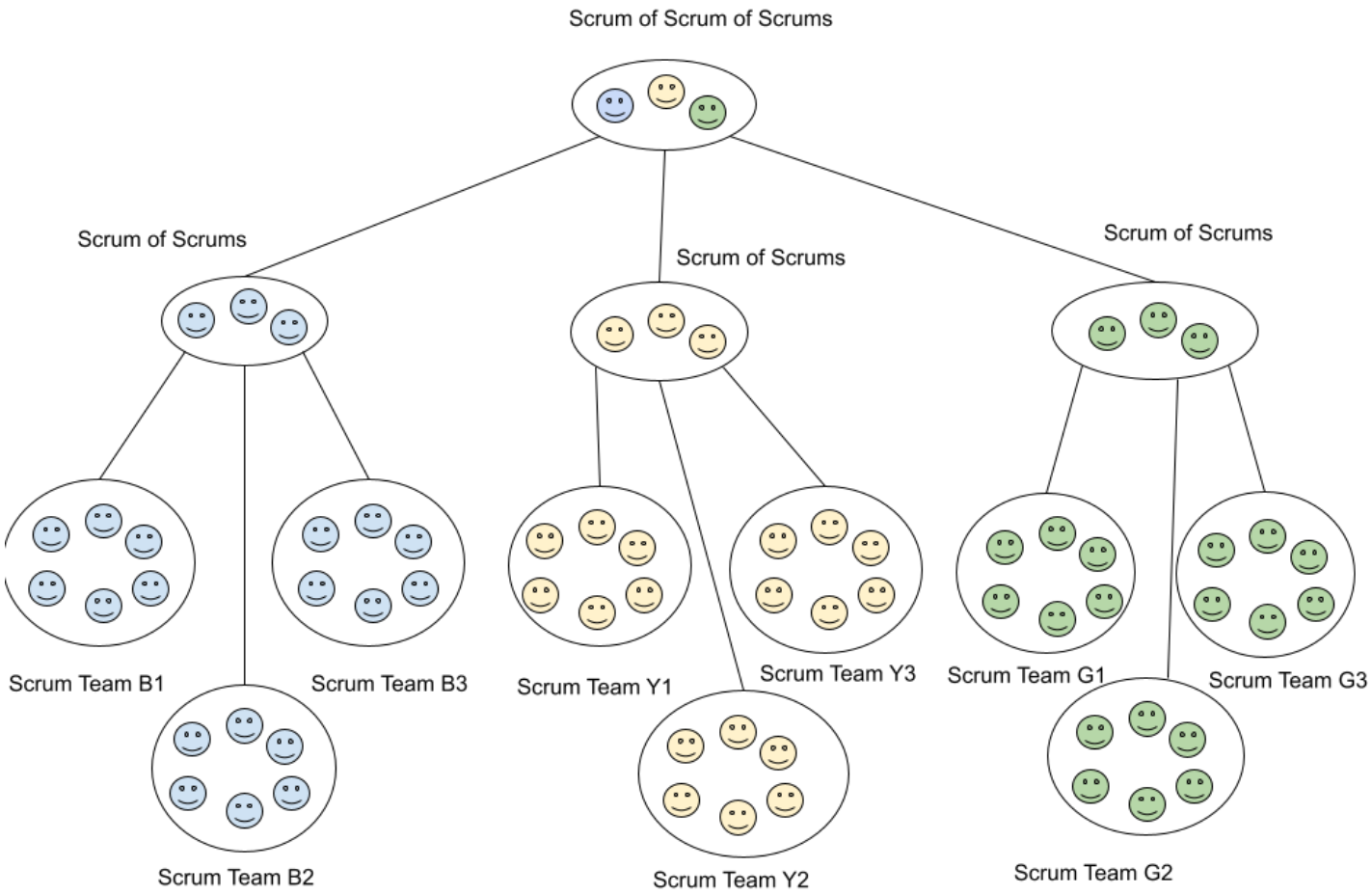
CSC 171 – Module 9

SCALING AGILE

