Project resources & methodology

DETI-UA/TQS

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Team project: goal

Apply SQA practices in a small project

Mind the PRODUCT

- ▶ Scope of implemented features
- ▶ Attributes: usability, robustness,...

Mind the (agile) PROCESS

- ▶ Software development process model
- ▶ Team practices and management
- ▶ Applied SQA

Main resources & deliverables

Project objectives, expected results and tooling:

→ "Termos de referência"

Technical reports [templates]:

→ Product specification report

→ Quality manual report [template]

Projet milestones:

→ M1 (week 21/4)
  → Use cases, architectural concept, front end prototypes
  → Basic CI workflow (code style, git, pull requests, Jenkins)

→ M2 (final)
  → Developed user-stories with acceptance
  → Evidence of the "developer workflow"
  → Full SQ environment: tests suites, code analysis, CI, CD,…
  → Usable solution

Project scope

Web marketplace

- ▶ "Aggregator" business
- ▶ E.g.: https://www.rocket-internet.com/companies

Architectural main blocks

- ▶ Main front end: web
- ▶ Java EE backend ("core" Java EE or SpringBoot)
- ▶ Requires an integration API and client(s)
  - ▢ Mock the Partner's own (external) system
  - ▢ Mobile app

Agile practices to adopt

Use the concepts and tooling for:

- user stories (granular usage scenarios)

- iterations (length = 1week)

- backlog grooming (proactive tracking)

