Agile / Scrum

Andrew Ingraham
aci2110@columbia.edu

- jobs.about.com
- Some currently open positions:
  - Data Warehouse Engineer (Python, MongoDB, Hadoop)
  - Software Engineer, Data Analytics
  - QA Engineer
  - Big Data Search Engineer
  - Full Stack Developer, CMS
  - Infrastructure Engineer
  - Java Engineer - Front End
  - Lead Java Application Developer - Front End
  - Lead Java Application Developer - Services
  - Server Side Developer, COLT (C++, Boost, Python)
  - Sr. Search Engineer (Big Data)
  - Front End Developer, COLT (Javascript, CSS, XHTML)
  - Front End Developer, Data Analytics
  - Sr. Front End Developer

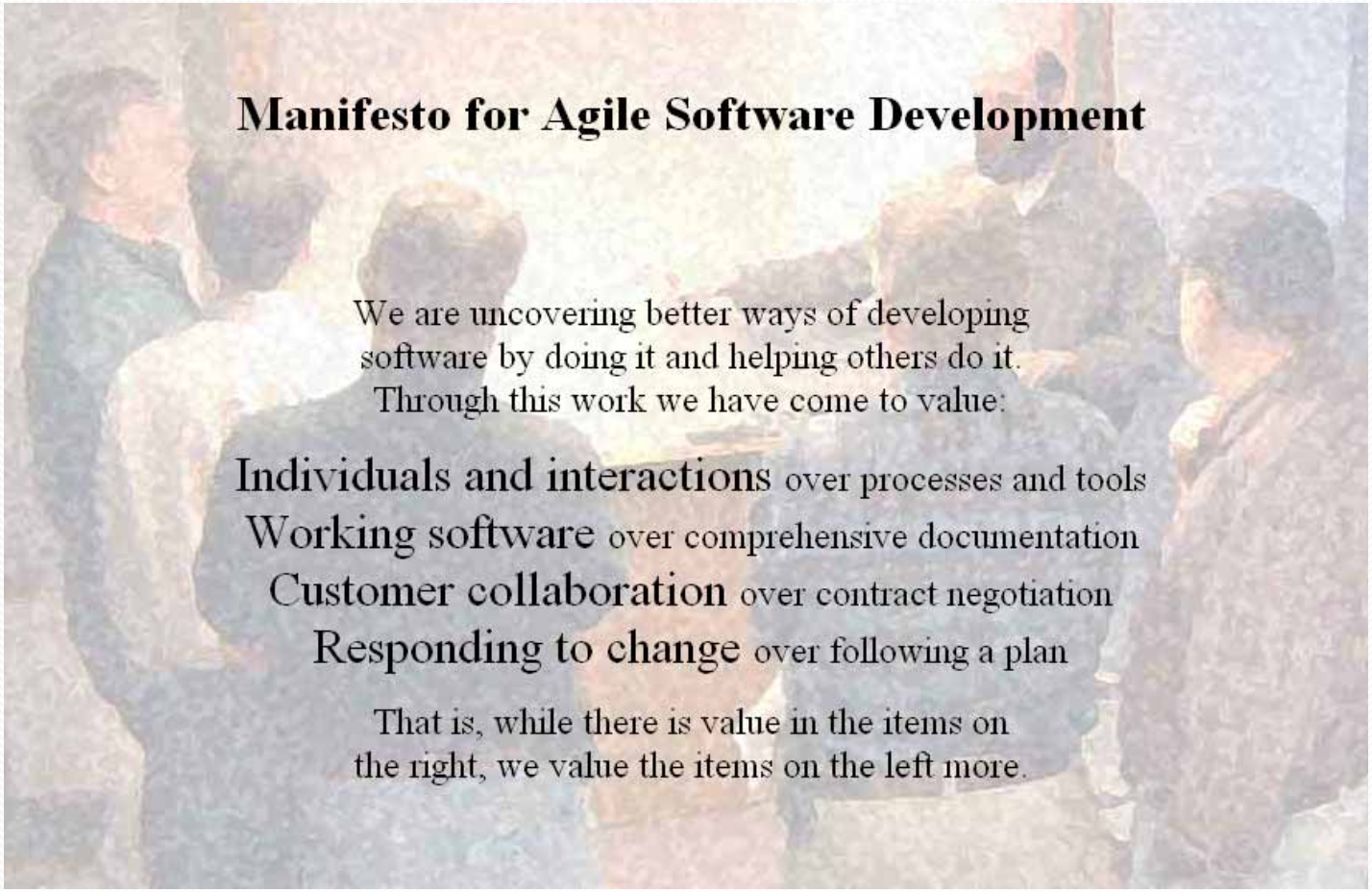
ScriptEd

- ScriptEd.org
- *ScriptEd teaches computer programming to students in low income communities, and places its students in internships with technology firms.*

Agile

- Time-boxed
- Iterative
- Incremental
- Feature-based
- Business / User Value Driven
- Feedback Loops; Response to Change
- Agility is a dial, not a switch

