

SWCON201

Opensource & Software
Development Methods and Tools

Design (& Development) Process

Department of
Software Convergence

Contents

- Agenda
- Class
- Summary
- Reference
- Homework

Agenda

- Talk about your team play experience.
- What was problem?
- What can be enhanced? (using Agile manifesto)

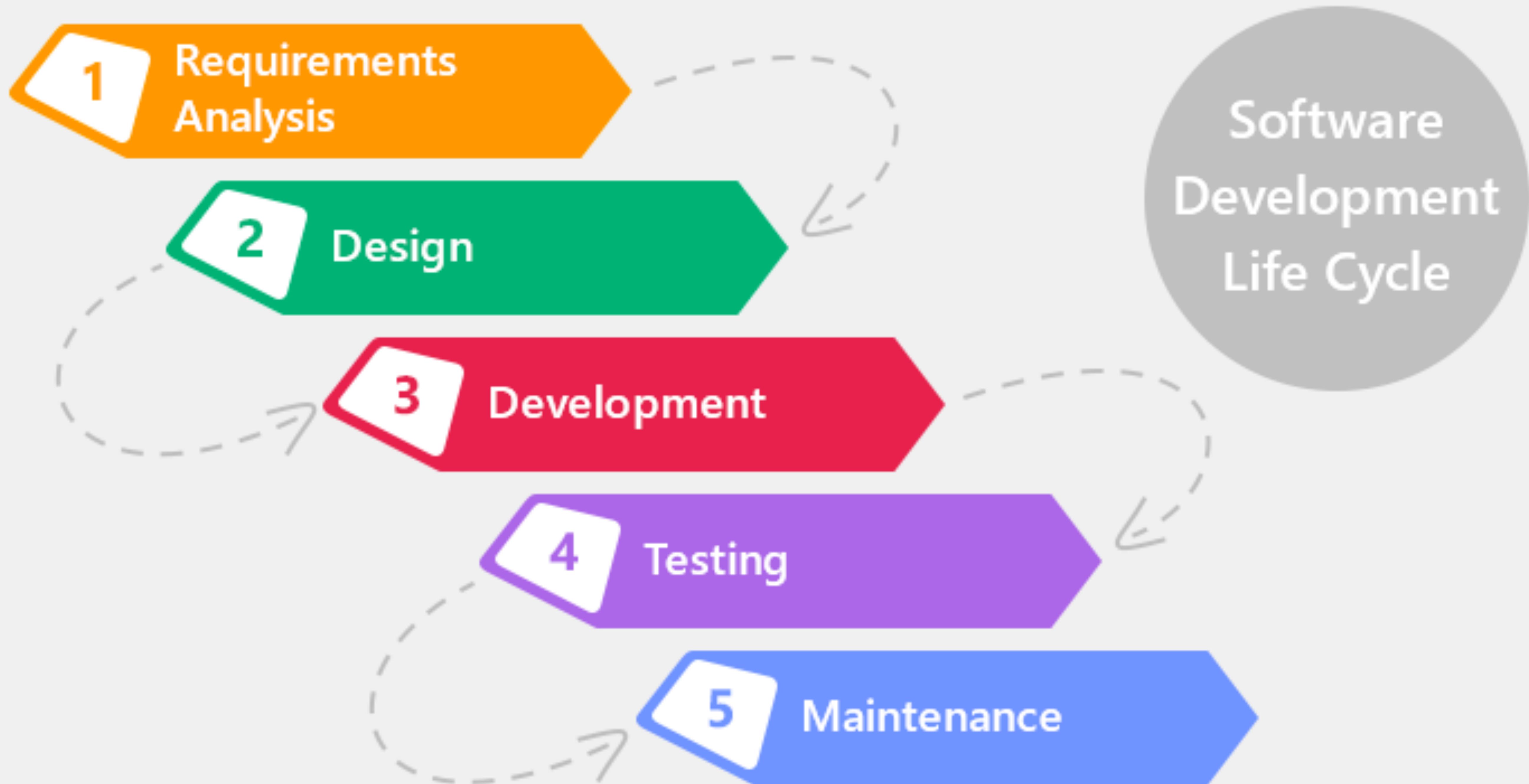
Software development paradigm

- Past: Software
 - Microsoft Windows & Office
 - Hancom Hangul Word Processor
 - Adobe Photoshop
 - Packaged Game (CD/DVD, etc.)
- Today: Service
 - Google & Naver Search Service
 - Free Game with Pay Items
 - Daum Kakao & Line Instant Messenger
 - Ad-based Free Services

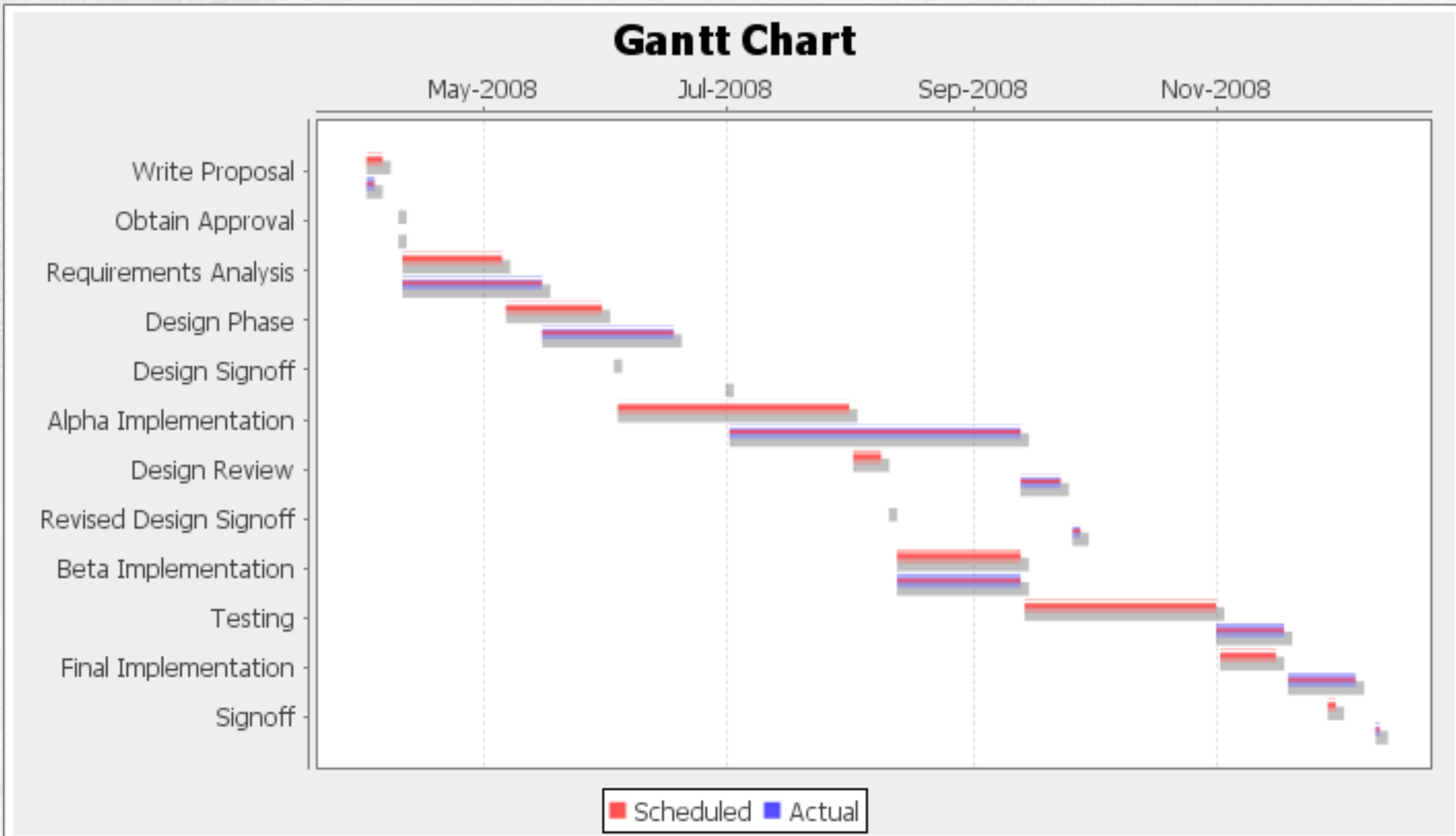
Software development paradigm

- Past: Software
 - Long plan (Years – Windows 9x, Office 2xxx)
 - Huge man and money
 - Expected HARD deadline
- Today: Service
 - As Soon As Possible (Daily, Weekly, Monthly Release)
 - Limited man and money
 - Meets market requirements

Waterfall process



Waterfall process with Gantt chart



Waterfall process benefits

- Whole project must be fleshed out before coding can begin, which puts a greater emphasis on documentation and source code.
- Easier to fix problems in earlier stages rather than discovering them later.
- Smoother integration of new team members into project due to documentation.
- Simple phase transitions leading to less miscommunication and errors.
- Identifiable milestones provide a sense of accomplishment.
- Rigid structure increases team's discipline and ability to maintain schedules.

Waterfall process criticism

- Although the waterfall model uses a simple step-by-step process, it's this exact rigid structure that many believe hold back projects. Specifically, something as complex and comprehensive as software development cannot be contained within the authoritarian transitional phases of the waterfall model.
- Some have even claimed it to be impossible to fully finish a phase before moving to the next one, because learning from the next phase could help its predecessor.