- estimation and velocity
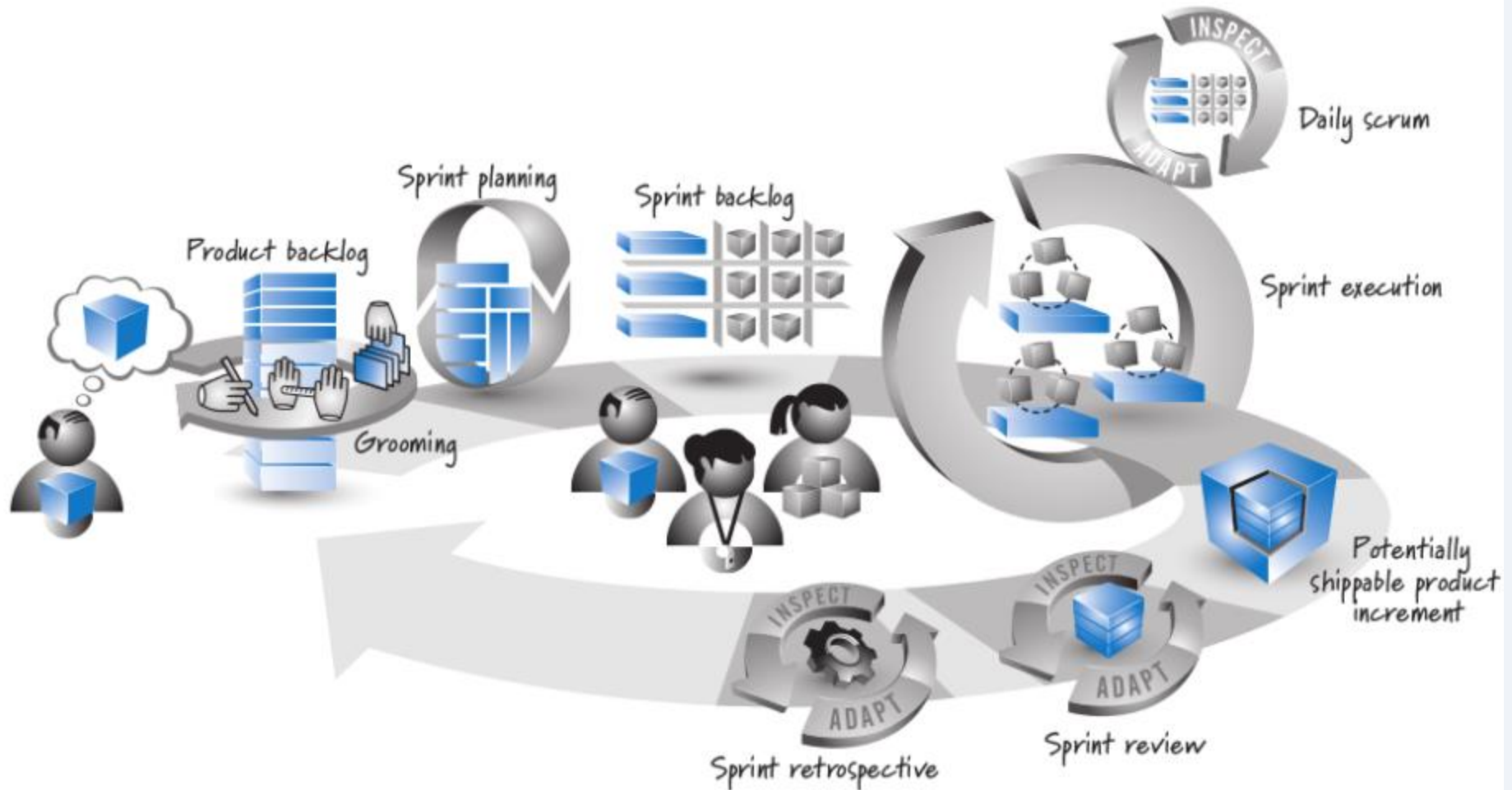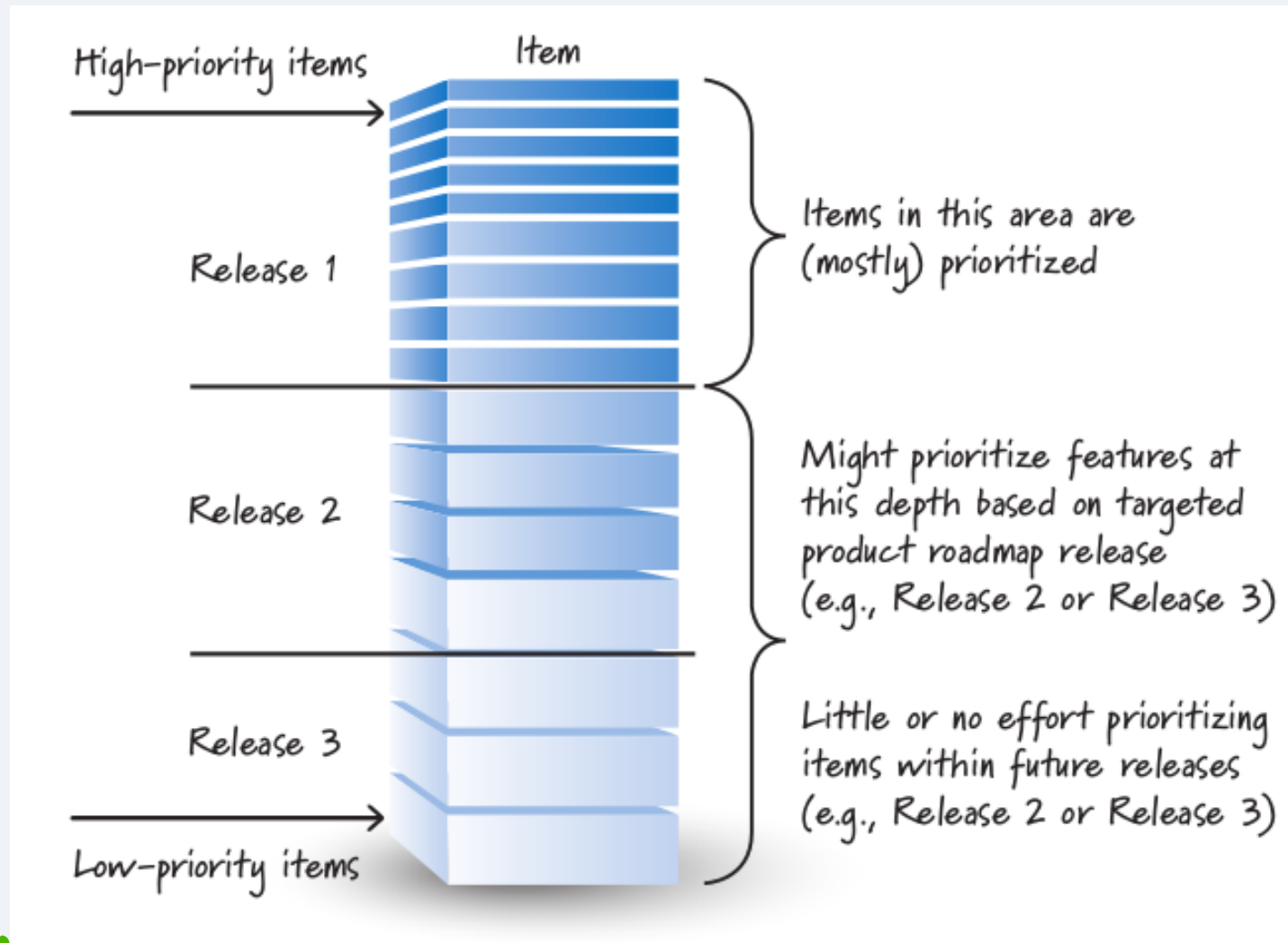
- development workflow.
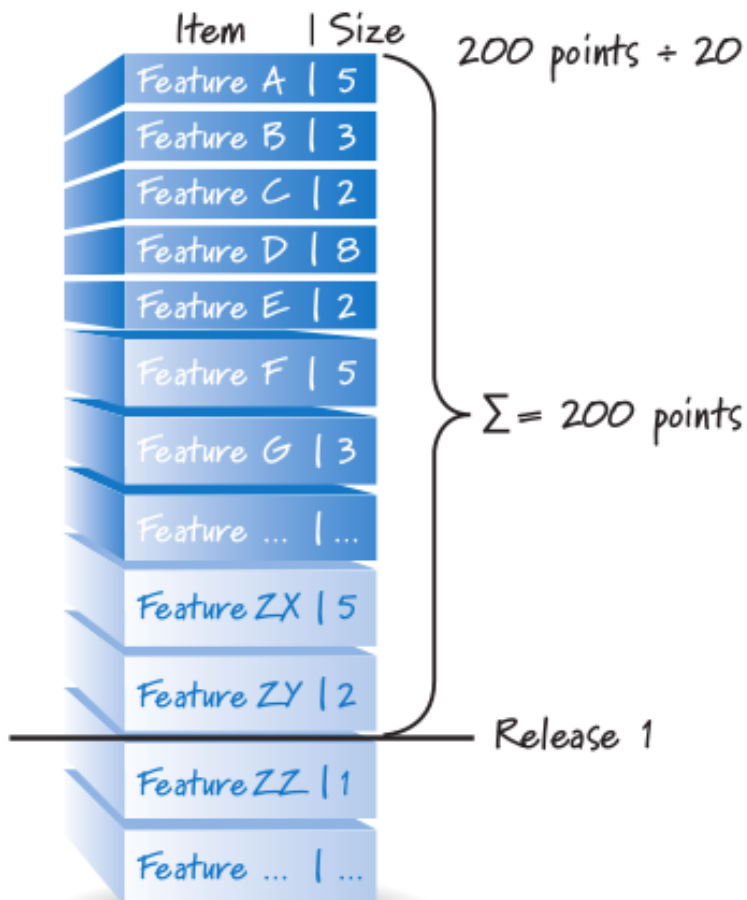
(Scrum) Agile process