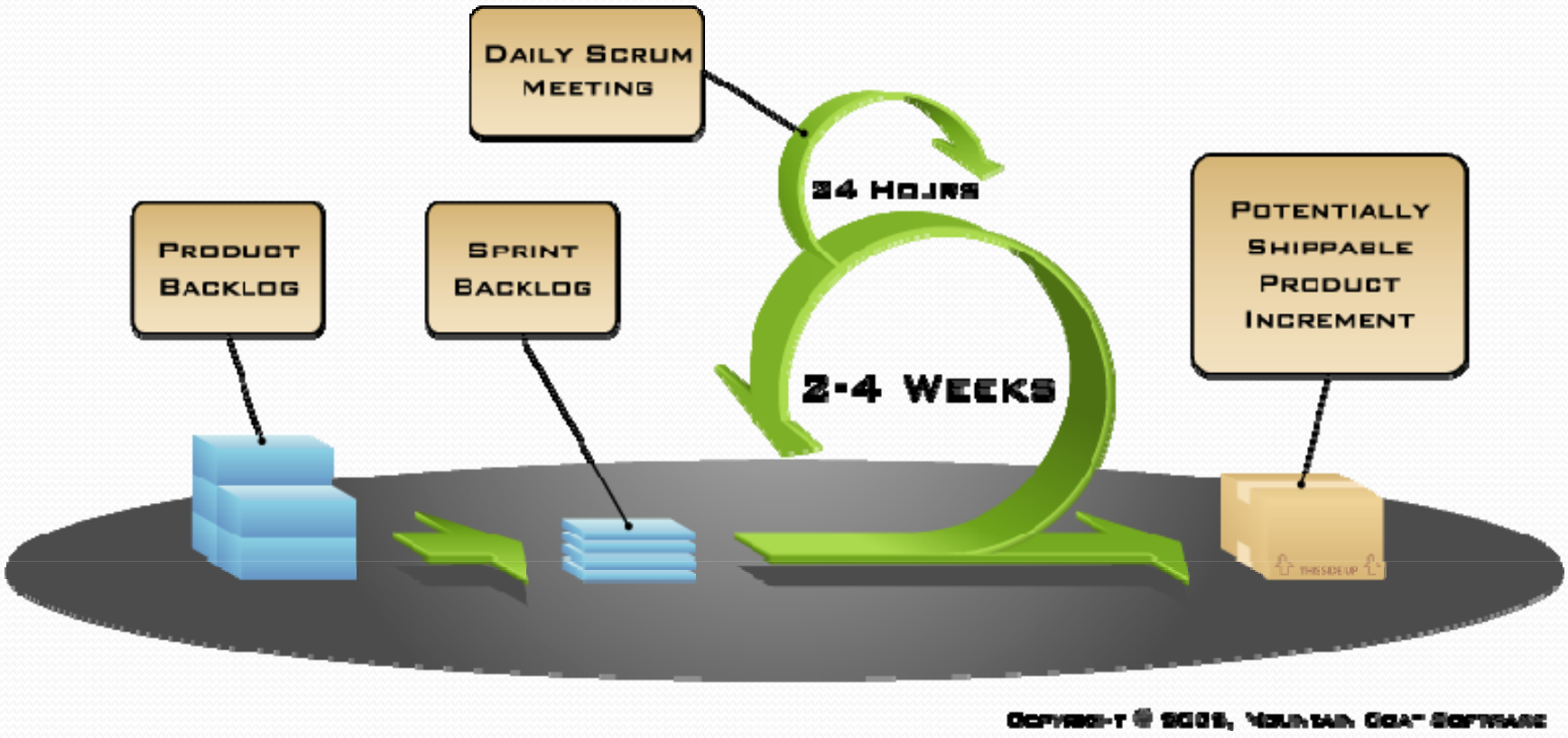
Agile Manifesto



Scrum = Visibility + Flexibility

- One of the agile development methods
  - Others include XP, Lean, Kanban
- Stackholder / Customer Feedback
- Self-directed, self-organized teams
- Each sprint (iteration) delivers tested, fully-functional software for demonstration.
- This is only a process and on its own won't do anything to improve results. All it does is highlight the roadblocks in the way of your team's productivity. It's up to you and your team to respond to that information.