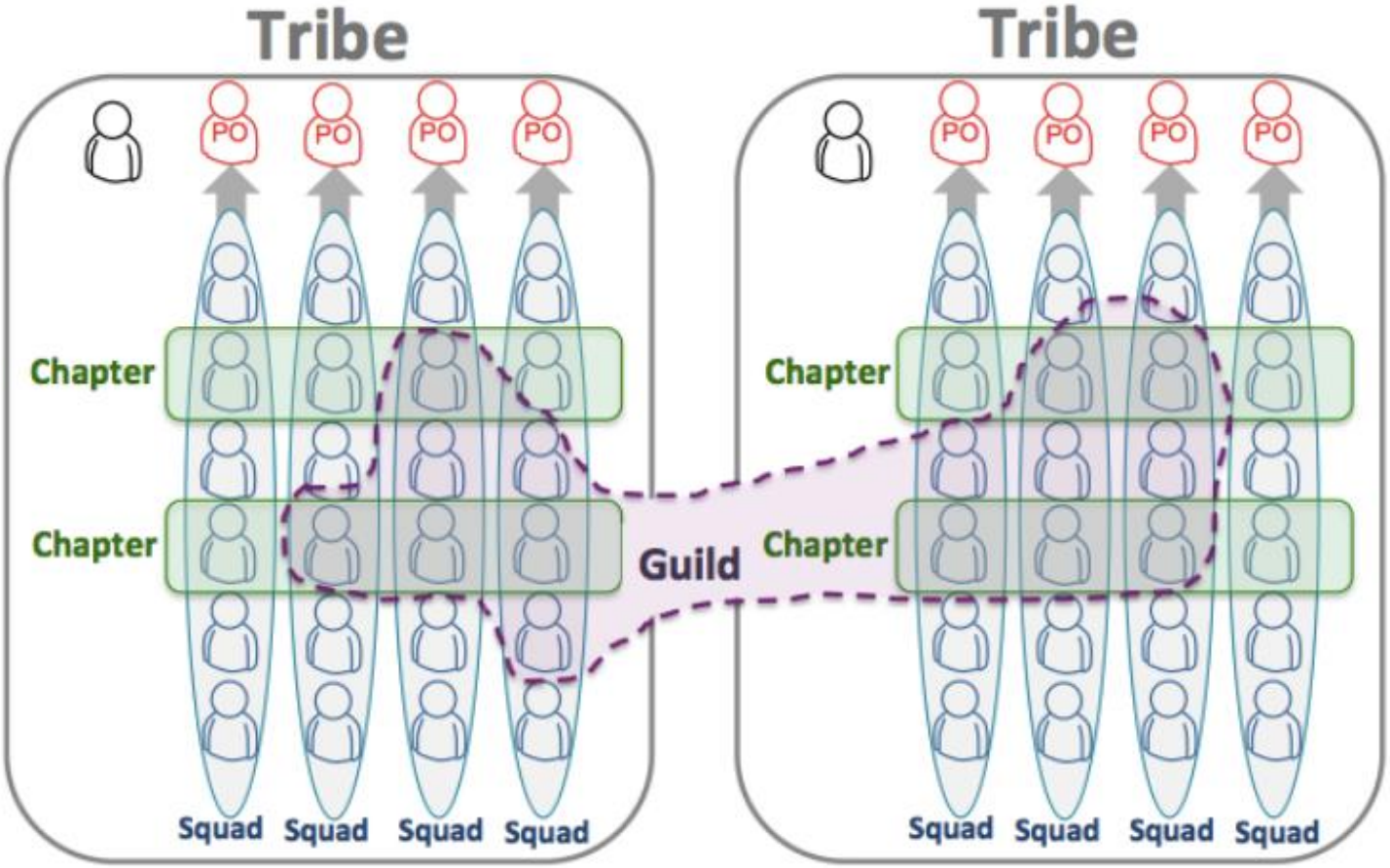
Scrum of Scrums



Scrum of Scrums - Cont.

