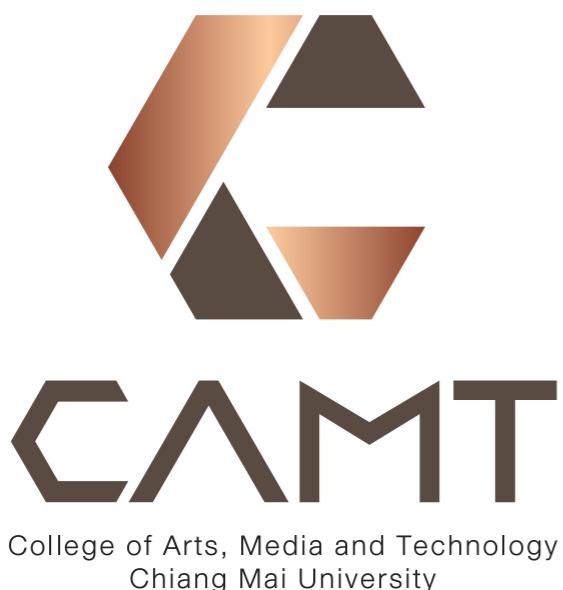


SE 234 Basic Development and Operations

#0 Course Introduction



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Meeting Time and Meeting Places

- **Lecture**
 - Room ILC-B302
 - Mondays: 12:30 - 14:30
- **Lab**
 - Room ILC-C205
 - Thursday: 12:30 - 14:30

What will be in the course ?

- Basic DevOps
- Version Control
- Issue Tracking
- Flow
- Basic Unix

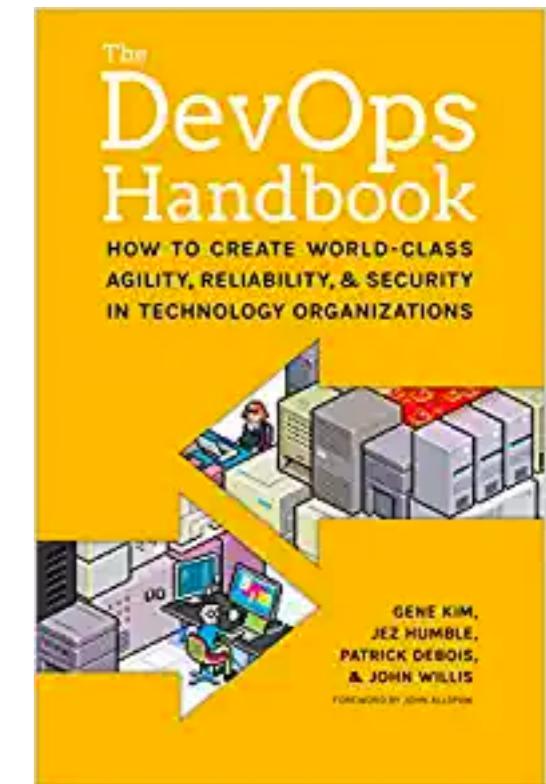
Grading - (First half)

- Class attendance and class participation 5%
- Two assignments 15%
- Labs 10%
- Midterm examination 20%

Recommend books



- Sink, E. (2011). Version control by example (Vol. 20011). Champaign, IL: Pyrenean Gold Press.



- Kim, G., Humble, J., Debois, P., & Willis, J. (2016). The DevOps Handbook: How to Create World-Class Agility, Reliability, and Security in Technology Organizations. IT Revolution.