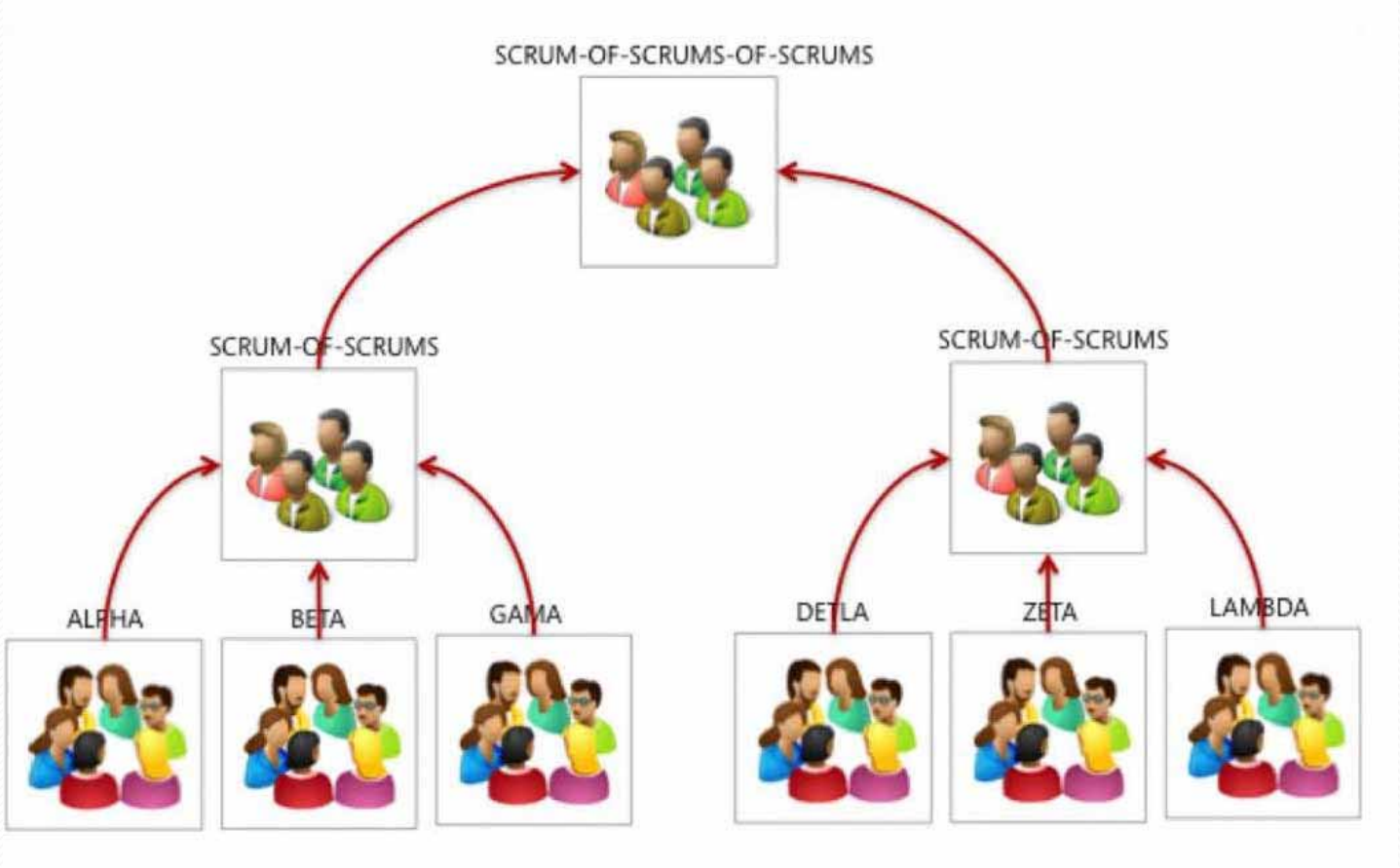
Scrum Process



Scrum Roles & Responsibilities

- Product Owner
  - Accountable for product success
  - Defines all product features
  - Responsible for prioritizing product features
  - Maintains Product Backlog
  - Conducts the Sprint Review
- Scrum Master
  - Holds daily 15 minute team meeting (Daily Scrum)
  - Removes obstacles
  - Shields team from external interference
  - Conducts Sprint Retrospective at end of sprints
- Team
  - Cross-functional, about 5-9 members
  - Selects the sprint (iteration) goal
  - Has the right to do everything within the Definition of Done to reach the sprint (iteration) goal
  - Organizes itself and its work
  - Demos work to end-users and stackholders