- A technique to scale Scrum to large groups
- Scrum of Scrums team
  - At least one "ambassador" from each sub-team
  - The "ambassador" can be a technical contributor, the Scrum Master, the product owner, or the team manager.
  - Backlog tracks risks, impediments, dependencies, and assumptions (RIDAs) that have been identified.
- Scrum of Scrums meeting
  - Ambassadors reporting completions, next steps and impediments on behalf of the teams they represent.
  - Focuses on how teams are collectively working to resolve, mitigate, or accept RIDAs.
- Optional roles
  - Chief Product Owner
    - Oversees the product owner team, guides the overarching product vision
  - Scrum of Scrum Master
    - Manages RIDA backlogs, facilitates prioritization, removal of impediments, and continuous improving the effectiveness of Scrum of Scrums

Spotify



https://blog.crisp.se/wp-content/uploads/2012/11/SpotifyScaling.pdf

Spotify – Cont.

- Squad
  - Self-organizing, cross-function agile team
  - Product owner, agile coach, team members
  - No formally appointed squad leader
  - Sit together, has a long-term mission
- Tribe
  - A collection of squads working in the related areas
  - Less than 100 people
  - Tribe lead
  - Squads in a tribe all sit in the same office, normally next to each other
  - Has gatherings on regular basis to share knowledge
- Squad dependencies
  - The goal is to minimize or eliminate dependencies, which often leads to reprioritization, reorganization, architectural changes or technical solutions
  - Scrum of scrums happens on demand to sync or resolve dependencies

Spotify – Cont.

- Chapter
  - A small group of people having similar skills and working within the same general competency area, within the same tribe.
  - Meets regularly to discuss their area of expertise and their specific challenges
  - Chapter lead
    - Part of a squad
    - Responsibilities include developing people, setting salaries, etc.
- Guild
  - A group of people that want to share knowledge, tools, code, and practices, across tribes
  - Guild coordinator
- Architecture
  - Service-oriented, has over 100 distinct systems, each of them can be maintained and deployed independently
  - Each system has a system owner or a pair of system owners
  - A system owner is the "go to" person for any technical or architectural issues related to that system.
- Chief architect
  - Coordinates work on high-level architectural issues that cut across multiple systems
  - The feedback from the chief architect is just suggestions and input, the decision for the final design of the system still lies with the squad building it.

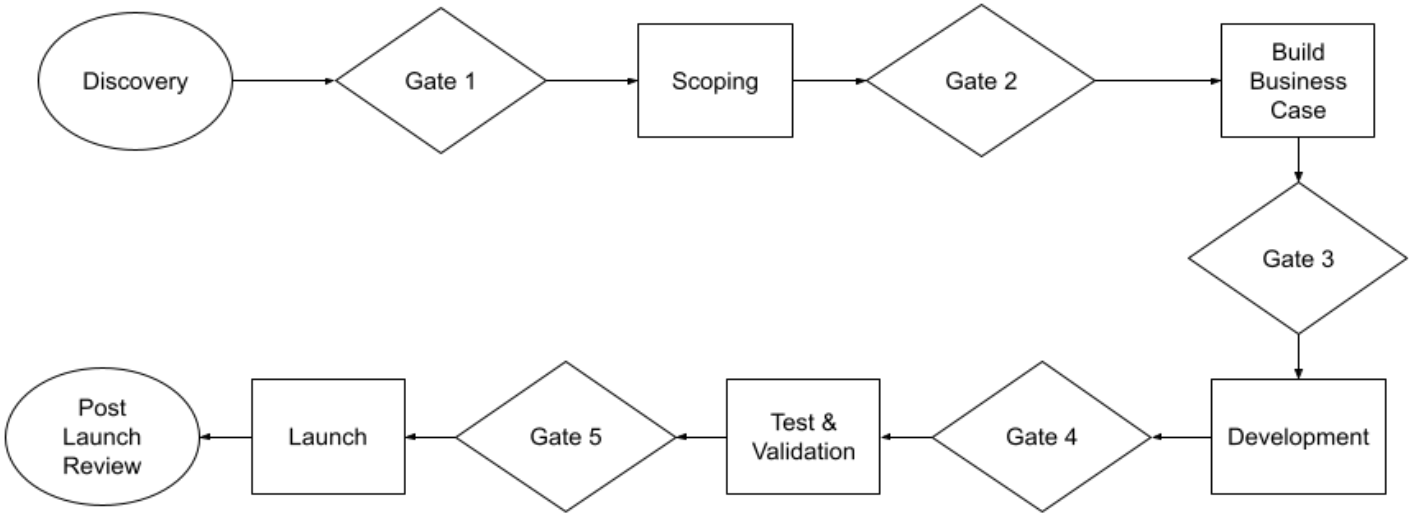
PMO, PROJECT OVERSIGHT, ASSESSMENT PROCESSES & TOOLS