Class Policy

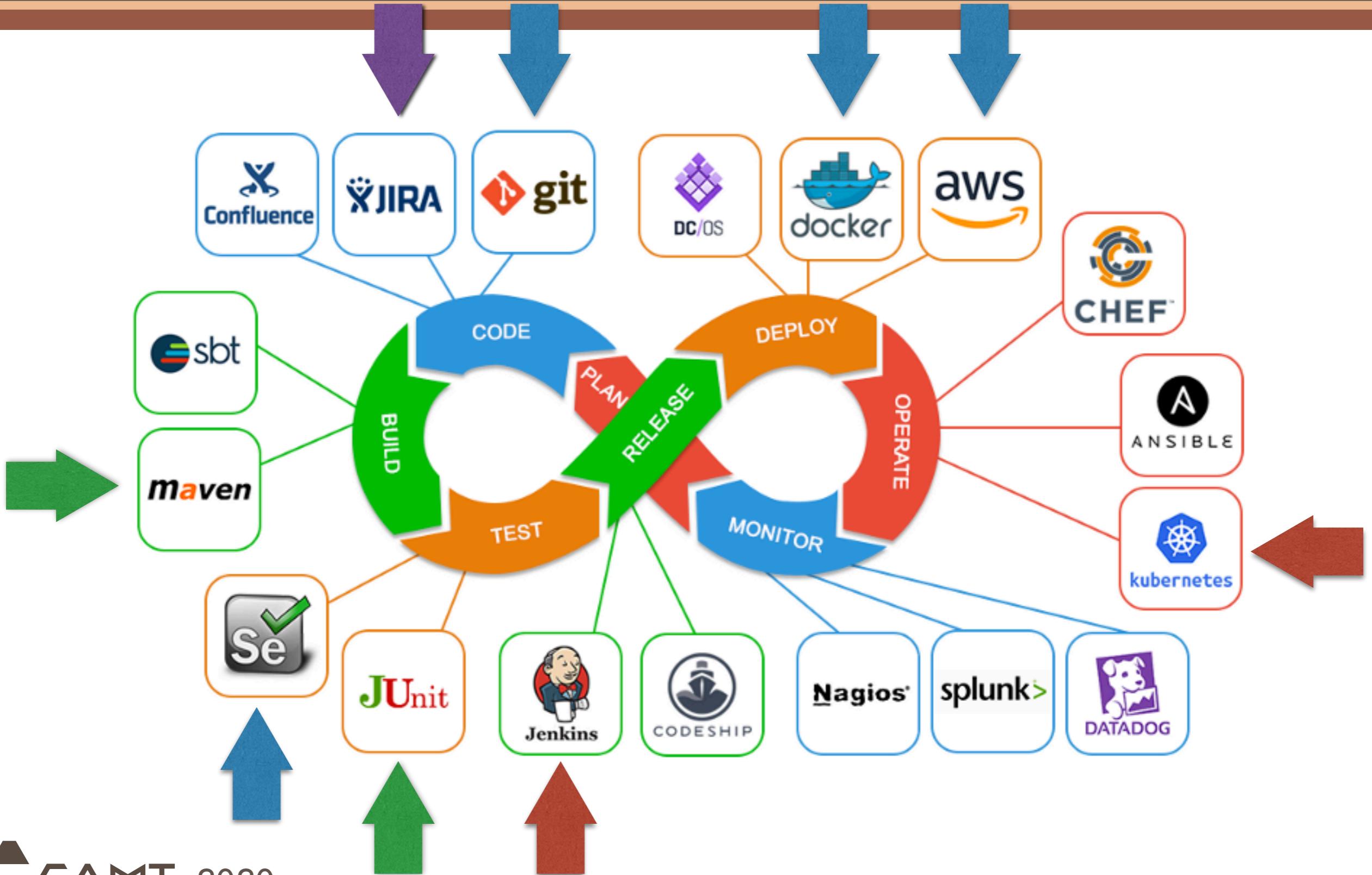
- Assignment submission will be in appointment basis
- Late lab submission must be at most before the end of the following lab class
- If a student must be absent, please notify the lecturer at least 24 hours before the class of his/her absence.

Cheating Policy

- First offence for cheating on
 - An exam: zero on the exam.
 - An assignment: zero on the assignment and 10 points subtracted from final course total.
- Multiple instances of cheating of any kind:
 - Failure in the course.

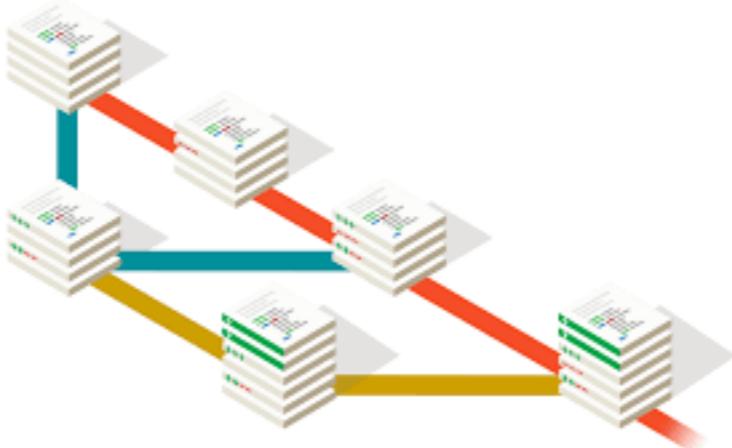
Course Overview

DevOps



Version Control

- Heard of any toolsets named GIT, CVS, SVN?



