

ORAM

Aviation Crew Resource Management Techniques For Scrum Teams



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- US Naval Aviator & Air Force “Galaxy” Pilot
- 2500 Flight Hours / Fixed Wing / Helicopters
- Air War College Distinguished Graduate.
- Squadron Commander, “twice”
- 20+ Year IT Application Development
- GAO Agile Working Group
- Carnegie Mellon Agile Government Group
- Agile FLEX Coach, CSP, ACP, PSM
- Scrum Alliance Veteran Outreach Representative



C-5 Galaxy



Mission Objective

Learn how Crew Resource Management (CRM) can be repurposed into **sCRuM** Resource Management.

In doing so address failures of interpersonal communication, leadership, and decision making on your scrum Teams.

Individuals and Interactions.

Blah Blah Blah Blah Blah Blah

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Individuals and interactions over processes and tools

~~Blah blah blah blah blah blah blah~~

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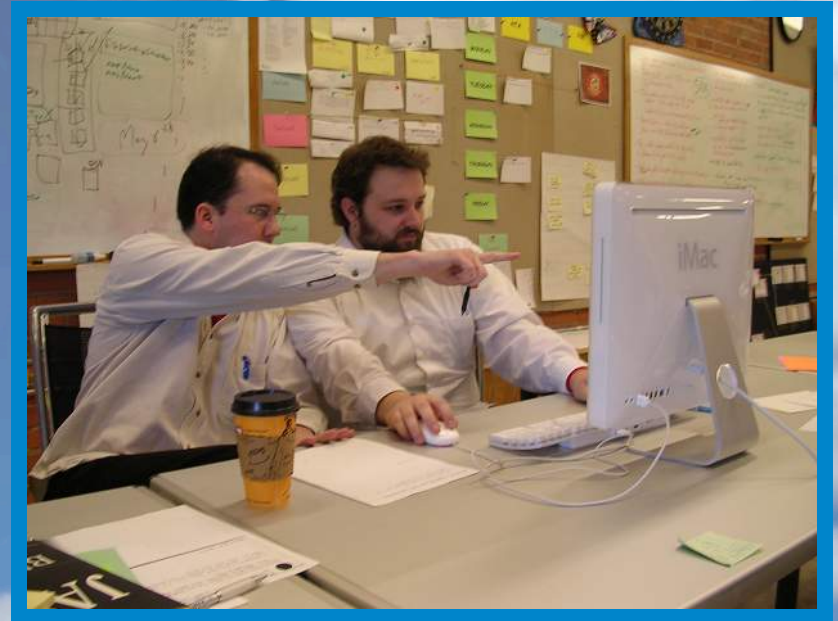
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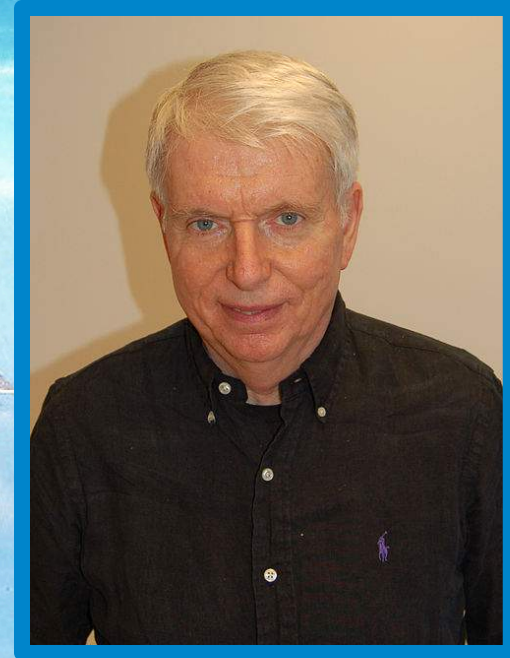


