PROFESSIONAL PRACTICES IT
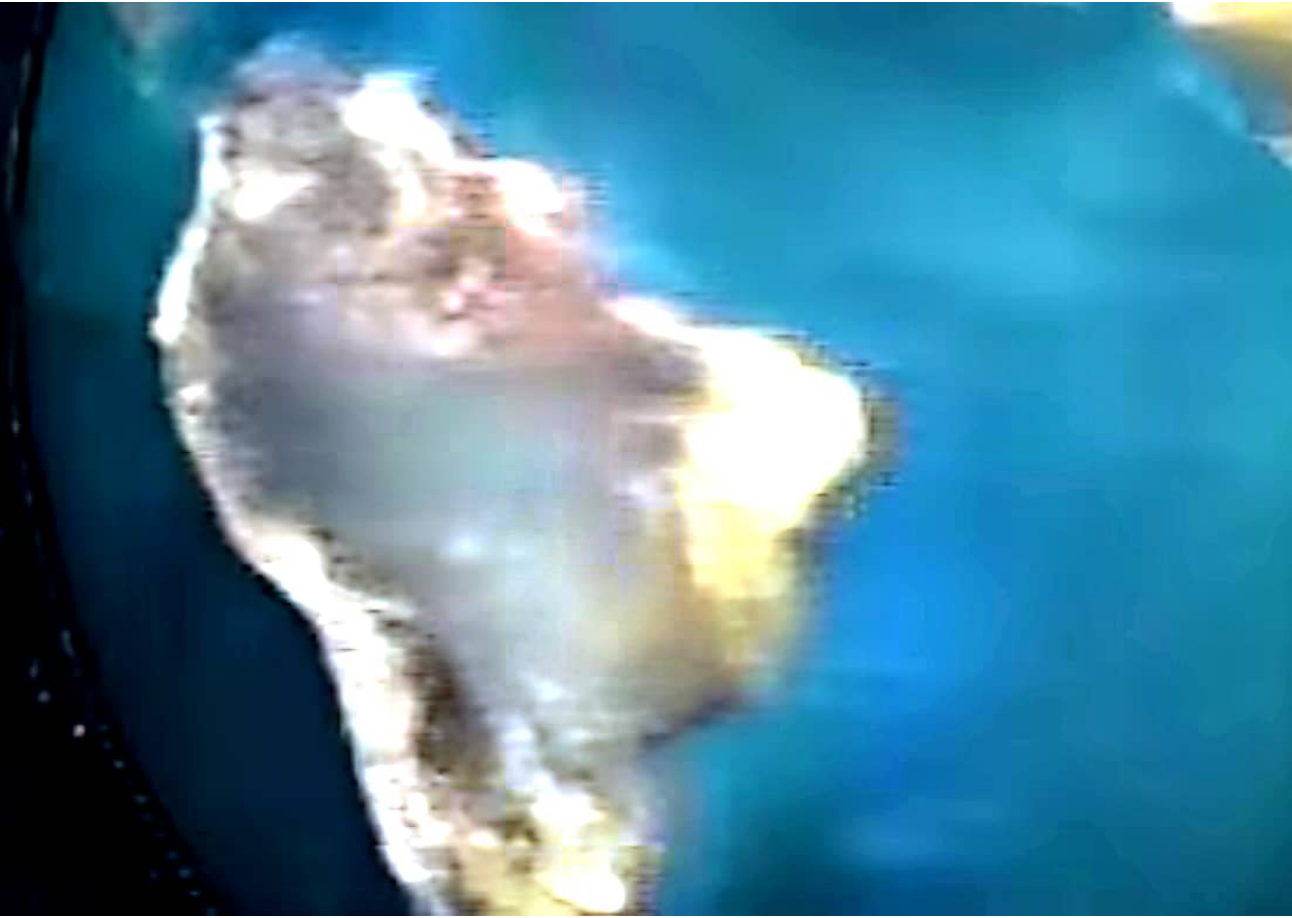
LECTURE 02

Course Outline

- What is Professionalism
- Characteristics of perfoessionalism
- Traits of a professional
- Moral laws and Ethics
- IEEE code of Ethics
- Some scenarios to contemplate

Professionalism takes more than knowledge

- "Professionalism is a way of <u>thinking</u> and <u>living</u> rather than an accumulation of learning."

- Think: What does it take to be a doctor?

  it's not just by going to medical school

A profession isn't just what you do, it's *who you are*

- We say that somebody "is" a doctor.
  - Here, "doctor" is a noun
  - ("Doctoring the books" is something different!)

- Likewise, we don't just "engineer" (verb)
- We also *are* engineers (noun).

A profession is who you are, not a contract.

- "Shame on the engineer who regards their professional function as a business transaction to be judged by the question: 'Just what do I get out of it?'"

- What "professions" have a reputation for being self-centered and selfish?

Life as a professional: activities

- You perform "professional activity of a type carrying <u>high</u> <u>individual responsibility</u>, requiring application of <u>special skills</u> to activities that are predominantly intellectual and <u>varied</u> rather than routine and normal."

- How are an engineer's activities "varied"?

Life as a professional: motivation

- "**Motivation for service** takes first place over consideration of reward."

Life as a professional: joy and pride

- "Motivation ... implies <u>joy</u> and <u>pride</u> in the work to be done, and <u>self-imposed standards</u>."