Version Control

- A system or toolset that keeps tracking history of all the changes made in software projects

Think about when you cook



Thinking about when you cook

- Egg is broken



- Want to try adding some ingredients you are not familiar with



- Change the decoration



If an undesirable event occurs

- If an undesirable event occurs.
 - With version control, you will be able to **go back** to any previous version or snapshot

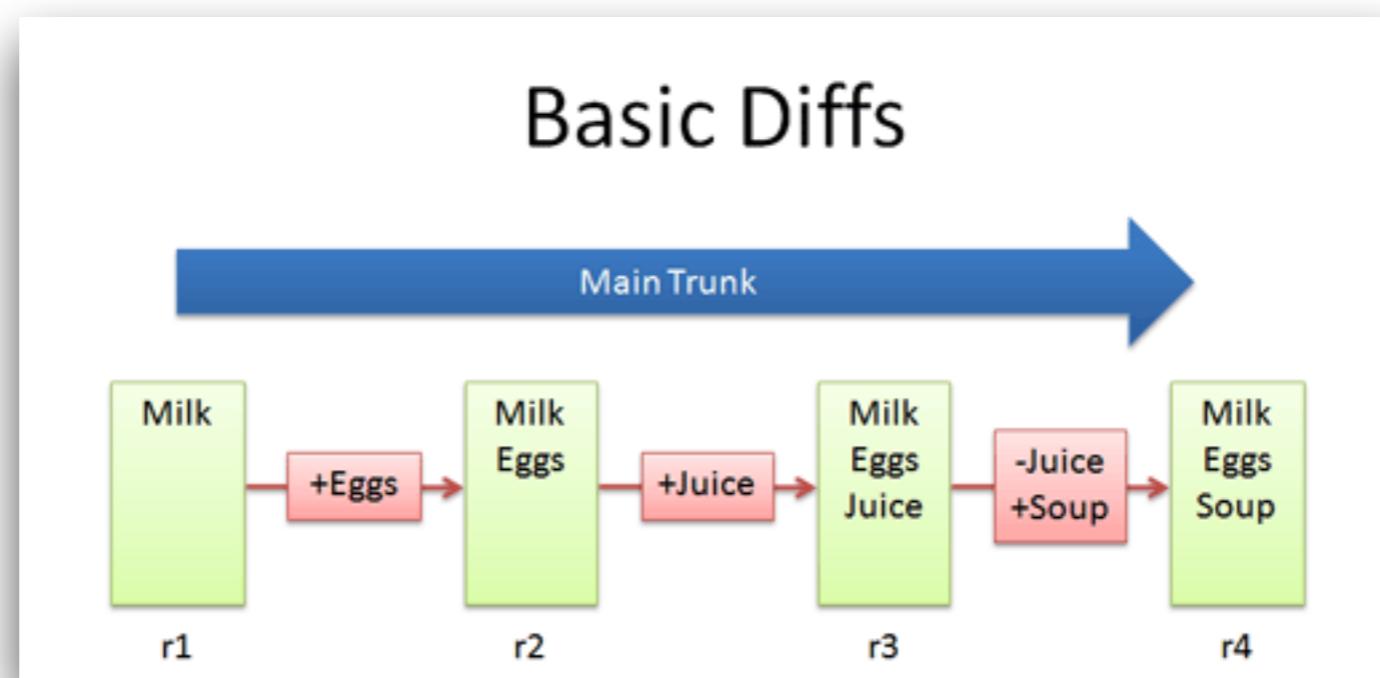


Go back to an earlier version



Then try to redo it

Basic view - differences are kept



<https://betterexplained.com/articles/a-visual-guide-to-version-control/> (Assessed Dec 2017)