FIGURE 2.3   Scrum framework
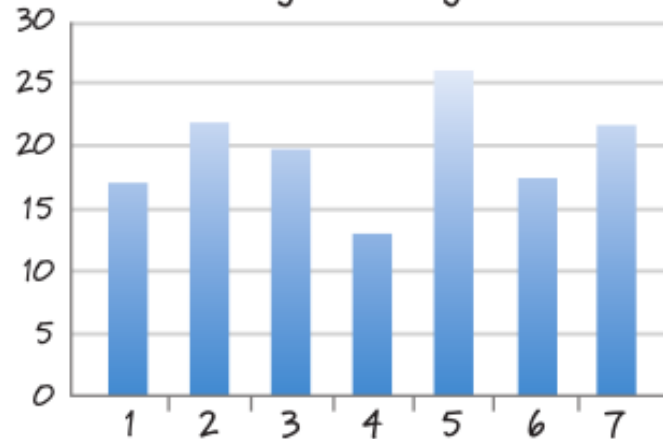
I Oliveira (2018)

Backlog must be prioritized

High-priority items

Item

Release 1

Items in this area are (mostly) prioritized

Release 2

Might prioritize features at this depth based on targeted product roadmap release (e.g., Release 2 or Release 3)

Release 3

Little or no effort prioritizing items within future releases (e.g., Release 2 or Release 3)

Low-priority items

Velocity

Estimated size ÷ measured velocity = (number of sprints)

200 points ÷ 20 points/sprint = 10 sprints

Item	Size
Feature A	5
Feature B	3
Feature C	2
Feature D	8
Feature E	2
Feature F	5
Feature G	3
Feature ...	...
Feature ZX	5
Feature ZY	2
Feature ZZ	1
Feature ...	...

Σ = 200 points

Release 1

Average velocity = 20

Backlog granularity: user stories

User Story Title

As a <user role> I want to <goal> so that <benefit>.

Template

Find Reviews Near Address

As a typical user I want to see unbiased reviews of a restaurant near an address so that I can decide where to go for dinner.

FIGURE 5.2   A user story template and card

Automatic Builds

As a developer I want the builds to automatically run when I check in code so that regression errors are detected when they are introduced.

