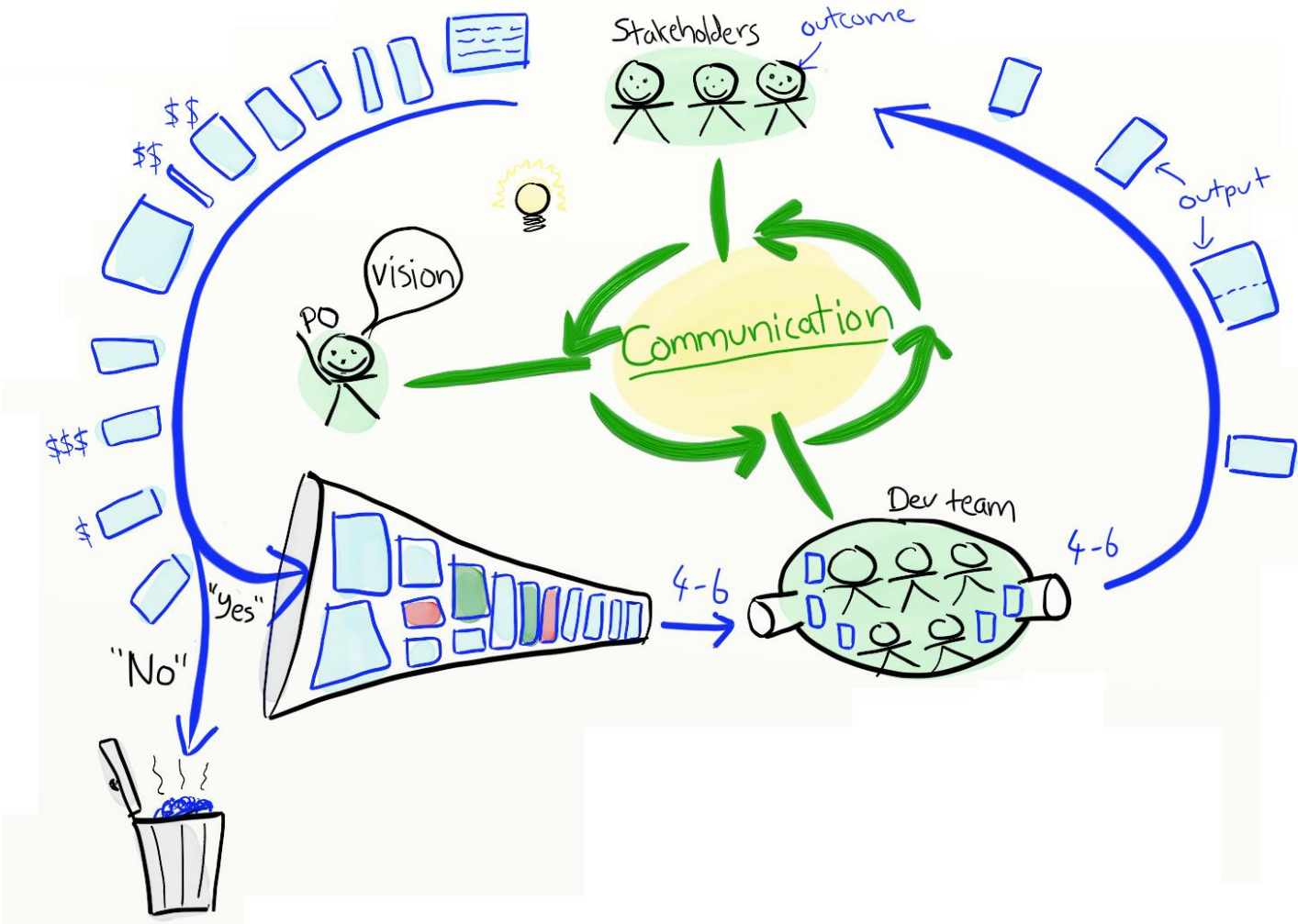


# Agile software development in practice

Michal Krajíček

# The big picture



# Agile methodologies

- Scrum
- Kanban
- Extreme Programming
- ...