- If you don't take joy and pride in computer science, then you should look for another line of work.

- Companies and customers are also entitled to impose (secondary) standards of excellence.

Life as a professional: social duty

- You have a "**social duty**, fulfilled through **guarding the ideals** and standards of the profession, by **advancing it** ..., by **sharing** advances ..., by rendering **gratuitous public service**, all as a **return to society**."

- "Giving back" to society

Four traits of a professional

- Varied activities requiring special skills
- Society-centric motivation
- Personal standards of excellence
- Giving back to society

When you put many professionals together, what do you have?

- A profession isn't *just* defined by *who you are*
- A profession is also something you are *part of*

- "Most professional software engineers adopt an institutional view of the organisations of the profession: they perceive them as bodies representing the profession and therefore deserving, even requiring, the loyalty of each software engineer as an expression of his identity as a professional software engineer."

Part of being a professional is behaving ethically

- "Ethics means something more than 'law' and 'morals'; it carries an additional connotation of 'rightness'."

- Breaking the <u>law</u>: can earn a <u>fine or jail</u> time
- Breaking a <u>moral</u>: can ruin your <u>reputation</u>
- Breaking an <u>ethic</u>: can ruin your <u>conscience</u>

- It's possible to break all three, simultaneously!

Trait # 1 of a professional: Seriousness

- Serious about job.

- The job is only a job. A means to an end

Trait # 2 of a professional: Wanting to do Better

Exhibit a never-ending quest to improve their performance in every variable, every project, every relationship, and every detail.

Trait # 3 of a professional: Dealing with the Unexpected

Stuff happens, things change, and the true professional rises to the occasion

Trait # 4 of a professional: Communication Skills

- Clear

- Concise

- Confident

Trait # 5 of a professional: Enthusiasm

- Attitude is everything. Those who exhibit enthusiasm for what they do and greet each day with a positive attitude inevitably become a leader

Trait # 6 of a professional: Helpfulness

- Understand that real success in the workplace requires teamwork
- Always ready to lend a hand
- make a suggestion
- offer a compliment when it's deserved

Trait # 7 of a professional: Taking the Initiative

Take the initiative to get things done

Trait # 8 of a professional: Cool Under Pressure

- Level headed and calm

- Cheerful demeanor-even under stressful times

Trait # 9 of a professional: Remains Focused

- Stay focused on the task at hand and the goal ahead

- Navigate through obstacles or setbacks but never lose sight of where they headed

Trait # 10 of a professional: Don't Follow, Lead

- True Professionals aren't faint of heart

- Analyze the situation and willing to take new paths and try new solutions

- That's why they call it LEADERSHIP!

Laws vs morals vs ethics

- Speeding on Motorway
  - Illegal, moral ("everyone" does it), maybe ethical
- Speeding within city
  - Illegal, immoral, unethical

- What might a software engineer do that is...
  - Illegal, immoral, unethical ?
  - Legal, immoral, unethical ?
  - Legal, moral, unethical ?

IEEE Code of Ethics: Actions

- 1. PUBLIC - Software engineers shall <u>act</u> consistently with the <u>public interest</u>.

- 2. CLIENT AND EMPLOYER - Software engineers shall <u>act</u> in a manner that is in the best interests of their <u>client and employer</u> consistent with the public interest.

IEEE Code of Ethics: Products

- 3. PRODUCT - Software engineers shall ensure that their <u>products</u> and related modifications meet the <u>highest</u> <u>professional standards</u> possible.

IEEE Code of Ethics: Hierarchy

- 4. JUDGMENT - Software engineers shall <u>maintain integrity and independence</u> in their professional <u>judgment</u>.

- 5. MANAGEMENT - Software engineering managers and leaders shall subscribe to and promote an <u>ethical approach</u> to the <u>management</u> of software development and maintenance.

IEEE Code of Ethics: Peers

- 6. PROFESSION - Software engineers shall advance the **integrity and reputation** of the profession consistent with the public interest.

- 7. COLLEAGUES - Software engineers shall be **fair to and supportive** of their colleagues.

IEEE Code of Ethics: Self

- 8. SELF - Software engineers shall participate in <u>lifelong learning</u> regarding the practice of their profession and shall promote an ethical approach to the practice of the profession.

8 Principles of IEEE Code of Ethics

- Act in public interest
- Act in interest of clients and employers
- Produce quality products
- Maintain independent judgment
- Manage ethically
- Protect integrity of profession
- Support colleagues
- Pursue lifelong learning

Scenario #1

- You are the owner of a software engineering company. Your employees (engineers) want you to pay for them to attend training.

- How would you respond in a way that is legal, moral, and ethical?

Scenario #3

- You are the head of a computer science department at a university. Your boss
  (a "dean") wants you to find a way to tweak your curriculum so undergrads are more likely to choose your department for their major.

- How would you respond in a way that is legal, moral, and ethical?

Scenario #4

- You are a software engineer working at a large publicly-traded corporation, where a colleague invents a new kind of compiler. Your managers see it as a huge potential cash cow.

- How would you respond in a way that is legal, moral, and ethical?

Scenario #5

- You are a software engineer at a company where management routinely encourages you and your colleagues to use pirated software.

- How would you respond in a way that is legal, moral, and ethical?

Summary

- Professionalism
- Activities and Tasks carried out by a professional
- Traits of a good professional
- IEEE code of Ethics
- Scenarios to think about