The Fantastic Five
5 Soft Skills
Every Technical Professional Should Develop

IEEE Computer Society
Build Your Career Webinar Series
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**What Are Soft Skills?**

- Are usually related to your personality and your people skills...
  - Emotional intelligence
  - Developing soft skills can be challenging
  - Practice makes perfect
- Useful across industries; are ‘portable’ and do not expire

### Key Traits of Soft Skills

<table>
<thead>
<tr>
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<th>Key Traits of Hard Skills</th>
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<tbody>
<tr>
<td>Useful across all industries</td>
<td>Industry specific</td>
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<tr>
<td>Natural abilities</td>
<td>Learned through training or repetition</td>
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<tr>
<td>Related to emotional intelligence</td>
<td>Based on technical knowledge</td>
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### Examples of Soft Skills

<table>
<thead>
<tr>
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<th>Examples of Hard Skills</th>
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<tr>
<td>Detail-oriented</td>
<td>Programming Languages (Python, Java, etc.)</td>
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<tr>
<td>Works well under tight deadlines</td>
<td>BS Degree, Electrical Engineering</td>
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"Interpersonal skills is where we’re seeing the biggest imbalance..”

Jeff Weiner, LinkedIn CEO
Why Should You Care?

- Often the deciding factor for employers
  - A survey presented by SMB World found that nearly 72% of CEOs believe that soft skills are more important to the success of their business than hard skills (Jackson 2018).
  - According to Forbes (2017), 94% of recruiters believe that top-notch soft skills outweigh experience.
  - A recent report by iCIMS (2019) Hiring Insights finds that 94% of recruiting professionals believe an employee with stronger soft skills has a better chance of being promoted to a leadership position than an employee with more years of experience but with weaker soft skills.

“the difference between outstanding performance and good performance is whether someone has some soft skills. If you take two people who are equally adept at their “hard” technical skills, it’s typically the one who also has soft skills who’s the exceptional performer.” – IEEE-USA InSight, Mar 2019
Why Do I Care?

20+ years of Technical Management Experience **as Hiring Manager:
• Planning the Hire
• Posting the Job and Screening Incoming Resumes
• Setting up Interviews and Conducting Post-Interview Assessments
• Determining Details of the Position and Extending the Job Offer

The key to achieving success is to assemble a strong and stable team..

Vivek Wadhwa
Arrival at the Fantastic 5...

• Research
  • What does research tell us?
  • What do the recruiters say?
  • What do other technical managers want?

• Personal Bias
  • Experience managing technical teams
  • What has worked for me
The F5...

• Communication
• Teamwork
• Critical & Analytical Thinking
• Interpersonal Skills
• Work Ethic

Cold Turkeys Chewed Iced Whiskey
Communication

- Clear & Effective
- Confidence
- Respect
- Empathy
- Listening
- Verbal and non-verbal communication
- Written communication
- Constructive feedback
- Friendliness

The people who will thrive are the strong technologists who are capable of translating their expertise into terms that nontechnical people can understand.” – Ben Gaucherin, CIO Harvard

The Holmes Report, showed that the cost of poor communication was a whopping $37 billion! That same study revealed that barriers to communication resulted in over $26K annually for each employee!
Why it is Important to Improve Communication

- Within the first seven seconds of meeting, people will have a solid impression of who you are (Forbes, 2018); cited often/not backed by research
- Individuals on the receiving end... when they do not understand your explanation, find you to be less smart, do not respect the sender, loss of credibility
- Clarity and focus are critical or audience checks out and message is not conveyed
Practical Example – Written Communication

Words have meaning...

Consumption....
Consummation
Formal vs. Informal – Case in Point

• Text Version

FYI ... we’re meeting on Fri. wana go to the office party aftr? Its BYOB so bring w/e you want. Yr dancing will be off the hook (lol). Ltr

• Email Version

Ann,

There is a meeting on Friday, Nov 6th. Immediately following, there will be an office party. It will be a ‘Bring Your Own Beverage’ party, so bring whatever you like. Last year’s was so much fun!