Waterfall process criticism

- Also, when building for a client, they may request software changes halfway through the waterfall mode, which would require starting the model over again, thus increasing the project's working hours and cost.
- In response to criticisms of the model's limited structure, modified waterfall models have been developed putting emphasis on flexibility and discipline. This creates a developmental environment in which projects thrive under structured schedules and fluid problem responsiveness.

Agile : What is it?

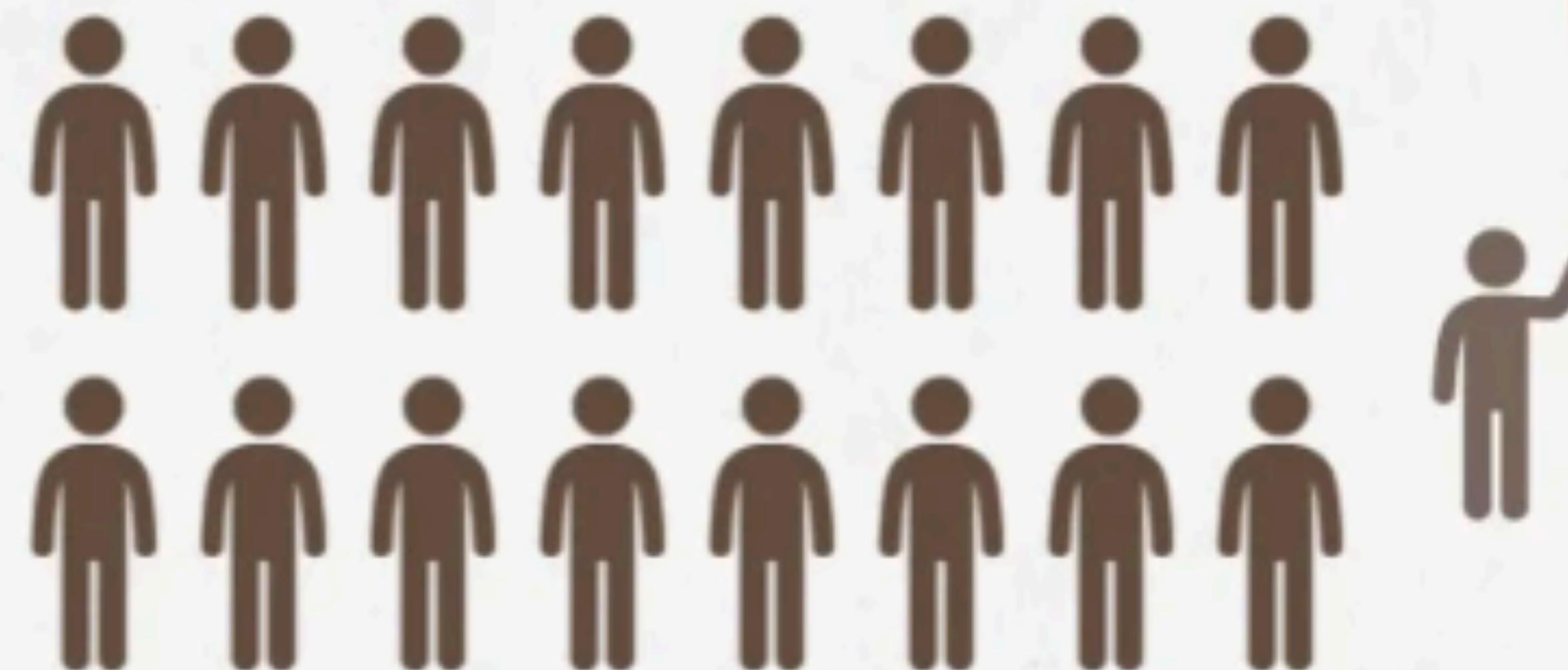
HISTORY OF AGILE MANIFESTO

February 11 - 13
2001

WE ARE UNCOVERING BETTER WAYS OF DEVELOPING SOFTWARE BY DOING IT AND HELPING OTHER DO IT

WE'RE "AGILE ALLIANCE"

AGILE
MANIFESTO



Agile : What is it?

Manifesto for Agile Software Development

We are uncovering better ways of developing software by doing it and helping others do it.
Through this work we have come to value:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

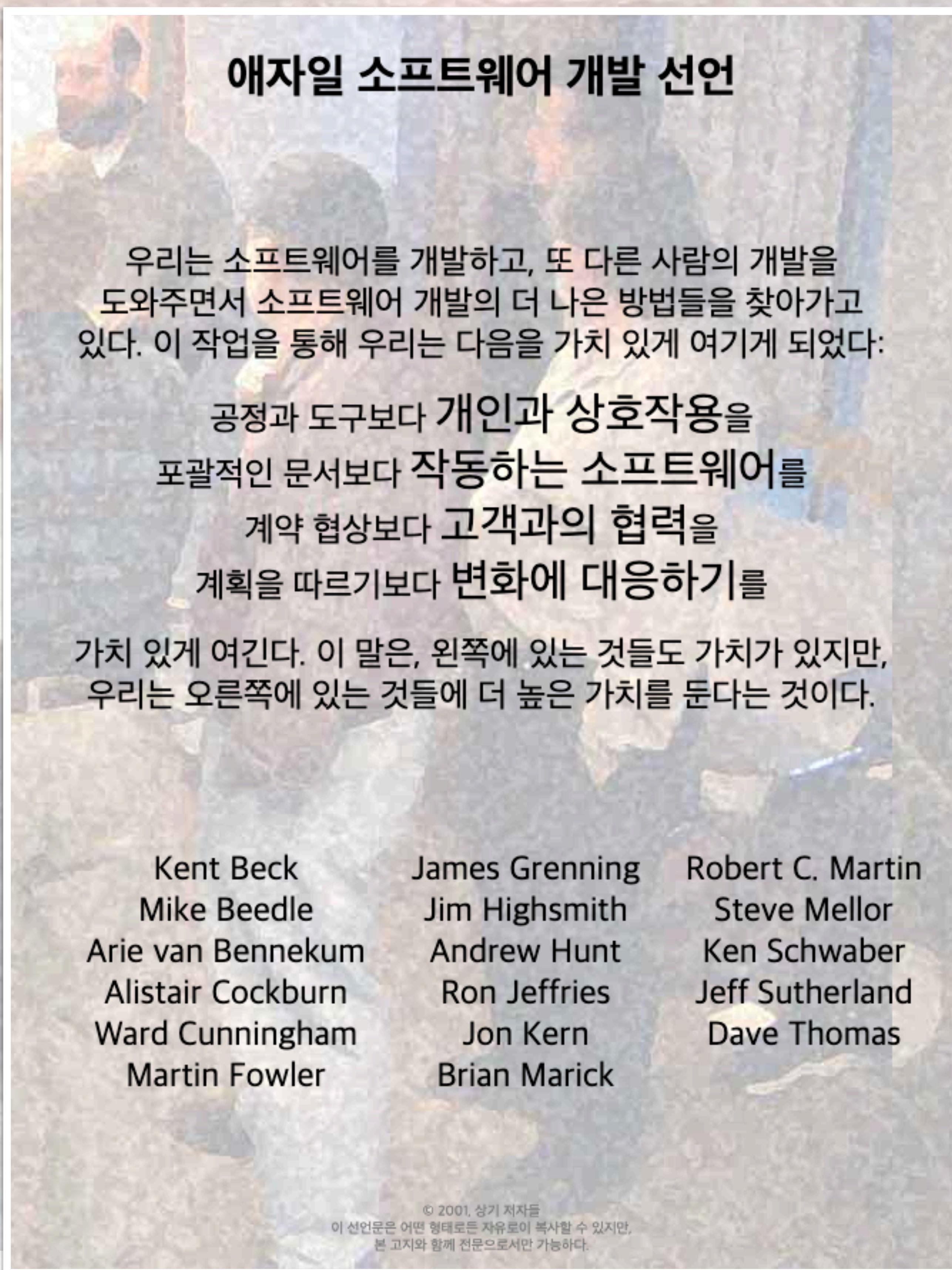
Kent Beck
Mike Beedle
Arie van Bennekum
Alistair Cockburn
Ward Cunningham
Martin Fowler

James Grenning
Jim Highsmith
Andrew Hunt
Ron Jeffries
Jon Kern
Brian Marick

Robert C. Martin
Steve Mellor
Ken Schwaber
Jeff Sutherland
Dave Thomas

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Agile : What is it?



Agile : What is it?

