

CS3217 PS/Tutorial 5 Solution

Eric Han

February 18, 2022

Scan your attendance



Figure 1: Attendance

Plan for Today

In your groups, we will

1. [40 mins] Problem Set 3
2. [40 mins] Tutorial Questions

Note:

- All of you presented at Problem Set 2, so all have gotten full 6% from the tutorial.
- I am interested to see all of your various solutions for Problem Set 3, and you get to review your own solution.

Problem Set 3

Everyone can present the following:

1. How did you breakdown the problem into the architecture?
2. Show the sequence diagram for the interactions of your components.
3. What are some of the tradeoffs you made (ie. design decisions) when formulating your solution?
4. Anything you think you can do better?

The rest, treat it like you a reviewing your friend's work:

1. Make suggestions as to where to improve,
2. Understand the specific trade-offs made.

Ideally, I will not mention anything; But I will chime in if necessary.

Tutorial Questions

Summarize and share your views with the class:

1. Non-violent communication
2. Rfc7282, on how rough consensus is achieved in IETF
3. How Google does code reviews
4. Burnout
5. Agile manifesto

Non-violent communication (NVC)

What is NVC?

What are the 4 steps of NVC?

Non-violent communication (NVC)

What is NVC?

What are the 4 steps of NVC?

1. **Observe Facts** - observe the specific facts that are affecting our wellbeing, and bring them up with the other person
2. **Note Feelings** - introspect about what exactly we are feeling in response to what we've observed, and communicate these feelings
3. **Uncover Desires** - figure out the desires, wants and values that are creating our feelings, and explain them to the other person
4. **Make Requests** - ask for concrete actions to help resolve the situation

How can we apply NVC?

1. [Observe Facts] Felix, when I see two balls of soiled socks under the coffee table,
2. [Note Feelings] I feel irritated because
3. [Uncover Desires] I want more order in the rooms that we share in common -
4. [Make Requests] would you be willing to put your socks in the washing machine?

Guiding Questions

1. Have you practised NVC in your communication?
2. How can you improve your communication using NVC?

On Consensus and Humming in the IETF

What is consensus?

How is consensus achieved?

On Consensus and Humming in the IETF

What is consensus?

How is consensus achieved?

1. We reject: kings, presidents and voting.
2. We believe in: rough consensus and running code.

Tradition of “humming”: When, for example, we have face-to-face meetings and the chair of the working group wants to get a “sense of the room”, instead of a show of hands, sometimes the chair will ask for each side to hum on a particular question, either “for” or “against”.

Guiding Questions

1. Give a scenario (code/IT/CS) where democracy fails? Why?
2. How does a large open source project like Linux achieve consensus?
3. How do you in your own group project achieve consensus? Discuss the good/bad.
4. Does democracy always works? What are the limits of democracy?

How to do a code review

What is the purpose of code review?

What Is a Hard Deadline?

The article keeps mentioning CL, what is CL?

How to do a code review

What is the purpose of code review?

What Is a Hard Deadline?

The article keeps mentioning CL, what is CL?

changelist - A CL description is a public record of what change is being made and why it was made. It will become a permanent part of our version control history, and will possibly be read by hundreds of people other than your reviewers over the years.

Guiding Questions

1. Reflect on all of the code that you have written for school, what would a code review on that look like?
2. Do you agree with the definitions of emergencies as the document?

Burnout

What is burnout?

What causes burnout?

What is burnout?

What causes burnout?

- **Lack of control.** You don't have a lot of say about what's going on in your work, or your sense of control is undermined or restricted.
- **Values conflict.** There's a disconnect between your own core values and the core values of the organisation.
- **Insufficient reward.** You feel under-compensated, underappreciated, and taken for granted.
- **Work overload.** Your workload is too much, too urgent, or too complicated.
- **Unfairness.** You're treated poorly by the organisation, management plays favorites, and assignments and promotions are made behind closed doors.
- **Breakdown of community.** Your colleagues patronize you or others, there's no-one to talk with about conflicts, and feedback is non-existent.

Guiding Questions

1. Have you experienced burnouts? How did you cope and recover from burnout?
2. How do you think you can support a friend/family who is having burnout?

Manifesto for Agile Software Development

What is the manifesto?

What does the manifesto values?

Manifesto for Agile Software Development

What is the manifesto?

What does the manifesto values?

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

1. Individuals and interactions over processes and tools
2. Working software over comprehensive documentation
3. Customer collaboration over contract negotiation
4. Responding to change over following a plan

Guiding Questions

1. Which of the following principles you agree most with?
2. Which of the following principles you disagree most with?

End of Lesson

Some tidbits of the latest news

NUS GES 2021, Bachelor of Computing (Computer Science), gross salary:

1. Mean: SGD 6,002
2. Median: SGD 6,000

Our starting salary now exceeds that of lawyers, doctors. . . For the first time. One of the highest employment rates across the board.

Parting advice

Thank you for being good students, trying your best to complete the readings and attending the tutorials. Some parting advice:

1. Remember you are representing NUS SoC when you go out there.
2. Salary is one *important* aspect, consider other factors.
3. Let your interest and passion guide you.