

4156

916/16

Introduction

Why is this course called
Advanced Software Engineering?
3156 vs. 4156

Canvas = courseworks 2

home page -
introduce IAs
go through page
send questions & comments
using piazza, not email

calendar & syllabus pages

textbooks page - ^{assigned readings}
attached to calendar

assignments page

announcements page

4156

9/6/16

Task Board

we will use trello.com for
task boards
(we will not use its burndown
chart plugin)

show my trello & click burndown

show
images

{ what is a task board?
what is a burndown chart?

★ issue - blackboard vs.
powerpoint?

can everyone see/read blackboard?

draw task board & burndown chart
images on blackboard

4156

916116

Agile Processes

task boards & burn down charts
are among best known elements
of agile processes (also standup meetings)

but the most important concepts
(in no particular order) are

customers
change
incremental
iteration
delivery

customer & stakeholders

✓ users inside & outside
customer organization

✓ operators / administrators

✓ technical support

✓ developers themselves

X government regulatory agencies

4156

916116

what does every customer want to know?

how long will it take?

how much will it cost?

STOPPED
here

and they should also want to know

continue
here

will it do what I need it to do?

unhappy customers are bad for business

ask what customers want

show them what you think they asked for

possibly find out you're wrong

rmse repeat

why not do a full requirements
analysis up front?

customer may not always
know what they want

CHANGE - customers can change
their minds at any time

this is why we do not use agile for
safety critical systems

4156

9/6/16

increment - pick part of system to develop first

prioritized feature set
(consider dependencies)

iteration - short project to develop
& deliver (or at least demo)
an increment

includes full range of
project/process activities

requirements
planning
design
code & unit test
system test
release
track + monitor

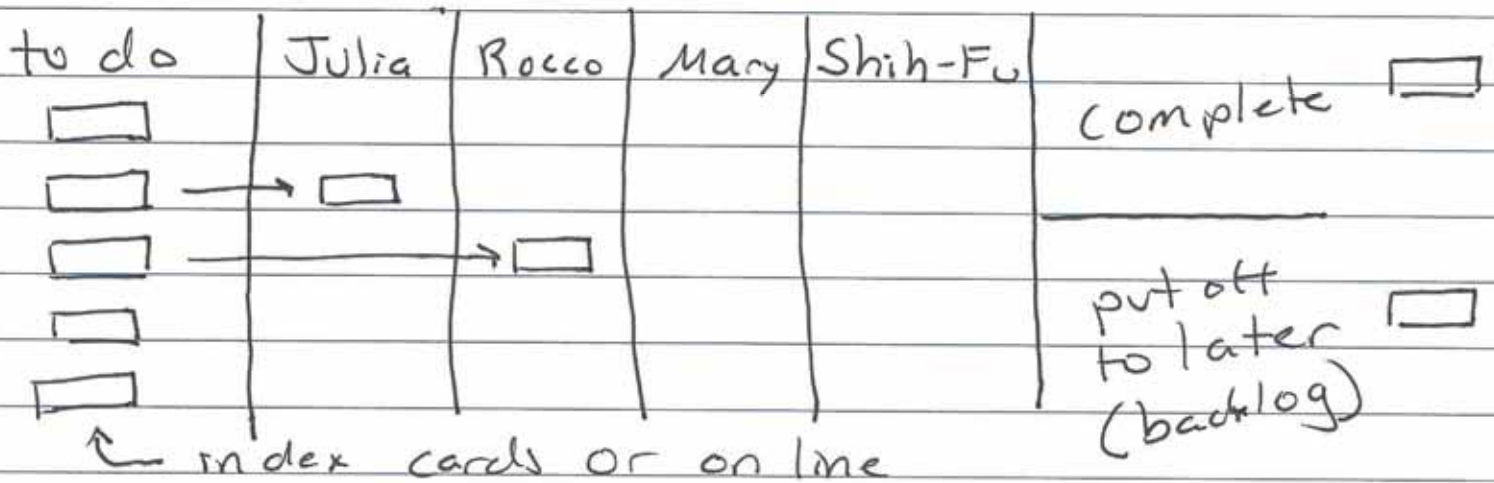
typically one month (~20 working days)
sometimes only 1 or 2 weeks

Various names, e.g., "Sprint"

