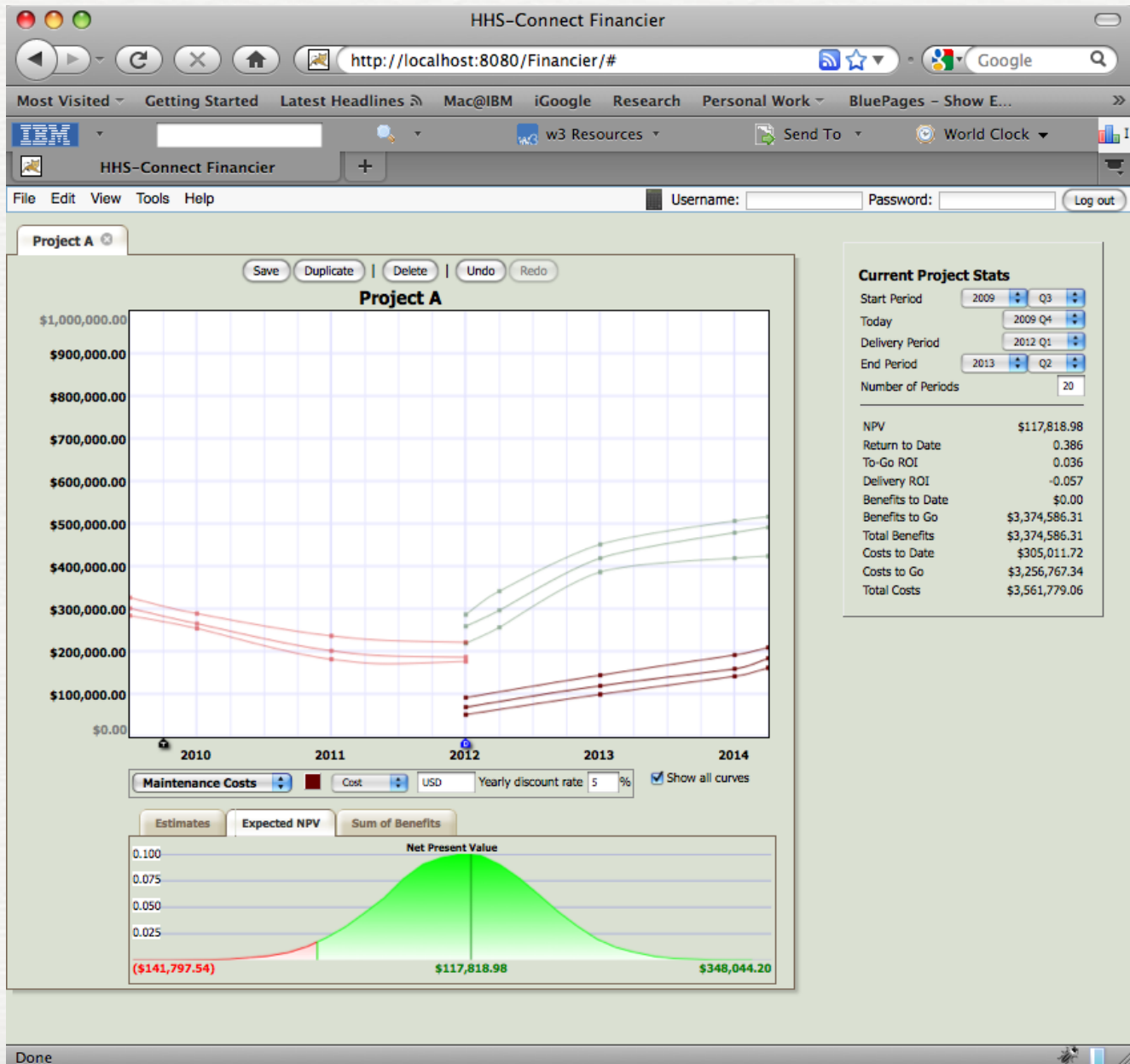
Value-based thinking breaks the knot



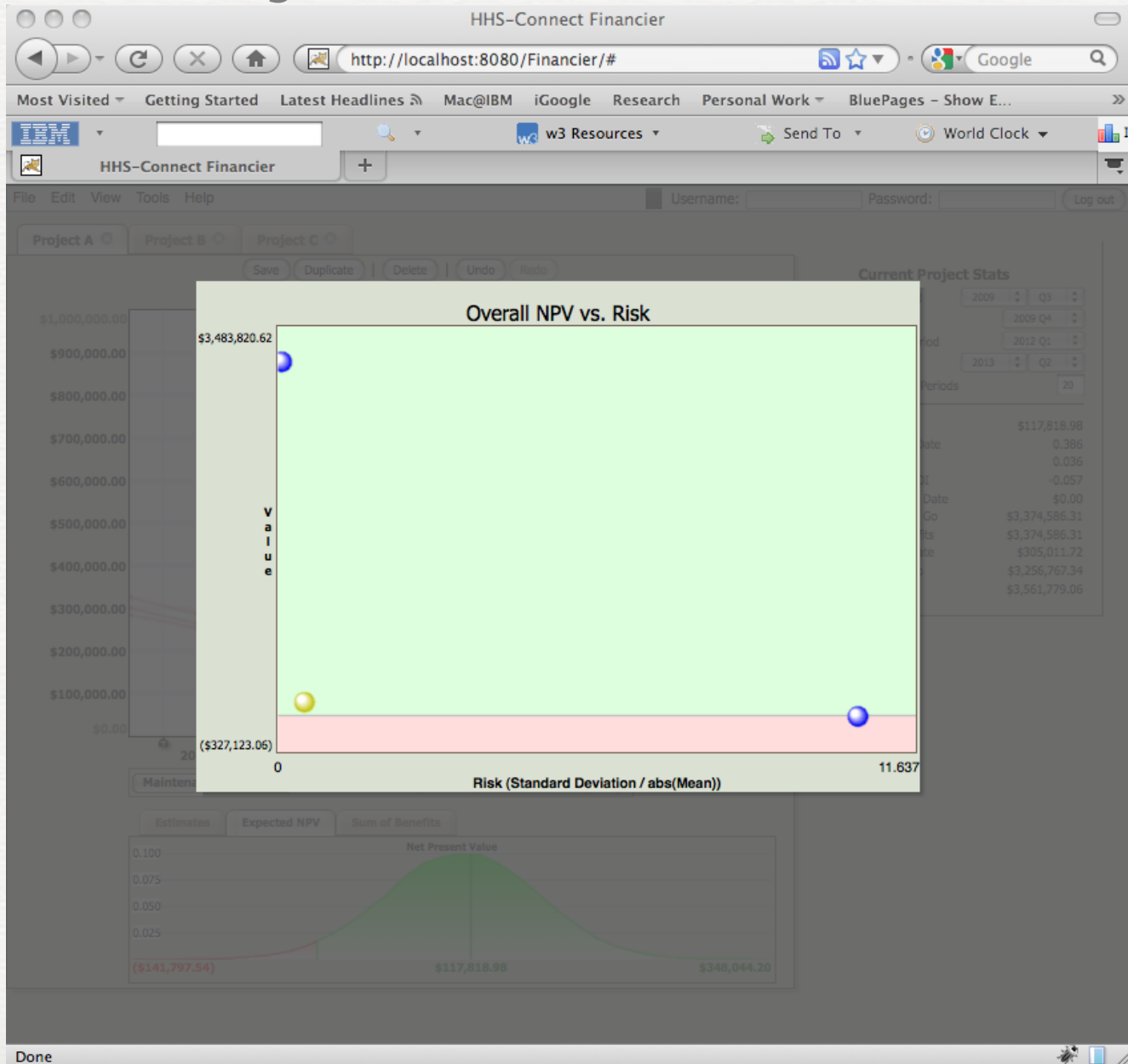
The Simplified Software Value Cycle



Project Valuation



Project Prioritization



Staffing / Organization

Jazz Administration - Ensemble Team - Rational Team Concert - /Users/clayw/Documents/workspaceV2

TestProbabilisticSimulation2.java | Output.java | Simulation.java | *Ensemble Team

Team Area

Ensemble Team [Show in Team Organization](#) [Open parent](#) [Open project area](#)

Details

Summary
The Ensemble team explores the provision of knowledge, calibration, and affordances that empower people to improve outcomes

Description
Software engineering is a human-centric activity that creates value and incurs risk through both technical and social activities. This risk and value is largely invisible today, hence unmanageable. Ensemble will provide knowledge, calibration, and affordances that empower people to improve outcomes through local contributions.

Members

Roles determine a user's permissions as well as any preconditions and follow-up actions that are run for team operations. The roles assignments below are also valid in all child team areas. Unless configured otherwise, all users in the repository play the 'default' role.