# Scrum

- Process framework for organizing and managing work
- Lightweight
- Simple to understand
- Difficult to master
- Not a cookbook
- Defined by roles, events, artifacts and rules

# Roles



# Product owner



# Product owner

- Represents business and stakeholders
- Responsible for the product and ROI
- Defines visions and goals
- Manages Product Backlog
- Explains items in Product Backlog

# The team





# The team

- Cross functional
- Self organizing
- Collective responsibility
- As a whole defines HOW MUCH and HOW
- Collocation, replaceability, softskills

# Scrum Master

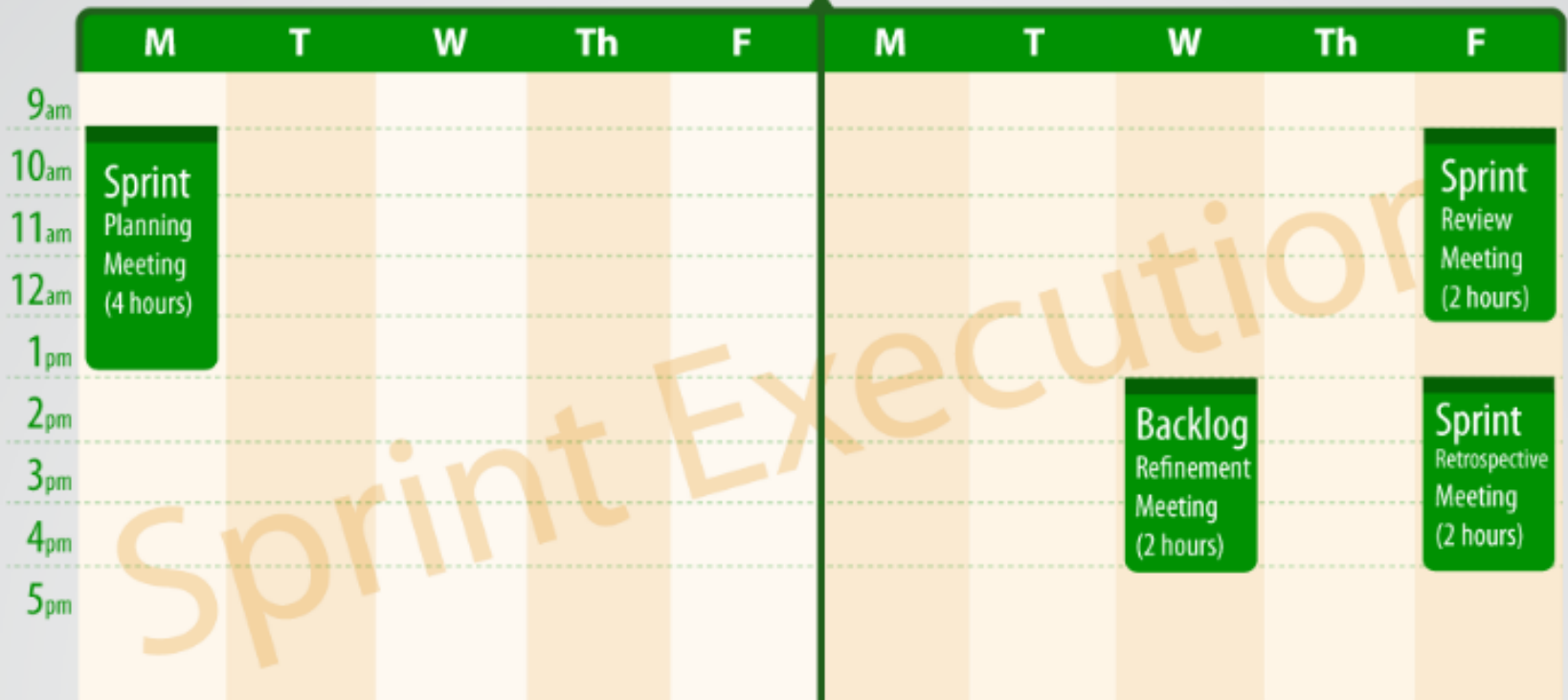


# Scrum Master

- Responsible for the process
- Facilitator
- Remove impediments
- Coach
- Helps both PO and the team to achieve their goals

# Processes & events

## Two weeks



# Backlog grooming

- Clarify user stories
- Break down epics into user stories
- Estimate user stories
- Add acceptance criteria
  
- The team knows his backlog
- Feedback for PO

# Example

As a content manager, I can publish a news story to the corporate website...