- Youtube video clip (11m:55s)

<https://www.youtube.com/watch?v=Z9QbYZh1YXY>

Agile Manifesto

THROUGH THIS WORK WE HAVE COME TO VALUE

INDIVIDUALS AND INTERACTIONS

O

PROCESSES AND TOOLS

WORKING SOFTWARE

V

COMPREHENSIVE DOCUMENTATION

CUSTOMER COLLABORATIVE

E

CONTRACT NEGOTIATION

RESPONDING TO CHANGE

R

FOLLOWING THE PLAN

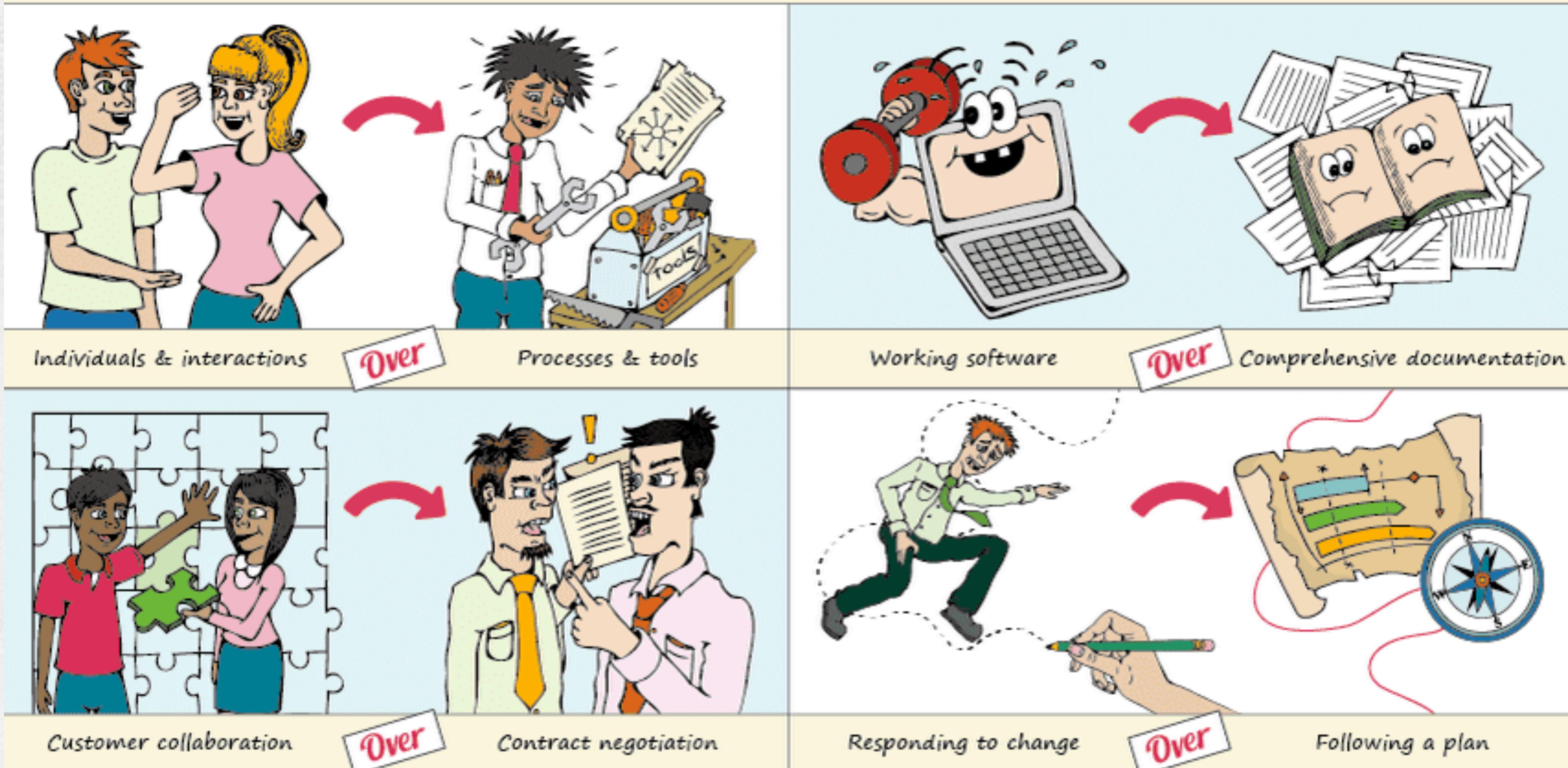
THAT IS, WHILE THERE IS VALUE IN THE ITEMS ON THE RIGHT,
WE VALUE THE ITEMS ON THE LEFT MORE

Agile Manifesto

*Manifesto for Agile Software Development**

"We are uncovering better ways of developing software by doing it and helping others do it.

Through this work **we have come to value:**



**Knowledge
TRAIN®**

That is, while there is value in the items on the right, we value the items on the left more."

Copyright © 2018 Knowledge Train Limited. *Quoted from www.agilemanifesto.org

Agile Manifesto 12 Principles

- 1 Satisfy the customer
- 2 Welcome change
- 3 Deliver frequently
- 4 Collaborate daily
- 5 Support & trust motivated team
- 6 Promote face-to-face communication
- 7 Delivery working software
- 8 Promote sustainable pace
- 9 Promote technical excellence
- 10 Simplicity is essential
- 11 Have self-organize team
- 12 Reflect and adapt regularly

Agile Manifesto 12 Principles

- (1) Our highest priority is to **satisfy the customer** through early and continuous delivery of valuable software.
- (2) **Welcome changing** requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
- (3) **Deliver working software frequently**, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
- (4) Businesspeople and developers must **work together daily** throughout the project.
- (5) Build projects around **motivated individuals**. Give them the environment and support they need and trust them to get the job done.
- (6) The most efficient and effective method of conveying information to and within a development team is **face-to-face conversation**.

Agile Manifesto 12 Principles

- (7) Working software is the primary measure of progress.
- (8) Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
- (9) Continuous attention to technical excellence and good design enhances agility.
- (10) Simplicity - the art of maximizing the amount of work not done - is essential.
- (11) The best architectures, requirements, and designs emerge from self-organizing teams.
- (12) At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behaviour accordingly.

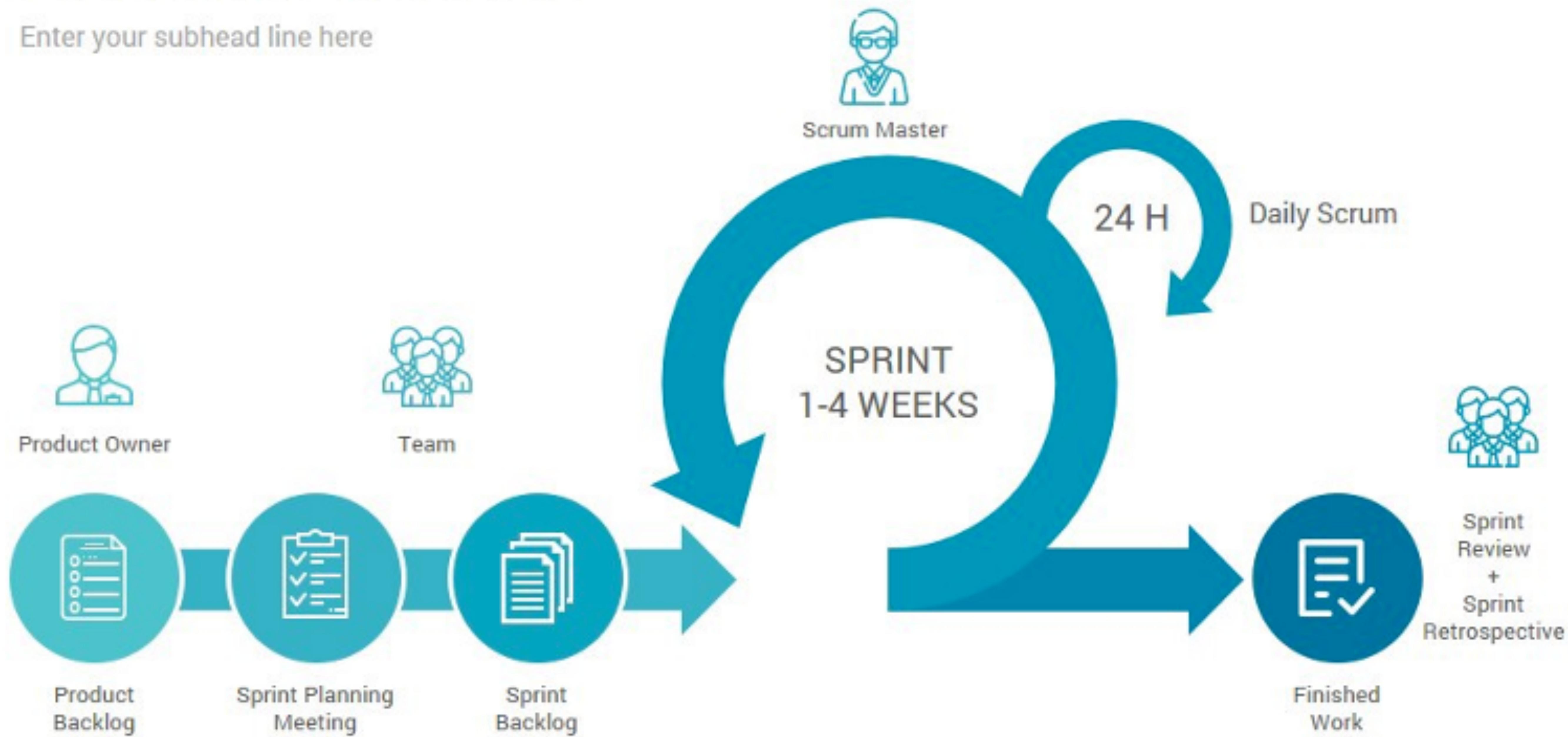
Scrum for Agile

- Scrum is an agile framework for managing work with an emphasis on software development
- Scrum is designed for teams of three to nine developers who break their work into actions that can be completed within timeboxed iterations, called sprints (typically two-weeks) and track progress and re-plan in 15-minute stand-up meetings, called daily scrums

