Practical Advice on Maintaining Career and Your Professional Edge

Your Security Career

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What Does Keith Know?

- I have had a few jobs
  - Big orgs: Radio Shack, Nortel, Sun, Purdue
  - Small orgs: seed company, small metal shop
  - Startup: security consulting groups
- Always looking to improve job performance
  - Networking
  - Problem solving
  - Time management
  - Developing new skills

What Keith actually knows...

- Not much!
- The industry changes all the time
- What I once knew is less valuable now
- My career path will not be your path
- My advice may not be right for you

Disclaimer

- I am not a career counselor
- I am learning as I go
- Your mileage may vary

Overview

- Where are you today?
- Where do you want to be tomorrow?
- Strategies to move your career forward

Where are you today?

"The unexamined life is not worth living."
-- Plato

Where are you today?

- **What are you doing with your security career?**
  - Full-time
  - Part-time
  - Freelance and contract
  - Interests
  - Hobbies
  - Career-focused activities

What defines a professional?

- Title?
- Education?
- Level of knowledge?
- Minimum level of experience?
- Type of experience?
- Networking skills?
- Soft skills?
- Expertise?

Hard Skills v. Soft Skills

- Technical knowledge and experience alone will not guarantee success in a career
- Soft Skills (communication, interpersonal relationships, social graces, optimism, etc) are essential
  - Team work
  - Customer interaction
  - Ability to "sell" an idea, project, concept

We Love Professionals

"If you think it's expensive
to hire a professional to do the job,
wait until you hire an amateur."
-- Red Adair

Dreyfus Model

- The Dreyfus Model defines 5 classes in skill acquisition
- It is a journey from Novice to Expert
    - Novice
    - Advanced Beginners
    - Competent
    - Proficient
    - Expert

Stage 1: Novice

- Has little or no experience in this skill area
- Concerned about ability to succeed
- Doesn't want to learn
  - Wants to accomplish an immediate goal
  - Needs a recipe and rules
  - Goes by a script (think tech support call center)
- The rules can get you started, but do not get you very far

Stage 2: Advanced Beginner

- Can break away from the rules a little
- Does not want theory
- Has difficulty in troubleshooting
- Can formulate some overall principles
- Cannot see the "big picture"
  - Doesn't really want to

Stage 3: Competent

- Can develop conceptual models
- Seeks out problems and arrives at novel solutions
- Seeks out advice from experts
- Mentors novices
- Doesn't annoy experts (too much)
- Missing reflection and self-correction

Stage 4: Proficient

- Needs the "big picture"
  - Seeks out understanding of larger concepts
- Corrects previous poor performance
- Learns from experience of others
  - Case studies, code, projects failures
- Understands and applies maxims
  - Fundamental truths within a context

Stage 5: Expert

- The primary source of knowledge in the field
  - Writes books and articles, lectures
- Very few experts exist
  - 1-5% of the population
- Works from intuition
- Knows the difference between irrelevant details and very important details
- Modern day wizards

Dreyfus Model

- Novices require rules; Rules ruin experts
- Most people are advanced beginners
  - Learning as the need arises, never acquiring a conceptual understanding of the environment
- Practitioners at lower levels overestimate their own abilities
  - Experts show more self-doubt
- Experts are not always good teachers

Your Daily Dreyfus

- Rate yourself
  - Where do your primary skills fall in the model?
  - What are other skills do you have in which you are only a novice or advanced beginner?
  - What do you need to advance to the next level?
  - What about your teammates? Where are they?

Becoming an expert

- Plan on 10 years of effort regardless of field
- To be be an expert you need to *practice*:
  - Have a well-defined task
  - The task must be challenging, but achievable
  - You must have informative feedback to act upon
  - Look for opportunities for error correction and repetition
- Once you are an expert in one field, it is easier to become an expert in another

Works well with others

"Hell is other people."
-- Jean Paul Sartre

Myers-Briggs Type Indicator

- MBTI classifies basic personality types
- Extravert (E) v. Introvert (I)
  - Outward or inward orientation
- Sensing (S) v. Intuition (N)
  - Single position instead of multiple possibilities
- Thinking (T) v. Feeling (F)
  - Rule-based or Impact-based
- Judging (J) v. Perceiving (P)
  - Decisions are closed or open-ended

I'm ENTP, slight E and T

MBTI in life

- Strong N's and S's don't always get along
- Strong P's and J's will have trouble putting together a project plan
- Remember: You can't change people
  - Don't try
- Work around differences in temperament
  - Consider this when collaborating

Your Temperament

- What's your MBTI?
- Go online and take a brief test
  - http://www.humanmetrics.com/
- Compare your results with others
- Consider a person with opposite types from your own. What differences would you find?
- Spend time with people that have an opposite temperament

Here's where we are today

- ## Assess our skills
  - Examine your primary work skills using the Dreyfus model
  - Determine if other skill sets are essential to your career and where they fit in the model
- ## Determine our temperament
  - Do we play well with coworkers?
  - Knowing the temperament of others, how can alter our methods to work together?