- ...I can publish a news story directly to the corporate website... [5SP]
- ...I can publish a news story with editor review... [8SP]
- ...I can publish a news story with legal review... [8SP]
- ...I can view a news story on a staging site... [5SP]
- ...I can publish a news story from the staging site to production... [2SP]

# Bicycle

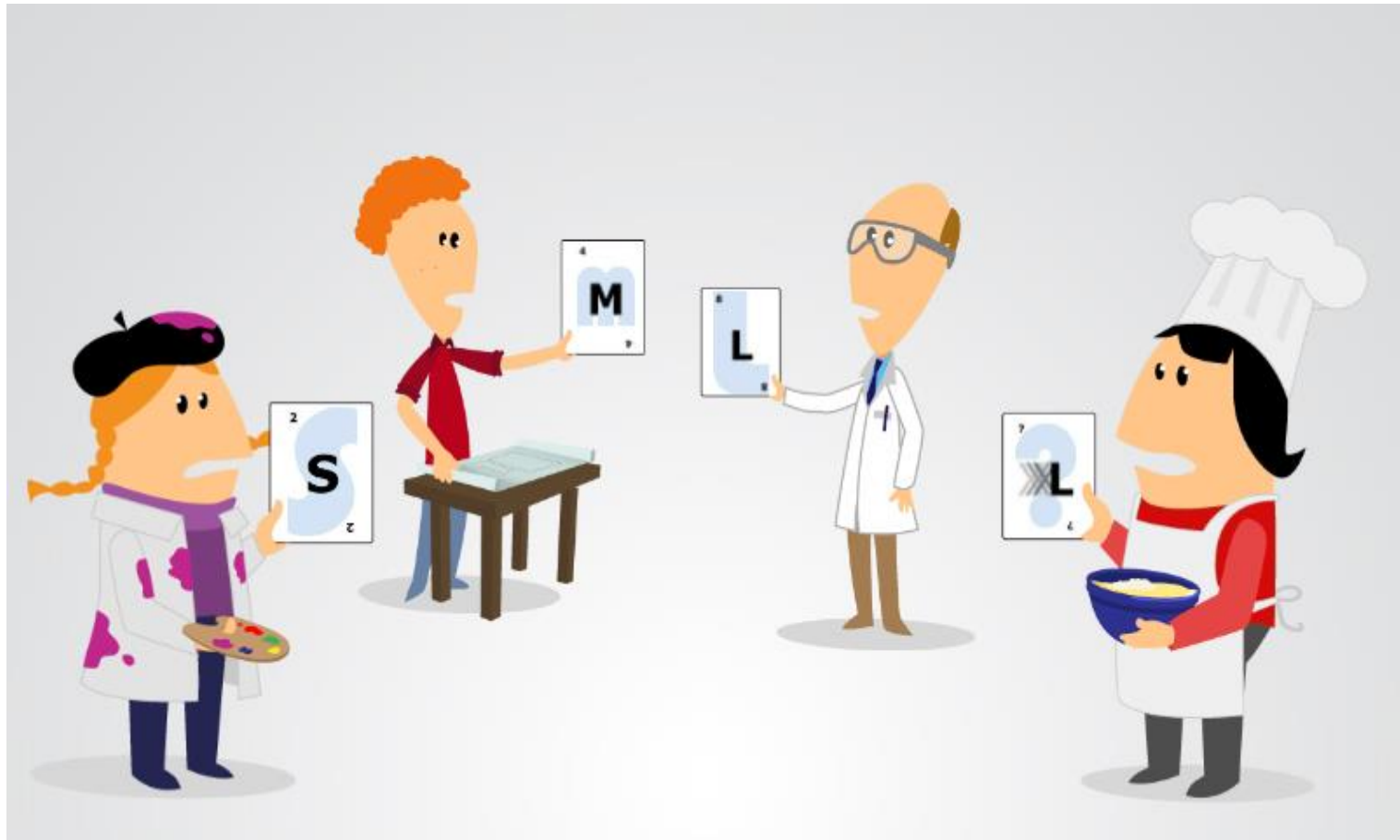
- **Planning poker**

1, 2, 3, 5, 8, 13, 20, 40, 100, ? [SP]