Best regards,
Barb

Think about who you are addressing and how you are addressing them
**Top 5 Communication Forms & when to use them**

<table>
<thead>
<tr>
<th>Communication Form</th>
<th>When to Use</th>
<th>Why</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face To Face</td>
<td>For Matters of Importance</td>
<td>To avoid misunderstandings and ensure all parties are on the same page</td>
</tr>
<tr>
<td>Skype; Video Teleconference</td>
<td>Virtual team meetings</td>
<td>Second best to in person, to avoid miscommunications and misinterpretations</td>
</tr>
<tr>
<td>Telecom; Phone Call</td>
<td>Client check ins</td>
<td>As an alternative to face-to-face and Video teleconference; provides for verbal ques</td>
</tr>
<tr>
<td>Email</td>
<td>Good when need to convey detail and need to be concise</td>
<td>Can be considered a risk for misinterpretation, can be good when a paper-trail is needed.</td>
</tr>
<tr>
<td>Text Message</td>
<td>To confirm information; just in time use only</td>
<td>Avoid for most communication of consequence; confirm with superiors whether appropriate</td>
</tr>
</tbody>
</table>
How to **Not** Communicate Effectively

- Interrupt
- Jump to Conclusions
- Finish sentences
- Change the subject
- Fail to ask questions
- Body language

A Lack of understanding... single most disruptive soft skill to business on a fundamental level
Teamwork

- Accepting feedback
- Collaboration, Cooperation & Coordination
- Conflict management
- Customer service
- Decision making
- Interpersonal skills
- Negotiation and mediation
- Persuasion
- Self-awareness
- Social skills
- Team building

Teamwork skills allow you to operate well in a group setting in the workplace to quickly and effectively accomplish tasks.
Teamwork Roles

- **Leader** – responsible for ensuring the team follows the plan and is on track; take the initiative and often delegate tasks.
- **Ideas Person** – most creative and often come up with original and radical ideas.
- **Encourager** – support and praise and encourage others to take action.
- **Compromiser** – willing to change own views to get to group decision and move forward with a viable plan; diplomatic and often work to resolve differences.
- **Summarizer** – tend to oversee progress of the team and go back and summarize team discussions and main finding; help restore structure and order.
- **Evaluator** – logical and methodical; encourage analysis prior to decision making; may cause reevaluation.
- **Recorder** – keep group focused and organized; ensure everyone contributes; keep record of ideas and decisions.

https://www.careeraddict.com/improve-teamwork-skills-workplace
Verbal Communications (again)

• With Teams
  • Getting to ‘Done’
    • Convey messages concisely
    • Encouraging reluctant group members to share input
  • Pose probing questions to elicit more detail
  • Paraphrase to show understanding

• With Clients
  • Focus on Needs
    • Ask for clarification
    • Ask open-ended questions
  • Respond to complaints by recognition and action

• Presenting
  • Practice
    • Say what you are going to say, say it, and then restate it
  • Research your audience and topic
  • Use humor and tell stories
  • Use examples

Scared Vs. Nervous
How to Develop Teamwork Competency

• Create a project; find opportunities to work in a group
• Leverage IEEE volunteer opportunities – lead something!
• Do not worry about the ‘credit’
• When working in a group:
  • Work with all group members
  • Contribute ideas and allow other to express their ideas and opinions
  • Take a share of responsibility
  • Provide positive and constructive feedback

A leader is someone who takes responsibility for finding the potential in people and processes and has the courage to develop that potential. – Brene Brown
TEAMWORK

Large ambitious goals usually require that people work together.
Critical & Analytical Thinking

- Critical observation
- Creativity & Curiosity
- Design Aptitude
- Flexibility
- Innovation
- Logical thinking
- Problem solving
- Troubleshooting
- Willingness to learn
- Open Mindedness

Technical professionals are constantly looking toward the future; anticipating and developing solutions. This requires a lot of imagination and creative problem-solving. Employers look for tech professionals who are able to conceive unique solutions.
Critical and Analytical Thinking
Objective analysis and evaluation of an issue in order to form a judgement

Evidence
Assumptions
Beliefs
Experiences
Knowledge

Abilities
Able to recognise assumptions
Able to reason (analyse, evaluate and interpret)
Make inferences based on evidence and reasoning
Make deductions, draw together and arrive at logical conclusions

Dispositions
Open-minded
Search for truth
Fair and balanced view of own and others’ work
Enquiring

An applied learning process developed through practice

Let’s debate

Coherence
Claim/Statement
Validity
Supporting evidence

START
Identify Assumptions
Check accuracy and validity
Consider alternative perspectives

Roberts, Addae-Kyeremeh and Rezale (2016) The Open University
How to develop Critical Thinking soft skills

• Problem solving ‘resiliency’; do not give up, do not rush
• Become a self-critic/ ask yourself why? Why do you believe?
• Step back and analyze – BEFORE you pass judgement
• Look for bias

• Communicate in a productive rather than defensive manner
  • Just because someone does not like your idea, does not mean they do not like you
  • Active listening; listen to the ideas of others
  • Develop the ability to impact potential decisions and outcomes

"My father used to say 'Don't raise your voice, improve your argument.' “

—Desmond Tutu
Interpersonal Skills

• Emotional control (anxiety, frustration, anger)
• Cooperation
• Courtesy
• Energy
• Enthusiasm, Optimism
• Friendliness
• Honesty
• Humorous
• Patience, Calmness (even when stressed)
• Respectability, Self-Confidence
• Respectfulness

According to the Myers-Briggs personality inventory, most programmers and engineers prefer to focus on their ‘inner worlds’ or are introverts.