Where do you want to be tomorrow?

"If you don't know where you're going,
you might not get there."
-- Yogi Berra

Your Usefulness

- Intel CEO Andy Grove once said engineers were only "useful" for about ten years.
- What happens after ten years?
  - Get married
  - Have kids
  - Stop working long hours
  - More resistant to moving for the company
  - More likely to leave when the job gets difficult

Technical Skill Half-life

- Technology is always changing
- New skills and abilities are in demand
- Technical skills you acquired at the start of your career are worth less now and will be worth even less soon
- Are your skills stagnating?
- Do you have skills that have "expired"?

Where do you want to be tomorrow?

- More pay?
- Better job?
- More visibility?
- More challenges?
- More responsibility?
- Broader responsibilities?
- Stronger and broader skill set?
- More learning opportunities?
- Deeper technical knowledge?

Career Direction

- Management v. Technical Career Path
- Larger organizations used to have management training path
  - Managers are made, not born
  - Less common these days
- High tech firms typically have a career path for technologists
  - Technical leads, architects, distinguished engrs.
  - Lead tech aspects of small tech teams

Surveying the Market

- You may not want make a move but you should know what skills are needed
  - Read job postings for the list of requirements
  - What skills do they require?
  - What certifications and education do they list?
- Sign up for job posting list
- Pick a "target" job position
  - What is missing to make you the perfect candidate for the job?

Generalist or Specialist?

- Breadth of experience v. Depth of experience
- Are your future career plans tied to specific knowledge of a niche/technology area?
  - Technical depth is useful in developing skills and conceptual models for other areas
- Generalists have to be able to acquire new knowledge and skills quickly
  - Skills should transcend technology

Avoid Your Putting Eggs in Someone Else's Basket

- In the job postings these days, you'll see technology specific postings
  - Tivoli Identity Management and AD are common
  - McAfee, Symantec "engineers" are others
- Market leader does not mean "standard"
- There is a professional services barrier
  - Point at which you have to pay money
- Uncertainty occurs during transitions
  - Java? MySQL? Solaris? Nessus? PGP?

Strengths and Weaknesses

- Time for an honest self-assessment
- List your strengths and weaknesses
- Be honest
- Don't forget the soft skills
- Note skill gaps and lack of depth
- Check out Strength Finders to find your specific strengths
  - strengthsfinder.com

Your career is now the project

- Having identified the issues, it's time to solve the problem
- You have to manage your career
  - Don't let your boss do it for you
- Career management is a lot like project management
  - Tasks, milestones, dependencies, scheduling
  - Completion date can be fuzzy
  - Follow-on work and many adjustments

Your Plan

- Consider where you want to go
- Look at your strengths and weaknesses
- Choose your goals
- Define SMART objectives that move you toward your goals
- Determine what you need to learn
- Get a Mentor or Be a Mentor
- Be the Worst Player

Goals

- Think back to where you want to be
- Look back at your list of weaknesses
- Do you want to head toward management?
- Are you a specialist in a generalist's body?
- Choose goals that makes sense for you

- Objectives move your toward your goal

SMART Objectives

- Objectives must be chosen SMARTly:
  - **S**pecific (concrete, not "pie in the sky")
  - **M**easurable ("How do you know when you are done?")
  - **A**chievable (attainable from where you are now)
  - **R**elevant (are you passionate about it?)
  - **T**ime-boxed (give yourself a deadline)
- Make sure the objectives fit in larger context
  - Family, business, financial, etc

Learning

- Do you learn on your own?
- Do you need classroom instruction?
- What are you obstacles are holding you back from learning more?
- How can you avoid the things that hold you back?
- Do you need to learn with others?
  - A cohort with a similar goal or purpose?
  - Hold each member accountable for progress?

Get a Mentor

- Mentors serve as role models
  - Set the standard for what "good" is
- Provide structure to learning
  - Provide guidance
  - Lead students to self-sufficiency
- Provide tailored instruction
  - List student-specific skills to learn
- Mentors become invested in students success

Be a Mentor

- If you want to learn something, teach it
    - Expression of a concepts requires understanding
- Be knowledgeable and willing to share
    - Join local interest groups and offer to help
- Just start helping people
- We have lots of students around here that need mentors

Be the Worst

"Always be the worst guy in
every band you're in."
-- Pat Metheny

On Being the Worst

- Seek opportunities to work with others that have skills that you don't have
- You will start to imitate their behavior
  - Write and speak better
  - Pick up bits of knowledge and new experience
- You can learn more from the collaboration
  - Look at issues from a new perspective
  - Solve tough problems with creative solutions

Certifications

- In the security field, certifications are becoming the minimum standard for a level of knowledge
  - Some certifications are listed as required
- Is one enough?
- Are seven too many?
- Where do you want to be?
  - Is a certification needed to get there?

