A Topics Course in Empirical Software Engineering: Bridging Research and Practice

Week 2, Sept 18th 2020

Instructor: Margaret-Anne (Peggy) Storey

Guest: Greg Wilson

Office hours

Set aside 2-3 pm on Thursdays but… just message me on Slack to set up a time that works for you!

If you do want to meet during the above office hour, please ping me on Slack and I'll jump on Zoom with you

Class (Zoom) etiquette

You have to be authenticated to enter Zoom

If you want to ask questions or make comments, use your microphone (or raise your hand)

Encouraged to post comments in Slack

Arrive on time

You may not record the lectures (even for personal use)

Add your picture to GitHub, Slack and Zoom (camera use encouraged!)

Use side-by-side mode in Zoom!

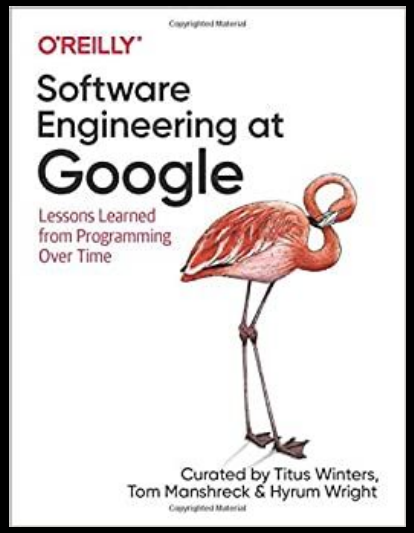
See https://support.zoom.us/hc/en-us/articles/115004802843-Side-by-side-Mode-for-screen-sharing or Google for your device

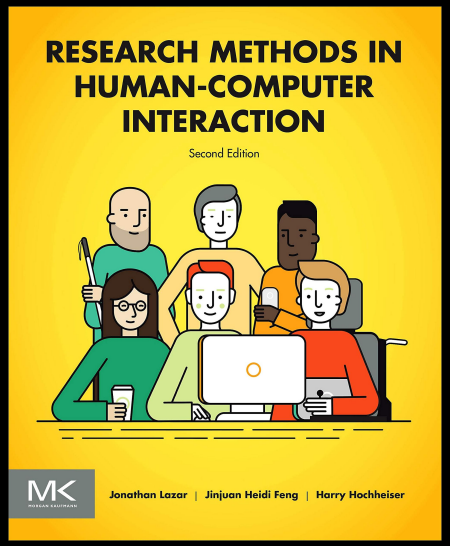
Next week! Research Methods for SE

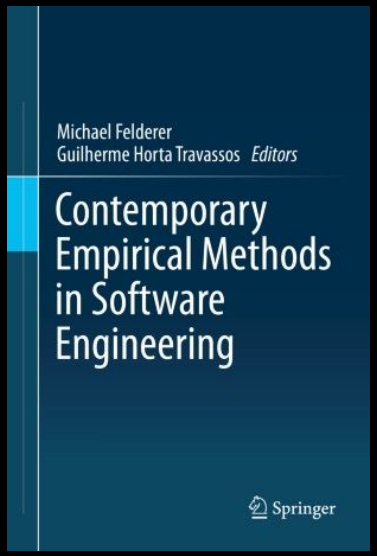
Invited guest: Dr. Rashina Hoda (please have some questions ready, see GitHub for readings)

Preparing for class: See the readings/podcasts in GitHub

Resources (books, etc.)