Undesirable technical story

Finding good stories
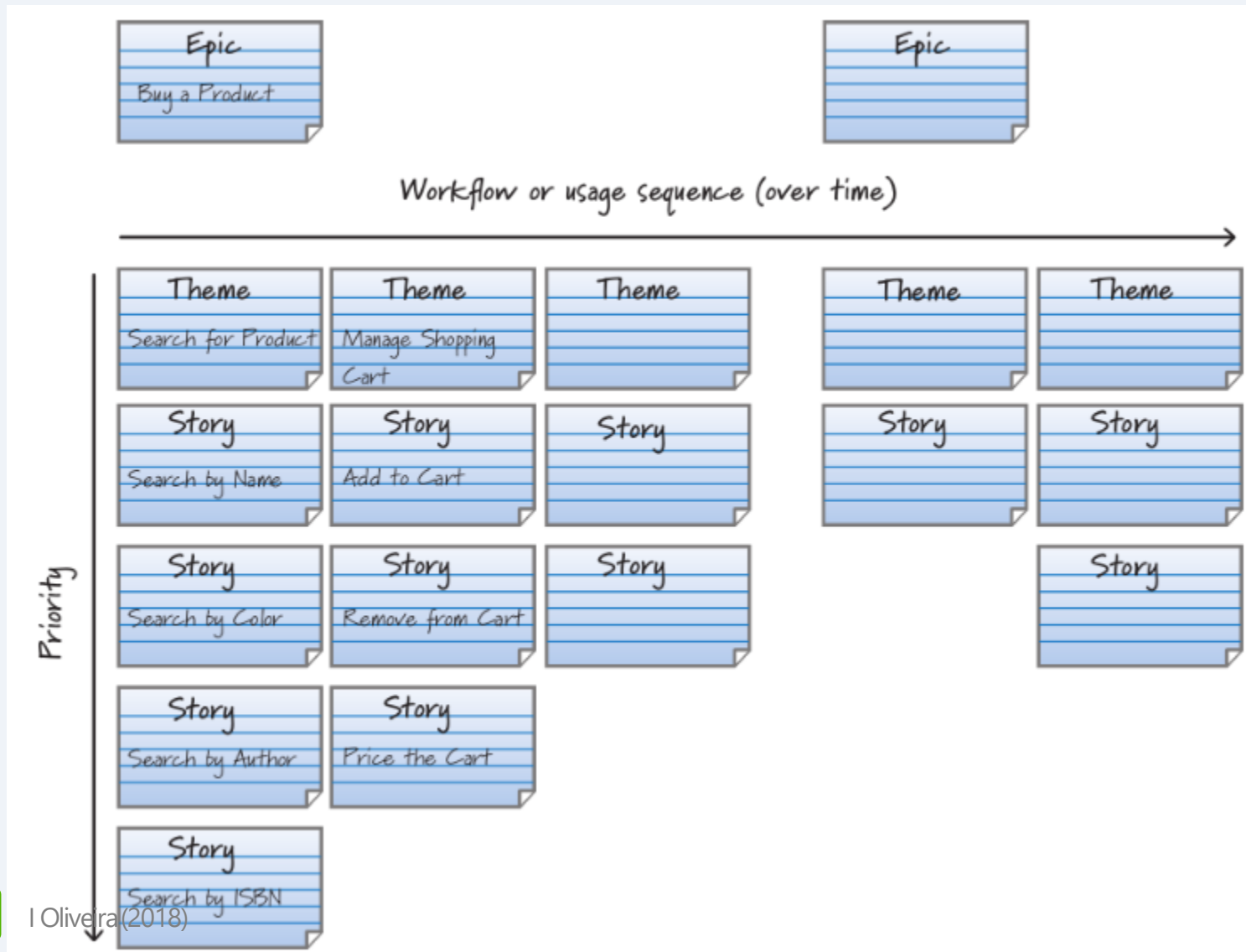
I Oliveira (2018)

Use Cases 2.0

You might be familiar with the "use case slice" concept.

https://www.ivarjacobson.com/publications/white-papers/use-case-ebook
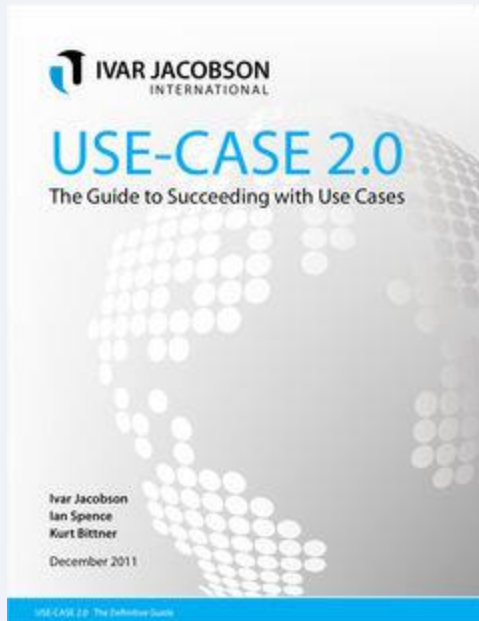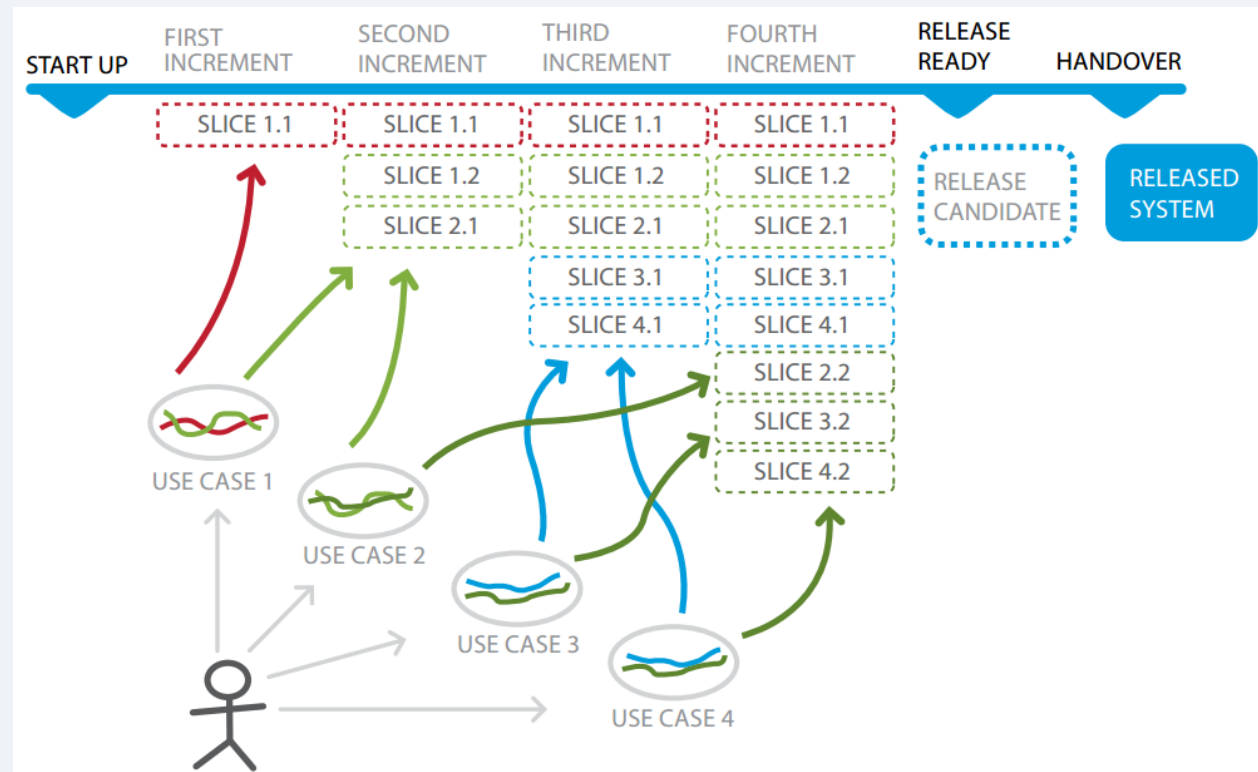
**FIGURE 4:** USE CASES, USE-CASE SLICES, INCREMENTS, AND RELEASES

