UNIVERSITÀ DEGLI STUDI
DI MILANO

Sviluppo Software in Gruppi di Lavoro Complesso

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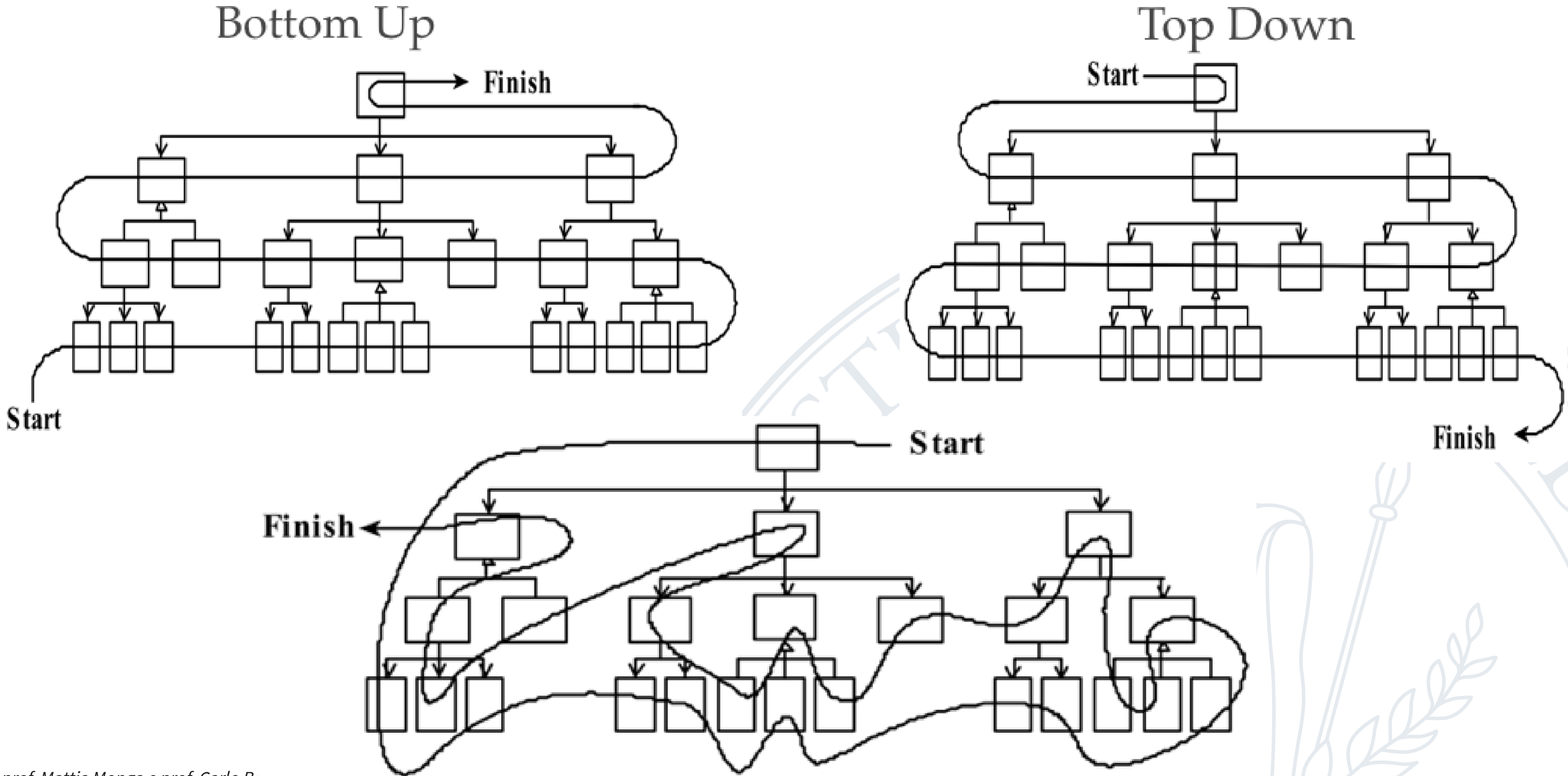
a.a. 2021-22

7. Intro Continuous Integration

Integration



Unit vs Integration testing

Continuous Integration

Definizione:

Allineamento frequente (es. "molte volte al giorno") dagli ambienti di lavoro degli sviluppatori verso l'ambiente condiviso (mainline)

- Non è più una fase... viene affogata nello sviluppo normale...
  - finita una parte (una feature, una patch, ...) si integra
  - l’integrazione diventa un NONEVENT

http://www.martinfowler.com/articles/continuousIntegration.html

Capisaldi (Martin Fowler 2006)

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- Automate the Build
- Make Your Build Self-Testing
- Everyone Commits To the Mainline Every Day
- Every Commit Should Build the Mainline on an Integration Machine
- Fix Broken Builds Immediately
- Keep the Build Fast
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http://www.phdcomics.com/comics/archive.php?comicid=1531

Single Source Repository

"FINAL".doc
FINAL.doc!
FINAL_rev.2.doc
FINAL_rev.6.COMMENTS.doc
FINAL_rev.8.comments5.
CORRECTIONS.doc
track changes
FINAL_rev.18.comments7.
corrections9.MORE.30.doc
FINAL_rev.22.comments49.
corrections.10.#@$%WHYDID
ICOMETOGRADSCHOOL????.doc
JORGE CHAM © 2012
WWW.PHDCOMICS.COM

