Views on Balancing Agility and Discipline

James Over  
*Senior Technical Staff*

James Over has led the transition of the TSP into government and industry organizations throughout the world. He co-authored the book Leadership, Teamwork, & Trust (with the late Watts Humphrey) and several SEI publications on software process definition and improvement.

See his full bio at:  
[www.sei.cmu.edu/go/agile-research-forum/](http://www.sei.cmu.edu/go/agile-research-forum/)
1. REPORT DATE  
22 MAY 2012

2. REPORT TYPE

3. DATES COVERED  
00-00-2012 to 00-00-2012

4. TITLE AND SUBTITLE  
Views on Balancing Agility and Discipline

5a. CONTRACT NUMBER

5b. GRANT NUMBER

5c. PROGRAM ELEMENT NUMBER

5d. PROJECT NUMBER

5e. TASK NUMBER

5f. WORK UNIT NUMBER

6. AUTHOR(S)

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)  
Carnegie Mellon University, Software Engineering Institute, Pittsburgh, PA, 15213

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

10. SPONSOR/MONITOR’S ACRONYM(S)

11. SPONSOR/MONITOR’S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT  
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:  
a. REPORT  
unclassified

b. ABSTRACT  
unclassified

c. THIS PAGE  
unclassified

17. LIMITATION OF ABSTRACT  
Same as Report (SAR)

18. NUMBER OF PAGES  
16

19a. NAME OF RESPONSIBLE PERSON

Standard Form 298 (Rev. 8-98)  
Prepared by ANSI Std Z39-18
Balance

Change is accelerating.

To keep your balance,

you need agility and discipline.
Agility

Respond rapidly,
respond efficiently,
to change,
with consistency.
Measuring Agility

- Response time
- Efficiency
- Consistency
Impediments to Agility in Software

- Lack of ready backlog
- Lack of “done” at the end of a sprint
- Lack of teamwork
- Lack of good design
- Tolerating defects
Avoiding the Impediments

Build high-performance teams.

Plan every project.

Use a measured process.

Design before you build.

Make quality the top priority.
High-Performance Teams

Software is knowledge work.

Build self-managed teams that
make their own plans,

negotiate their commitments,

know the project status, precisely.
Plan Every Project

Never make a commitment without a plan.

Use historical data.

If the plan doesn’t fit the work, fix the plan.

Change is not free.
Use a Measured Process

To measure the work, define its measures.

To measure the process, define its steps.

If the process doesn’t fit the work, fix the process.
Design Before You Build

Design informs the implementation.

Good designs produce less code.

Design what you know and explore the rest.

When you know enough, finish the design, then build.
Make Quality the Top Priority

Defects are inevitable.

Poor quality wastes resources.

The sooner you fix it, the better.

Quality without numbers is just talk.
Competitive Advantage

Twenty projects in 13 organizations

• had an average schedule error of only 6% in a range of -24% to +25%
• delivered more functionality than originally planned or finished ahead of schedule
• cost 5% more than planned in a range of -20% to +27%
• had test costs of less than 7% of total cost with an average cost of quality of only 17%
• delivered software with an average of only six defects in 100,000 lines of new and modified code
Discipline is the Key to Agility

Agility isn’t achieved by *trying* to be agile.

It isn’t achieved by adopting slogans, reciting metaphors, or through imitation.

It can only be achieved when everyone in the organization acts professionally, and uses a disciplined, measured approach to their work.
# Presenter Information

## Presenter
James Over  
Sr. Member of the Technical Staff  
Process Management Program  
Telephone: +1 412-268-5800  
Email: info@sei.cmu.edu  

## U.S. Mail
Software Engineering Institute  
Customer Relations  
4500 Fifth Avenue  
Pittsburgh, PA 15213-2612  
USA  

## Web
www.sei.cmu.edu  
www.sei.cmu.edu/contact.cfm  

## Customer Relations
Email: info@sei.cmu.edu  
Telephone: +1 412-268-5800  
SEI Phone: +1 412-268-5800  
SEI Fax: +1 412-268-6257
NO WARRANTY

THIS CARNEGIE MELLON UNIVERSITY AND SOFTWARE ENGINEERING INSTITUTE MATERIAL IS FURNISHED ON AN “AS-IS” BASIS. CARNEGIE MELLON UNIVERSITY MAKES NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, AS TO ANY MATTER INCLUDING, BUT NOT LIMITED TO, WARRANTY OF FITNESS FOR PURPOSE OR MERCHANTABILITY, EXCLUSIVITY, OR RESULTS OBTAINED FROM USE OF THE MATERIAL. CARNEGIE MELLON UNIVERSITY DOES NOT MAKE ANY WARRANTY OF ANY KIND WITH RESPECT TO FREEDOM FROM PATENT, TRADEMARK, OR COPYRIGHT INFRINGEMENT.

Use of any trademarks in this presentation is not intended in any way to infringe on the rights of the trademark holder.

This Presentation may be reproduced in its entirety, without modification, and freely distributed in written or electronic form without requesting formal permission. Permission is required for any other use. Requests for permission should be directed to the Software Engineering Institute at permission@sei.cmu.edu.

This work was created in the performance of Federal Government Contract Number FA8721-05-C-0003 with Carnegie Mellon University for the operation of the Software Engineering Institute, a federally funded research and development center. The Government of the United States has a royalty-free government-purpose license to use, duplicate, or disclose the work, in whole or in part and in any manner, and to have or permit others to do so, for government purposes pursuant to the copyright license under the clause at 252.227-7013.
TSP SYMPOSIUM 2012
DELIVERING AGILITY WITH DISCIPLINE

7th Annual Software Engineering Institute (SEI) Team Software Process (TSP) Symposium

September 17–20, 2012 • St. Petersburg, Florida