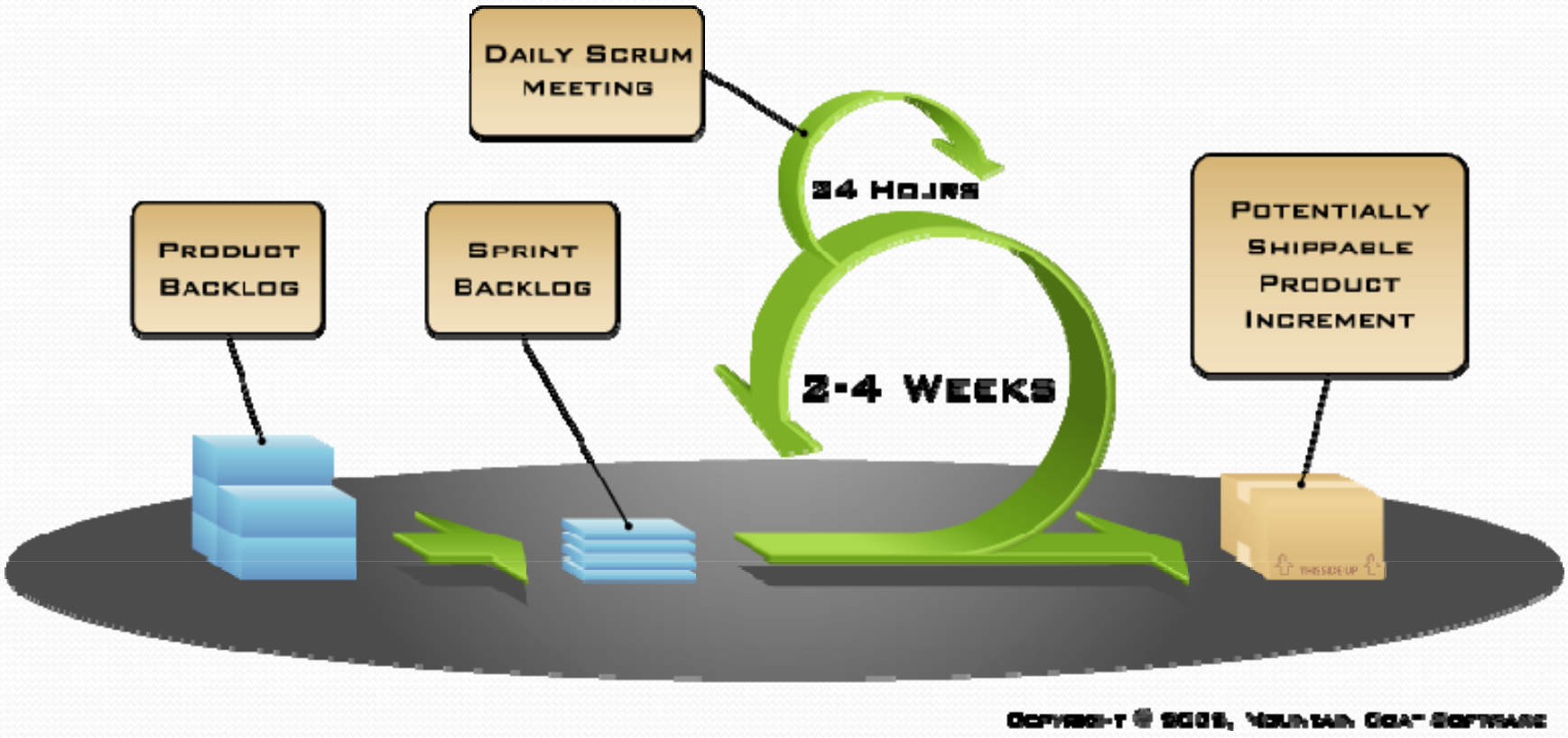
Scaling Agile



Scrum Components – Backlogs

- Product Backlog
  - Managed by Product Owner
  - High-level view of all the user stories that must be completed to finish the project
  - Estimates are in points (1, 2, 3, 5, 8, 13, 20, 40, 100)
- Sprint Backlog
  - Managed by Team
  - Detailed lists of tasks the team must complete to finish all of the user stories in a sprint (iteration)
  - Estimates are in hours

