Personal Software Engineering

INTRODUCTION & COURSE OVERVIEW

Discussion

Break into SIX groups (Should be 5 or 6 people per group)

Introduce yourselves (name, major, etc.)

Discuss your favorite tech thing (language, tool, device, etc.)

Continue to get to know each other while I come around

Discussion 2

Stay with your current group

As a group discuss and answer the following questions:

- What is a process?
- What differentiates a “program” from a “software product”?
- What differentiates “good” code from “bad” code?

If you have answered the above and time remains, please share your personal development experience with your group

Join the Discord

Please consider joining the class Discord (Link is available on MyCourses)

Great place to quickly ask questions & get fast answers

Not required, but recommended

Provenance is key

What we want you to learn

Foundations of Software

Using key tools including the command line, compilers, version control

Writing clean code

How to read and interpret requirements

Time management skills

Being a software engineer, not just a coder

What we are going to use

C

C++

git

gitlab

unix

Tips for Success

Do a solo or group standup:

- Things covered today that I really understand
- Things covered today that I think I understand but want to practice
- Things I don't understand

Ask questions

Double check your submissions on the GitLab site

Check the site & due dates page for deadlines

Attend review sessions – I will do my best to make you aware of them

Academic Dishonesty

Don’t share your work

- Be sure to withhold your solutions when asking a question publicly
- Do not post your work to a public repository

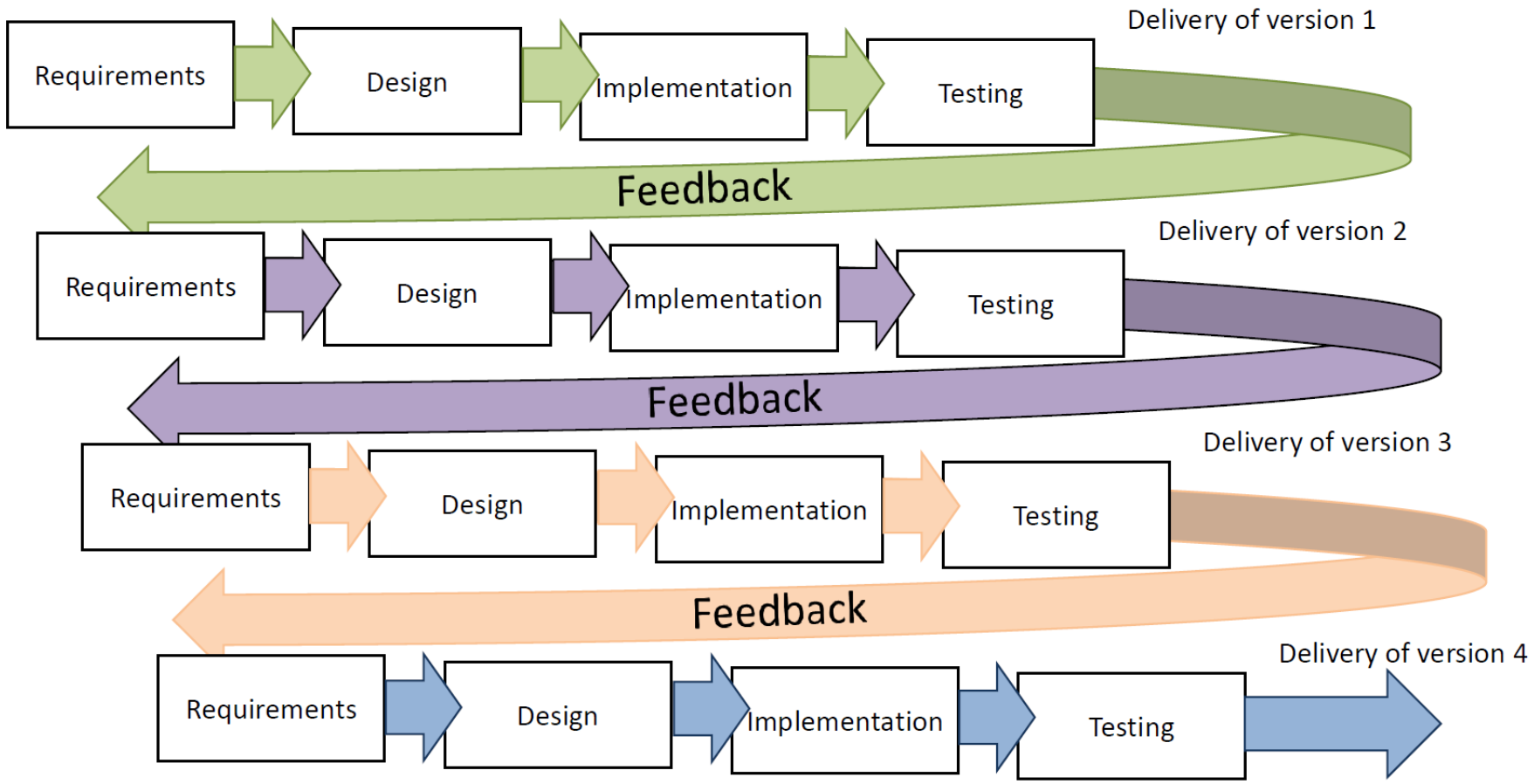
Do your own work

- Don’t copy from online sources or LLMs
- Do not seek out old work

Programs vs Software Products

Programs	Software Products
Usually small in size	Large
Author himself is sole user	Large number of users
Single developer	Team of developers
Lacks proper user interface	Well-designed interface
Lacks proper documentation	Well documented & user manual prepared
Ad hoc development	Systematic development

Incremental Development



Defining a Personal Process

What is a process?

Why Personal?

5Ws + H

- Why?
- What?
- Who?
- When?
- Where?
- How?

People + Process + Product + Technology

Defining a Personal Process Cont.

Tools & Personal Habits

Continuous & Incremental Integration

Reflection & Improvement

Metrics for success

SE Accounts

Not your main RIT account

Can be the same password

- Take it from the CSEC guy, it probably shouldn't be

A department resource for you

Linux Environment Intro

hamilton.se.rit.edu

SE Department main shared server

- Use your SE accounts to access

Z:/ -> Shared/global drive. Accessible from any SE computer

ssh (Secure Shell)

- See the course site for directions

How to do your work

Open a terminal

Connect to Hamilton

Navigate to your local repo

Edit, compile, and test your code (on the command line!)

Push your code to gitlab

Repeat (often)

Please see course site for instructions for these steps