Alex Krivitsky

Wingman = Pair Programming



Scrum Comes from Aviation



Jeff's Sutherland's RFC-4 Experience

John Boyd Father of OODA Korean War F-86 Pilot



Slow OODA Loop = Death
Fast OODA Loop = Success

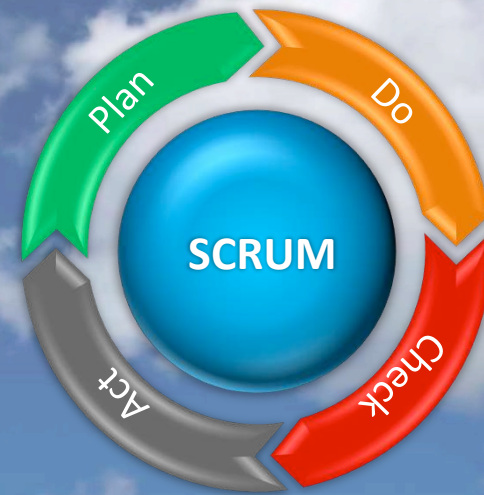
Comparing the Loops

OODA



Empirical Process,
Transparent, adapts through
Inspection

SCRUM



Empirical Process,
Transparent, adapts through
Inspection

Principles



Plan

Practices



Brief

Processes



Execute

Experience



Debrief



The Key is the Retrospective

De-Brief





Engagement
Cycle (VAST)



Michael Sahota
People-Over-Process



Disengagement
Cycle (Org Debt)



Michael Sahota
People-Over-Process



Authentic Communication = CRM?

- **Crew Recourse Management (CRM) can be defined as an Aviation management system which makes optimum use of :**
 - Available Resources
 - Equipment
 - Procedures
 - People

Aviation is complex.



Lots of Dials and switches!



BUTTONS & LIGHTS



NASA & NTSB 1979

- Crew Resource Management (CRM) training originated from a NASA workshop in 1979.
- Majority of aviation accidents was human error.
 - Interpersonal communication.
 - Leadership.
 - Decision making.

Eastern Flight 401 Case study



Lockheed L-1011 TriStar



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Know your priority / Your Sprint Goal

- Who is flying the airplane?
- Are we on fire?
- Are we going to hit something?
- Are we going to run out of gas?
- Blah Blah Balh



CRM Focus on **COGNITIVE** and **INTERPERSONAL** skills

- **COGNITIVE** skills are;
 - mental processes used for gaining and maintaining situational awareness,
 - For solving problems and for making decisions.
- **INTERPERSONAL** skills are **Communication** and a range of behavioral activities associated with teamwork.

CRM Charm School Interpersonal Skills

- Situational awareness
- Self awareness
- Leadership
- Assertiveness
- Decision Making
- Flexibility
- Adaptability
- Event Analysis
- Communication



Situational Awareness

- What is happening around me
- Decisions are based on Situation Awareness
- Poor SA = Poor Decisions
- SA is a recurring root cause of accidents.



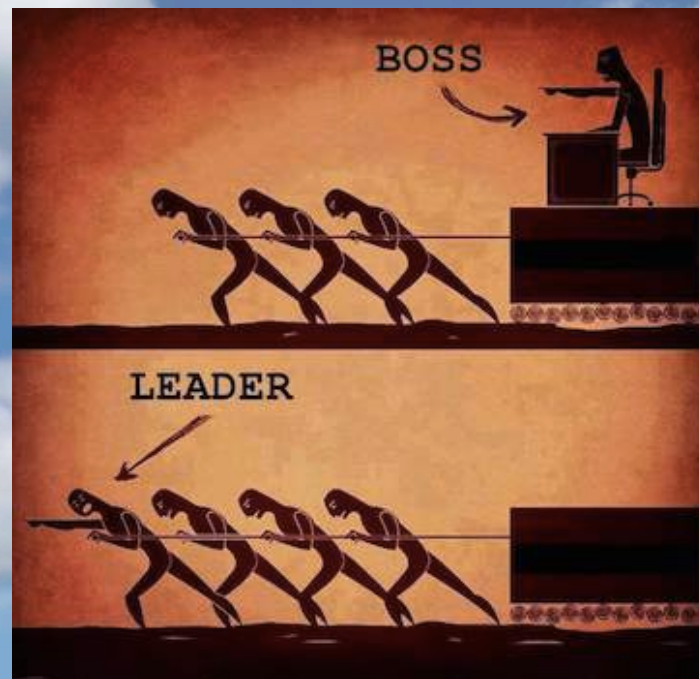
Self Awareness

- Emotion
- Fatigue
- Sleep
- Circadian Rhythms
- Alcohol and Medication
- How others perceive you



Leadership

- Leadership success always starts with vision.
- Relentlessly communicating the vision
- Successful leadership involves judgment.