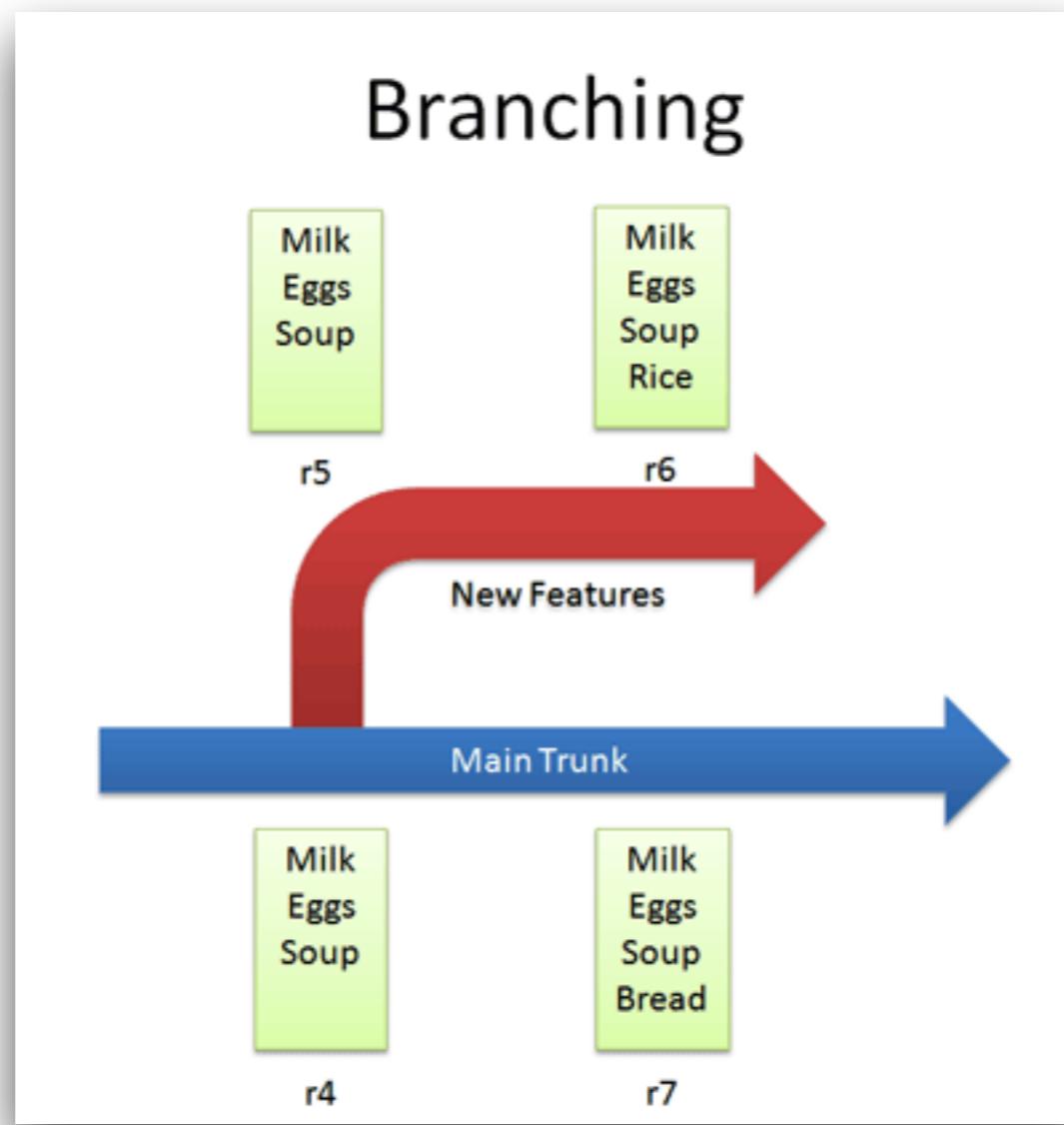
Plus

- We can cook collaboratively

We can also do branching



We can also do branching

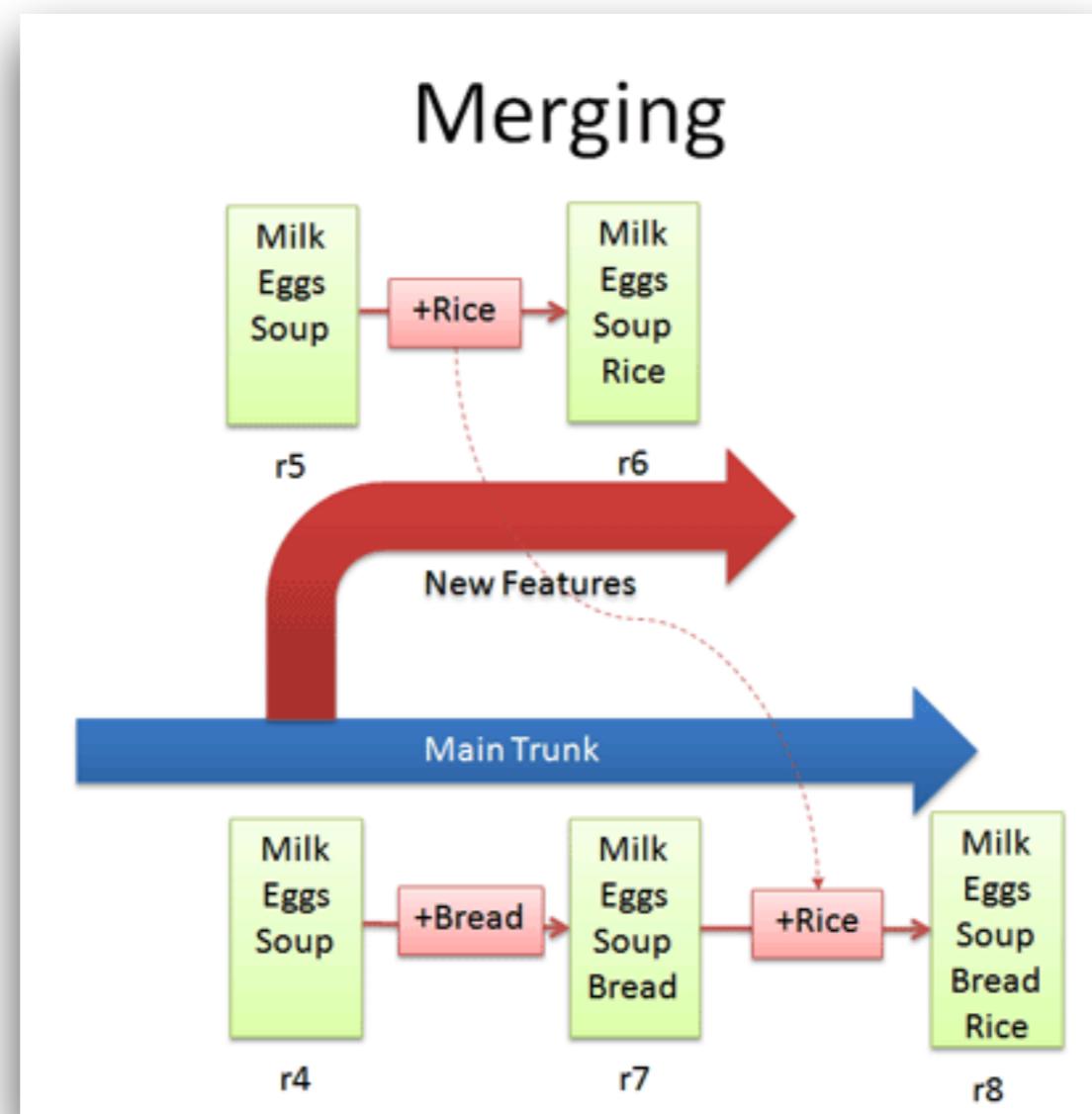


<https://betterexplained.com/articles/a-visual-guide-to-version-control/> (Assessed Dec 2017)

Then merging the branches if needed



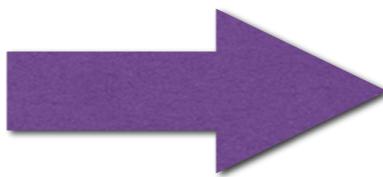
Then merging the branches if needed



<https://betterexplained.com/articles/a-visual-guide-to-version-control/> (Assessed Dec 2017)

But ... there can be conflicts

- Imagine about cooking in teams
 - You go back to



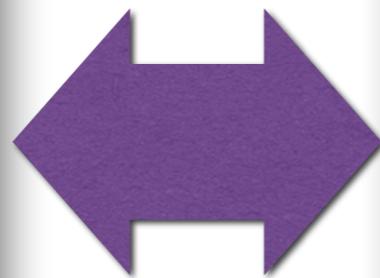
- But your colleague continues decorating the broken egg

