Smarter, Faster, Better and Agile

Peter McCurdy

silverdartpm@shaw.ca

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Objectives

- To illustrate why Agile is so effective by:
    - Looking at an overview of Agile
    - Looking at Charles Duhigg's research on smarter, faster, better organizations
    - Cross referencing Duhigg's research with each Agile step
- To leave the session with a clear idea on how to make each Agile step extremely effective

Agile for a 10 work-day Sprint
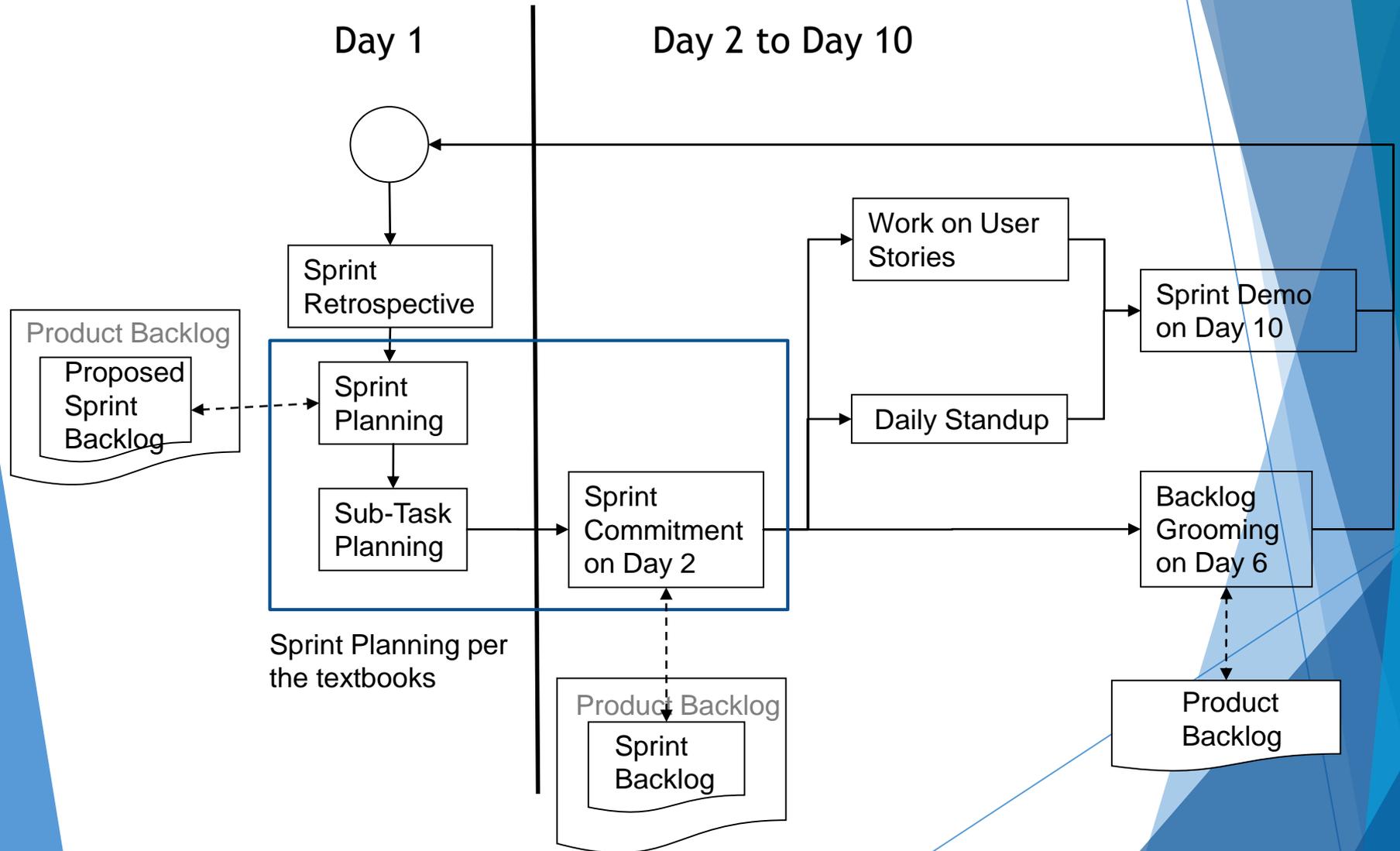
Smarter, Faster, Better*

