

# The IT Pro?

## The elusive thing called professionalism

Kaido Kikkas

# What is it?

- Is a professional...
  - The scientist getting published in the Nature journal?
  - The artist having a personal exhibition in Manhattan?
- But what if
  - The scientist sends his manuscript to a wrong journal?
  - The artist attempts to open his exhibition of Oriental-themed nudes e.g. in Tehran?
- Still a pro?

...

- The main problem – no units, no scale and even no background!
- Can probably be defined just as meeting certain criteria in a time, place and context
- Yet there is a set of qualities considered 'professional' by most

# Scenario: three surgeons

- Surgeon 1 – performs a certain complicated surgery in his clinic, makes good money
- Surgeon 2 – has invented a new techniques and goes around advocating it – but this takes time, and he earns less than Surgeon 1
- Surgeon 3 – has also developed a new method, yet has time for more typical surgeries, going abroad to propagate his method and training other doctors

# The most professional one?

- Most would suggest Surgeon 3, as he
  - Works state-of-the-art
  - Has pushed the limits further
  - Shares knowledge on new things

# But what if...

- But what if the Surgeon 3 dresses weird, stinks, swears or harasses people, still meeting the criteria above? (perhaps being a lost twin of Gregory House, MD...)
- And what if there is another surgeon who dresses well, is likable and polite, and also almost meets the criteria, but not quite?

# Almost similar

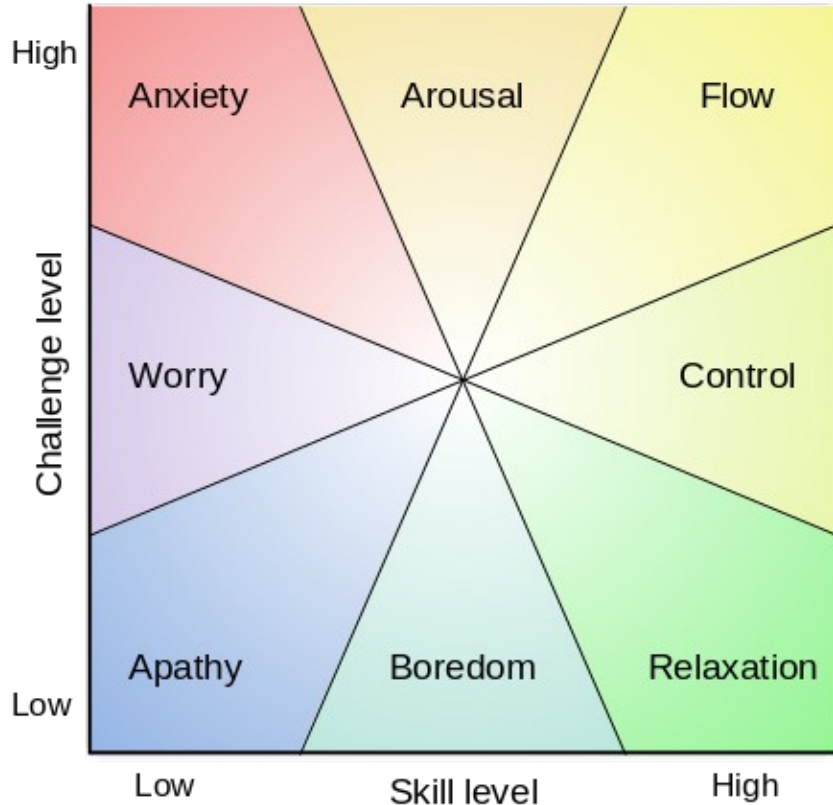
- **Competency** – a set of skills and knowledge needed in a profession
- **Professionalism** = competency + something else...