Project Management Office

- Project Management Office (PMO)
  - Many large organizations have one
  - Serves as the centralized decision-making body for all the organization's projects
  - Responsible for continued support of consistent project selection criteria, standards, processes; the training of and assistance to project manager, and continued improvement and use of best practices, etc.
- Traditional project management responsibilities are distributed among agile product manager, product owner and the team, what is the role for an PMO in agile projects?
- An agile PMO can contribute to
  - People
    - Develop training programs, provide coaching, select and train coaches, challenge existing behaviors, …
  - Project
    - Assist with reporting and compliance needs, manage the inflow of projects, …
  - Process
    - Assist in establishing and collecting metrics, reduce waste, help establish and support communities of practice, build agile culture, …

Governance of Agile Projects

- Project governance (oversight) is to guide and improve the management of projects
- Key challenges with governance of agile projects
  - Traditionally it requires all kinds of documentation
  - Traditionally it is satisfied by upfront analysis and agreement on outputs
- It might require modifying some of the traditional approaches to project governance to accommodate agile methodologies
- Stage-gate process example



Governance of Agile Projects – Cont.

- Governance and compliance requirements
  - Business needs alignment
    - At the start of any agile project, business objectives and strategic alignment should be documented
  - Defining business value
    - Addressed in project vision and roadmap documentation
    - Report back on incremental value on regular basis
  - Clear outputs of the project
    - Traditional approach: comprehensive documentation
    - Agile approach: less requirement documentation, clear outputs and expectations
  - Project monitoring
    - Any Agile-based methodology is perfectly positioned to give project transparency to oversight entities
  - Managing project risks
    - Iterative-design risks
    - Agile competency risks
  - Complying with regulation
    - Output regulatory required documentation

Capability Maturity Model Integration

- Capability Maturity Model Integration (CMMI)
  - A process level improvement training and appraisal program
- Characteristics of the maturity levels
  - Initial
    - Processes unpredictable, poorly controlled, reactive
  - Managed
    - Processes characterized for projects, often reactive
  - Defined
    - Processes characterized for the organization, proactive
  - Quantitatively managed
    - Processes measured and controlled
  - Optimizing
    - Focus on process improvement
- Appraisal often conducted for one or more of these reasons
  - To compare an organization's processes with CMMI best practices, to identify improvement areas
  - To inform external customers and suppliers of how well the organization's processes compare to CMMI best practices
  - To meet the contractual requirements

MEETINGS AND MANAGERS

Organizing Meetings

- Recommendations
  - Apply “how little” thinking to meetings
  - Timebox every meeting
  - Create meetings for learning
    - Organization and customers, processes, technologies
  - Create meetings for problem solving
  - When in doubt, consider measuring value from meetings
- Example for iteration-based agile approach
  - Start an iteration with iteration planning meeting
  - Conduct daily standup during the iteration
  - Conduct a backlog refinement meeting during the iteration
  - Provide product demonstration on the last day of the iteration
  - End the iteration with a retrospective meeting after the product demonstration
- Example for flow-based agile approach
  - "Walk the board" daily as a team
  - Create a cadence for backlog refinement
  - Create a cadence for retrospectives
  - Decide about product demonstration as part of its working agreements
    - The team might demonstrate every story as it’s completed
    - The team might demonstrate the product on a cadence