Scrum overview

Scrum Process

Enter your subhead line here



Scrum components



Scrum and Agile

- "Learn Scrum Agile in 3 Simple Steps"

- Youtube video clip (4m:59s)

<https://www.youtube.com/watch?v=niVbODz4Dnw>

Scrum and Agile

- "Introduction to Scrum - 7 Minutes"

- Youtube video clip (7m:51s)

<https://www.youtube.com/watch?v=9TycLR0TqFA>

Scrum's Simple Rules

3 Roles • 5 Events • 3 Artifacts

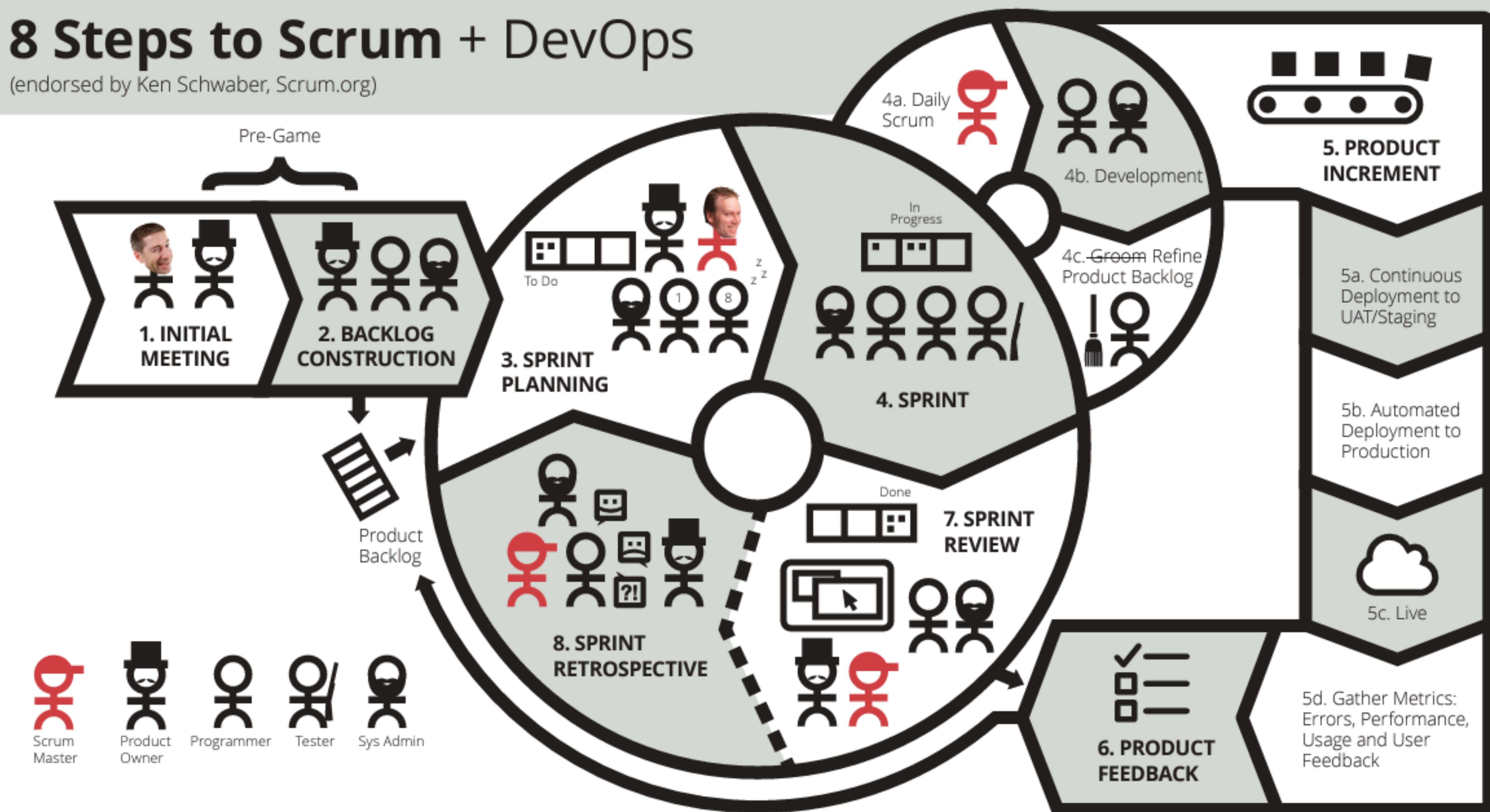
Without embracing the Scrum values and operating according to the 3-5-3, you aren't doing Scrum.



scruminc.

8 Steps to Scrum + DevOps

(endorsed by Ken Schwaber, Scrum.org)



1 The Product Owner explains the product vision and scope, and the number of days needed for the "Backlog Construction" is proposed.

2 A "Backlog Construction" is performed listing the features, technologies and an estimated number of Sprints. A cost per Sprint gives the customer a ballpark.

3 Features are ordered by the Product Owner. The Development Team estimates and forecasts which features will be delivered in the Sprint.

4 The Development Team works away ordered by priority, having Daily Scrums and completing the PBIs to the Definition of Done. Tip 1: Use an electronic Task Board. Tip 2: Send "done" emails.

5 Each Sprint is a potentially shippable increment of software. A focus on DevOps reduces risk and increases agility.

6 Bugs & small changes are added to the current Sprint. Other requests are added to the Product Backlog if approved by the Product Owner.

7 The Development Team demos all the features they've completed. Feedback is gathered. This is the real measure of the success of the Sprint.

8 This is the best part: inspecting and adapting. Upon finishing the Sprint, the Scrum Team discusses what went well, what didn't and what to improve.

Agile and Scrum tools : 인터넷에서 검색해 볼까?

dpm

Training How-to Guides Tools Topics Podcast Membership Q

Quickly Compare The 10 Best Agile Tools For Managing Projects

By Ben Aston | 12/06/2019 | 15 Comments

Agile is everyone's favorite project management and delivery buzzword, but what agile tools can you use to help successfully run an agile project? In this agile tools comparison article, we're going to explore some of our favorite agile development tools and platforms for managing agile projects.

Quickly Compare & Evaluate The Best Agile Tools

 Agile Tools Logo Soup

The Digital Project Manager is reader-supported. When you click through links on our site, we may earn a commission. [Learn more.](#)

Best Agile Tools Shortlist

Check out 10 of the best agile tools of 2019.

1. [Clarizen](#)
2. [monday.com](#)
3. [ProjectManager.com](#)
4. [Zone Sprints](#)
5. [Kanbanize](#)
6. [MeisterTask](#)
7. [airfocus](#)
8. [Pivotal Tracker](#)
9. [Nostromo](#)
10. [Ravetree](#)

Below you'll find an overview of these agile tools, with screenshots, feature overview, pricing and our score.

[Jump to agile tools reviews](#)

Agile Software Basics

- [What Is Agile Methodology?](#)
- [What Is Scrum Methodology?](#)
- [What Are Agile Tools?](#)
- [What Are The Tools Used In Agile Methodology?](#)

Just realized that you're looking for a different breed of agile tool? Have a look at these reviews:

- [Scrum software](#) to support a team working to Scrum.
- [Kanban tools](#) to prioritize tasks and collaborate visually.

Search | Opensource.com X Top 7 open source proj... X

https://opensource.com/article/18/2/agile-project-management-tools

redhat

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Top 7 open source project management tools for agile teams

In this roundup of open source project management tools, we look at software that helps support Scrum, Kanban, and other agile methods.