# A bit of psychology: the Flowing Pro

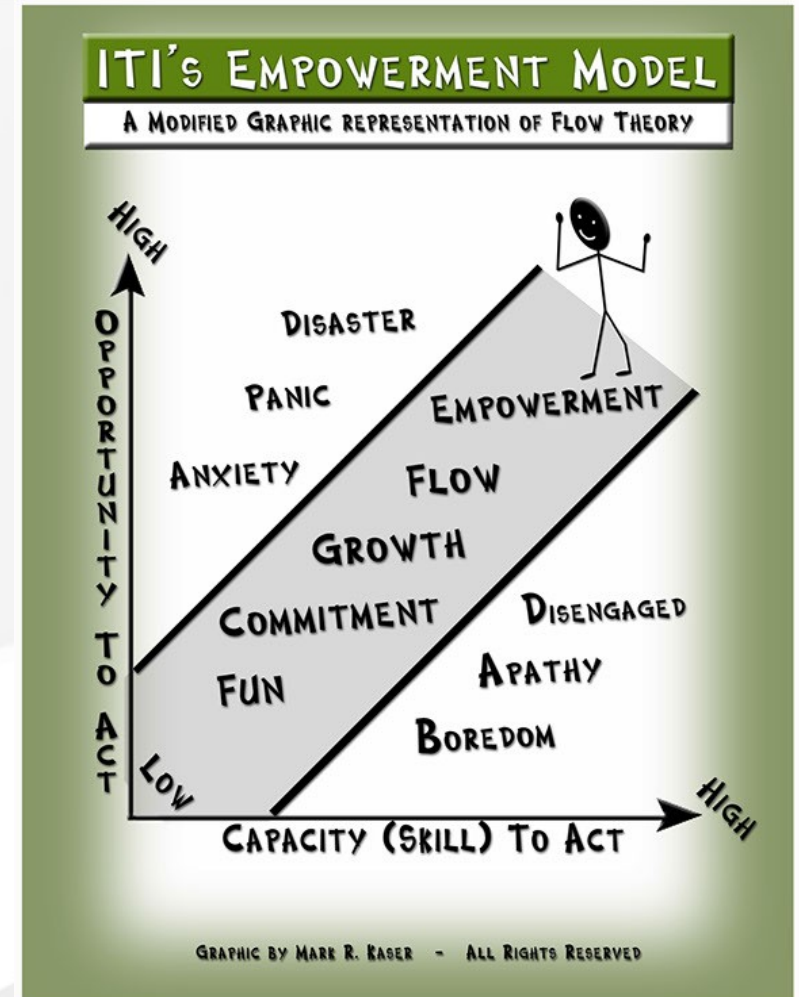
- Mihály Csíkszentmihályi, *Flow: The Psychology of Optimal Experience* (1990) and later books
- A mental state of the person 'blending into' the activity
- Actually, old wine in new bottles (*dao*, *samadhi*, *mushin* etc; most martial artists are familiar with the concept)
- => ninja coding, script-fu, hacker koans ...



# Challenge vs skills



[https://upload.wikimedia.org/wikipedia/commons/thumb/f/f6/Challenge\\_vs\\_skill.svg/450px-Challenge\\_vs\\_skill.svg.png](https://upload.wikimedia.org/wikipedia/commons/thumb/f/f6/Challenge_vs_skill.svg/450px-Challenge_vs_skill.svg.png)



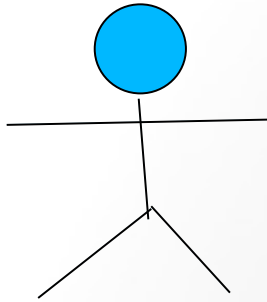
<http://www.indianateeninstitute.com/images/mk%20empowerment%20model101x131.jpg>

# How to achieve

- Csíkszentmihályi:
  - The task is clear and well-structured
  - Clear and immediate feedback
  - Perceived difficulty must match perceived skill level
- Two kinds of thinking:
  - Convergent - assumes there is the One and Only Correct Answer
  - Divergent - assumes that there may be more than one answer => new ideas

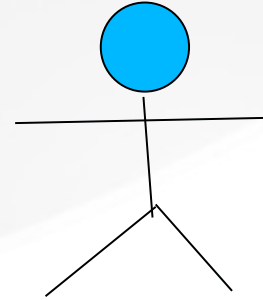
# Back then and now

1985



IT guy. Period.

20xx



IT-guy.  
Businessman/woman.  
Teacher/Trainer/Professor.  
Sales Rep. Tech support.  
Researcher. Designer...

# 80s

- The heyday of “canned software”
- Mass production, software houses
- Narrow specialization
- Minimal creativity, top-down innovation
- Ideal: a brilliant craftsman
- Exception: academy

# 20xx

- Network society, social media, Web 2.0
- Alternative models: SME, open source
- Network enterprise => different management => more freedom and responsibility
- Ideal: a flexible, social and quick-learning professional
- A question: how does Linus' Law influence professionalism?

# Today: two approaches

- Corporation
- Management, hierarchy, authority
- Product
- Trade secret
- Support
- Selling products
- Community
- Consensus, anarchy, meritocracy
- Service
- Free information
- Discussion
- Selling know-how

# Diploma, certificate or experience?

- Once: "Computer science" == "Rocket science" Big and complicated => diploma needed for access
- Minicomputers and early PC-s. Computers enter home. Certificates could be enough
- The PC Generation: what is important is the ability to do something with the computer. Experience counts, no papers needed

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- The field expanded rapidly
- Getting entwined with other fields
- Sharp, rapid changes
- Experience can be substituted with flexibility and good social and learning skills. Nothing can replace good, well-rounded education



# Note: professional certificates

- Ain't the diploma enough?
- Estonians do not know Wollongong University, Aussies do not know TUT/Taltech or IT College
- Some certs are hard currency all around the world
- We have (ask around!)
  - Microsoft
  - Cisco
  - Oracle
  - Linux Professional Institute

# A note on Estonia

- Went through similar processes with delay
- The FoxPro Generation of early nineties has either started to retire or comes back to school
- Academic education is valued again (see the entrance numbers in the last few years)

# FLOSS: stuff for amateurs?

- Free and open-source software also challenges previous understanding of professionalism
- „The Bazaar“ (Raymond) => a notable share of project staff works for fun – some earn their living with IT as well, some do something totally different
- In FLOSS projects, IT folks sometimes fill different roles: artists, composers, writers => crossing over to fields they are not professionals in?