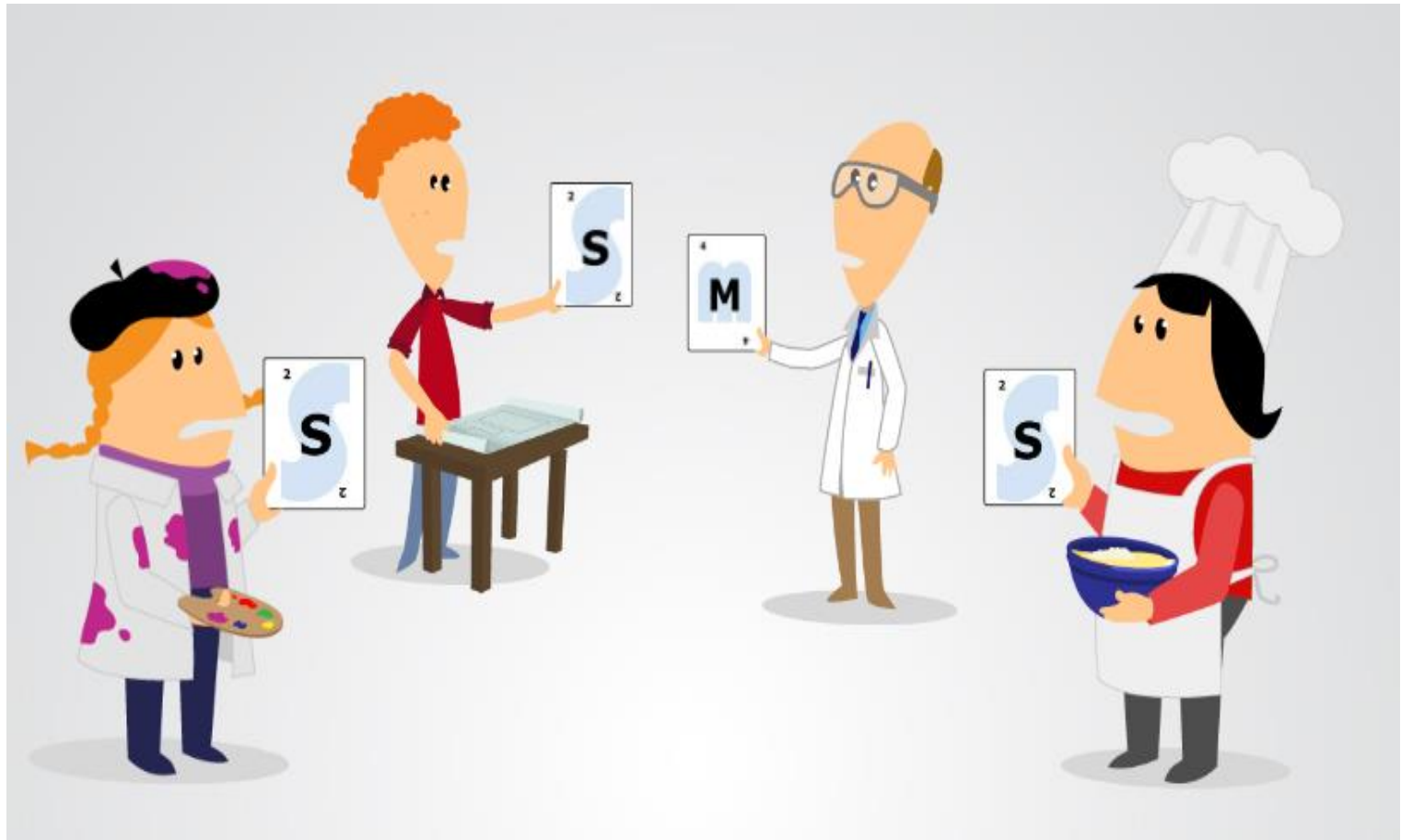
(XS), S, M, L ,XL, (XXL)



# Estimations



# Estimations



# Sprint planning

**PRODUCT BACKLOG**

**View Grades, current semester**  
As a student I can see my grades online so that I don't have to wait until I get to school to know whether I'm passing.  
Acceptance Criteria: Columns align neatly on FingerFly 4.1 and iPhone.  
EFFORT: SMALL.