Productive people:

- Push themselves to come up with big goals and have a system of breaking them into manageable goals

- Scrutinize the use of their time

- Understand how team members react to different modes of communication

- Force themselves to learn about unfamiliar topics which inspire new breakthroughs

* Duhigg, Charles, *Smarter, Faster, Better,* Anchor*:* Penguin Random House Canada, a Penguin Random House company, 2017

Characteristics of Productivity*

1. Motivation
   - Triggered by making meaningful choices demonstrating we are in control
   - The choices need to be affirmations of the goals not just expressions of control (ask why are you doing something)

2. Effective teams
   - All team members speak in roughly the same proportion
   - Team members are sensitive to how each other feel
   - Team members willingly give a measure of control to other team members

3. Focus
   - Take control of where to focus your attention
   - Build mental models that put us firmly in charge

* Duhigg, Charles, *Smarter, Faster, Better,* Anchor: Penguin Random House Canada, a Penguin Random House company, 2017

Characteristics of Productivity*

4. Goal setting
    - Based on previous performance
    - Combines an ambitious goal with specific objectives having measures of success
    - Establish goals make sense

5. Managing others
    - Critical decisions are pushed to the person closest to the problem thus taking advantage of everyone's expertise and enabling innovation
    - Team members are committed to each other's success
    - People know their suggestions won't be ignored and their mistakes won't be held against them

6. Effective decision making
    - Envision multiple futures and then objectively select the future with greatest potential

* Duhigg, Charles, *Smarter, Faster, Better,* Anchor*:* Penguin Random House Canada, a Penguin Random House company, 2017

Characteristics of Productivity*

7. Innovation
    - Creativity often emerges by combining previously known ideas in new ways
    - Diversity is maximized when disturbance is neither too rare nor too frequent; a little disturbance can jolt us out of ruts
    - Innovation is unlocked by giving people control

8. Absorbing and using data
    - Learn from the data we collect
    - Do something with newly discovered information

Agile Roles and Responsibilities

	Role	Responsibility
PO	Product Owner	• Interfaces to the client for requirements capture • Owns the Product Backlog • Writes User Story title and initial acceptance criteria • Continuously grooms the Product Backlog by adding, updating, removing and prioritizing User Stories • Approves User Story implementation at Sprint demo
SM	Scrum Master	• Owns the Agile process • Responsible for making the Agile process work for the team • Runs all Agile meetings • Manages the Product Owner's expectations • Shares Sprint metrics at the Sprint Retrospective
Dev	Team	• Owns the delivery of the Sprint content • Ensures the process is being followed and is working • Demonstrates User Stories at the Sprint demo • Composed of the Designers and Verifiers
TL	Tech Lead*	• Member of the team • Has knowledge of the technical big picture • Ensures team members deliver technically correct solutions that align with the Software Architecture

* This is a non-standard Agile role

Backlog Grooming

Agile step

Purpose
- To determine the Sprint objective
- To ensure an effective Sprint Planning meeting

Activities performed
- Determine the expected Velocity of the team based on the previous three Sprints
- Identify defects to be included in the proposed Sprint Backlog
- Working from the User Story of highest priority in the Product Backlog
  - Identify type of User Story (Epic, Story, Spike)
  - Refine the description of the Story or Spike and ensure there are clear, measurable Acceptance Criteria
  - Estimate the Story
  - Stop working through the Product Backlog when:
    - The sum of the Story Points exceeds the expected Velocity by 20%
    - Every team member has more than enough work for the Sprint

Duhigg's productivity characteristics
- Motivation – Team starts taking control of the Sprint content
- Focus – Builds mental model for the up-coming Sprint
- Goal Setting – Using previous experience, combines ambitious goals (Epics) with specific objectives (User Stories) having measures of success (Acceptance Criteria)