"Watering the mind…" or
"A firehose…"

Plan for today (Sept 18th)

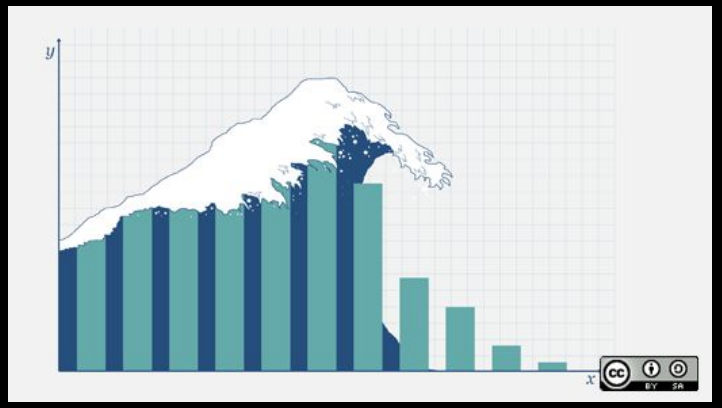
Part 1: Introduction to Empirical Software Engineering with Dr. Greg Wilson (interview/podcast)

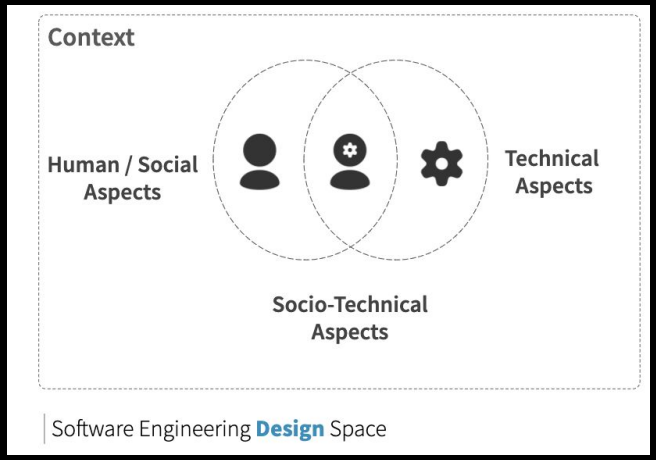
Part 2: Beliefs and evidence in software engineering (activity)

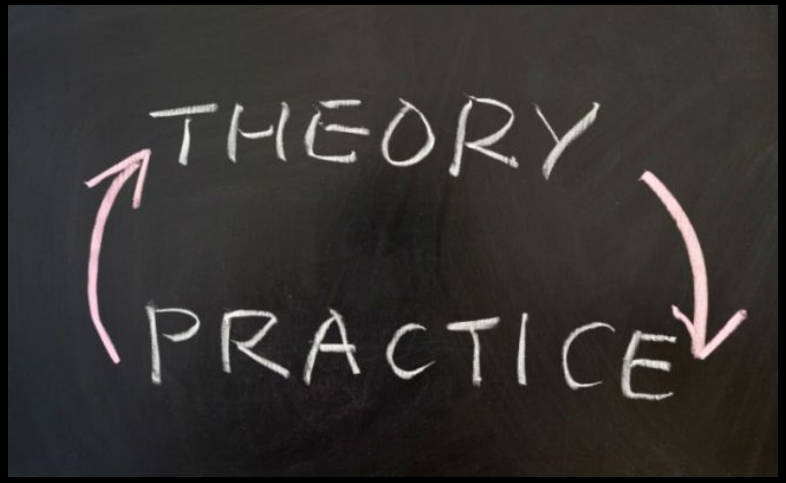
Part 3: Design Science (lecture)

Recap of last lecture….