But ... there can be conflicts



- Something is not so easily to rollback

So the two version cannot be easily merged



Issue Tracking / Bug Tracking System

Issue Tracking / Bug Tracking System

- Have you heard of a system like —



Issue Tracking / Bug Tracking System

- Have you heard of system like —

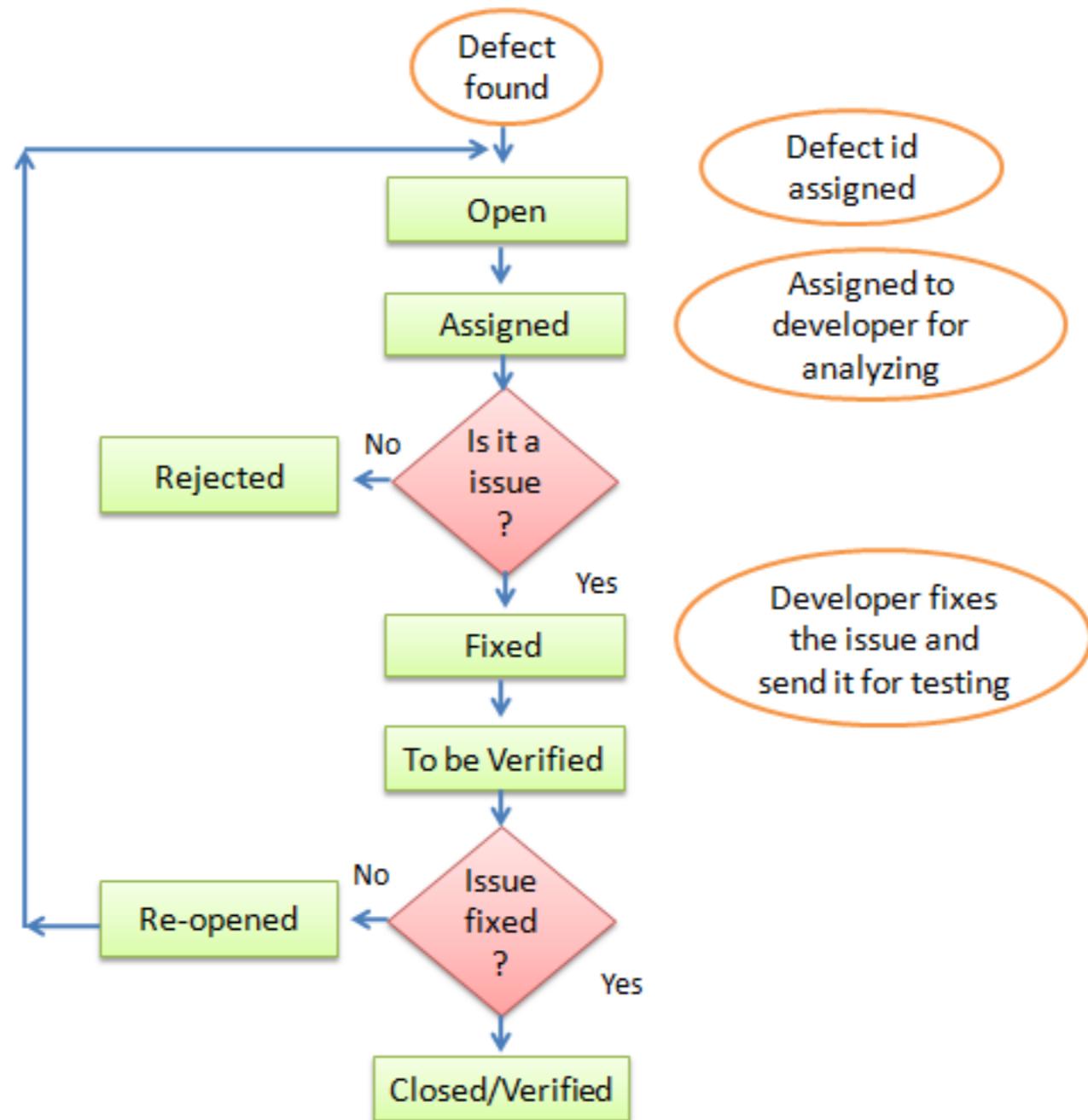
The screenshot shows a search results page for a Google Issue Tracker. The search query is "componentid:192633+". The results are filtered by the letter 'C'. The table has columns: ID, STATUS, ASSIGNEE, TITLE, TYPE, PRIORITY, and C. There are 25 results listed.

