

# 소프트웨어공학 원리 (SEP521)



Managing Technical People

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# This Lecture

- Assumption –We’ve all had leadership lectures before! Sooo~~~
- Technical people –are they different?
  - Lets try to be introspective
- Considerations for leading technical people
  - And evaluating them

# Technical People Stereotype

- In slang may be called:
  - Techies, Tech Geeks, Geeks, Dweebs, Nerds...
  - Miss any?
- Associated with Computers? Not always
- Badly dressed (and that is subjective)
- Questionable hygiene
- Non sociable outside the “techie” domain
- Etc. ...

# But....

- They are deeply involved with the design, manufacture, care, test, install computers/software...
- While the butt of jokes, are indispensable in today's knowledge/communication oriented culture... **Software is everywhere in the quest to be better...**

# Lets dispel with stereotypes

You will make your own impressions in



CS major to Top Gun aviator, anything is possible...

# Are technical people

*(How about software developers?)*

- What they like?
  - Affinity for technology?
  - Knowledge?
  - Ego?
  - Stubborn?
  - Team players?
  - What is the stereotype?
- And, does it matter to leadership

# General Characteristics

Paul Glen thoughts from “Leading Geeks” 2003

- Affinity / respect for:
  - Technology
    - Games, shows, toys...problems with final ends
- The “rational”
  - Black and white –no grey areas
  - All decisions must be logically derived –Analytical
  - Don’t like emotional decisions
    - But, they are **emotional** about being rational

# General Characteristics...

- Affinity for ...:
  - Problem-Solution model...
    - all problems must have a solution, BUT like problems over the solution space?
    - Grey areas a problem
    - Continuous problems-flurry of activity to start....
- Don't like rote work, non-creative
  - Dictated solutions
- The “flow”— [Mihaly Csikszentmihalyi]
  - From problem to solution..
  - Dislike “open ended”
  - Disruption of flow disastrous



# General Characteristics...

- Communication:
  - Self expression = communication?
    - Don't recognize miscommunication
  - Confusion over whether something is a fact, inference, assumption, and their implications
    - May be seen as rude bluntness
    - “Only an idiot would do that”
- Don't suffer fools easily
  - Value “smart” people
  - Quick minds, quick to comment
- Need to get to the answer –bluntness
- Understanding of the business domain?

# General Characteristics...

- Loyalty:
  - To type of job, not necessarily company
  - Possibly to immediate manager, but not above
  - Distrust of “authority”
- Groups
  - Acceptance, peer recognition
  - Competition –yes with peers....does this hurt team work
  - Sharing of knowledge (ego)
    - Democratic?
- But, like to work alone
  - US society “heroes”
  - Tension with having to coordinate with others...
  - Have someone else do that “work”
- Defacto leaders in groups

# General Characteristics...

- Authority
  - Tend to ignore rules/policies
    - P2P
    - Dress codes
  - Process?
    - Standards
  - Respect –when comparing domain knowledge
- Rebels?
- Work environment
  - “own” space
  - Periods without interruption
  - Rewards or perks....free food

# what motivates technical people?

If the previous is true (in general)

- Internal or external motivators?
  - Artists?
  - Traditional management?
  - Technology prowess?
  - Need for “play”?
  - Work hard, play hard?
  - Engrossed in play as much as work?

# Lets look at involvement in...

- Decision making
  - Opinions
  - Inward or outward?
- Consistency of environment
  - Reward / punishment system
  - Annoyances? Interruptions?
- Given authority
  - Over others?
- Tasks-Multi or selective/unitary

- Exclusion from decision making
  - Hiding the big picture
- Inconsistency in rewards/punishment
  - “Pet,” focus on individuals
  - Responsible for issues not under their control
- Poor use of extrinsic motivators
  - Examples?
- Micro management
- Focus on tasks, the “how” instead of results
- Evaluations without criteria

# Glen's ideas –mentor, don't boss

- Manage by goals not quotas
  - Leadership/guidance not oversight/control
- Recognize technical competency
  - Use it effectively
  - Accentuate the positive, but don't BS
- Foster work environment –physical, annoyances
- Physical environment
- Promote interdependencies where appropriate

# Leading.....

- Obstacles
  - Conflict resolution (80/20 rule)
  - Bothersome tasks (HR), parking?
- Promote culture
  - Honesty, fairness, helping “team”
- Facilitate communication flows
  - Don’t play/allow “I’ve got a secret”
- Manage ambiguity
- Patience
  - When to intervene?



# Sounding like...XP

“Create an environment conducive to good work”

- Open physical work environment, with space for private time.
- Emphasize what developers do best
- Iterative, short term goals
- Instant communication with customer
- Mentoring, a trainer, not a boss

# Glen's performance measures

## How to evaluate technical people?

- Technical competency
- Personal productivity –not quotas
  - Creativity?
- Ability to multi task
- Understanding business context, drivers
  - And be able to speak it
- Speaking with business side
  - And forging compromises

# Measures

- Manage client relationships (MCE)
- Expand client relationships
- Managing/leading technical people
  - Training others, team player
- Delegation, work through others
  - Coach, mentor

# Measures

- Play positive politics
  - Supportive of technical people
- Manage ambiguity
  - Use of what process?
- Manage time horizons
  - Plan the big picture

# Other issues to aid success

- Define projects appropriately
  - Creative development, or routine maintenance?
- Projects as theater
  - Importance of defined relationships
- Group size
- Compel client focus
- Make the hard decisions
  - Identify and eject anchors when needed
  - BUT, remember, dealing with people

# What team structure is

*It depends depends...but what do you think?*

Pressman SEPA

- Decentralized Democratic
  - Participatory / Delegated
  - Just like Studio?
- Centralized Democratic
  - Participatory / Delegated / Decision maker
- Controlled Centralized
  - Authoritative / Delegated

# Now add Associated Project Factors?

- Difficulty of Problem –innovation?
- Size of Project –organization?
- Team Lifetime –cohesive or changing
- Modularization of Project –broken down
- Criticality of Safety / Reliability –control
- Rigidity of Delivery –hard schedule
- Communication needed for project

# Glen's how to lead...

- Harmonizing content and context
  - Counter to inherent ambiguity
  - Need for order and consistency
  - Is this emotional?
  - Need to step back and ask “does this make sense”
    - New assignment, make a minimum 10KSLOC application using all that you learned in MSD....Due in 2 days....
    - Inconsistency with reality....?



# Glen's how to lead...

## Using narratives and embodiment

- Narratives
  - We all like stories –bring together convoluted ideas, history
    - Case studies?
  - Use them to reinforce each other
- Embodiment
  - Can reinforce or hurt
  - Do as I say, not as I do.....

# Typical Narratives Glenn

- Navigating the organization's socio-political environment (s)
- Use of project artifacts-good and bad
- Own, peers, and subordinates' successes and failures, with introspection
- Past, present and future of....
  - Markets, companies, people, groups
- Values, ethics, priorities...
- Visions, strategies, ...

# Summary on Technical

- Differences
  - Understanding your developers
- Capitalize on these
  - Rewards
  - Environment
  - Types of tasks
  - Off task time (Google “campus”)
  - Challenges

# Q & A