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- Still, the final results are professional enough
- Consumers do not care about development models!
- Most FLOSS projects do follow the surgeon example above
- Extra stress on free flow of information, continuity and training the next generation. E.g. GNU Emacs is currently at version 26.1

# A possible description

- Picks a suitable task
- Does quality work
- Is creative and innovative
- Stands for him/herself, yet does not see red everywhere
- Trains others, not only online but also by personal example
- Creates good documentation
- Can see things through the eyes of an end user

# A four-letter issue

- Doing groupwork online places extra stress on language and expression
- Indecency => reaction => disruption of communication
- A good specialist who is social is preferable to an asocial elite guy, especially in community-heavy models
- BUT: *grep -r fuck /usr/src/linux ...*

# Looking dilettante

- "H3ll0 d00d, br0k3 s0m3th1ng?"
- <message> "Why is it that way?" </message>
- "Don't understand! HEEEEELP!!!"
- "You are encouraged to inform the auxiliary manager of the deployment division of the precise results of your calculation."
- "A musical instrument comes on tall beauty"
- "Im a looser, cant find there webpage in yer server"

# Example of a Code of Conduct: Association of Information Technology Professionals (aitp.org)

- In recognition of my obligation to management I shall:
  - Keep my personal knowledge up-to-date and insure that proper expertise is available when needed.
  - Share my knowledge with others and present factual and objective information to management to the best of my ability.
  - Accept full responsibility for work that I perform.
  - Not misuse the authority entrusted to me.
  - Not misrepresent or withhold information concerning the capabilities of equipment, software or systems.
  - Not take advantage of the lack of knowledge or inexperience on the part of others.



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- In recognition of my obligation to my fellow members and the profession I shall:
  - Be honest in all my professional relationships.
  - Take appropriate action in regard to any illegal or unethical practices that come to my attention. However, I will bring charges against any person only when I have reasonable basis for believing in the truth of the allegations and without any regard to personal interest.
  - Endeavor to share my special knowledge.
  - Cooperate with others in achieving understanding and in identifying problems.
  - Not use or take credit for the work of others without specific acknowledgement and authorization.
- Not take advantage of the lack of knowledge or inexperience on the part of others for personal gain.

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- In recognition of my obligation to society I shall:
  - Protect the privacy and confidentiality of all information entrusted to me.
  - Use my skill and knowledge to inform the public in all areas of my expertise.
  - To the best of my ability, insure that the products of my work are used in a socially responsible way.
  - Support, respect, and abide by the appropriate local, state, provincial, and federal laws.
  - Never misrepresent or withhold information that is germane to a problem or situation of public concern nor will I allow any such known information to remain unchallenged.
  - Not use knowledge of a confidential or personal nature in any unauthorized manner or to achieve personal gain.

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- In recognition of my obligation to my employer I shall:
  - Make every effort to ensure that I have the most current knowledge and that the proper expertise is available when needed.
  - Avoid conflict of interest and insure that my employer is aware of any potential conflicts.
  - Present a fair, honest, and objective viewpoint.
  - Protect the proper interests of my employer at all times.
  - Protect the privacy and confidentiality of all information entrusted to me.
  - Not misrepresent or withhold information that is germane to the situation.
  - Not attempt to use the resources of my employer for personal gain or for any purpose without proper approval.
  - Not exploit the weakness of a computer system for personal gain or personal satisfaction.

# Professional associations

- Like certification, can increase international competitiveness (exchange of contacts and useful information)
- Two main players:
  - IEEE Computer Society
  - ACM (Association for Computing Machinery)
- Both have student memberships – worth checking out

# Recommendations<...

- Study diligently (that's elementary, Watson...)
- Learn foreign languages (the more the better)
- Know different platforms and standards in hard- and software (having preferences is OK)
- Go to student exchange
- Participate in a community project or two (FLOSS is a good bet)
- Join a professional association (starting a local chapter is especially cool)
- Obtain some professional certificates

# Summing up

- Professionalism is more than just vocational skills
- The context can be important
- Expansion of necessary skills and knowledge!
- Network and new models => a pro must be able to catch up
- Again, stressing a) well-rounded education and b) adaptability (including good social skills and extensive social network – and that does not mean Facebook)

**Thanks**