Lecture 17: Course Retrospective and the Path to Lifelong Learning (Part II)

Valentin Razmov

Outline
- Keys to lifelong learning
- The future of software engineering and you

Resources
- Mastery: The Keys to Success and Long-Term Fulfillment, by George Leonard
- The 7 Habits of Highly Successful People, by Steven Covey
- “A Brief Comment about What It Means to Be an Engineer”, by Bjorn Freeman-Benson (guest lecture, winter 2004)

“Mastery – The Keys to Success…”
- The importance of lifelong learning
  - If you exchange $1 with someone, each of you still has $1; if you exchange 1 idea, both of you now have 2 ideas.
  - It is okay to be a “fool” (admitting you’re not an expert).
  - “You can win, you can lose, or you can learn.” (V. Satir)
- The thrill is in the experience and continuous practice, not in (reaching) the final goal
  - Mastery is a journey, not a state.
  - “Excuse me, how do I get to Carnegie Hall? — Practice!”
  - “There is no way to happiness; happiness is the way.”

“Mastery – The Keys to Success…”
- Understanding the homeostasis phenomenon
  - Resistance to change
    - It is safer to stay where you are than to change (to something new and unknown); change is risky.
    - True for biological and social systems
- How do these ideas tie into software engineering and you?

Perception of Amount Learned vs. Time

Assume you are learning a new skill. Which of the graphs below roughly represents how your perception of the amount learned evolves with time?
Perception of Learning vs. Time in This Class

Sketch how your learning in Software Engineering has evolved during this quarter. Feel free to mark additional events as needed.

Factors that Will Affect the Future of Software Engineering and You

- Global economic and societal trends
  - Outsourcing and offshoring
  - Legal framework
- Your soft skills
  - Creativity
    - On tasks that can’t be robotized easily
  - Communication
    - On tasks that require frequent face-to-face contact with customers
- Your technical skills
  - And how fast you can learn new ones

Engineer or Programmer?

(from "A Brief Comment about What It Means to Be an Engineer", by Bjorn Freeman-Benson)

Engineer:
- Adds value
- Considers the entire product and market
- “Given enough time and money, anyone can build anything; only an engineer can make it in the least possible time for the least amount of money.”

Programmer:
- Writes code
- Thinks about code
- Measures success by lines of code

Advice for Your Beginning Careers

- Choose your path according to the people you’ll work with, not the product you’ll work on
  - Effective teams and good mentors will catapult your career higher
- Pick something that you enjoy to the point that you would do it even if you weren’t paid for it
  - Okay, everyone needs money after several years of college, but you get the idea...

One-minute Feedback

What one or two ideas discussed today captured your attention and thinking the most?

- List any ideas / concepts that you would like to hear more about. Be specific.
Peer Appreciation Activity

**When:** After a big milestone/product delivery

**Why:** To clear out any residual hard feelings and stress, and to (re)unite the team

**How:**
- All teammates sit in a circle. Only one person speaks.
- Someone starts, turning to the person to their right, and addressing them with exactly the phrase below.
- Name and blank must be substituted appropriately.
- The recipient repeats this with the person to their right, while everyone listens.
- Turn around the circle several times for best results.
- After each turn, switch places or directions.

**Example:** “Joe, I appreciate you for _______.

20 Aug 2005
CS450, Summer ’05, Lecture 17