Community Involvement

- Security associations and technology-specific groups provide opportunities to grow
    - Learn from members
    - Share your expertise
    - Find others to help solve problems
    - Gain knowledge on new trends and technologies
- Working with organizations offers leadership experience, CPEs, camaraderie, enjoyment

Personal Branding and Marketing

- Does your boss know what you do?
- Do people outside your immediate group or organization know what you do?
- Is your name associated with a specific type of knowledge or expertise?
- If you lost your job today, how much work is needed to find another one?
  - Do you have contacts in the industry that know you? Want you?

A Personal Brand

- Personal Branding is building a public and notable association with a particular skill or expertise to a specific person
- We have individuals in the industry that are known experts in specific areas
  - Think Bruce Schneier, Ron Rivest, Gene Spafford, Richard Bejtlich, Brian Krebs
- Building the association takes marketing

Marketing Yourself

- Many efforts are needed to build your brand
- Writing articles, chapters, books, e-books, etc
- Blogging
- Social Media
  - Presentation is important
  - Avoid drunken photos and complaints
- Passing along links, information
- Presentations, interviews, podcasting, video
- Resumes, portfolio and "name" web sites

Shameless Self-Promotion

- Sometimes marketing yourself seems "icky"
  - Learn to be subtle
- If you want to be known as an expert
  - Be specific about your knowledge and expertise
  - Be sure you can demonstrate that knowledge
  - Find "customers" that can serve as references
  - Linkedin.com recommendations may help
  - Create a portfolio site with content and links to successful projects

Career Strategies

- ## Star Strategies
  - Generic career advice
- ## CSO Magazine article recommendations
  - Specific security career advice

Star Strategies

- **How to Be a Star At Work**, Robert E. Kelley
- Research into how "star" employees work
  - Stars are made, not born
- Initiative
  - Take the initiative to solve problems
  - Volunteer for assignments that add value
- Networking: Knowing Who Knows
  - Develop pathways to knowledge experts
  - Share your knowledge when needed
  - Minimize the knowledge deficit

Star Strategies

- Self-Management
  - Career management, not job management
  - Create opps, direct work choices, performance
- Perspective: Getting the "Big Picture"
  - See projects in the larger context through the eyes of customers, coworkers, bosses
- Followership
  - Work cooperatively with leaders to accomplish organizational goals despite differences

Star Strategies

- Teamwork
  - Joint ownership of goals, work, accomplishments
  - Positive contributor to group dynamics
- Leadership: small-L leadership
  - Use expertise/influence to convince a group to come together to accomplish substantial tasks
- Organizational Savvy
  - Navigate competing interests within an org to promote cooperation, address conflicts, GTD

Star Strategies

- Show-and-Tell
  - Develop the most effective, user-friendly way to reach and persuade the audience
  - Select the right message for a particular audience
  - Select the right audience for a particular message

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- #1 Make security an enabler!
  - Avoid always saying, "No"
  - Try finding a solution with a level of security
- #2 Offer multiple solutions
  - One size does not fit all, offer options
  - Offer different approaches based on cost, risk
- #3 Avoid FUD
  - Stick to humility

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- **#4 The customer is smart, really**
  - Consider temperament once more
  - Figure out what they know that you don't
- **#5 Ethics apply to you too**
  - Don't bypass policies; be accountable
  - Seek out advice from mentors, peers
- **#6 Career Burnout**
  - Step back and do some self-examination
  - A career is more marathon than sprint

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- #7 Take your perspective out of the box
  - Show initiative, volunteer for committees, teams
  - Look for problems, generate good solutions

Your Turn

- Take the concepts and strategies and apply them to your career
  - Where do *you* want to be in 5 years? 10 years?
  - What weaknesses, obstacles are in the way?
  - How do you think you can move past them?
  - What's your plan?
- To do:
  - Use December to think about it.
  - Write your plan down and start in January.

Summary

- Career Path:
  - Happy? → Work it!
  - Unhappy? → Change it!
  - Uncertain? → Define it!
- Apply career strategies to make progress
- Strive to be the best security professional
- Manage it, or be managed by it
- Plan out your career path and act on it!

References

- Andy Hunt, **Pragmatic Thinking and Learning**
- Dave Thomas, Andy Hunt, **The Pragmatic Programmer**
- Chad Fowler, **The Passionate Programmer**
- Robert E. Kelley, **How to Be a Star at Work**
- Dan Lohrmann, "How to Keep Your Career On Target," CSO Magazine, November 2010
- James Reed, "Building Your Bridge to the Future," ISACA Journal, Volume 3, 2010
- Dan Schawbel, **Me 2.0**