**Update Grades, current semester**  
As a teacher, I can update grades online so I don't depend on administrators to do it for me.  
EFFORT: MEDIUM.

**View Grades, previous semester**  
EFFORT: SMALL.

**GPA**  
EFFORT: SMALL.

**Attendance**  
EFFORT: MEDIUM.

**Report Cards**  
EFFORT: EXTRA LARGE.

**Event Calendar**

**Alumni Archives**

What



## COMMITTED BACKLOG ITEMS

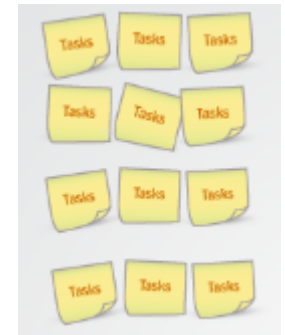
Product Backlog Item

Product Backlog Item

Product Backlog Item

Product Backlog Item

How



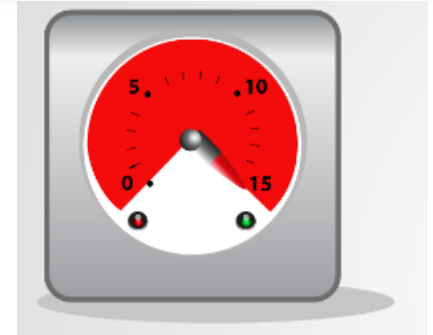
# Tasks

- Concrete tasks for the team to complete
  - Implement domain logic
  - Add database table
  - Create new UI form
  - Update build script
  - Update documentation
  - Write unit tests
  - ...

# Daily Scrum

## Daily Scrum Three Questions

1. What did I do yesterday?
2. What will I do today?
3. What impedes me?



### SPRINT BACKLOG

#### COMMITTED BACKLOG ITEMS

- View Grades, current semester**  
As a student I can see my grades online so that I don't have to wait until I get to school to know what my grades are.  
Acceptance Criteria: Columns align right and height is 4.1 and 4.8.  
EFFORT: SMALL.
- Update Grades, current semester**  
As a teacher I can update grades online so that I no longer depend on administrators to do it for me.  
EFFORT: MEDIUM.
- View Grades, previous semester**  
As a student I can see my previous semester grades online so that I don't have to wait until I get to school to know my previous grades.  
Acceptance Criteria: Columns align right and height is 4.1 and 4.8.  
EFFORT: SMALL.
- GPA**  
As a student I can see my previous semester grades online so that I don't have to wait until I get to school to know my previous grades.  
Acceptance Criteria: Columns align right and height is 4.1 and 4.8.  
EFFORT: SMALL.

#### NOT STARTED

- Feedback
- Add Link
- Test
- Code
- Test
- Integrate
- Code
- Analysis
- Code
- Design
- Test
- Integrate
- Code

#### IN PROGRESS

- Analyz Test
- Code
- Clear Page Layout
- Code
- Code
- Code
- Code
- Code
- Code
- Code

#### COMPLETED

- Test
- Code
- Code
- Code
- Code
- Code
- Code
- Code
- Code

An illustration of a pilot character with a brown flight suit, goggles, and a red scarf. He is holding a large yellow sign that says "Peter HTML CSS". The sign is partially overlapping the "COMPLETED" column of the backlog.