Planning What to Work on & Refining the Backlog

- Planning what to work on
  - Product owner identifies the candidate product backlog items and their relative priorities, and the team select and refine what to work on
  - In a flow-based approach, the team moves selected items to its board
  - With Scrum, the team moves the selected items to sprint backlog during sprint planning meeting at the beginning of each sprint
- Refining the backlog
  - Activities
    - Creating and removing user stories
    - Merging and splitting user stories
    - Ranking stories
    - Assigning and correcting estimates to stories
    - ...
  - The Three Amigos approach
    - Three perspectives
    - One developer, one tester, and one product owner / business analyst discuss the possible user story together
  - With scrum, it is conducted during backlog grooming meeting

Walking the Board & Standups

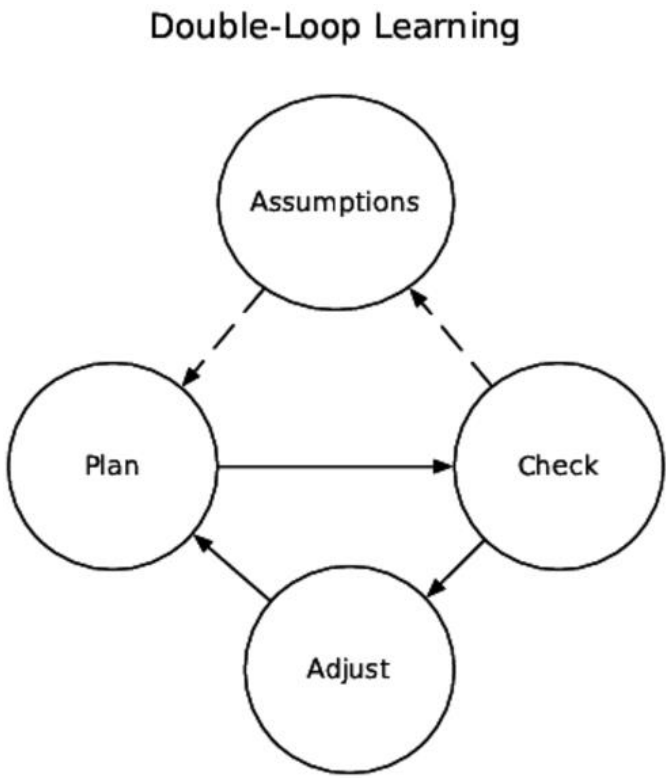
- To understand what work has been done, what work remains, and if any work is stuck
  - It is more about status updates than problem solving
  - Issues that are raised are taken offline and usually dealt with by the relevant subgroup immediately after the meeting
- Flow-based agile approach
  - Walk the board on frequent, if not a daily, basis
- Iteration-based agile approach
  - Daily standup
    - Typically held in the same location and at the same time each day, inside a 15-minute timebox
    - Common format: Each team member answers the following three questions, from the perspective of the work item, rather than the person
      - What did you do yesterday?
      - What will you do today?
      - Are there any impediments in your way?
    - A team can use other formats, such as walking the board
    - If a team swarms or mobs on every story, that team doesn't need a standup
- Anti-patterns
  - Blaming certain people for not finishing "their" work
  - Allowing people to take other people's work while it was in progress
  - The standup taking longer than 15 minutes
  - Standups become serials status meetings

Demonstrating Products

- Entire team plus interested stakeholders attend
- Provide opportunity to inspect and adapt
- With flow-bases agile approach, the team decides when to demonstrate
  - It might demonstrate every story as it's completed
  - It might demonstrate the product on a cadence
- With scrum, the product is demonstrated during sprint review meetings, common meeting components include
  - Overview of the product increment
  - Demonstrate the product increment
  - Discuss what team members observed during the sprint
  - Discuss the state of the product backlog
  - Discuss possible updates of the product backlog