01 Feb 2018 | Opensource.com (Red Hat) 30 comments

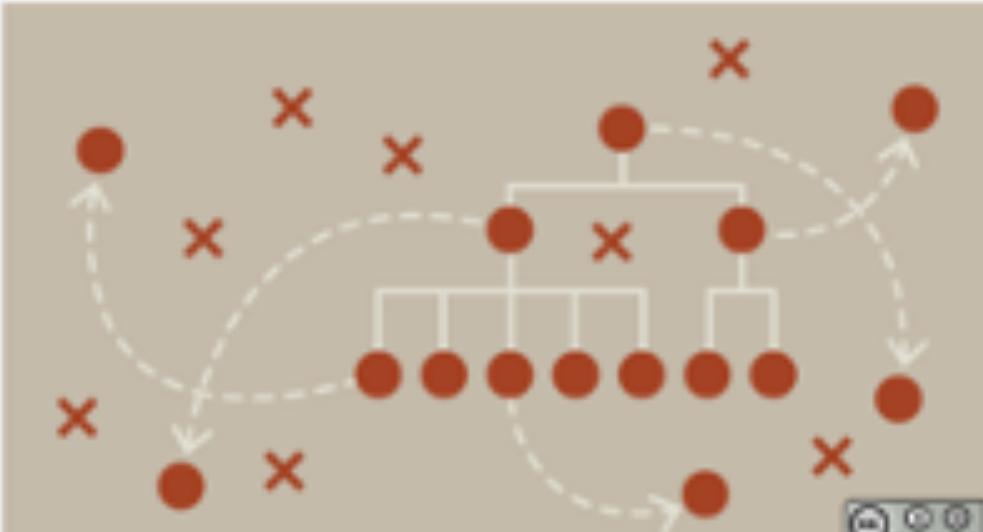


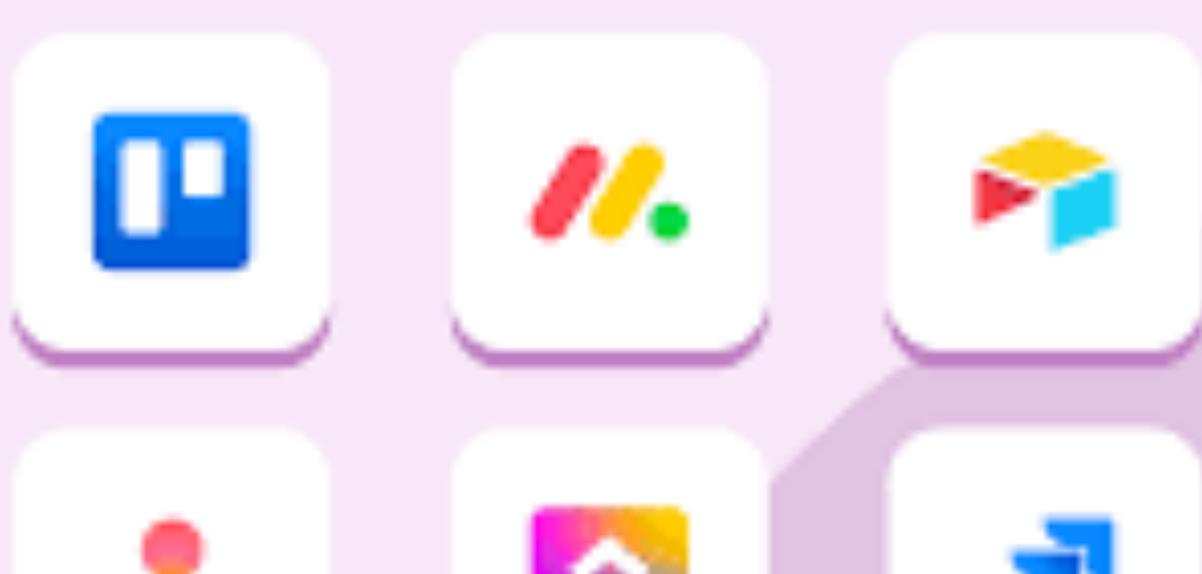
Image by: opensource.com

Do you use a dedicated project management tool?

Yes.
 No.

[Vote](#)

THE BEST Agile Project Management Tools FREE AND PAID



Backlog In Progress

Agile and Scrum tools : 꼭 프로그램을 있어야 하나?

sticky notes kanban scrum board sprints kanban board scrum methodology project management sticky note

Story

To-Do In Process To Verify

3M Post-it
Make the leap from to-do to done with the scrum method...

TASKS

TO DO IN PROCESS DONE

3M Post-it
Keeping everyone on the same page

Story

TO DO IN PROGRESS TO VERIFY DONE

YouTube
How to use Scrum Methodology - YouTube

JILL

ZHANG MIKE SARA

WHITE PAPER PROJECT BOARD MAKE WORKS REMOTE CONTROL

3M Post-it
Keeping everyone on the same page

To Do

Doing

Done

F Forbes
What Is A Scrum Board? – Forbes Advisor

To Do

In Progress

Depositphotos
Man Attaching Sticky Note Scrum Task Bo...

Story

To Do In Progress To Verify Done

g Gettyimagesbank
Whiteboard with post it notes for agile sof...

TASKS

TO DO IN PROCESS DONE

3M Post-it
Keeping everyone on the same page

The Scrum Board

VectorStock
Scrum task board with sticky notes for...

To Do

In Progress

Testing

Done

I Simplilearn
Scrum Master or Product Owner: What Suits You Be...

EPIC

KANBAN

PRODUCT OWNER

SCUM MASTER

PAIR PROGRAMMING

SLICES

STAKE HOLDER

REFINEMENT

INCREMENTAL CHART

SCUM

AGILE

INFORMATION CHART

RUN OF TEAM

TEAM WORK

USABILITY TEST

SPRINT REVIEW

SPRINT PLANNING

DATA SCIENCE CENTRAL
What is a Scrum Board? What is the Difference Bet...

Medium

Simple agile with stickies. Scrum does not e...

DAILY SCRUM

KANBAN BOARD

EPIC

SCUM

AGILE

INFORMATION CHART

REFINEMENT

INCREMENTAL CHART

SLICES

STAKE HOLDER

FACILITATION

TEAM WORK

USABILITY TEST

SPRINT REVIEW

SPRINT PLANNING

RUN OF TEAM

DATA SCIENCE CENTRAL
What is a Scrum Board? What is the Difference Bet...

RDT Limited

All about Agile – sprinting an...

08 Agency

Why the Agile Web Design Process Trumps All Others

OpenProject (Visit! : <https://www.openproject.org/>)



Product ▾

Solutions ▾

Pricing

Resources ▾

EN ▾



sign in

Open source project management software

Efficient classic, agile or hybrid project management in a secure environment.

Enter organization name

Start free trial

The screenshot shows a Kanban board titled "Organize an Open Source Conference". The board is divided into four columns: "New", "In progress", "Closed", and "On hold". Each column contains several cards representing tasks. The "New" column has two cards: "Organize an Open Source Conference" (TASK) and "Organize an Open Source Conference" (TASK). The "In progress" column has three cards: "Organize an Open Source Conference" (TASK), "Organize an Open Source Conference" (TASK), and "Organize an Open Source Conference" (PHASE). The "Closed" column has one card: "Organize an Open Source Conference" (MILESTONE). The "On hold" column has one card: "Organize an Open Source Conference" (TASK). Each card includes a small profile picture, a task name, a description, and a due date.

Efficient classic, agile or hybrid project management in a secure environment.

OpenProject (Visit! : <https://www.openproject.org/>)

The screenshot shows the homepage of the OpenProject Community edition. The background features a dark blue gradient with a subtle grid pattern. In the center, the text "OpenProject" and "Community edition" is displayed in large, white, sans-serif font. Above this text, there are two small code snippets in a monospaced font:

```
1 const element = this.elementRef.nativeElement;  
2 t
```

1 <op-icon class="icon-add">
2 </op-icon>

Below the main title, the text "The leading open source project management software. Free software. Free of charge. On-premises." is written in a smaller, white, sans-serif font.

At the bottom of the page, there are several metrics displayed in white text:

- 20M+ downloads
- 194 contributors
- 67058 commits
- 36 releases
- 11619 pull requests

On the left side, there is a small icon of a person with a gear and the text "@opf". To its right are buttons for "Star" (with 6212), "Fork" (with 1716), and a GitHub icon.

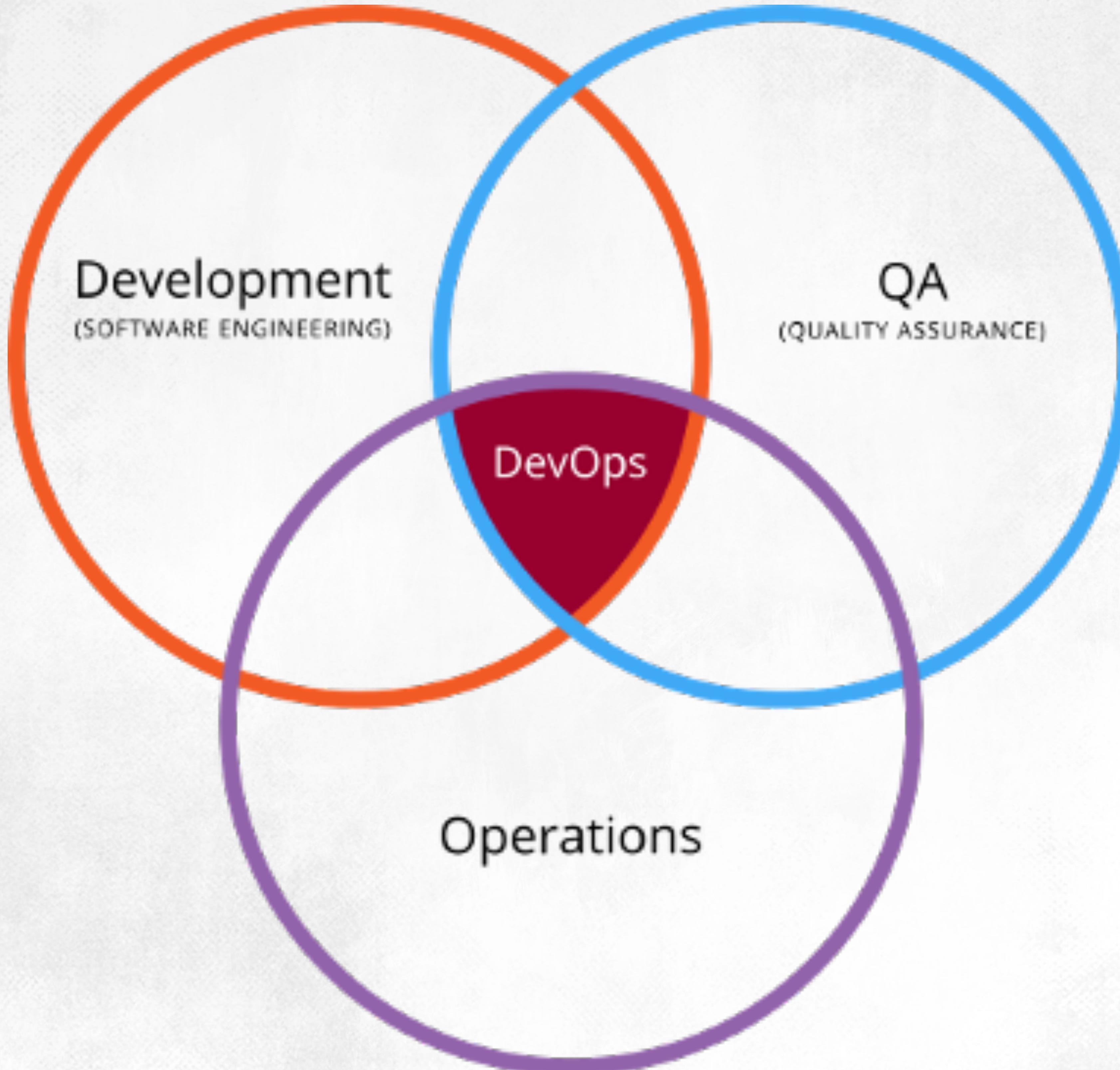
DevOps (development and operations)