Things to Do

The practice starts by finding actors and use cases, and selecting and prioritizing the parts (slices) of the use cases to be developed.

It continues by detailing the use-case slices and, more importantly, the test cases required to verify each slice. Focus then switches to implementing software in order to pass the test cases. The practice concludes by tracking progress in terms of verified, working software and feeding back the outcomes in order to handle change and better support the team.

https://www.ivarjacobson.com/publications/brochure/use-case-essentials-practice-flyer
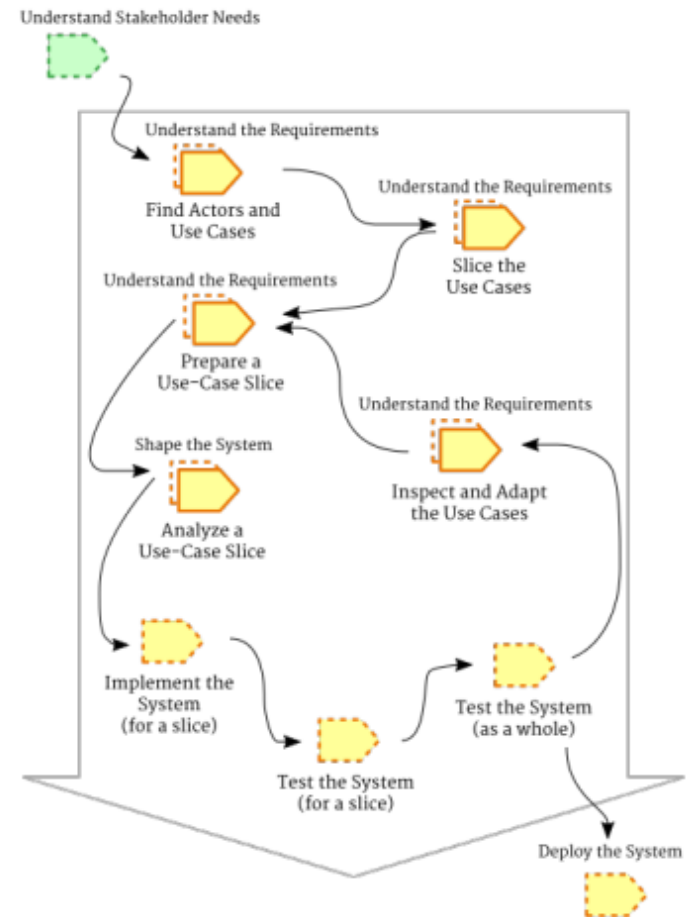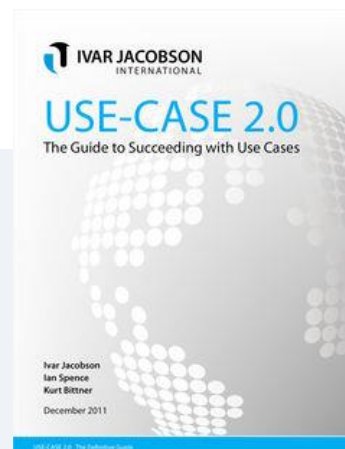
User stories

Use-case slice

> a collection of front-to-back flows through a use case, including the associated test cases that is of clear value to the customer → story.

Story

> a description of a requirement and its business benefit, and a set of criteria by which we all agree that it is "done".
>
> provide verifiable business value to the team's customer (e.g., "Add a Special Instructions field to the checkout page," "As a shopper, I want to see my purchase history load in half a second so that I can find previously purchased items").