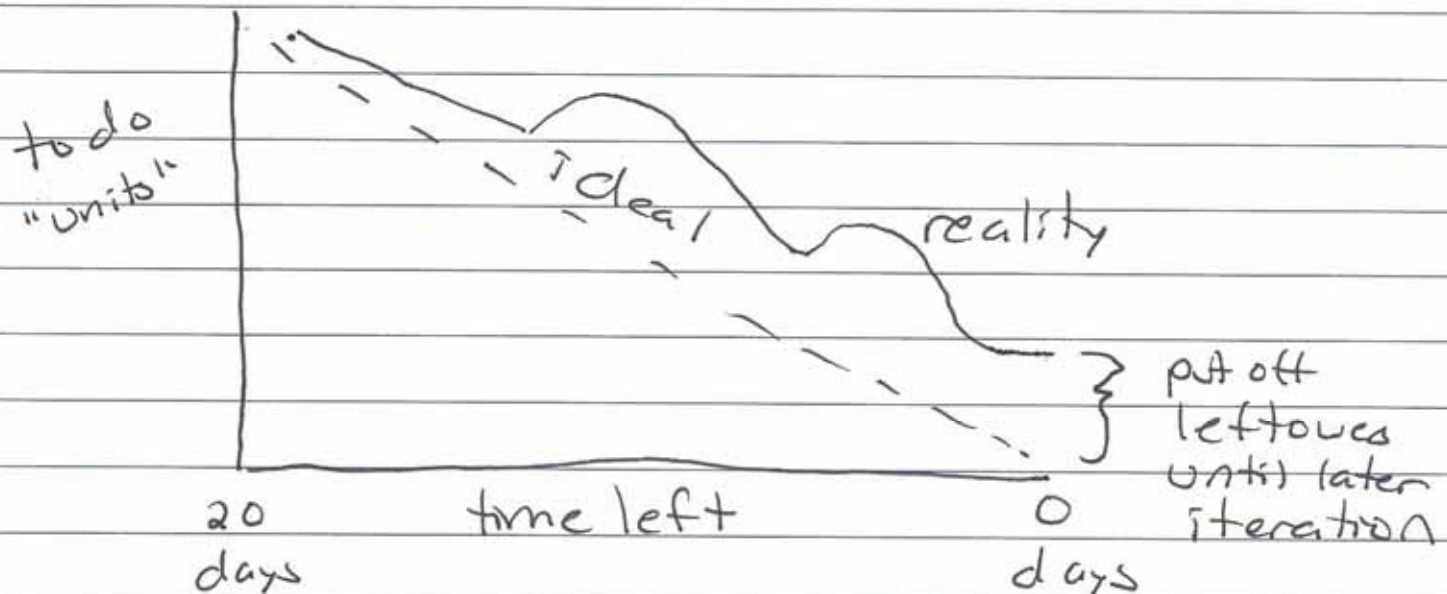
4156

9/6/16

Set up task board for feature set (iteration)



set up burn down chart for iteration



Why not extend length of iteration?

time box vs. scope box

4156

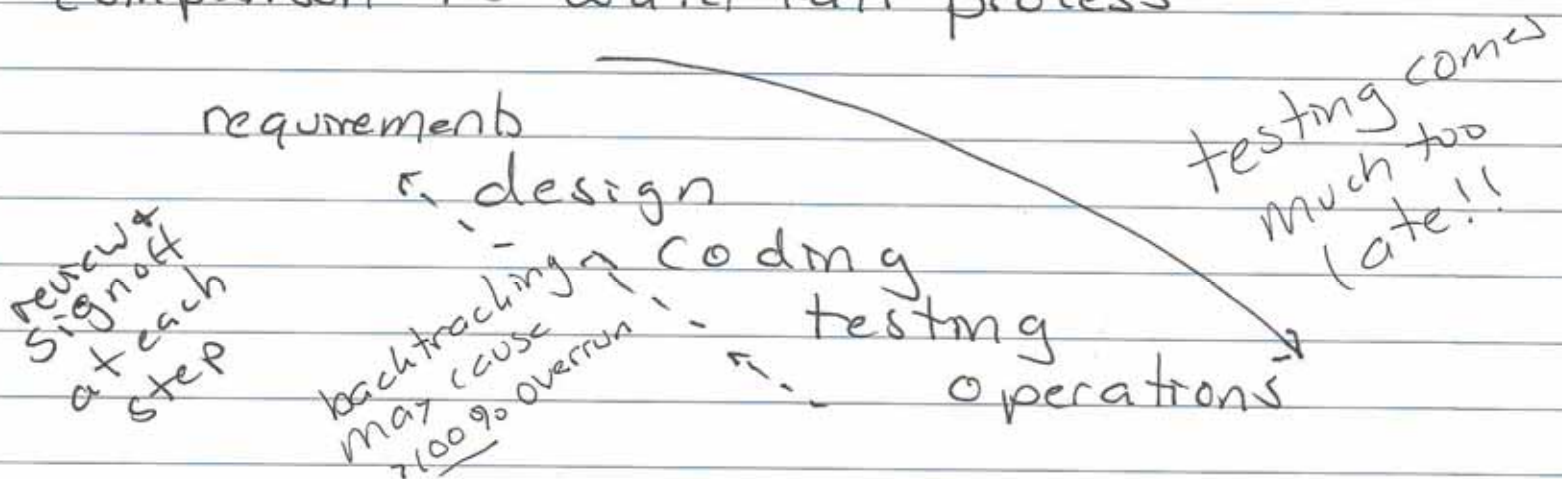
9/6/16

delivers - good developers develop,
great developers ship

many flavors of agile
pretty much anything that
isn't waterfall
(or code & fix)

extreme programming (XP)
lean software development
kanban ("sign board" in Japanese)
scrum
...

comparison to waterfall process



most appropriate for projects with
fixed requirements, particularly
safety critical systems
(e.g., magnetic avionics)