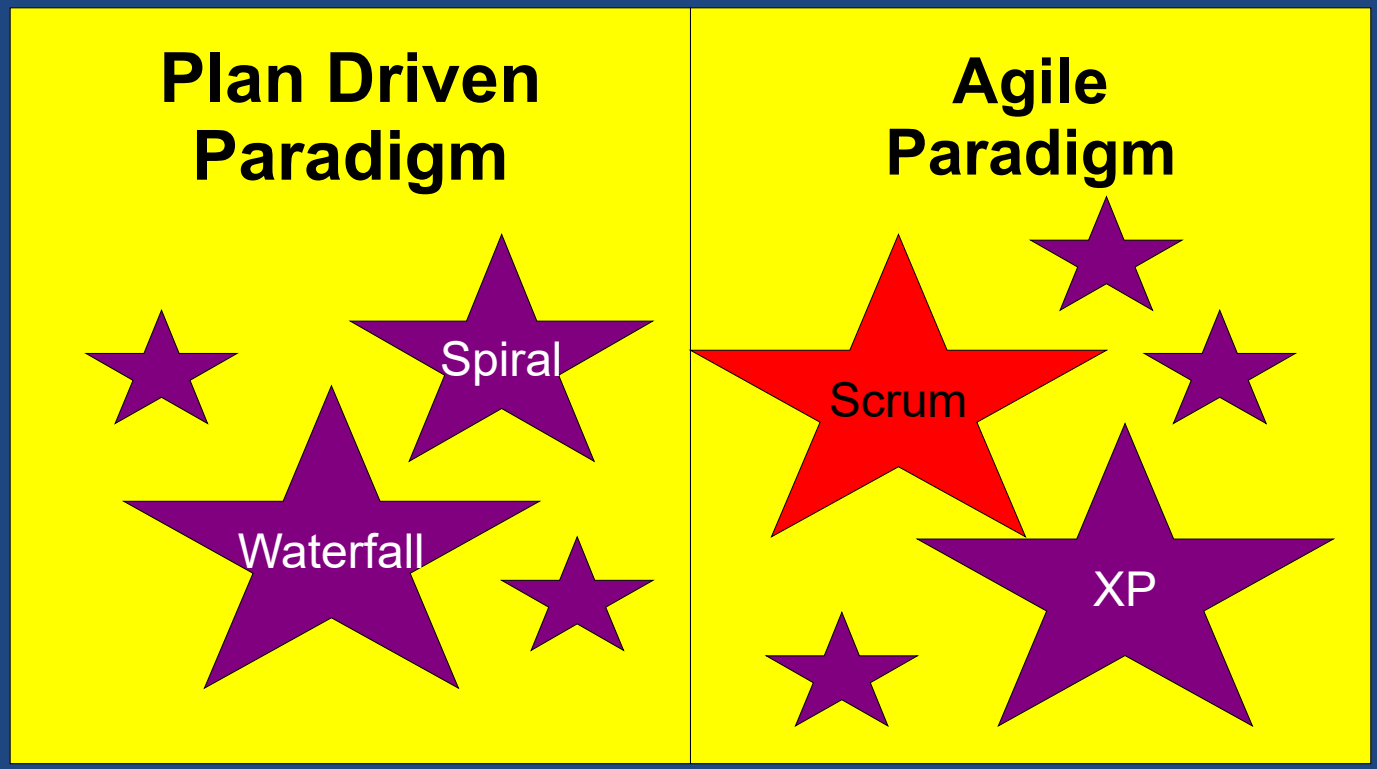
Scrum
an Agile Process



Topics

1) Who does what in a Scrum team?
2) What does a week as a Scrum developer look like?
3) How does a Scrum team estimate work?

Scrum:
the Big Picture

Scrum Big Picture

- ..

  create the plan, then development works to the plan.

- ..

  each iteration you are constantly planning for the best path.

- Some Changes in Agile (vs BDUF)
  - Document as you go; only as needed
  - Deliver product early and often
  - Plan as you go: not just at the start of project
  - Test as you go: not just at the end of project
- Scrum is one of many agile processes.

