CS 428 – Webster readings #5

Winter 2019

Bruce F. Webster

The Thermocline of Truth (2008) [Link]

This is a simple temperature-depth ocean water profile. You can see temperature decreases with increasing depth. The thermocline are layers of water where the temperature changes rapidly with depth. This temperature-depth profile is what you might expect to find in low to middle latitudes.
Windows to the Universe original image
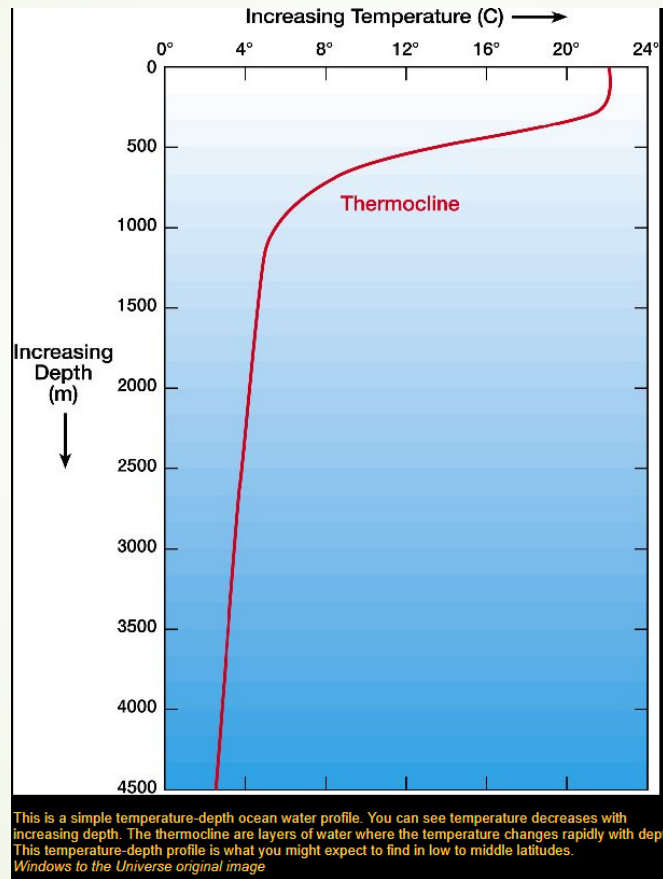
The Thermocline of Truth (cont.)

- A line drawn across the organizational chart that represents a barrier to accurate information regarding the project's progress
  - Those below this level tend to know how well the project is actually going
  - Those above it tend to have a more optimistic (if unrealistic) view
- Why does it form?
  - Lack of true metrics (objective, automated, predictive) on project status
  - Excessive optimism on part of engineers
  - Self-protection on the part of managers going up the chain
  - Top management tends to reward good news and punish bad news

The Thermocline of Truth (cont.)

- Consequence: as the deadline draws near, the actual project status tends to move upward in the management chain
    - Hence the classic "slip the project schedule three weeks before delivery" pattern
- How to avoid it
    - Honesty and outspokenness on the part of engineers and managers
    - Rewarding that honesty
    - Upper management actively seeking out from lower levels realistic feedback on project
    - Avoiding the temptation of the "quick fix to ship"

Anatomy of a Runaway IT project (2008) [Link]

- Quality of work and effort
- Project planning and execution
- Quality assurance and process
- Architecture
- Application performance
- Staffing
- Management principles
- Intellectual honesty

Do not Defer the Difficult in IT Projects (Baseline, 2008) [Link]

- Temptation: the appearance (illusion, really) of progress
  - Prototyping user interface
  - Use of third-party libraries, engines, utilities
  - Getting important modules to "80% completion" and then moving on
- Finishing that last 10-20% is where things drag on forever
  - All the hardest problems have been deferred to the end
  - Can find yourself in "solution deadlock" among remaining hard problems
- Solution: courage to actively identify and tackle hardest problems first
  - Initial progress will be slow, but you will be more likely to be able to predict completion