> → Examples
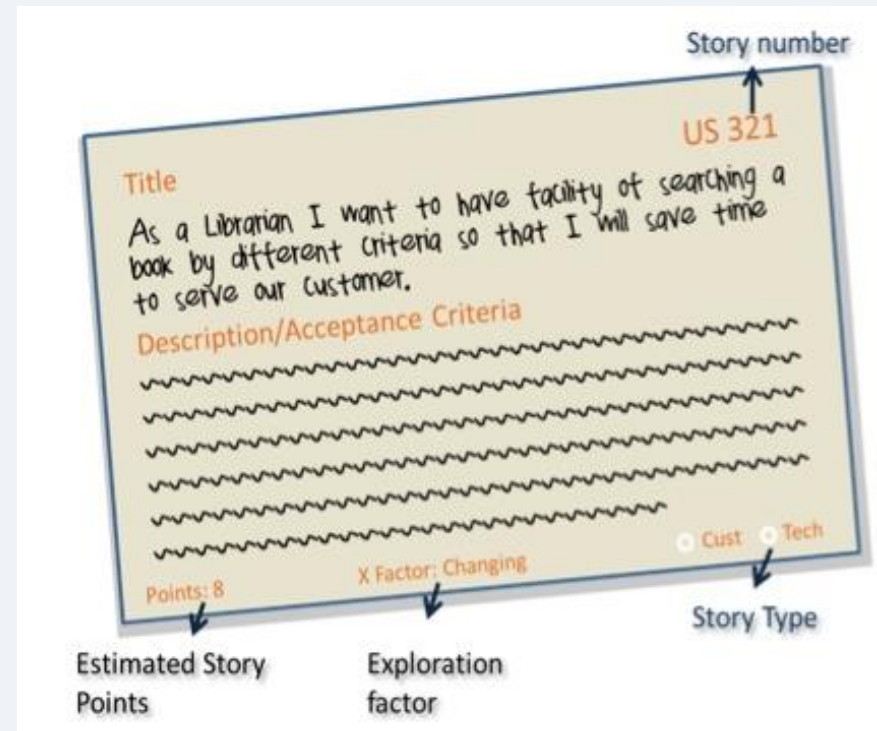
Story "template" elements

The narrative should include a role, a feature and a benefit

► Title (one line describing the story)

Narrative:

► As a [role]

► I want [feature]

► So that [benefit]

The template *"As a [role] I want [feature] so that [benefit]"* has advantages → you cause the story writer to consider *why* they want a feature.

Writing stories is likely be an iterative process.

► The stakeholder will have an idea of what they want but will usually not know how much work will be involved, or how that work will be allocated.

► With the help of the technical and testing experts, they will understand the cost/benefit trade-off of each scenario

Stories define your project

Every project starts with a story, no matter what you're building. Tracker helps your team better develop and keep track of them while they progress from start to delivered.

Start with a good story

A story is a small, actionable bit of work that's either a placeholder for a future conversation or a reflection of one that already happened. Outlining what a user needs helps you focus on the what, not the how.

Define the story

Select among features, bugs, and chores to strike a healthy balance between building new features, staying ahead of technical debt, and keeping the bugs from piling up.

Estimate, then prioritize

Writing the story is just the beginning—now you get to rap about it. Estimate as a team to uncover the story's complexity. Choose among several point scales, then drag-and-drop to prioritize by iteration.

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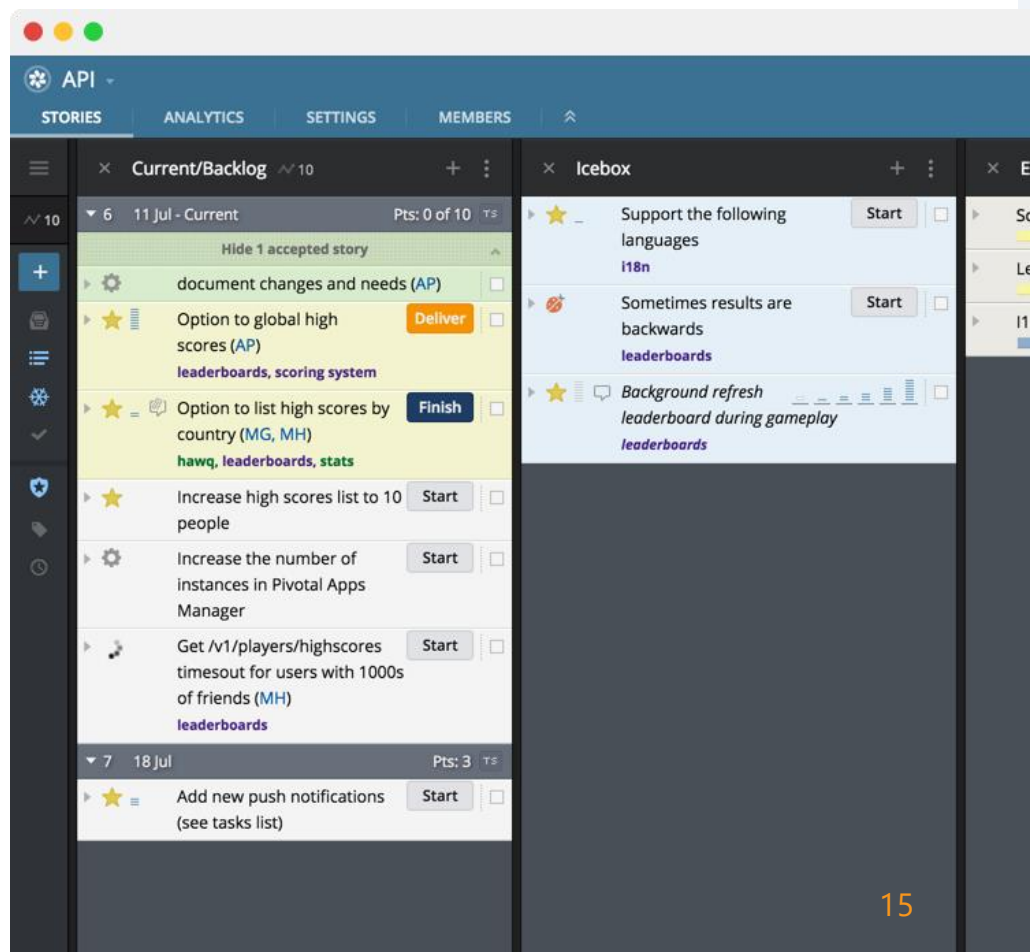
(Pivotal) Tracker style