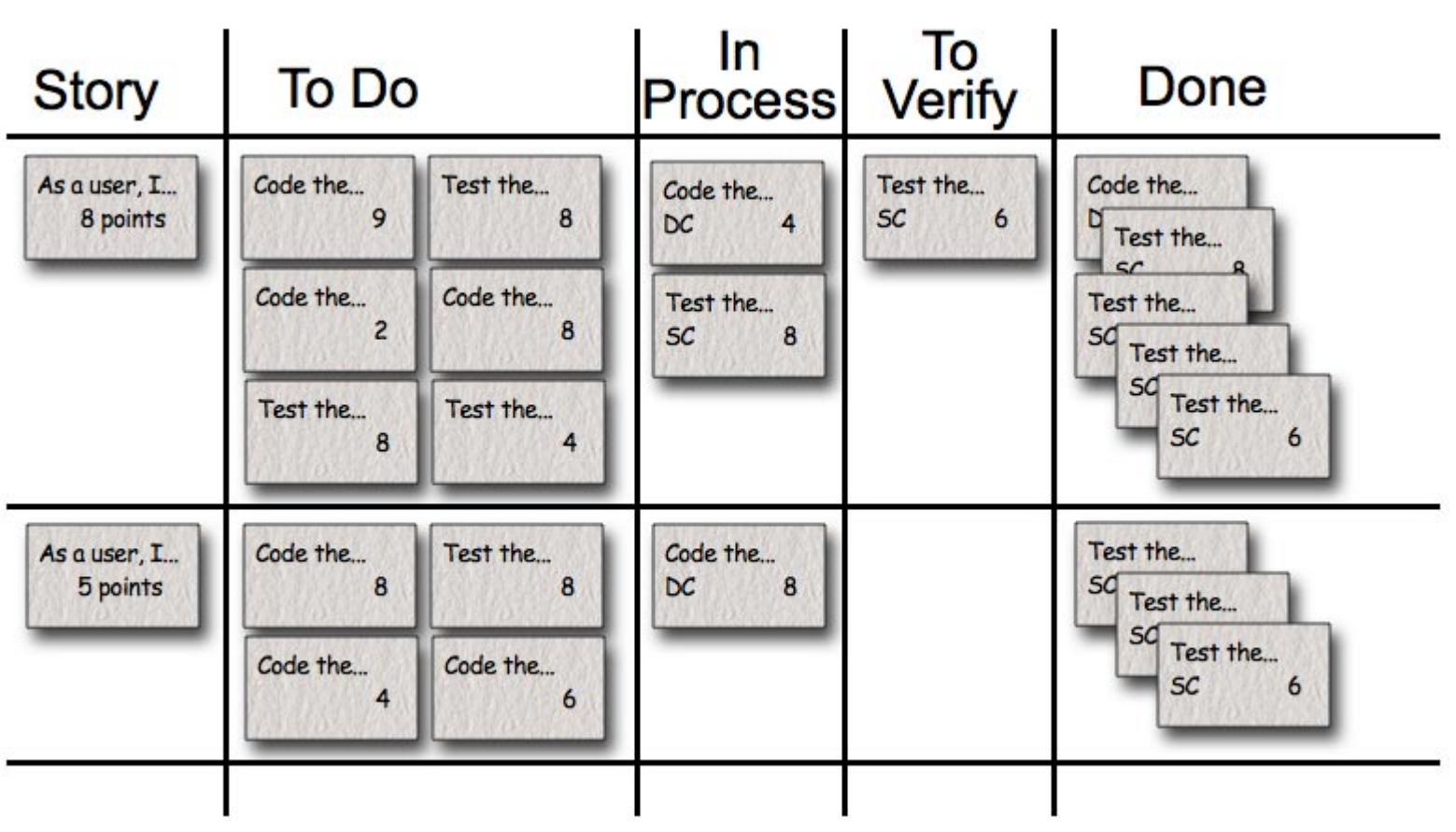
Scrum Process



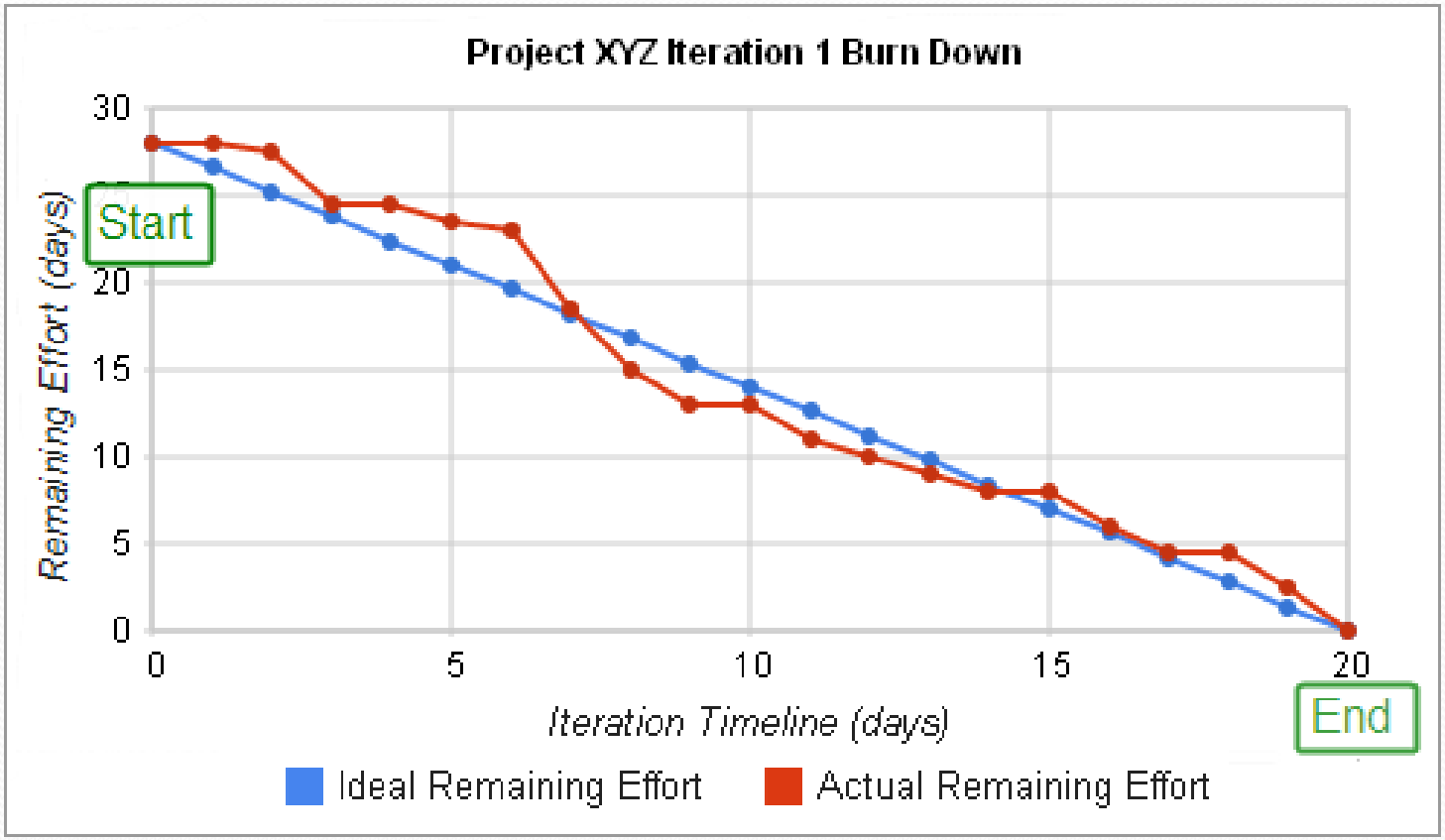
Scrum Components - Daily Scrum

- Time-boxed
- Declare 3 things
  1. Progress since the last scrum
  2. What you're going to work on until the next scrum
  3. Obstacles preventing progress
- Update Burndown
- Visitors invited to listen and observe

Scrum Components - Task Board



Scrum Components - Burndown Chart



Sprint Review

- Product Owner “presents” project
- Team demonstrates what was “done” in the Sprint
- Discuss obstacles and what was learned
- Sprint Burndown & Release Burndown
- Collect feedback
- Informal and open

Scrum Components – Sprint Retrospective

- What worked?
- What isn't working?
- Prioritize what potential improvements the team has identified and implement them in the subsequent sprint (iteration)
- Time-boxed (3 hours)

The Iron Triangle

Definition of Done

- “Done” = Potentially Shippable
