

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 group
- 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 or coach
- I am learning as I go
- Your mileage may vary

- This presentation may be a little too “touchy-feely” for some people.

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

Overview of where are you today?

- Dreyfus Model of Skill Acquisition
 - Journey from Novice to Expert
- Working Well with Others
 - Myers-Briggs Type Indicator
 - Strengths and Weaknesses
- Technical Skill Half-life

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 context-free 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)
- Does not reflect and self-correct

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

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

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 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)
 - Action or thought orientated
- 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

- Measures preference, not ability
- 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 Jung Typology 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

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
- Ask others to help you identify your strengths and weaknesses

Find your Strengths

- Use your strengths to your advantage
 - Skills, Knowledge, and Talents
- Weaknesses can be improved, slightly
 - Less interest in improvement
 - Less ability to improve
 - Waste of resources
- Try Strengths Finder 2.0
 - <http://strengths.gallup.com/>
 - 34 theme-based strengths

Technical Skill Half-life

- Change is inevitable
- 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? Stagnated?
- Do you have skills that have “expired”?

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 our coworkers?
 - Knowing the temperament of others, how can alter our methods to work together?

Here's where we are today

- Find our strengths
 - Determine what our strengths are and use those to our advantage
 - Find others with strengths to supplement weaknesses
 - Find others with the same strengths for greater achievement

Where do you want to be tomorrow?

“If you don't know where you're going,
you might not get there.”

-- Yogi Berra

Where do you want to be tomorrow?

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

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

Consider: What Defines a Professional?

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

Overview of Where Do You Want to Go Tomorrow?

- Career direction
- Surveying the Market
- Generalist or Specialist?
- Putting your Eggs in Someone Else's Basket

Career Direction

- Management v. Technical Career Path
- Larger organizations have management training career paths
 - Managers are made, not born
 - Less common these days
- High tech firms typically have a career path for technologists
 - Technical leads, architects, distinguished engineers
 - Lead technical direction of small engineering groups

Surveying the Market

- You may not want make a move now 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 are you missing that would 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 must 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, F5 “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?

Overview of Career Steps

- A Plan is Needed
- Goals
- SMART Objectives
- Get a Mentor
- Be the Worst
- Certifications
- Education
- Community Involvement
- Personal Branding

Your career is a 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
- 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 towards management?
- Are you a specialist in a generalist's body?
- Choose goals that makes sense for you
- Objectives move you toward your goal

SMART Objectives

- Objectives must be chosen SMARTly:
 - Specific (Concrete, not “pie in the sky”)
 - Measurable (“How do you know when you are done?”)
 - Achievable (Attainable from where you are now)
 - Relevant (Are you passionate about it?)
 - Time-boxed (Give yourself a deadline)
- Make sure the objectives fit in larger context
 - Family, business, financial, etc

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 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 security, certifications have become the minimum standard for a level of knowledge
 - Some certifications are listed as required
 - Use your job search to help understand the need
- Is one enough?
- Are seven too many?
- Where do you want to be?
 - Is a certification needed to get there?

More on Security Certifications

- Professional
 - Focus is on concepts and practices
 - CISSP, CISA, CISM, GIAC, CEH
 - Require testing, work experience, “maintenance”
- Technical
 - Focuses on specific techniques and technologies
 - GCWIN, GCUX, GMOB, Cisco Certs, etc.
 - Requires testing and sometimes “maintenance”

More Education

- To achieve your goals, do you need more education? A degree?
 - Does the job description require it?
 - Does the industry expect it?
- Can you go down a management path without a management degree?
- Can you advance to a technical lead without a technical degree? Or an advanced degree?

Learning

- Do you learn on your own?
- Do you need classroom instruction?
- What are your obstacles 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?

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, Whitfield Diffie, 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
- Build an “All-Star” profile on LinkedIn
- 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 can help
 - Create a portfolio site with content and links to successful projects

Overview of Career Strategies

- Star Strategies
 - Generic career advice
- CSO Magazine article recommendations
 - Specific security career advice
- Richard Bejtlich
 - Raising your public profile as an information security professional

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

CSO Magazine

- #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

CSO Magazine

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

Richard Bejtlich's advice

- From a post on the Mandiant Blog:
 1. Leverage social media
 2. Participant in mailing list discussions
 3. Blog regularly
 4. Write white papers
 5. Respond to call for papers
 6. Write a good book
 7. Write open source software

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**

References

- Strengths Finder 2.0,
<http://www.strengthsfinder.com/>
- Richard Bejtlich, Raising your public profile as an information security professional,
<https://www.mandiant.com/blog/archives/3850>

Extra Slides

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

Hard Skills v. Soft Skills

- 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

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