You cannot continuously improve interdependent systems and processes until you progressively perfect interdependent, interpersonal relationships.” – Stephen Covey, author
How to Develop Interpersonal Soft Skills

• Pay Attention, Active Listening
  • Look at them directly and don’t think about your reply; ask specific questions
• Style of voice (Loud, soft, cadence)
• Body Language
  • Gestures, face, looking away, distance, openness, arms
• Believe in yourself
  • Lack of training, address it!
• Navigate Office Politics
  • Remain above the fray, don’t complain
• Mentor and Guide others; be inclusive
• Network and Self Promote
  • Attend industry events, find a mentor, IEEE
Work Ethic

- Attentiveness
- Business ethics
- Competitiveness
- Dedication
- Dependability
- Following directions and staying on task
- Meeting deadlines
- Self-motivation, Self-management
- Perseverance and persistence
- Proper business etiquette
- Working well under pressure

Work ethic is how you feel about your job, how you do your job, as well as the level of respect you show your co-workers and others at your job.

Be Humble. Be Hungry. And Always be the Hardest Worker in the Room.
- Dwayne ‘The Rock’ Johnson -
How to Develop a Good Work Ethic

• Practice Punctuality
  • Be on time or early for all appointments and meetings
  • Allow extra time
  • Be dependable

• Develop Professionalism
  • Dress for success, Check your attitude
  • Develop a reputation for integrity do what you say
  • Put your phone away
  • Proofread your work
  • Understand company policies

• Cultivate self-discipline
  • Stay focused on the long-game, be persistent and follow through
  • Do your best
  • Look at problems as opportunities

• Stay balanced
  • All work and no play... take care of yourself
  • Be prepared not to know everything
Building your Resume…

“When companies are assessing job candidates, they’re looking for the best of both worlds: someone who is not only proficient in a particular function, but also has the right personality....along with responsibilities, it’s important to highlight soft skills that can give employers an idea of how quickly you can adapt and solve problems, whether you can be relied on to follow through and how effectively you can lead and motivate others.”

Rosemary Haefner, Vice President of Human Resources at CareerBuilder

Your *soft skills* and *hard skills* should complement each other to make you the total package an employer wants. For example, an engineer should be both highly technically competent while being able to understand business benefits & communicate effectively with clients.
## STAR Method

<table>
<thead>
<tr>
<th>S = Situation</th>
<th>What was the problem? Be as specific as possible</th>
<th>Provided technical leadership for the United States Department of the Army Research Directorate (AMRDEC) Software Engineering Directorate America’s Army (AA) program.</th>
</tr>
</thead>
<tbody>
<tr>
<td>T = Task</td>
<td>What was the goal?</td>
<td>First large-scale use of game technology by the U.S. government as a platform for strategic communication and the first use of game technology in support of U.S. Army recruiting employing realistic models and simulations.</td>
</tr>
<tr>
<td>A = Action</td>
<td>Identify the step you (not your team) took to reach your goal</td>
<td>Under my technical leadership and production execution the program delivered its first public versions of the game creating a user base of over 8 million players and was ranked in the top 10 First Person Shooter (FPS) games played online.</td>
</tr>
<tr>
<td>R = Result</td>
<td>What was the final outcome?</td>
<td>The success of AA pushed the boundaries of commercial game realism and combat depiction with its incorporation of real-world based models and simulations. These gaming models and simulations were ground breaking and have had a long lasting impact on military training as these have been leveraged to support military training applications increasing the realism and accuracy with which our military are trained.</td>
</tr>
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## Resume Examples – Leverage IEEE!

<table>
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<tr>
<th>Soft Skill</th>
<th>Details</th>
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In Conclusion

• Critical thinking, persuasive writing, communications, and teamwork are not fluffy, nice-to-have value-adds.
• They’re hard-won and rigorously maintained abilities that are better referred to as “power skills.”

“Soft skills are key to building relationships, gaining visibility, and creating more opportunities for advancement,”

Kathy Robinson, founder Boston career-coaching firm TurningPoint.
Thank you!

Questions?

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Twitter: skland1
References

- Marvel Comic Cover, Fantastic Five (2007) issue 2; Vicomic.com
- Body Language & Emotional Intelligence. The Majority of All In-Person Communication & Visual Media is Nonverbal...How Much are You Missing? Analysis, Secrets, and Advice from an Expert for the Real-World. [www.bodylanguagesuccess.com](http://www.bodylanguagesuccess.com).