Name	Process Roles
<input type="checkbox"/> Chris Bird	contributor
<input checked="" type="checkbox"/> Clay Williams	contributor
<input type="checkbox"/> Jacquelyn Martino	contributor
<input type="checkbox"/> Kate Ehrlich	contributor
<input type="checkbox"/> Patrick Wagstrom	contributor
<input type="checkbox"/> Peri Tarr	teamlead, contributor
<input type="checkbox"/> Richard P. Gabriel	contributor
<input type="checkbox"/> Steven Tang	contributor

Administrators

Timeline
To specify that a hierarchy of teams are working in an alternate timeline, areas can be assigned to a specific timeline. By default, all teams work in the timeline.

Process Customization
This team customizes the process inherited from this team area's parent.

- [Edit process customization](#)
- [Discard process customization](#)

Process Description
Research Eclipse Way: Variant of the Eclipse way process appropriate for exploratory research projects

Overview | Links | Process Customization | Process Customization Source

Search for ID or Text Governance Science SI | Computing schema local...ation: (40%)

<No Current Work>

Conceptualization



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Development

The screenshot displays the Rational Team Concert Work Items interface for a tempo plan. The window title is "Work Items - Plan 'Tempo plan - 4.4 s2' - Rational Team Concert". The main view shows a tempo plan for the JUnit Team, with a total of 10 closed and 14 open items. The plan is broken down by team member: Bill Cassavelli (3 closed, 2 open), Jason Mitchell (2 closed, 4 open), and Markus Kent (4 closed, 8 open). The plan also shows a list of items categorized by time period: Past (4 closed), Today (1 open), and Future (7 open). The Future items include tasks like "assertThat fails with Class tests (documentation problem)", "design API for REST services", and "Implement API for REST services". The interface includes a sidebar with "Inbox" and "Current Work" sections, and a right-hand panel with "View As", "Actions", "Exclude", and "Related Work Items" options.

Tempo plan [4.4 s2]

Team Area: JUnit Team | Iteration: 4.4 s2 (5/9/09 - 6/8/09) | [10 Closed](#) | [14 Open](#)

Team Area: JUnit Team

- Bill Cassavelli**
Closed items: 3 | Open items: 2
Load: 2 / 28 | +26 h Estimated: 100%
- Jason Mitchell**
Closed items: 2 | Open items: 4
Load: 136 / 56 | -80 h Estimated: 75%
- Markus Kent**
Closed items: 4 | Open items: 8
Load: 48 / 56 | +8 h Estimated: 100%

Past (4 closed)

Today (1 open)

Item	Priority	Due	Est. Effort	Count
assertArrayEquals misses differences	High	4 hours	1.0	7

Future (7 open)

Item	Priority	Due	Est. Effort	Count
assertThat fails with Class tests (documentation problem)	Unassigned	4 hours	1.0	10
design API for REST services	Unassigned	4 hours	1.0	61
Implement API for REST services	Unassigned	1 day	1.0	62
Tests on protected methods fail	Unassigned	1 day	0.998	14
testCount hard-coded to 1 for childless Description	Low	4 hours	0.982	27
javadoc updates for @Ignore in 4.3	Unassigned	1 day	0.716	30
Based on the assertThat syntax we should provide assumptions and theories support	Unassigned	1 day	0.249	59

Unassigned
Closed items: 1 | Open items: 0

Current Work (JUnit Project) (7 unread items)

Today (1 items)

- assertArrayEquals misses differences (4h)

Next Week (7 items)

- assertThat fails with Class tests (documentation problem) (4h)
- design API for REST services (4h)
- Implement API for REST services (1d)
- Tests on protected methods fail (1d)
- testCount hard-coded to 1 for childless Description (4h)
- javadoc updates for @Ignore in 4.3 (1d)
- Based on the assertThat syntax we should provide assumptions and theories support (1d)

Future Work (JUnit Project)

View As: Schedule Risk

Actions: Assess Schedule Risk, Re-sort

Exclude: Assigned Items, Empty Groups, Estimated Items, Execution Items, Resolved Items, Unchanged Items

Related Work Items: Show Backlog, Unplanned Closed Items

Next Plans: 4.4 s3, 4.4 s4

Delivery



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Conclusion

- Many changes underway
 - Development methods
 - Technology platforms
 - Delivery Vehicles
- Managing requires a focus on value
- Understanding interplay between economic, social, and technical factors in creating value is crucial

Some Suggestions

- Move away from “favored topics”
 - Executives - costs
 - Managers - schedules and staffing
 - Techies - features and technology
- Learn to talk in terms of value
 - Benefits
 - Costs
 - Risks
- Look holistically at your project and organization in terms of the seven “rights”
 - Features
 - Skills
 - Cost
 - Schedule
 - Quality
 - Adaptability
 - Pace

Questions?

Thank you!