# Sprint review



### SPRINT BACKLOG

#### COMMITTED BACKLOG ITEM

**Update Grades, current semester**  
As a teacher, I can update grades online so no longer depend on administrators to do for me.  
EFFORT: SMALL

**View Grades, previous semester**  
As a student, I can see my previous semester grades online so that I don't have to wait until I get to school to know my previous grades.  
Acceptance Criteria: Columns align neatly on Firefox 4.1 and iPhone.  
EFFORT: SMALL

**GPA**  
As a student, I can see my previous semester grades online so that I don't have to wait until I get to school to know my previous grades.  
Acceptance Criteria: Columns align neatly on Firefox 4.1 and iPhone.  
EFFORT: SMALL

I declare "View Grades, current semester" to be done!

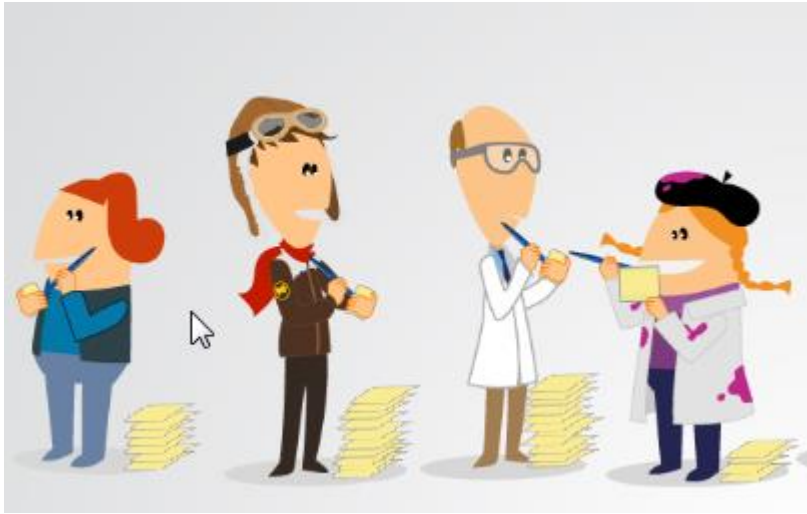
### COMPLETED

Handwritten sticky notes on a board, including names like Peter, Corey, and Allison, and terms like 'Completed', 'Done', 'OK', 'Yes', 'No', 'Wait', 'Check', 'Review', 'Update', 'Verify', 'Test', 'Deploy', 'Release', 'Monitor', 'Support', 'Feedback', 'Improve', 'Optimize', 'Refactor', 'Clean up', 'Document', 'Communicate', 'Collaborate', 'Engage', 'Empower', 'Enable', 'Equip', 'Encourage', 'Empathize', 'Energize', 'Equip', 'Empower', 'Enable', 'Equip', 'Encourage', 'Empathize', 'Energize'.

### PBIs DONE/VELOCITY

**View Grades, current semester**  
As a student, I can see my grades online so that I don't have to wait until I get to school to know whether I'm passing.  
Acceptance Criteria: Columns align neatly on Firefox 4.1 and iPhone.  
EFFORT: SMALL

# Sprint retrospective



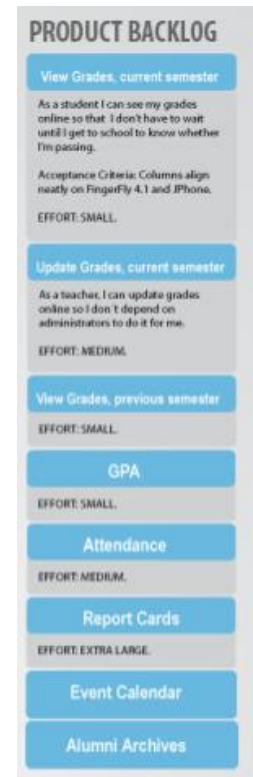
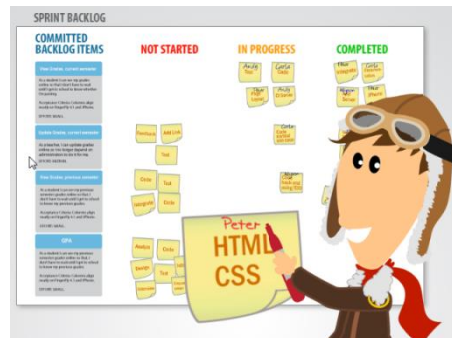
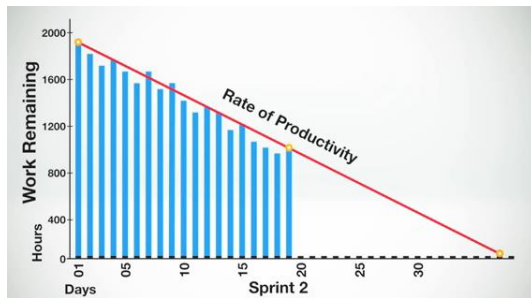
## ACTIONS