- Maintains quality and transparency of product and process
- Is dynamic and changes over time

Setting Goals

- Is a goal like “Increase pageviews” a good goal?
- Goals must be **measurable**
- If a task or user story is not moving you towards one of your goals why would you do it?

Exercise: Create a Product Backlog

- Establish 3-4 outcome goals for what you're working on. These should be measurable, testable goals.
- For example, if I were creating a website for a new sport that is trying to make it into the Olympics, I might have these as my goals:
  1. Double attendance of local events in next year
  2. Get 10,000,000+ signatures for petition to include our sport in the next Olympics
  3. Raise $300,000 necessary to apply for Olympic recognition as a sport
- Then, create ~10 user stories from the user's perspective that work towards those 3-4 goals. You're encouraged to include the user stories you created for the last class assignment. These should be written on index cards and follow the format on the chalk board.
- Assign points to each User Story based on relative size of effort
  - 1, 2, 3, 5, 8, 13, 20, 40, 100
- Assign a business value of High, Medium, or Low to each User Story
- Prioritize the list

Exercise: Release Planning

- Using our website backlog
  - Develop a release plan
  - Use an estimated velocity of 12 points per sprint
  - What does your plan look like?
  - How did you maximize value?

Exercise: Definition of Done

Guidelines

- "Done" = Potentially Shippable
- Quality Check defines when a task is done
- You don't need to include every Task/Action for every User Story
- Create a row of post-its with your Tasks/Actions. Try to order them based on the order they should be completed.
- Create a second row directly underneath your Tasks/Actions of their corresponding Quality Checks.