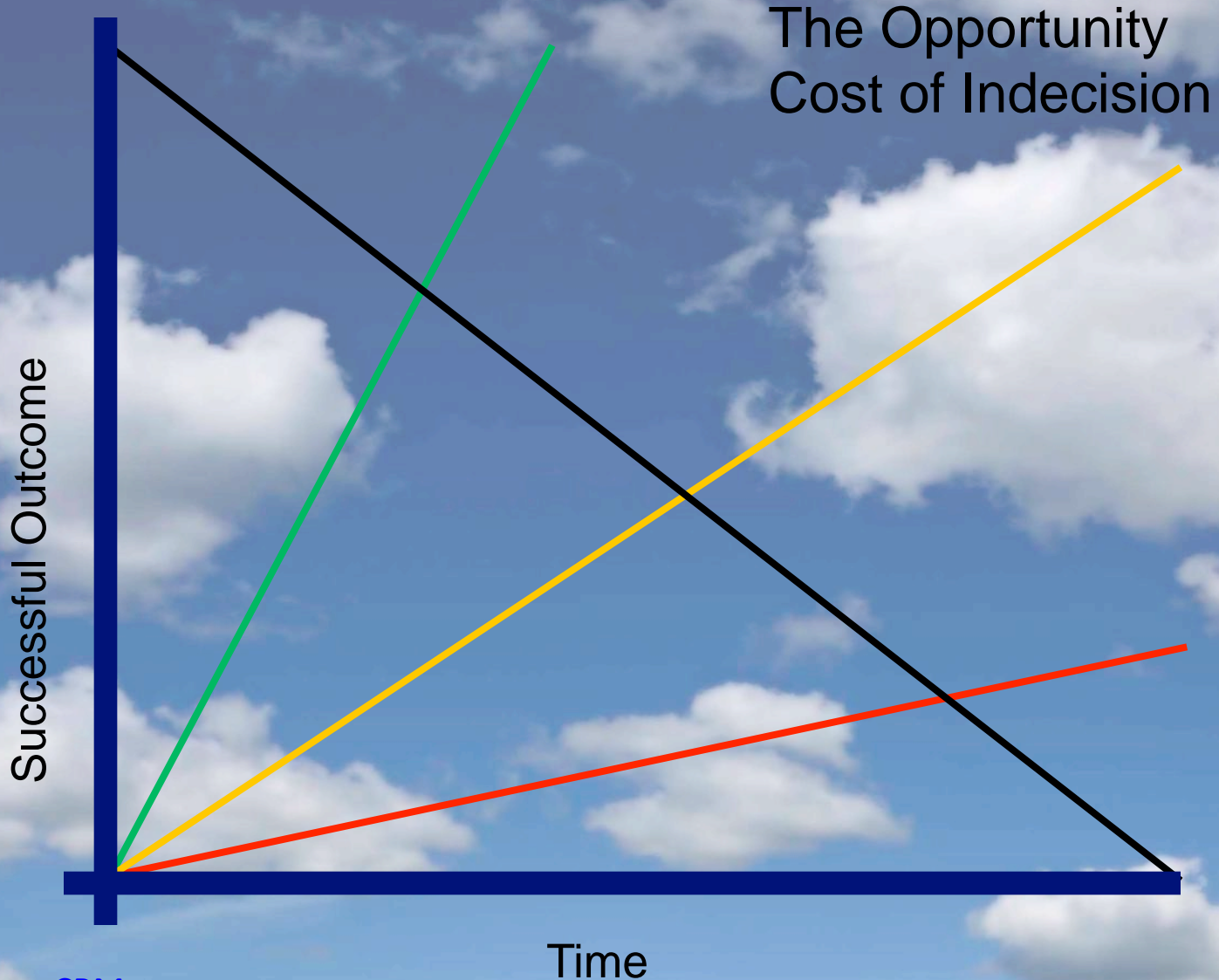


Assertiveness

- Self-assured and confident
- Knowing when to speak up
- Learnable Communication Skill
- With CRM, respectfully questioning authority is encouraged.



Decision Making



A Late Decision



Flexibility

- The ability to adapt
- Embraces Change
- The “KEY” to Air Power



Adaptability

- Ability to change something or oneself to fit to occurring changes.
- 2 Modes of adaptability.
 - Crisis
 - Change



Event Analysis

- How did we do vs what we planned.
- Capture Results.
- Transfer Results.
- Use Results.



Communication is the CORE! ★

- Opening or attention getter.
- State your concern.
- State the problem as you see it.
- State a solution.
- Obtain agreement (or buy-in).

– Todd Bishop CRM Expert



CRM Adoption in Related Fields

- Air Traffic Control
- Aircraft Maintenance MRM
- Firefighting
- Healthcare



CRM Applied to Scrum Teams = sCRuM

- Respectfully questioning authority.
- What is vs What Should be happening.
- Apply what you learn in your Retrospectives.
- Critique yourself first.
- Use the Assertive Communication Pattern.



QUESTIONS?



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