- 1) Move daily Scrum time from 9AM to 10AM.
- 2) Clarify definition of done.
- 3) Take on less work next Sprint Planning Meeting.
- 4) Slice PBIs smaller during Backlog Refinement.
- 5) Amend team agreements regarding coding conventions.



# Artefacts

- Product backlog
- Sprint backlog
- Potentially shippable product increment
- (Scrum wall)
- (Burndown chart)





# Scrum rules

- No one can provide advice, instructions, commentary, or direction to the Team during the Sprint.
- The Team commits to Product Backlog during the Sprint planning meeting. The Product Backlog is frozen until the end of the Sprint.
- The Product Owner must prepare the Product Backlog prior to the planning meeting.
- During the Daily Scrum, only one person talks at a time.

...

# Scrum summary



**PRODUCT BACKLOG**

View Grades, current semester

As a student I can see my grades online so that I don't have to wait until I get to school to know whether I'm passing.

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EFFORT: SMALL.

Update Grades, current semester

As a teacher, I can update grades online so I don't depend on administrators to do it for me.

EFFORT: MEDIUM.

View Grades, previous semester

EFFORT: SMALL.

GPA

EFFORT: SMALL.

Attendance

EFFORT: MEDIUM.

Report Cards

EFFORT: EXTRA LARGE.

Event Calendar

Alumni Archives

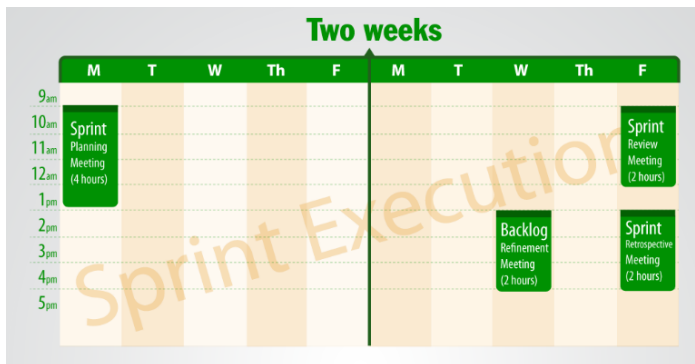
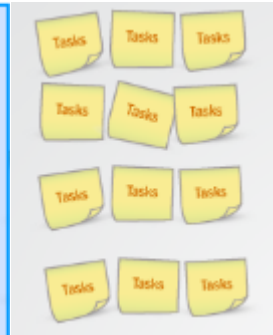
**COMMITTED BACKLOG ITEMS**