- DevOps is a set of practices intended to reduce the time between committing a change to a system and the change being placed into normal production, while ensuring high quality

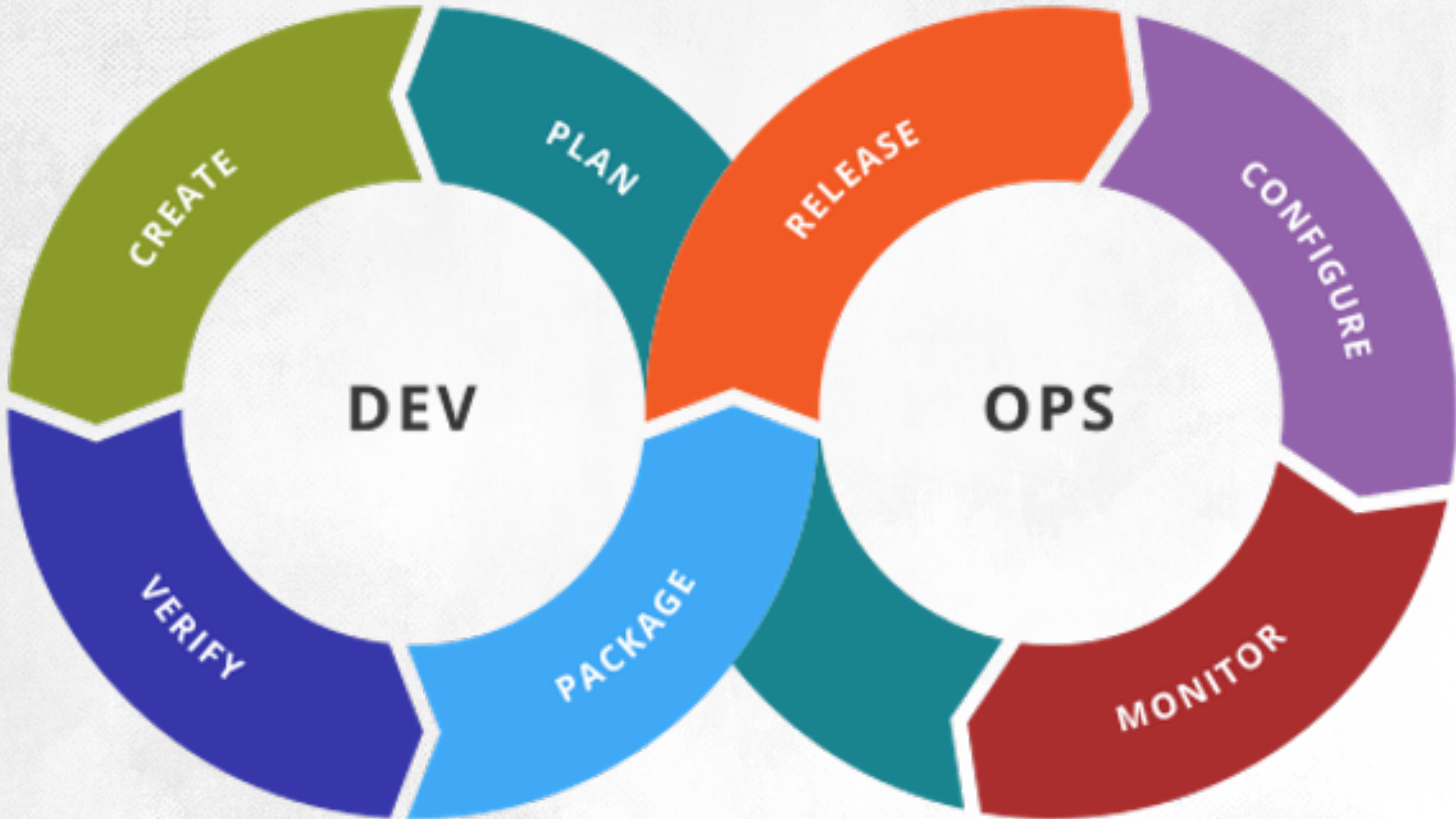
DevOps (development and operations)

- DevOps is a software engineering culture and practice that aims at unifying software development (Dev) and software operation (Ops)
- The main characteristic of the DevOps movement is to strongly advocate automation and monitoring at all steps of software construction, from integration, testing, releasing to deployment and infrastructure management
- DevOps aims at shorter development cycles, increased deployment frequency, more dependable releases, in close alignment with business objectives