Tracker lists stories in a project's Current and Backlog panels in priority order.

Dragging a story to the top of your Backlog makes it the top priority

Tracker is a "pull" scheduling system — it pulls in stories to fill the team's WIP limit, based on velocity.

Tracker automatically moves stories from the top of your project's Backlog into the current iteration according to the current velocity. (depending on the individual story estimates).

Tracker projects use a linear point scale (i.e., 0, 1, 2, 3). You can change
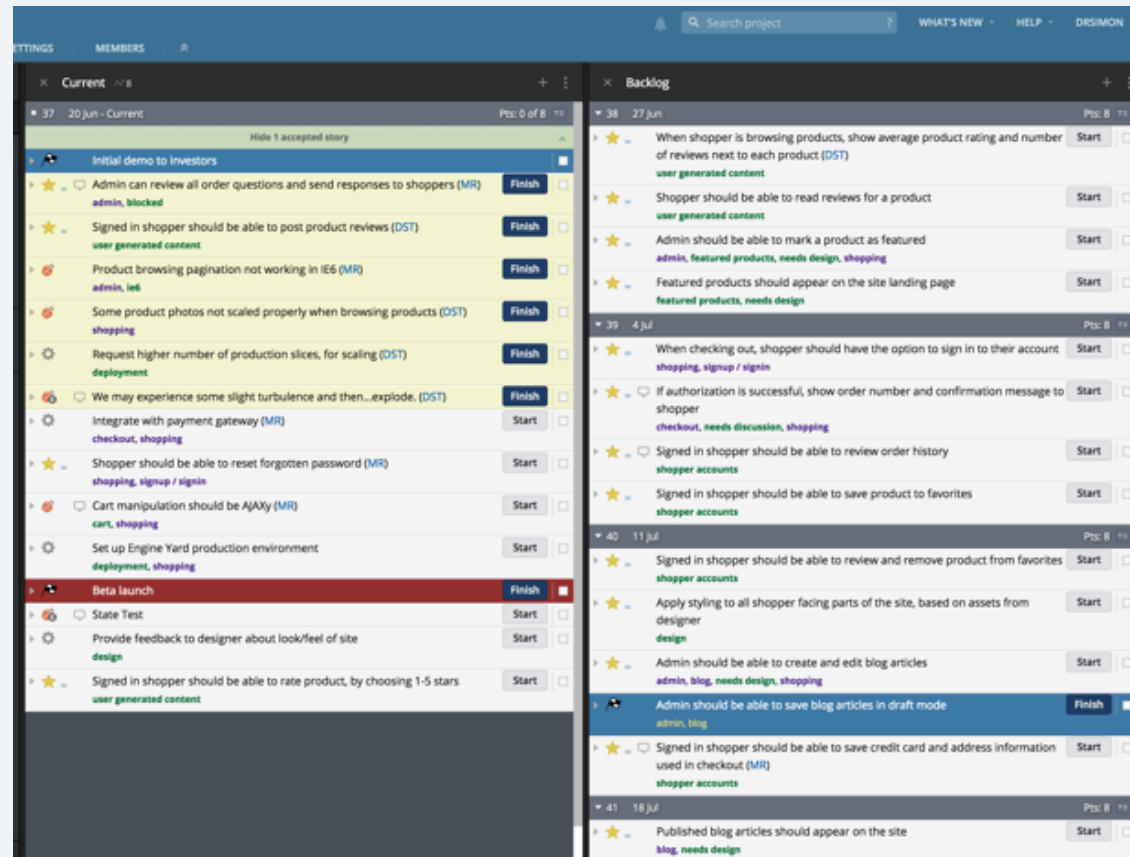
Story-oriented workflow