Product Backlog Item

Product Backlog Item

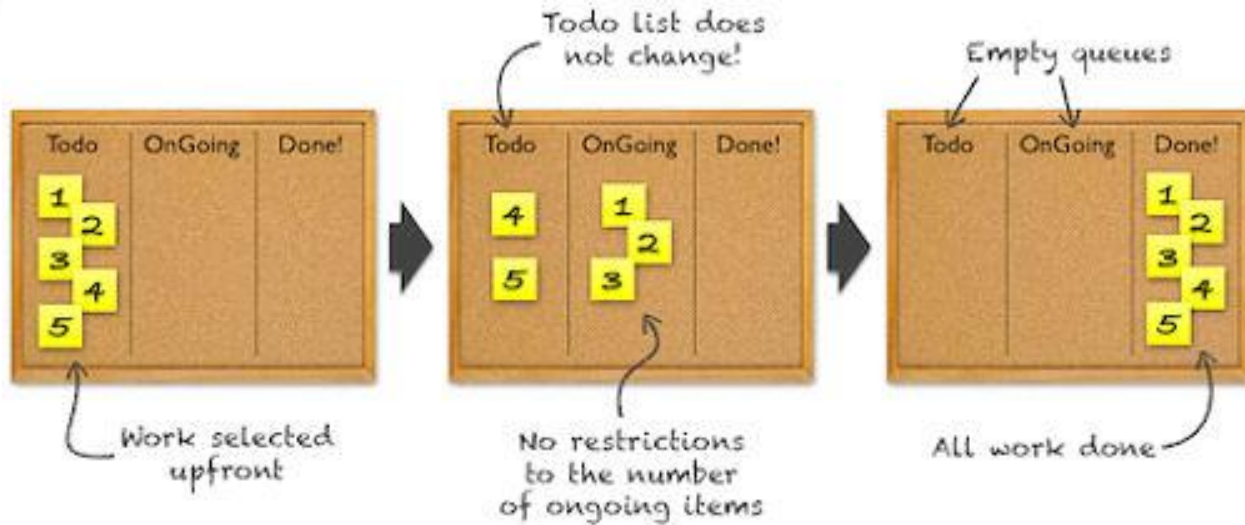
Product Backlog Item

Product Backlog Item

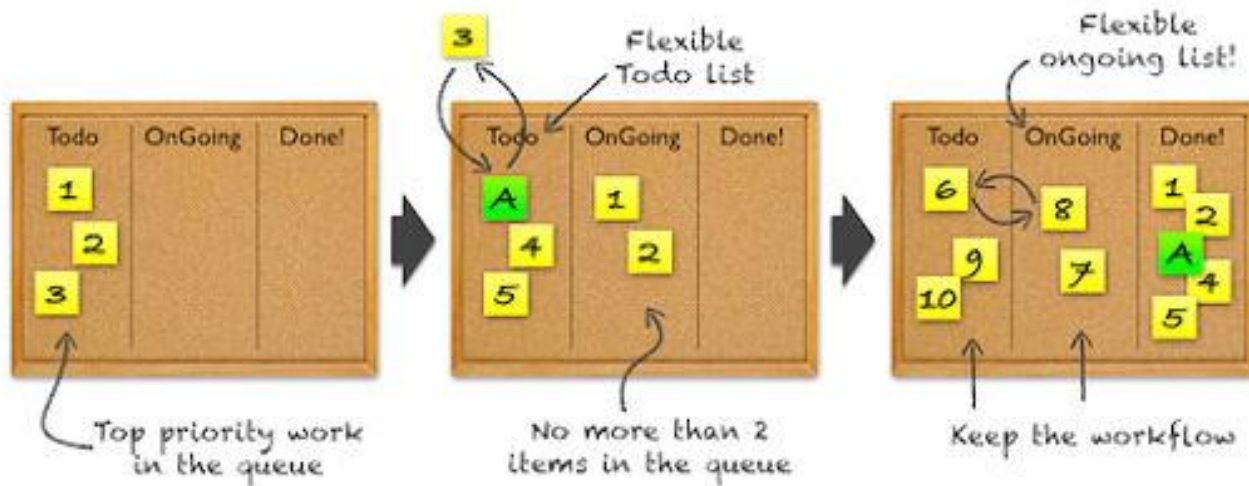


# Kanban

Scrum



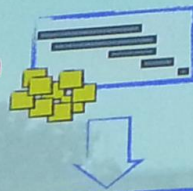
Kanban



# After a while...

## After a while

- No Stakeholder Buy-In
  - Crowded Board
  - Blockers
  - High WIP and Lead Time
  - Still waiting for first retrospective, but no improvement steps
  - Bottleneck not explored
  - Large ticket sizes
  - No deployments
- .....



Upstream (Stakeholders, Service Portfolio, Other teams ...)



Downstream (e.g. Systemtest, Deployments ...)

# Engineering practices

- Pair programming
- Test driven development
- ...

# Resources

<http://scrumtrainingseries.com>

<https://www.scrum.org/Scrum-Guides>

Essential Scrum (Kenneth S. Rubin)

Agile Project Management with Scrum  
(Ken Schwaber)

<http://www.jamesshore.com/Agile-Book>