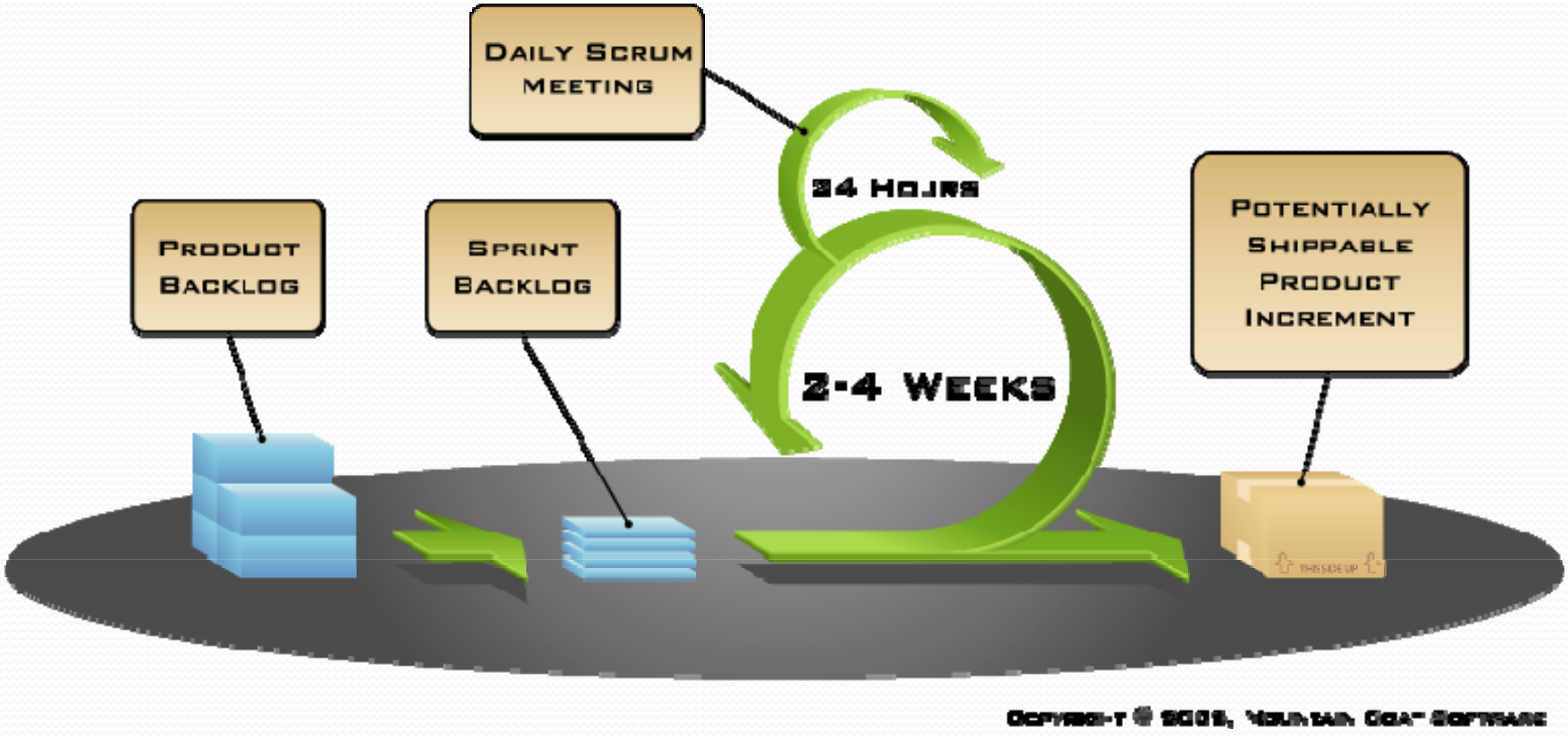
Sample DoD

Task / Action	Quality Check
Write code components	Code meets coding and naming standards and checked into repo
Create / Update unit tests	Unit tests pass 100%
Conduct code review	All issues addressed
Create wireframes and UI	UI meets standards
Perform code coverage test	Code coverage is same or better %
Update user guide	Updates reviewed and checked in

Exercise: Sprint Planning

- Take one of your User Stories and, using your Definition of Done, break it up into Tasks and write them on post-its.
- Each Task should have the number of hours expected to finish it.
- If time permits, repeat this for each of the User Stories in your first sprint. Once completed, add up all the Tasks' hours. This is your estimate of how many development hours it will take to complete this sprint. Do they fit in your sprint?

Agile Process Review



Questions

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