Key items in Scrum

- Backlog:..
  - Ex: As a cashier, I want to be able to apply a dollar amount discount to a single item so that I can accept a coupon.
  - Highest priority features ("stories") at top of backlog.
  - Team picks stories to complete from top of backlog.
- Iteration: a week (or 2-3) where team..
  - At end of iteration, team delivers
    ..
  - Customer tries out software & gives feedback
  - Use feedback to plan next iteration.

Scrum Roles:
Who does what?

Roles

- The scrum team identifies a few roles:
  - Product Owner
  - Scrum Master
  - Team member
- And we'll add in
  - Repository Manager

Role: Product Owner

- ..
  - Understands needs of the customer
  - Works closely with the stakeholders to determine what needs to be built, and feature priorities
- ..
  - Adds new feature requests
  - Prioritizes features: directs the team towards most valued work
- Responsibility:..

Role: Scrum Master

- ..
  - guides team towards more cohesion, self-organizing, performance
  - scrum master's deliverable is the self-organizing team.
- ..

  Is a trusted advisor, and team-advocate
  - pushes decision making back to team
  - removes impediments (Ex: getting equipment)
  - Expert on scrum process; facilitates meetings.
- Responsibility:..

Role: Team Member

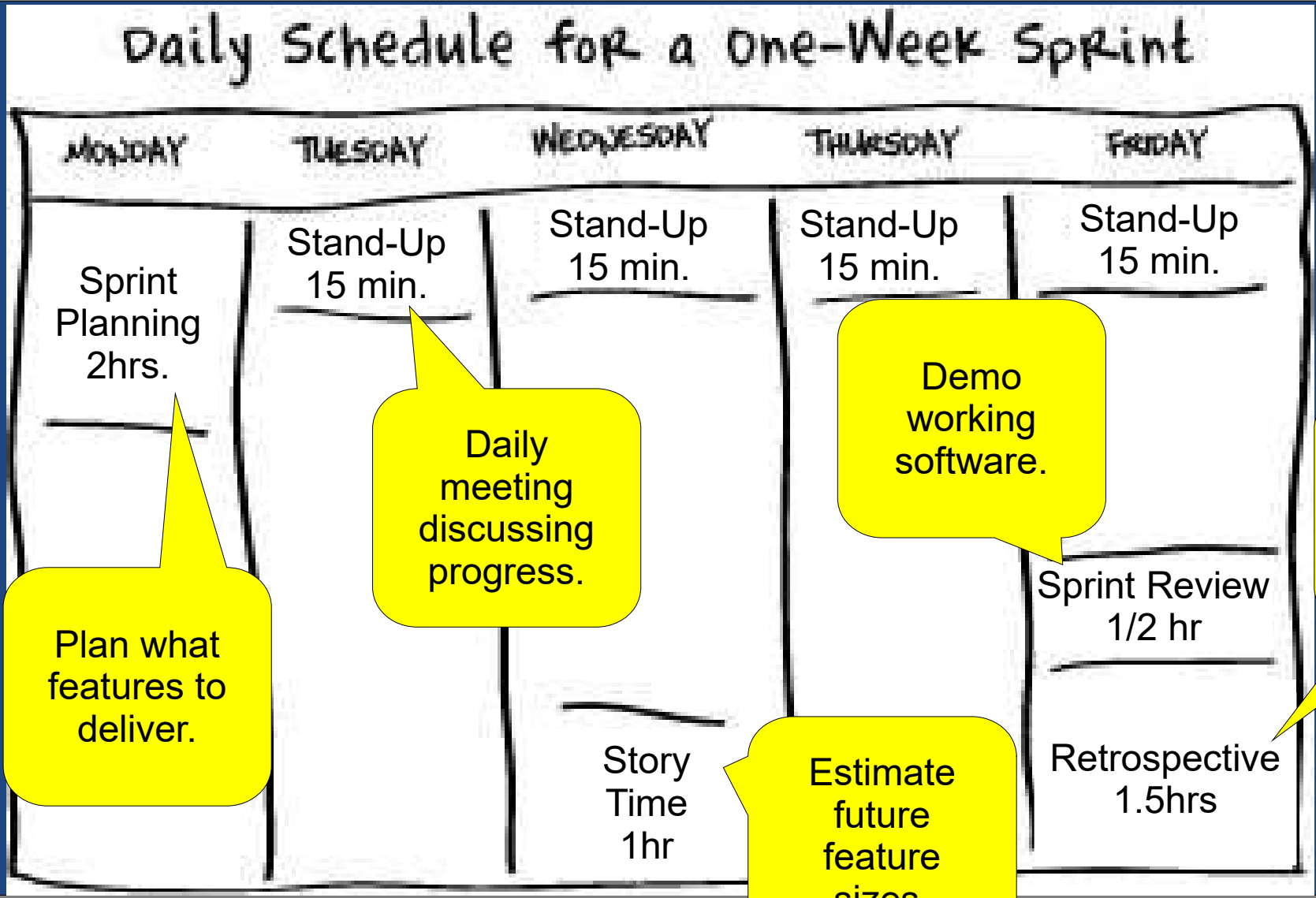
- Teams are..
  - Have total authority over how to get work done
  - Estimates work for each feature
  - 7 +/-2 team members
- Responsibility:..
  - No singled out "experts"; everyone does what is needed for this iteration.
  - No “silos of knowledge”

