Where do Old Programmer’s Go?

Scott Lydiard
OldProgrammer@Lydiard.org
Poughkeepsie ACM  October 19, 2015
Scott’s Job Experience
U.S. Workforce

1800

1900

2000

2016
In Second Machine Age, MIT Professor Erik Byrinjolfsson:

“In the future computers will be replacing doctors, lawyers and many other highly educated professionals.

With rapid advances in AI, computers can perform tasks previously carried out by knowledge workers such as analyzing trends, translating foreign languages, and filing tax returns.”
Global unemployment is rising – this is the first industrial revolution that wipes out more jobs than it creates.

One 2013 Harvard study predicts 47% of all American jobs are destined to be automated.
Capelli (Wharton) reports that only about 1/5th of recent graduates with STEM degrees got jobs that used their training.

Why? Corporate cost-cutting, having thinned the ranks of the factory floor and routine office jobs, are now targeting IT and technical staff with outsourcing.
The Hiring Gap

Percent change in number of jobs posted and number of hires, per month, since the end of the recession

Source: Department of Labor | WSJ.com
Help Still Wanted
Average number of working days taken to fill vacant job openings

Source: Dice Hiring Indicators | WSJ.com
US employers are No Longer Train their Employees.

Apprenticeship programs are being abandoned. The number of apprentice programs registered with the Department of Labor declined to 21,000 in 2012 from 33,000 in 2002. The number of apprentices has plunged from 280,000 from 500,000 a decade ago.
In 2000, the pace of job creation in high-paying skilled skills slowed dramatically.

Canadian economists Paul Beadry, David Green and Benjamin Sand divided the US into 100 job categories. Since 2000, demand for highly educated workers fell off a cliff while job growth in low-paying occupations increased strongly.
U. S. Workforce

GAO (September 2015 Industry Week) said there is a continued fervor for contingent workers – 40% and climbing rapidly

During the “economic recovery” of 2009-2011, 91% of hires were temporary.
Where ARE the IT Jobs?

- Legacy
- Startups
- Government
- Small Business
According to GAO, >75% of the government’s 63 billion IT budget is spent on maintaining legacy systems!

Expensive 3-tiered architectures rather than the scalable hyper-converged solutions used in the worlds largest data centers.
New technologies such as adaptive analytics (increase operational efficiency and manage product defects in real time). Can’t use with legacy infrastructure.

Cloud-first is necessary for hyper speed to market.

Moving to the Cloud is the preferred technology to get off legacy systems.

The only companies keeping legacy systems are those that only see IT as a cost center.

*Signs Legacy Systems aren’t up to snuff: Shadow Initiatives - marketing setting up new systems on their own.*
Quotes from fired CIO:

“We need to protect our proprietary data.”

“Foreign locations require customer data stored locally.”
Quotes from fired CIO:

“We need to protect our proprietary data.”

Most company security budgets and security sophistication are dwarfed by Amazon’s and other large cloud service providers.

“Foreign locations require customer data stored locally.”

Cloud providers provide services that don’t cross international borders.
Government IT is BIG Bucks

Federal Computer Week Aug 30 2015

GAO’s OASIS (One Acquisition for Integrated Service) - $60 billion contract vehicle for “integrated services”. One year old.

It is for “Professional Services” – Consultants
Top Ten Systems Integrators

(Federal Computer Week, Sept 30, 2015)

- Lockheed Martin,
- Northrup Grumman
- Boeing
- Ratheon
- Booz Allen Hamilton
- Computer Sciences Corp
- CACI International
Where are new IT products and services developed?

How do Tech Companies Grow so Fast?

StartUps!
The StartUp Crap Shoot

In a year,

• A VC gets ~600 “warm intros” from someone the firms knows.
• VC invests in 15.
• 10 will fold.
• 3 will prosper.
• 1 might soar to > billion dollars – a “unicorn” in VC parlance.
Startups Ubiquitous

Apple

Microsoft

The Home Depot

JetBlue Airways

Starbucks Coffee

Whole Foods Market
Could You Work at a Startup?

- Agile - SCRUM
- Minimum Viable Products
- No Salary
- Cloud, Mobile and Social Media Technology
- Older than 24?
- Products with Zero Training
- Evolution: Cisco is a robotics company, Netflix is an encryption company.
Defense Department CIO Terry Halvorsen (Sept 20145 AFCEA Conference)

“DOD spends $44 billion annually on cybersecurity.

Civilian DOD employees will do six-month rotations with private firms to learn the tricks of the trade.”
Pentagon’s 6200 new hires Cyber workforce initiative: stalled. Congress authorized DHS to pay cybersecurity experts more and give bonuses.