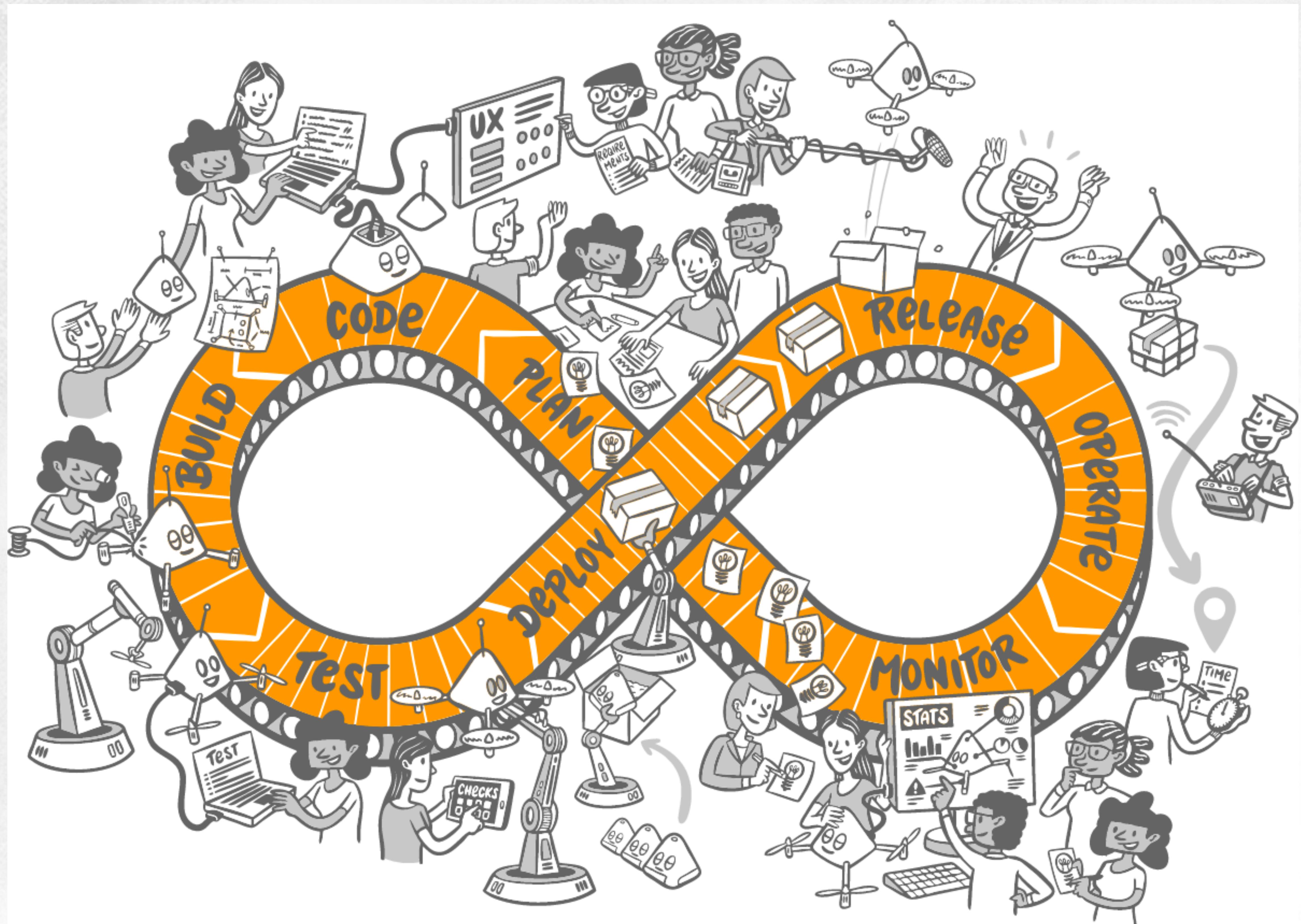
DevOps concept



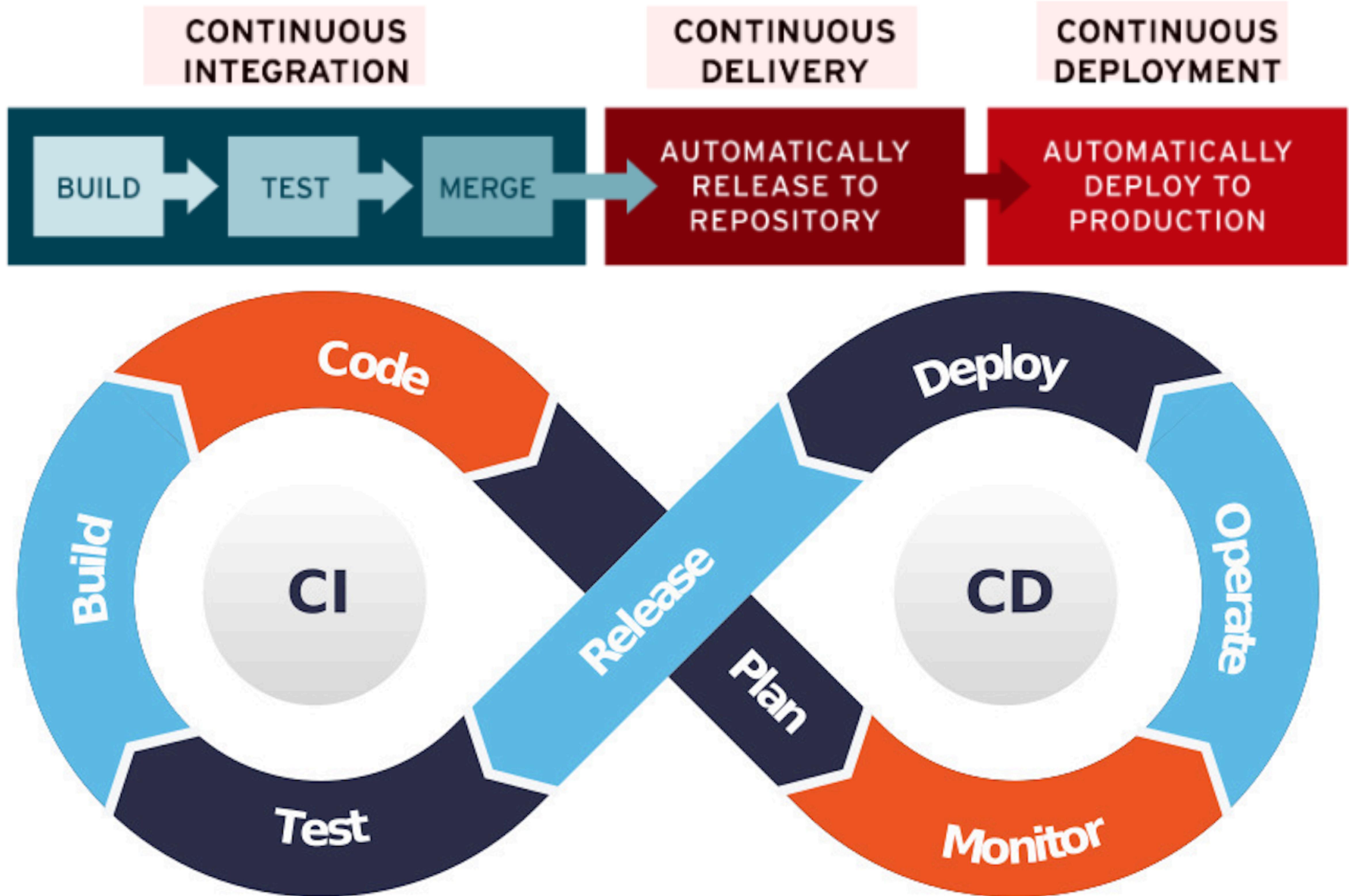
DevOps process



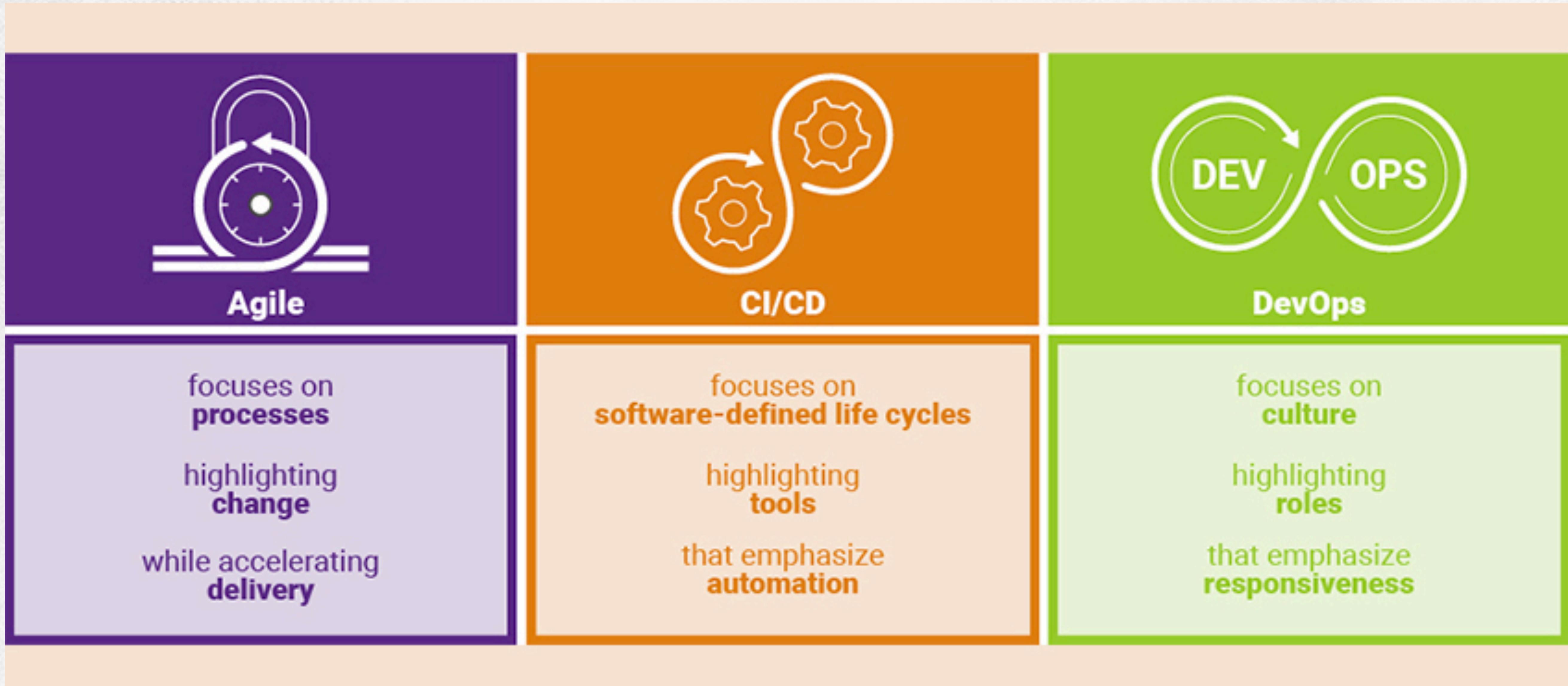
DevOps process



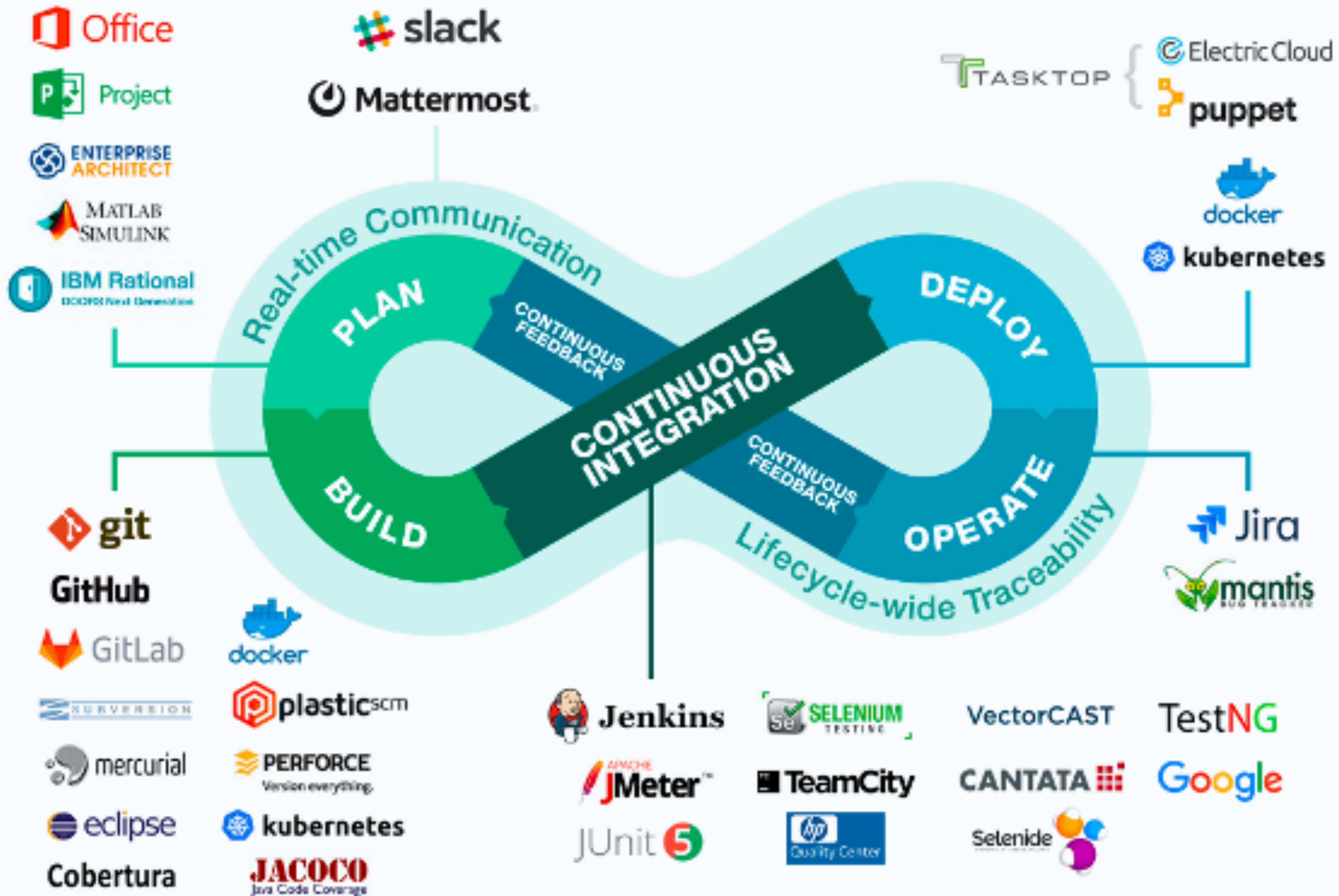
DevOps & CI/CD



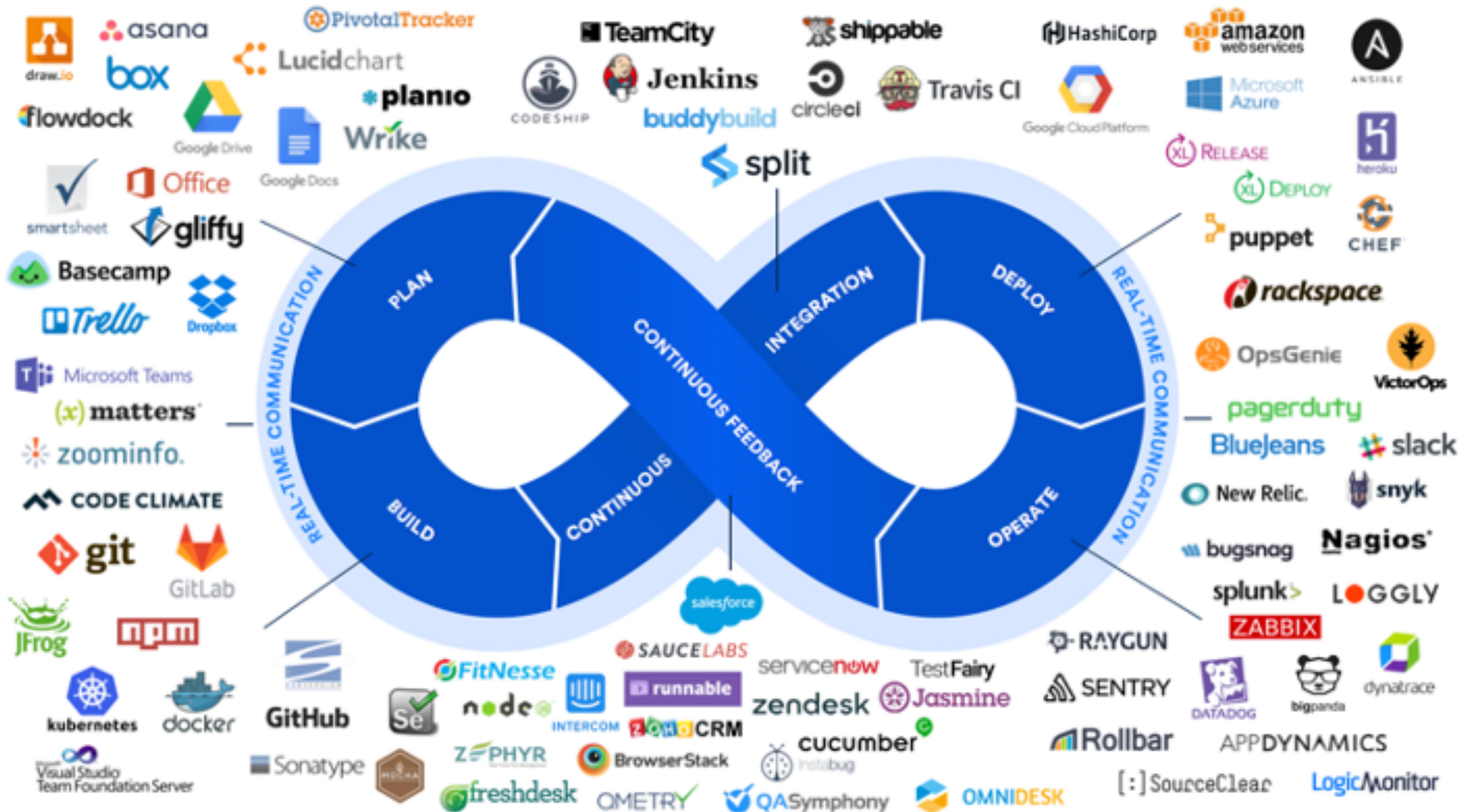
DevOps & CI/CD



DevOps tools



DevOps tools in detail



Not a single way

DevOps + Agile

DevOps vs Agile

DEVOPS VS. AGILE



Parameter

Philosophy



Emphasis on collaboration & productivity

Continuous testing & integration, providing end-to-end business solutions

Looks after secure deployment

Large team with different skill-set

Extensive documentation

Received via customers

Specs & design documents

Focal Point & Purpose



Emphasis on incremental changes through iterative development & testing

Incremental deployments in complex projects

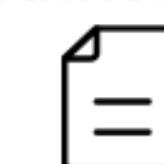


Looks after developing & launching software

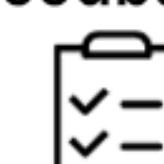
Team Size & Skills



Smaller team with advanced skill-sets



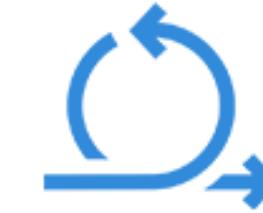
Light on documentation



Received internally



Daily scrum meetings



Agile Methodology

Not a single way

ci cd difference between devsecops waterfall dev azure devops devops tools ops software testing proj >

AGILE VS DEVOPS - UNDERSTAND THE DIFFERENCE!

ReQtest

DevOps vs Agile - What is The Difference b/w Agile a...

AGILE DEVELOPMENT

CONTINUOUS INTEGRATION

CONTINUOUS DELIVERY

CONTINUOUS TESTING

Agile DevOps

Dev

Ops

eduCBA

Agile DevOps | Learn How do Agile and DevOps ...

DEVOPS VS. AGILE

Spiceworks