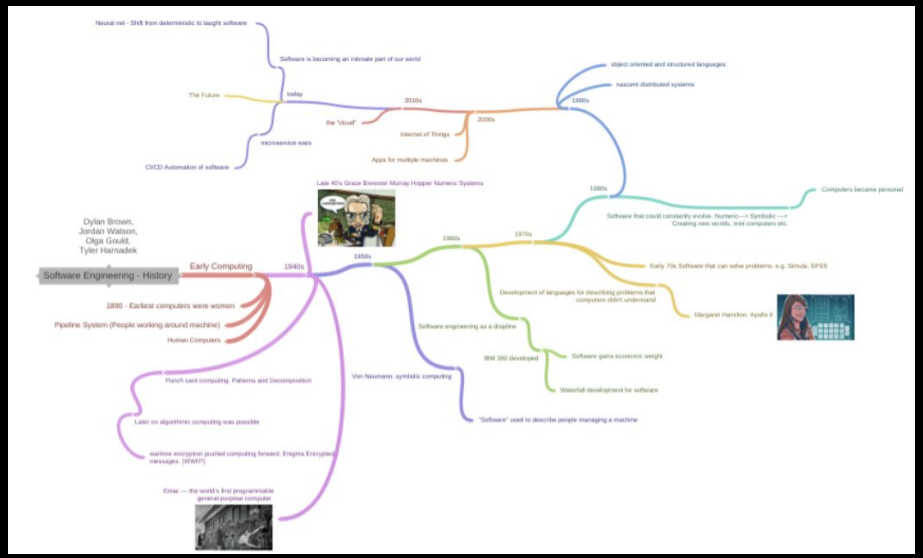
Software is eating the world

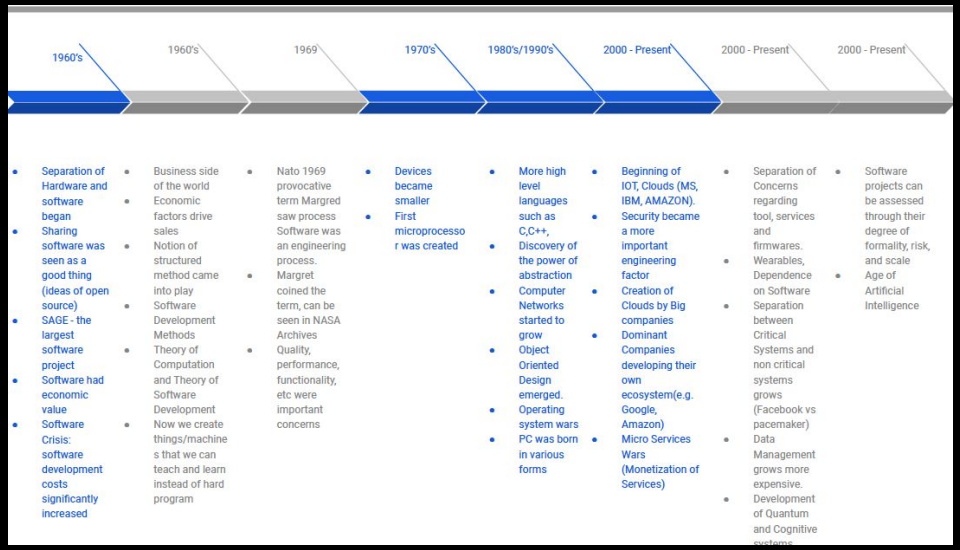


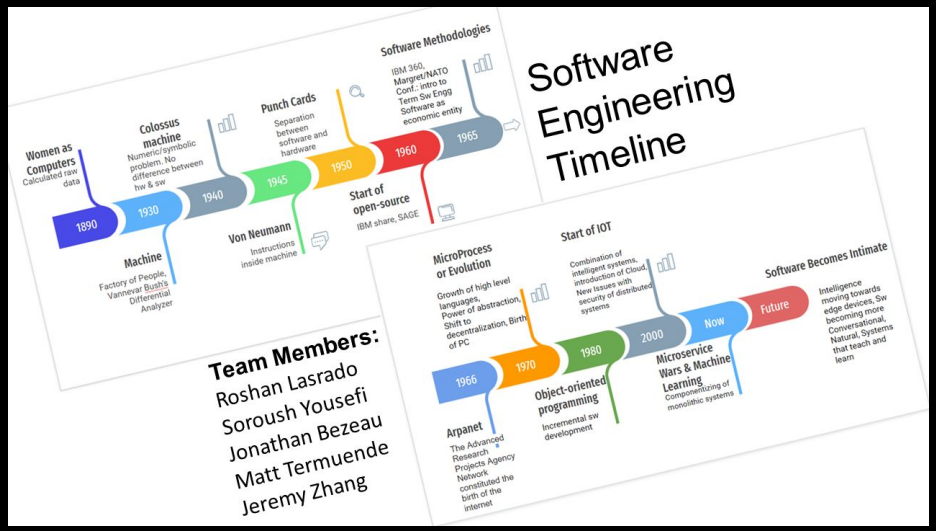


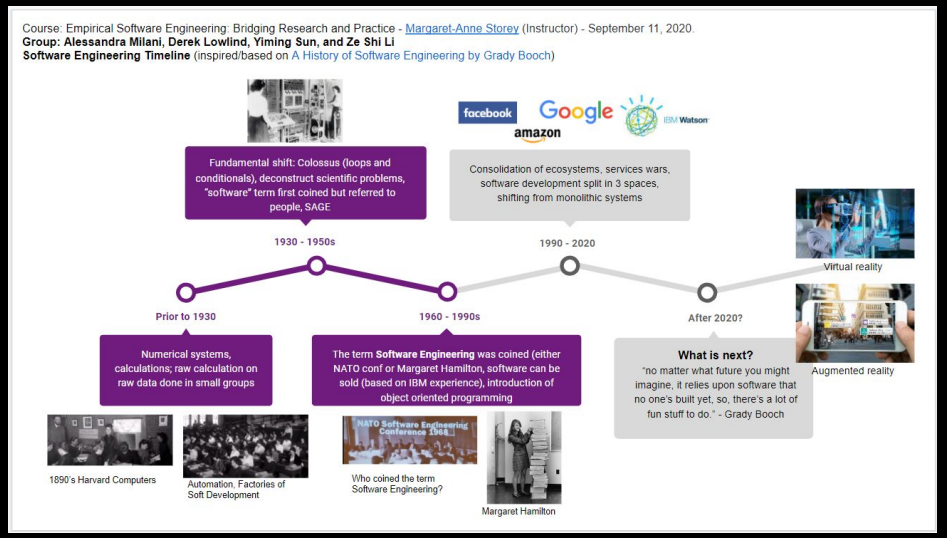


Your Views of History of Software Engineering (Grady Booch)









Dispelling myths in software engineering (or creating new ones?)

Does increasing code coverage when testing reduce bugs? No, wasting time testing simple code may increase the presence of bugs! [Mockus et al.]

Test driven development reduces bugs, but increases time delivering code [Nagappan et al.]

Geographical distance doesn't matter much [Bird et al.]

Code clones do not reduce quality in code [Rahman et al.]

References for previous slide

A. Mockus, N. Nagappan, and T. Dinh-Trong, “Test coverage and post-verification defects: A multiple case study,” in ESEM, 2009, pp. 291–301. (note see also this reference for a more recent paper on this! https://ink.library.smu.edu.sg/cgi/viewcontent.cgi?article=4915&context=sis_research)

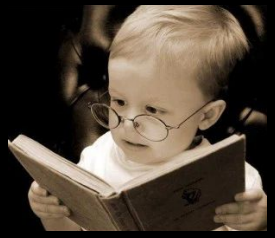
Nagappan, N., Maximilien, E.M., Bhat, T. et al. Realizing quality improvement through test driven development: results and experiences of four industrial teams. Empir Software Eng 13, 289–302.

C. Bird, N. Nagappan, P. Devanbu, H. Gall and B. Murphy, "Does distributed development affect software quality?: an empirical case study of windows vista", Communications of the ACM, vol. 52, no. 8, pp. 85-93, 2009.

M. S. Rahman and C. K. Roy, "On the Relationships Between Stability and Bug-Proneness of Code Clones: An Empirical Study," 2017 IEEE 17th International Working Conference on Source Code Analysis and Manipulation (SCAM), Shanghai, 2017, pp. 131-140.

Part 1: Greg Wilson!

Please all (except Greg!): click on ... in top right hand corner, select "Turn Video Off"



Empirical Software Engineering by Greg Wilson, Jorge Aranda, American Scientist, Nov-Dec 2011.

Sigsoft award for influential educator: Greg Wilson

UVic Talk: What Every Software Engineer Ought to Know About Data Science

A live podcast with Dr. Greg Wilson

https://third-bit.com/