ID	STATUS	ASSIGNEE	TITLE	TYPE	PRIORITY	C
71614877	New	--	FileLock doesn't work with try-with-resources	Bug	P3	
71610578	Assigned	gg...@google.com	Context.startForegroundService() did not then call ...	Bug	P4	
71608129	New	--	import class failed	Bug	P3	
71603955	New	--	Bug: cannot build a project on clean install of 3.1 c...	Bug	P3	
71603358	New	--	Android studio is not detecting already running em...	Bug	P3	
71601803	Assigned	lf...@google.com	Android Emulators are not working	Bug	P2	
71601432	New	--	Improvement: Mention when expecting a non-sup...	Bug	P3	
71600322	Assigned	jb...@google.com	AVD is created on the UI Thread freezing the whol...	Bug	P2	
71599815	Duplicate	--	Feature Request: Investigate switching to new IntelliJ 2017.3 mecha...	Feature Request	P1	
71597886	New	--	Method separators do not work for Kotlin	Bug	P3	
71596092	New	--	instant run	Bug	P3	
71594227	Assigned	r8...@googlegroups.com	Publish D8 and R8 tagged artifacts to maven.googl...	Bug	P3	

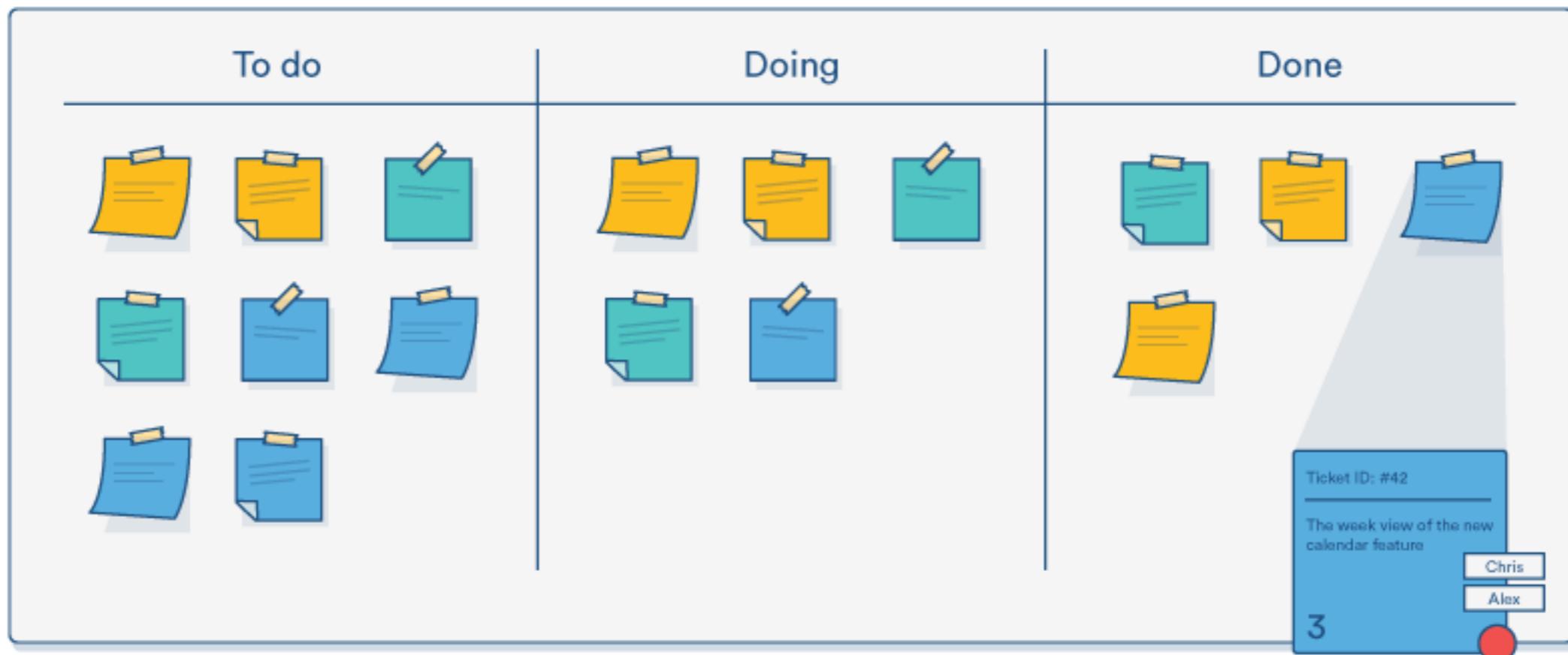
Issue Tracking / Bug Tracking System

- It is a software application designed to help programmers to keep tracking of reported software bugs in their work