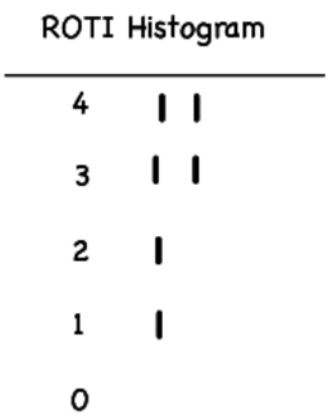
Retrospective Meetings

- The team works for any period of time then examines its results (the work product) and its process
  - An action-item list can be used
  - Retrospective encourages double-loop learning
- Example format
  - Each team member is asked to identify specific things that the team should
    - Start doing
    - Stop doing
    - Continue doing
- When to retrospect?
  - At a one- or two-week cadence, regardless of whether the team uses iterations
  - Every time the team releases to the customer
  - At the start of the project
  - At the end of the project
- With scrum, sprint retrospective it conducted at the end of each sprint



Measuring the Value from Meetings

- Measure the return on time invested (ROTI)
- Steps
  - Using a five-point scale ask people to report how much value they received for the time they invested in the meeting
    0. No benefit received for time invested
    1. Some benefit, but not commensurate with the time invested
    2. Value received equal to time invested
    3. A little better than even return
    4. High benefit
  - Create a histogram that shows the results
  - Ask for information about what made the meeting worthwhile or not worthwhile
    - Ask the people who rated the meeting 2 or above what they received for investing their time in the meeting
    - Ask people who voted 1 or 0 what they wanted but didn't receive for their investment
    - Ask what to keep, drop, and add for the next similar meeting.
  - If majority of the participants rate the meeting 2 or above the meeting is valuable
  - If majority of the participants rate the meeting below 2, ask more questions



Managers can Help Agile Teams

- Managers
  - Technical leaders, managers, directors, vice presidents, ...
- Managers hold the key to creating an agile culture
  - "If no one can help the managers see the value in agile approaches, the teams won't be able to sustain an agile culture."
- Managers can help
  - Resolve problems the team can't, especially systemic organizational problems
    - e.g., budget, resource, training, cross organization issues
  - Create team workspaces
    - e.g., team room
  - Manage the project portfolio
    - To eliminate multitasking
    - To staff and retain stable cross-functional teams
    - To look for throughput measures instead of utilization measures
  - Start the transition to a team-based recognition and reward structure
    - Ranking people against each other does not encourage collaborative work.

Provide an example that an agile team needs managers to resolve an issue.

Start Somewhere

- The goal
  - To deliver value faster, to work with the customer or business-people, and to welcome change
- Try these
  - Limit the work in progress
    - Iteration-based agile approaches limit WIP by timeboxing the work
    - Flow-based agile approaches create explicit WIP limits
  - Ask people to work as cross-functional team
  - Start with yourself
    - Be transparent with your work
    - Collaborate with the team and others
    - Exhibit the growth mindset

References

- [1] Create Your Successful Agile Project, Johanna Rothman, Pragmatic Programmers LLC, 2017. ISBN:9781680502602
- [2] Agile Estimating and Planning 1st Edition; Author: Mike Cohn; ISBN-13: 978-0131479418; ISBN-10: 9780131479418

Large Scale Scrum (LeSS) Framework

- Includes principles, frameworks, guides, and experiments
- Two frameworks
  - LeSS
    - 2-8 teams
      - a single Product Backlog
      - one Definition of Done for all teams
      - one Potentially Shippable Product Increment at the end of each Sprint
      - one Product Owner
      - many complete, cross-functional teams
      - one Sprint
    - Sprint planning
      - Part 1: all teams, each team select items
      - Part 2: individual team plans sprint
    - Daily scrum
      - Individual team, can have observers from other teams
    - Product backlog refinement (PBR)
      - Overall PBR, individual team(s) PBR
    - Sprint review
      - All teams
    - Retrospective
      - Individual team & all teams
  - LeSS Huge
    - 8+ teams