Sprint Planning

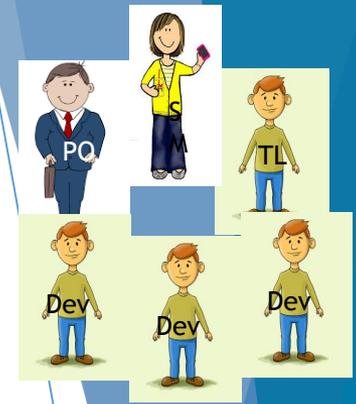## Agile step

Purpose

- Review the proposed Sprint Backlog to ensure:
    - The Acceptance Criteria are understood and complete
    - Each team member feels he/she has sufficient work

Activities performed

- Determine the team's Velocity by:
    - Calculating the average Velocity of the three previous Sprints
    - Reducing average Velocity for all planned time off such as vacation time and defect fixing
- Working from the User Story of highest priority in the proposed Sprint Backlog:
    - Review Acceptance Criteria to confirm an implementation strategy exists
    - Estimate the User Stories by the team
    - Identify a person to plan the sub-tasks for each User Story; this person is not committing to implementing it (team members are expected to volunteer)

Duhigg's productivity characteristics

- Motivation – The team takes control of the Sprint content
- Effective teams – Equal participation and control is shared
- Focus – Team has a common vision for the Sprint
- Goal setting – Using previous experience, combines ambitious goals (Epics) with specific objectives (User Stories) having measures of success (Acceptance Criteria)
- Managing others – Taking advantage of everyone's expertise and enabling innovation

Sub-Task Planning

Agile Step
  Purpose
  - Confirm implementation strategy
  - Plan out the work in detail

  Activities performed
  - For each User Story:
    - Identify and estimate, in days (1/2,1, 2), the sub-tasks required to complete the User Story

Duhigg's productivity characteristics
  - Motivation – Making meaningful choices for the implementation
  - Effective teams – Team members give control to others
  - Goal setting – Specific objectives having measures of success
  - Managing others - Critical decisions are pushed to the people closest to the problem
  - Effective decision making – Envision multiple futures (design approaches) and then select the future (design) approach with greatest potential (most extensible)

Sprint Commitment

Agile Steps

Purpose

- Obtain team commitment to deliver the Sprint Backlog

Activities performed

- For each User Story:
  - Compare the time estimate with other User Stories of the same size in the Sprint Backlog;
  - Resize the User Story so that all User Stories of the same size have approximately the same time estimate: when in doubt about the size, use the User Story with the largest size
  - Remove lowest priority User Stories until sum of the Story Points is equal to or slightly less than the team's Velocity
- Have each team member commit to delivering the Sprint Backlog

Duhigg's productivity characteristics

- Motivation – Goals are affirmed (team knows why they are doing of the Sprint)
- Effective teams – Team members are sensitive to how each other feels; team members accept each other commitments hence sharing control
- Focus – Team agrees to direct their attention on the Sprint objective
- Goal setting – Goals make sense
- Managing others – Team members are committed to each other's success
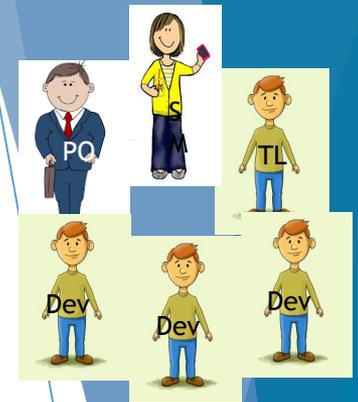
Daily Standup

Agile Step

Purpose
- To ensure strong communication among the team members
- To obtain assistance from the Product Owner as needed

Activities performed
- Each team member addresses the three Agile questions
- Technical issues are discussed in the follow up meeting after the standup
- Any interruptions are mentioned with hours spent on them
- Notes:
  - Team members may only work on sub-tasks identified on the task board or approved interruptions

Duhigg's productivity characteristics
- Effective teams – Team members speak in roughly the same proportion
- Focus – Team member's keeps their focus on the Sprint objective
- Managing others – Critical decisions are pushed to people closest to the problem, team members are committed to each other's success

Work on the User Story

Agile Step

Purpose
- To deliver the content of the Sprint

Activities performed
- Complete the sub-tasks identified for the User Story
- If additional work relating to the User Story is discovered, add sub-tasks to that User Story
- If less work relating to the User Story is discovered, modify/remove sub-tasks to that User Story
- Verify the User Story implementation satisfies the Acceptance Criteria