Bug Life Cycle



Modern Issue Tracking using Kanban



Modern Issue Tracking using Kanban

The screenshot shows a Jira interface for a 'Team Scrum Board'. The top navigation bar includes links for JIRA, Dashboards, Projects, Issues, Agile, More, Create issue, Quick Search, Help, Settings, and User profile. Below the header, the board title is 'Team Scrum Board' with a subtitle 'SPRINT: Sprint 3'. There are filters for Product, UI, Server, Only My Issues, and Recently Updated.

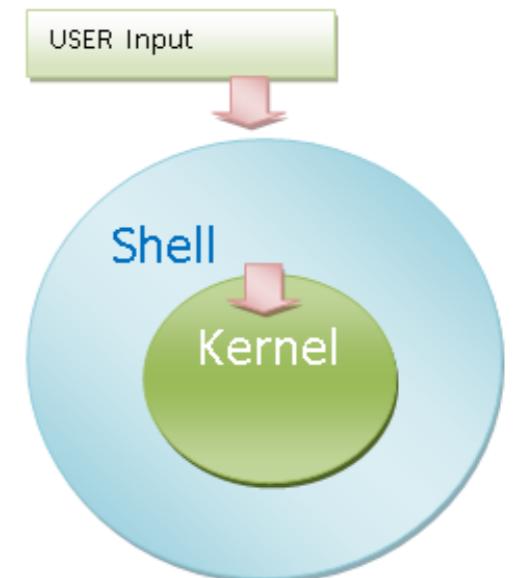
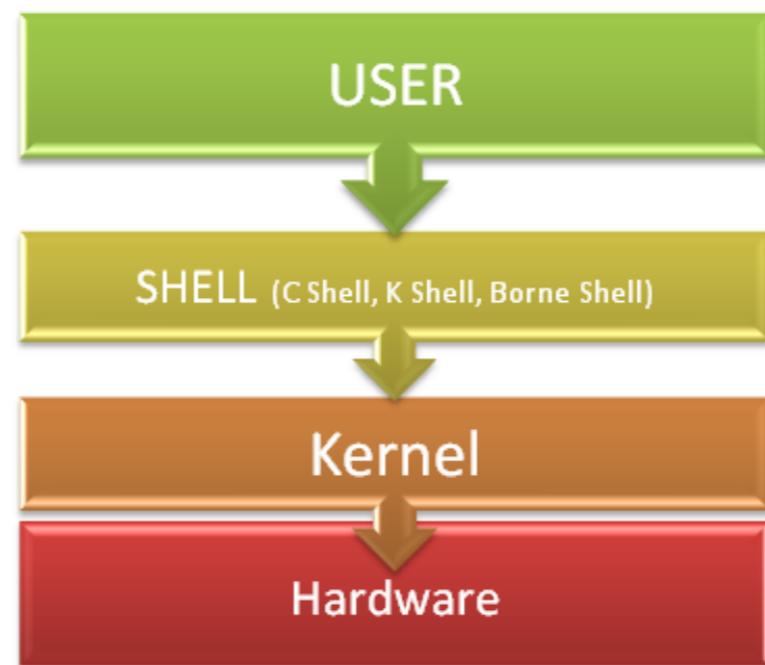
The board is organized into four columns representing the Kanban workflow:

- To Do:** Contains two items: TIS-28 (Research options to travel to Pluto) and TIS-8 (Requesting available flights).
- In Progress:** Contains three items: TIS-27 (Add Phobos and Deimos Tours as a Preferred Travel Partner), TIS-10 (Bad JSON data coming back from hotel API), and TIS-25 (Engage Jupiter Express for outer solar system travel).
- In Review:** Contains two items: TIS-58 (Add feedback button to the plugin sample code) and TIS-45 (Email non registered users to sign up with Teams In Space).
- Done:** Contains four items: TIS-9 (After 100,000 requests the SeeSpaceEZ server dies), TIS-16 (Establish relationship with local office supplies company), TIS-7 (500 Error when requesting a reservation), and TIS-11 (Register with the Mars Ministry of Labor).

Each item card includes a small user profile picture and a numerical status indicator (e.g., 5, 8, 2, 3) in a circle.

Basic Linux

Basic Linux



Discussion Time