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https://xkcd.com/974
https://xkcd.com/1205
https://xkcd.com/1319
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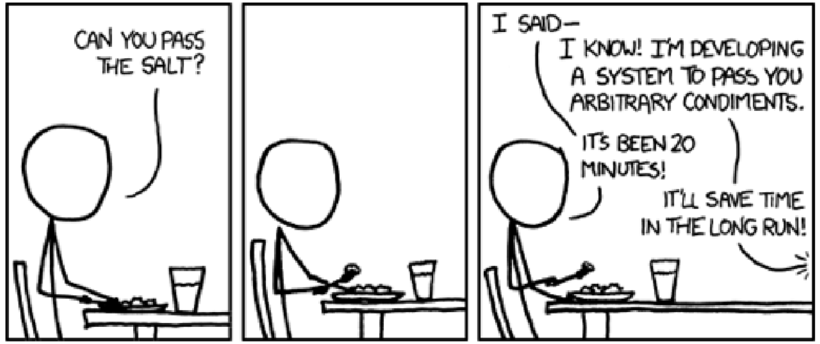
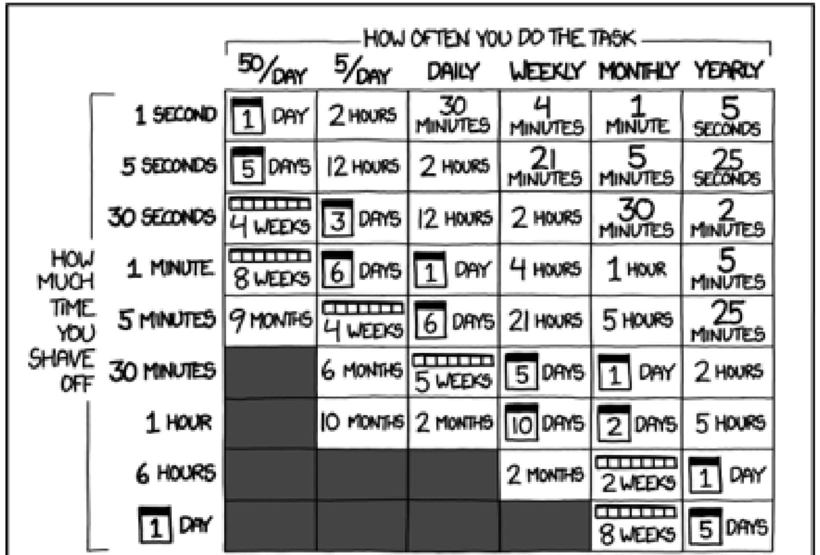
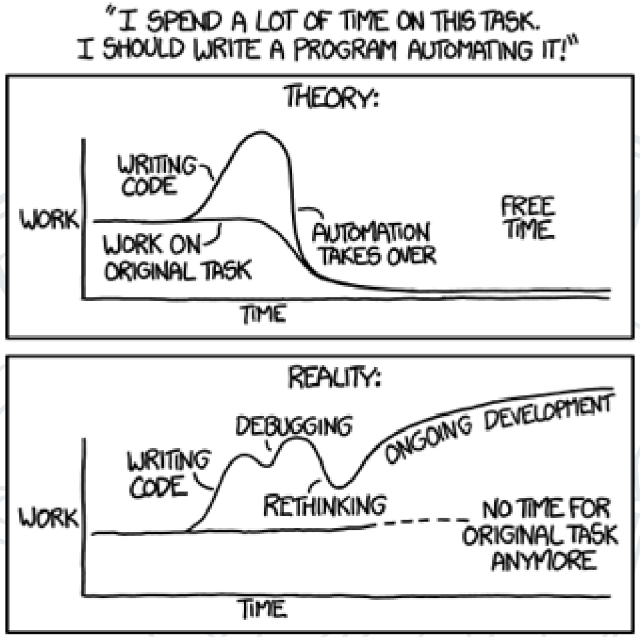
Automate the build


CAN YOU PASS THE SALT?
I SAID–
I KNOW! I'M DEVELOPING A SYSTEM TO PASS YOU ARBITRARY CONDIMENTS.
IT'S BEEN 20 MINUTES!
IT'LL SAVE TIME IN THE LONG RUN!

HOW LONG CAN YOU WORK ON MAKING A ROUTINE TASK MORE EFFICIENT BEFORE YOU'RE SPENDING MORE TIME THAN YOU SAVE?
(ACROSS FIVE YEARS)



	HOW OFTEN YOU DO THE TASK					
HOW MUCH TIME YOU SHAVE OFF	50/DAY	5/DAY	DAILY	WEEKLY	MONTHLY	YEARLY
1 SECOND	1 DAY	2 HOURS	30 MINUTES	4 MINUTES	1 MINUTE	5 SECONDS
5 SECONDS	5 DAYS	12 HOURS	2 HOURS	21 MINUTES	5 MINUTES	25 SECONDS
30 SECONDS	4 WEEKS	3 DAYS	12 HOURS	2 HOURS	30 MINUTES	2 MINUTES
1 MINUTE	8 WEEKS	6 DAYS	1 DAY	4 HOURS	1 HOUR	5 MINUTES
5 MINUTES	9 MONTHS	4 WEEKS	6 DAYS	21 HOURS	5 HOURS	25 MINUTES
30 MINUTES		6 MONTHS	5 WEEKS	5 DAYS	1 DAY	2 HOURS
1 HOUR		10 MONTHS	2 MONTHS	10 DAYS	2 DAYS	5 HOURS
6 HOURS				2 MONTHS	2 WEEKS	1 DAY
1 DAY					8 WEEKS	5 DAYS



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https://xkcd.com/303/

Keep the build fast

THE #1 PROGRAMMER EXCUSE FOR LEGITIMATELY SLACKING OFF:
"MY CODE'S COMPILING."
HEY! GET BACK TO WORK!
COMPILING!
OH. CARRY ON.

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