1. Write a story
2. Estimate effort with points
3. Prioritize
4. Track story [next slide]

Stories are tracked

> The delivery team gives each feature a story point estimate during iteration planning.
>
> Story states are unscheduled, unstarted, started, finished, delivered, accepted, or rejected.
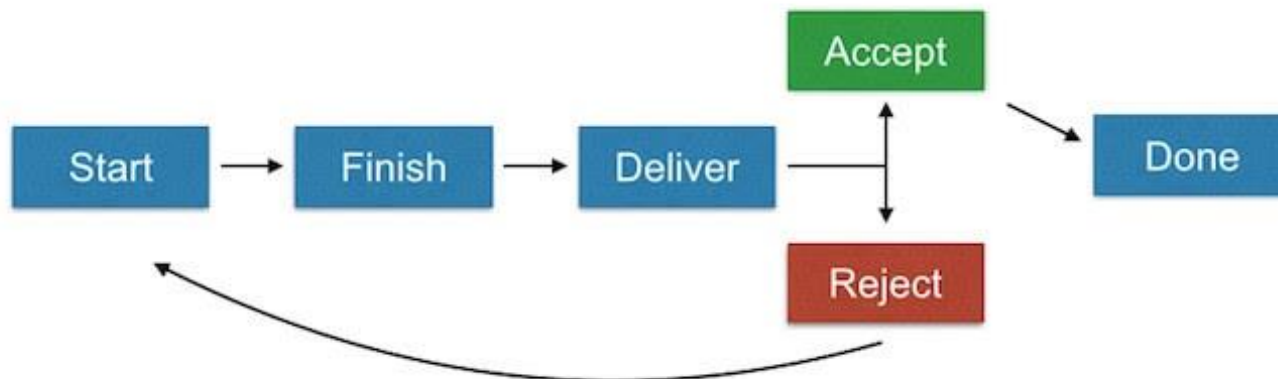
https://www.pivotaltracker.com/help/articles/tracker_workflow/

Proposed method

http://queue.acm.org/detail.cfm?id=2912151
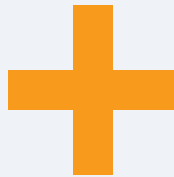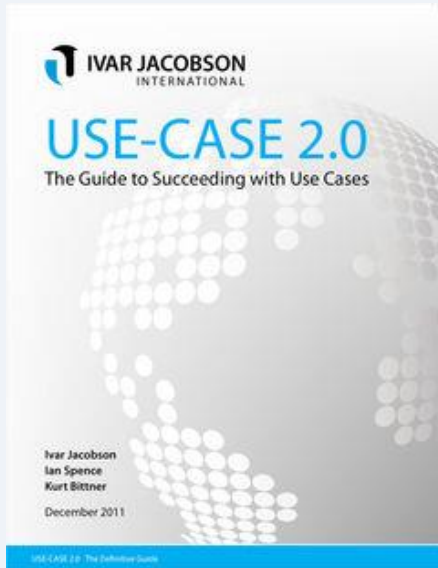
https://www.pivotaltracker.com/help/articles/quick_start/

More on stories @PT

Be Good To Your Devs: Write User Stories That Are Easy To Understand

https://content.pivotal.io/blog/be-good-to-your-devs-write-user-stories-that-are-easy-to-understand

Challenge:

Your own mobile tracker
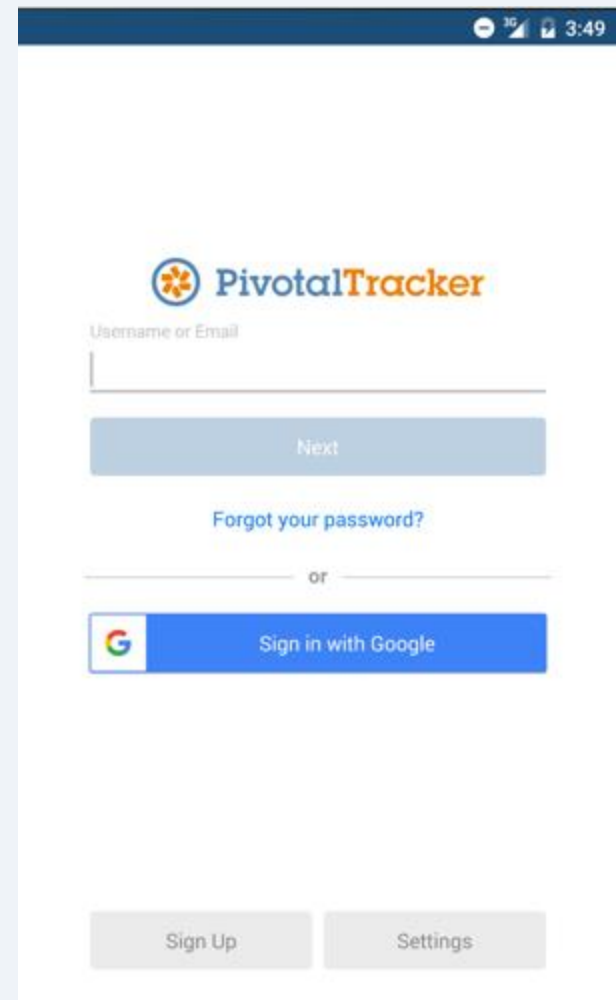
Challenge

Enrich your development enviroment with integrations