Extra Role: Repository Manager

- Not part of normal Scrum;
  added as part of a GitLab development work-flow.
- ..
  - Helps resolve Git problems
  - Helps enforce code quality
- Responsibility:..
  - It must meet coding style; have unit tests, system pass all unit tests, code reviewed, etc.

Sprint
is Scrum’s Iterations

Sprint “Ceremonies”



Sprint Planning [2Hr]

- Team pick what stories to commit to this iteration
  - Backlog must be well maintained:
    Each story has a "size" estimate.
- Velocity:..
  - Team generally picks to do as much work this iteration as they completed last iteration.
  - Self correcting to become accurate at predicting performance.
  - Velocity is measured in units of “Story Points” (more later)

Stand-Up Meeting [15min]

- Daily. Only team members. Brief.
- Each team member briefly answers:
  1. since the last stand-up
  2. by next stand-up
  3. are slowing me down
- Benefit
  - If "accomplished" < yesterday's "expected", then..
  - Others jump in with brief, "I can help you with that"; but no long discussions of the details.
- Scrum master facilitates meeting, takes notes.

Sprint Review [30min]

- Demonstrate..
  - Report on stories that did not get finished.
- Product owner..
  from stakeholders:
  - New feature requests or changes
  - Clarifies priorities
- **Make no promises!**

Retrospective [1.5hr]

- Goals
  - ..
  - create an action plan to implement those changes
- Team reviews what happened during iteration
  - Generates insights into what happened (no finger pointing)
  - Choose 1-2 specific improvements.
- Appreciate each other's work.

Story Points
and
Estimation

Relative, not Absolute Estimates

- People are better at gauging relative size vs absolute size:
- Which is easier to answer?
    1. Which is taller, the CN tower or the Surrey's Central City tower?
    2. How tall is the Surrey Central City tower?

Relative, not Absolute Estimates

- Scrum estimates work..

- Start by coding some smallest task
  - Ex: a log-in screen, or a config file, etc.
  - Give it one point.
- Each other story's size estimated in terms of points:
  - "This seems like it's about 3 times as much work as the config file, so 3 points"
- Points not based on hours, as this is hard to give absolute estimate, but..

Story Time and Estimation Game

- Team meets each week for "Story Time":
  - Assign "story points" to up-coming user stories
- Estimation Game steps

1. ..
   - Each team member takes turns doing one of:
     - Put up a new story up where they think best
     - Move a story that's up to improve order
     - Pass (if no changes needed)
2. Team decides how many points is each story
3. Done!
   - Whole team agrees on the estimates!

In Class Exercise: Estimation Game

- Estimation Game
  Let's play to assign story points
  - At the front are user stories from Assignment 2.
  - When selected, you may:
    - put a new story on board, updating effort-order.
    - move an existing story.
    - pass (if all stories up and no corrections)
- Story Points:
  - Left-most story = 1 point.
  - Let's assign thresholds for points at Fibonacci numbers (1, 2, 3, 5, 8, 13, 21, 34, ...)

Summary

- Scrum team
  - Product Owner, Scrum Master, Team Member, (extra) Repository Manager.
- Ceremonies
  - Sprint planning, Daily standup, Review, Retrospective, Story time
- Estimation
  - Story points
  - Estimation game