DevOps vs. Agile Methodology: Key...

The Evolution from Agile to DevOps to Continuous Delivery

Qentelli

The Evolution from Agile to DevOps to Continuous Deliv...

AGILE vs DEVOPS

networkinterview.com

Difference between Agile and Devops - Agile vs Devo...

Agile vs. DevOps

YouTube

DevOps & Agile Implementation -...

DevOps vs. Agile

Upwork

DevOps vs. Agile: Everything You ...

Scrum

VS

Agile

VS

DEV OPS

Dash Technologies

Agile Vs Scrum Vs DevOps: How They Are Different?

Agile

CI/CD

DevOps

Synopsys

What's the difference between agile, CI/CD, and DevOps? | Syn...

People

Process

Technology

XenonStack

Role of Agile in DevOps - Why it Matters?

AGILE VS DEVOPS

Software Testing Material

Agile Vs. DevOps: Everything You Need To Know

Performance/Goal

- 금융/개발팀/자율팀 및 Communication과 Collaboration을 매우 중요
- 협업 프로세스보다는 Fast Fail, 피드백, 반복을 통한 지속적 개선, 행동 관리

Process/Practice

- Serial Release를 주구하여 MVP 모델 지원
- 협업 프로세스보다는 Fast Fail, 피드백, 반복을 통한 지속적 개선, 행동 관리

Tools

- 짧은 개발과 배포를 위해 험입/자동화 도구 등을 사용

SK(주) C&C's TECH BLOG

데브옵스 알아가기(1) : 애자일과 데브옵스 | SK(주) C&C's TECH BLOG

Summary

- Agile Manifesto
- 12 Principles of Agile Developments
- Scrum
- DevOps

Reference

- Agile software development – WiKipedia
https://en.wikipedia.org/wiki/Agile_software_development
- Scrum - WiKipedia
[https://en.wikipedia.org/wiki/Scrum_\(software_development\)](https://en.wikipedia.org/wiki/Scrum_(software_development))
- DevOps - WiKipedia
<https://en.wikipedia.org/wiki/DevOps>

Homework

- Surveys Agile or Scrum case study for your interest area
 - track, domain, service, software, etc.



Thank you