

Fall 2018
Bruce F. Webster

The Last CS 428 Lecture

People matter most

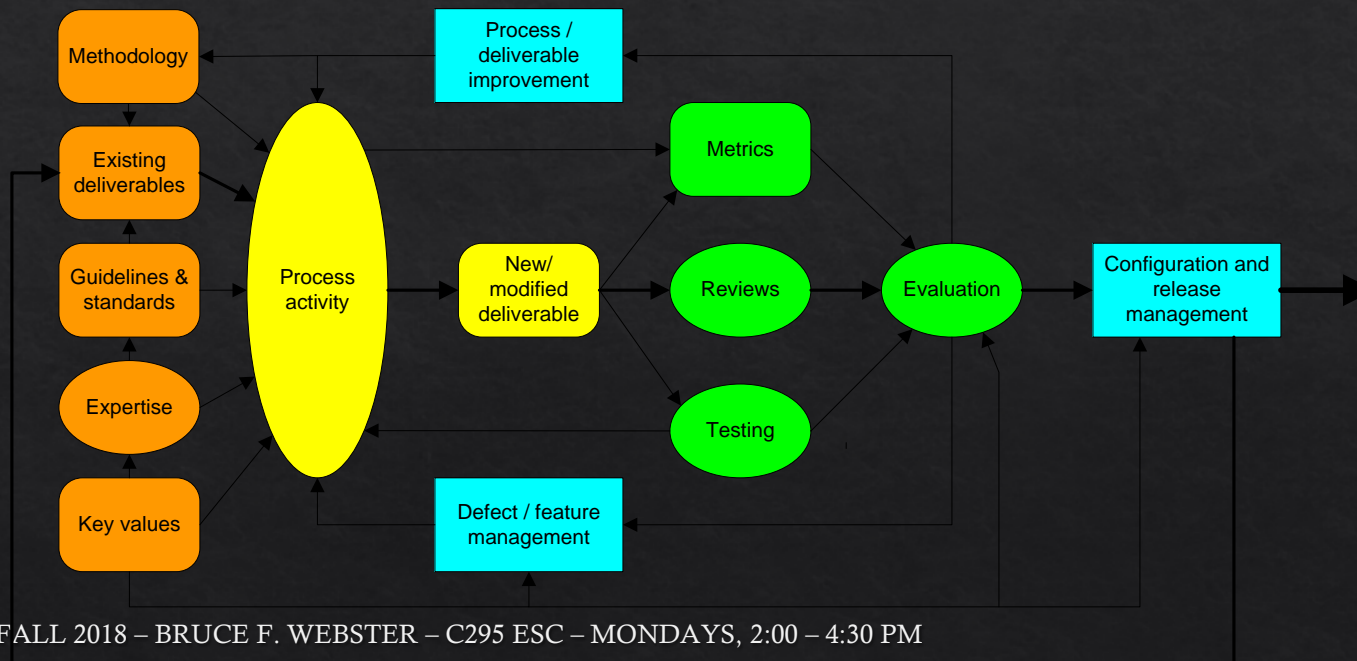
- ◇ A small talented team is always better than a large less-talented team and is often better than a large talented team.
- ◇ Hire in haste, repent at leisure: it is better to be short-handed than to fill a slot with someone who will not add to the team or the project. Take your time in adding team members.
- ◇ Embrace mistakes, ignorance, shortcomings, of yourself and the other team members – grow together and help each other out.
- ◇ Take the time to understand each other's personal and professional goals, and then align the team goals to achieve those.
- ◇ Invest in team members: course, seminars, conferences, books.

Process is not a panacea or a crutch or a silver bullet

- ◇ Methodologies only work as well as the people using it
- ◇ Any methodology can be distorted to give the answer that upper management wants (instead of reality)
- ◇ When adopting a new methodology:
 - ◇ Do one or two pilot projects
 - ◇ Do one non-critical real-world project
 - ◇ Then, and only then, consider using it for a critical project
- ◇ Understand the strengths and weaknesses of a given methodology before starting a project with it. Also, make sure a majority of team members have successfully completed a real-world project using that methodology.

Ignore or minimize software quality assurance at your peril

- ◇ A poor approach to SQA is a major factor in failed projects
- ◇ Weinberg: “Testing starts at project conception, or before.”



Be on the lookout for organizational dysfunctions

- ◆ The Thermocline of Truth: only good news moves up to the top
- ◆ The Dead Sea Effect: great people will leave a frustrating environment
- ◆ The Seven Deadly Sins
 - ◆ “Indeed, when asked why so many IT projects go wrong in spite of all we know, one could simply cite the seven deadly sins: avarice, sloth, envy, gluttony, wrath, lust, and pride. It is as good an answer as any and more accurate than most.” -- me, before Congress, 1998
- ◆ The Resistance to Change
 - ◆ And it ought to be remembered that there is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things. Because the innovator has for enemies all those who have done well under the old conditions and lukewarm defenders in those who may do well under the new. (Machiavelli, *The Prince*, Chapter VI)

Reminder (from *Accelerate*)

| Pathological (power-oriented) | Bureaucratic (rule-oriented) | Generative (performance) |
|--------------------------------------|-------------------------------------|---------------------------------|
| Low cooperation | Modest cooperation | High cooperation |
| Messengers “shot” | Messengers neglected | Messengers trained |
| Responsibilities shirked | Narrow responsibilities | Risks are shared |
| Bridging discouraged | Bridging tolerated | Bridging encouraged |
| Failure leads to scapegoating | Failure leads to justice | Failure leads to inquiry |
| Novelty crushed | Novelty leads to problems | Novelty implemented |

Maxims to remember

- ◇ “In architecting a new program all the important mistakes are made in the first day.” – Spinrad (1998)
- ◇ “Start out stupid and work up from there.” – Bruce Henderson (1990)
- ◇ “Whenever anyone tries to do something *for* you, they usually end up doing it *to* you.” – Ashton’s Law (Alan Ashton, 1974)
- ◇ “People hate change.” – DeMarco & Lister (1998)
- ◇ “Take no small slips.” – Brooks (1975)
- ◇ “How does a project get to be a year late? One day at a time.” – Brooks (1975)
- ◇ “To effect change in an organization, you must go into work every day prepared to be fired.” – Unknown, 1996 or so.

Final Individual Assignment: Post-Mortem

- ◇ One-page summary of your experience on your team project
 - ◇ What went well
 - ◇ What didn't go well
 - ◇ What you would do differently if you were starting the semester over
 - ◇ What lessons you will take into your next software project
 - ◇ Optional: any recommendations you have for CS 428 (and me)
 - ◇ Doesn't need to be long
- ◇ Email (bwebster@bfwa.com) or DM via Slack by last day of classes (Thurs, 12/13)

Next week (last class)

- ◆ Final project demos + 2-minute (maximum) pitch as to why investors should fund it
- ◆ Get your post-mortem to be no later than 12/13 (but sooner if you want to)
- ◆ You can always find me via Google (Bruce F. Webster) or Steam (Fritzworth)