The Office of Personnel Management have identified cybersecurity has the highest risk skills gap.
Security Skills in Demand

Identity Management Security Engineer  $120K - $175K
Web Application Security  $90K - $135K
Health Care Information Security Analyst  $90K - $120K
Biometric Security Account Executive  $200K – 300K
Senior Security Engineer  $70K - $130K
Security-Focused Product Manager  $130K - $150K
Security Career Enablers

- Information Systems Audit and Control Association (ISACA)
- (ISC)^2 International Information System Security Certification Consortium
- GIAC Global Information Assurance Certification
- EC-Council University
- CSFA Cyber Security Forensic Analyst
Local Job Sources

Clubs, Meetups, Hackathons
Jobs Discussion Forum

- Python dev for project (could go permanent)
- FullCity Consulting is looking for a FileMaker & PHP Developer
- Junior Support Programmer
- iOS/Android Mobile Developer
- 2D/3D animation
- Available: Freelance iOS Developer (5-10 hours/week)
- Technical Project Manager
- php MySQL
- Web Applications Developer
- Coder: Ruby + SQL + APIs + FE

Kingston, NY
Local Job Sources

Certifications & Associations
### Positions - Information Assurance

<table>
<thead>
<tr>
<th>Certification</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certified Ethical Hacker</td>
<td>EC-Council</td>
</tr>
<tr>
<td>Certified in Risk and Information Systems Control</td>
<td>ISACA</td>
</tr>
<tr>
<td>Certified Information Security Manager</td>
<td>ISACA</td>
</tr>
<tr>
<td>Certified Information Systems Security Professional</td>
<td>(ISC)²</td>
</tr>
<tr>
<td>Cyber Security Forensic Analyst</td>
<td>CyberSecurity Institute</td>
</tr>
<tr>
<td>Certified Security Analyst</td>
<td>EC-Council</td>
</tr>
<tr>
<td>Certified Penetration Tester</td>
<td>GIAC</td>
</tr>
<tr>
<td>IS Security Engineering Professional</td>
<td>(ISC)²</td>
</tr>
</tbody>
</table>
Positions – IT Compliance

**Certified Information Systems Auditor**  ISACA

**Microsoft Certified Solutions Expert**  Microsoft

**Project Management Professional**  Project Management Institute

**Cisco Certified Design Associate**  Cisco Systems
<table>
<thead>
<tr>
<th>Certification</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certified ScrumMaster</td>
<td>Scrum Alliance</td>
</tr>
<tr>
<td>Certified Secure Software Lifecycle Professional</td>
<td>(ISC)$^2$</td>
</tr>
<tr>
<td>EC-Council Certified Secure Programmer</td>
<td>EC-Council</td>
</tr>
<tr>
<td>Citrix Certified Professional — Virtualization</td>
<td>Citrix</td>
</tr>
<tr>
<td>Certified Professional — Data Center Virtualization</td>
<td>Vmware</td>
</tr>
</tbody>
</table>
Local Job Sources

Local Recruitment
Mid Hudson Valley – Body Renters
Mid Hudson Valley – *Offshore IT Sales*
Local Job Sources

DICE
Poughkeepsie Jobs - Web

Web Technologies Software Engineer
Python Programmer - Full Stack
Full Stack LAMP Developer
Linux Engineer/Developer
Search Engine Specialist
Senior UI Developer
SCRUM Master
UI Developer
Poughkeepsie Jobs - Niche

Intrusion Detection & Analysis Engineer
Sr. Information Security Analyst
Data Analytics Specialist
Senior BigData Developer
IOS Developer

dice.com  10/19/2015
Poughkeepsie Jobs - Legacy

SAP Integration & Test Engineer
JD Edwards Developer
Senior Oracle DBA
.Net Developer
Oracle DBA

dice.com 10/19/2015
Why Legacy Developers are SHUT OUT From Tech Hiring
You are Too Old
No Network at Dream Companies - 80% of jobs come from referral!

- Think back to the earlier conversation about ATS - recruiters do not want to sift through 1000’s of applications.

- What normally happens is someone in the company mentions someone they have met and remembered. “I know a guy that would be perfect for this”

- Make a bucket list of the 10 companies that you really want to work for and start connecting with people in that company via LinkedIn.
Resume Overdone

Show NO experience > 8 years Ago!

- Resumes need to be skimmable. Studies show that you have 6 seconds before the hiring manager moves on.

- No fancy fonts, no adjectives like “go-getter”, “highly organized” - these are subjective and are like nails on a chalkboard with recruiters.

- Lots of white space, simplify, be concise and clear.

- Quantify experience w numbers - (I led a 30 person team over 2 years and increased profits by 37%)
LinkedIn Profile Not Optimized

• According to LinkedIn, 50% of people do not have their profile optimized.

• Optimization helps you show up in recruiter searches.

• Take a job description - go to wordle.net - make a word cloud - see what the keywords are. Have those throughout your profile.
Don’t Present Yourself like the person in Resume

Can’t Backup Experience and Skills
Take Away For Legacy Developers

Be a humble 20 year old in attitude and skills.