Duhigg's productivity characteristics
- Managing others – Take advantage of team member's expertise, Team members know their suggestions won't be ignored and their mistakes won't be held against them
- Effective decision making – Envision multiple futures (designs), select the future (design) with the greatest potential (most extensible)
- Innovation – Creativity emerges as team members combine previous known ideas in new ways, innovation is unlocked since team members have control of the implementation
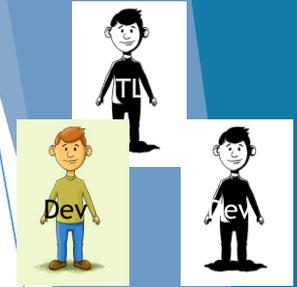
Sprint Demo

Agile Step

Purpose

- To ensure the delivered content meets the Sprint goals

Activities performed

- Show progress on the release
- Demonstrate User Stories of interest
- Present findings from Spikes
- Notes:
  - Only User Stories and Spikes that are complete may be demonstrated

Duhigg's productivity characteristics

- Motivation – Team sees affirmation of the goal
- Goal setting – Team sees ambitious goals being met
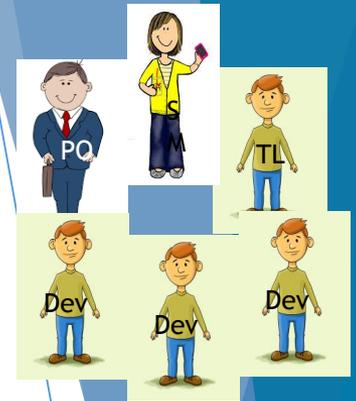
Sprint Retrospective

Agile Step

Purpose

- To review the team's effectiveness and identify one improvement initiative for the next Sprint

Activities Performed

- Review metrics
  - Velocity history and Sprint Burndown
  - Impact of interruptions
  - User Stories not completed
  - User Stories and sub-tasks added after Sprint Commitment
- Review success of adopting the improvement initiative identified in the previous Retrospective
- List what went well and could be improved upon
- Select one improvement item to work on during the next Sprint

Duhigg's productivity characteristics

- Effective teams – Team members are sensitive to how each other feel
- Managing others – Team members know their suggestions won't be ignored and their mistakes won't be held against them
- Innovation – Diversity (process improvement) is maximized when disturbance is neither too rare nor too frequent
- Absorbing and using data – Learn from metrics and apply the new information

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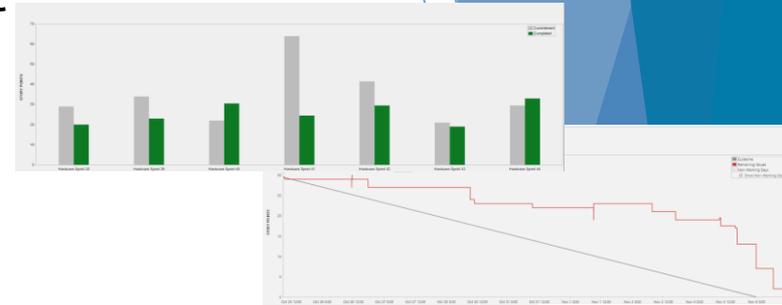
Implications to the Scrum Master

Scrum Master Guidance (1 of 2)

- Motivation
  - Ensure the team is in control of the Sprint content
  - Insist that the Sprint objective is meaningful to the team and contributes to the overall release
- Effective teams
  - Encourages all team members to participate and to actively listen to each other
  - Encourage team members to allow other team members to take on work that enables them to grow
- Focus
  - Ensure all the team members understand the Product Owner's vision of the product (i.e. they share a common mental model of the product)
- Goal setting
  - Insist the team bases their commitment on historical data
  - Ensure the intent of the User Story is understood by the team and that there are clear, demonstrable measures of success

Scrum Master Guidance (1 of 2)

- Effective decision making
  - Confirm with the Tech Lead that the appropriate design choices are being made
- Innovation
  - Encourage the Tech Lead to facilitate creative thinking
  - Leverage the Sprint Retrospective to disrupt complacency
- Absorbing and using data
  - Collect metrics on the team's performance
  - Guide the Retrospective to identify process improvements based on the collected metrics

Questions?