MICHIGAN STATE UNIVERSITY

10/01: Resume Writing and Interviewing

The Capstone Experience

Dr. Wayne Dyksen

Department of Computer Science and Engineering
Michigan State University

Fall 2012

From Students…
…to Professionals

Purpose

- Resume
  - Get Noticed
  - Get an Interview
  - Get in the Door
- Interview
  - Tell Your Story
  - Get a Good First Job
  - Start a Successful Career

Caveats Resume Writing & Interviewing

- Partly…
  - Science
  - Art
- Lots of Opinions
  - Varied
  - Sometimes Conflicting
- Always Exceptions to Every Rule
- Do what works for you.

Resume Writing and Interviewing

- Resume Writing

- Interviewing

Resume Challenges

- Competition
  - 100's or 1,000's of 10,000's of Resumes
  - Lots Similar
  - Lots Qualified
- Typical Usage
  - Visual Scan (< 10 Seconds)
  - Optical (Machine) Scan
  - Often Not Read in Detail
  - Often Discarded

How will your resume stand out?

Resume *Nota Bene*

Every Last Detail Matters

If...

- ...cannot find relevant information in 10 seconds
- ...email wrong and bounces back
- ...phone number wrong
- ...not visually appealing
- ...not professional looking
- ...no answer and no voicemail
- ...etc...

then...

- ...pitch your resume and move on to the next one.

Resumes 101

- Exactly One Page
- Simple Formatting (Scan-able)
- Honest
- Contains…
  - Contact Information
  - Objective
  - Education
  - Skills
  - Experience
  - Other Activities

Contact Information

(1 of 3)

- Name
- Email Address
  (Use “Professional” Email Address)
  - No
    - TheGamingWizard@hotmail.com
    - HotToTrot@gmail.com
  - Yes
    - dyksen@msu.edu
    - wayne@dyksen.com
    - wayne.dyksen@gmail.com
- US Mail Address
  - Current (Your Apartment)
  - Permanent (Your Home Address (Parents’?))
    (What if I want to contact you after you leave MSU?)

Contact Information

(2 of 3)

- Phone
  - Current
    - Probably Not Your Apartment Phone (Why not?)
    - Your Cell Phone
      - No Cell Phone? Get one.
      - Providers offer pay-as-you-go service.
  - Permanent
    - Your "Home" Phone (Parents')?
    - Your Cell Phone?
    - What if I want to call you after you leave MSU?
  - Include Area Codes
  - Get "Voicemail" for All Phones

Contact Information (3 of 3)

- Phone
  - Fix your voicemail "not here" messages.
    - No
      - "Hey baby! You've reached the voicemail of the hottest person at MSU. Leave your number and I'll give you a ring but only if you're lucky."
      - "I'm not here. Leave a message."
      - "Hi. I'm sorry I missed your call. Please leave me a message and I'll get back to you. Thanks for calling and have a great day."
    - Yes (Include Your Name!)
      - "Hi. This is Wayne Dyksen and you've reached my cell phone voice mailbox. Please leave me a message and I'll get back to you. Thanks for calling and have a great day."

Objective

- Very Concise (One Line)
- Indicate internship or permanent employment.
- Avoid flowery BS.
- Examples
  - To secure a summer internship as a software developer.
  - To secure permanent employment as a software engineer.
  - To secure permanent employment as a software engineer that utilizes and expands my skills in computer science.
- Be specific only if you really mean it. Why?
  - To secure permanent employment as a database administrator
  - To secure permanent employment as a network administrator.

School Address
Calvin College
Grand Rapids, MI 49546
(616) 555-1234

Bob Dyksen

bob@dyksen.net

Permanent Address
2175 Burcham Dr.
East Lansing, MI 48823
(517) 555-1212

Objective To secure a full time position as a software engineer that utilizes my skills and expands my knowledge in computer science.

E.J. Dyksen

School Address
2148 Raspberry Court SE, Apt H
Grand Rapids, Michigan 49546

ej@dyksen.net
(517) 555–1234

Permanent Address
2175 Burcham Drive
East Lansing, Michigan 48823
(517) 555-1212

Objective Secure an internship that will expand my knowledge and experience in computer science.

Interview Tip

- Be ready to answer questions like…
  - “What do you like to do?”
  - “What kind of positions interest you?”
  - “Where do you want to be in five years?”
- Know Positions
  - Program Manager (PM) or Developer (Dev)
  - Associate Software Developer
  - Associate/Sr. Consultant
  - Etc…

Your GPA

- Used by Companies for Screening
  - Use Varies by Company
  - If GPA < Threshold then No Interview?
  - Threshold Varies by Company
- On Resume
  - Probably. Almost Certainly (IMHO)
  - Easy to Find
  - If not there…
    - I'm thinking…
    - I'm going to…

So-So GPA's

- Compute "Sub" GPA's
  - Overall vs CSE
  - Freshman vs Sophomore Through Senior
  - Freshman/Sophomore vs Junior/Senior
  - Freshman, Sophomore, Junior, Senior
  - Etc…
- Give a Good Explanation
  - Was Immature. Grew Up.
  - Not Motivated When Freshman. Am Now.
  - Worked 40 Hours/Week to Pay for School.
  - Etc…

Education

- Degree — BS
- Major — Computer Science
  - Cognate (Minor) — Business
  - Date Expected — December 2012
- Institution — Michigan State University
- GPA
  - Cumulative — 3.50/4.0
  - CSE — 3.70/4.0
- Relevant Courses
  - Number — CSE 231
  - Title — Introduction to Programming
  - Topics in Parentheses — (Python)
- Non-MSU Institutions
  - May Include Other Colleges/Universities
  - Do Not Include High School

Cognate

- Highly Valued by Companies
- Leverage
  - On Resume
  - During Interview
- “Cognate”
  - Unknown Term
  - Confusing Label On Resume
  - Label As “Cognate (Minor)”
  - Explain Cognate Like a Minor
  - Be Careful to Not Misrepresent as Official Minor

School Address
Calvin College
Grand Rapids, MI 49546
(616) 555-1234

Bob Dyksen

bob@dyksen.net

Permanent Address
2175 Burcham Dr.
East Lansing, MI 48823
(517) 555-1212

Objective To secure a full time position as a software engineer that utilizes my skills and expands my knowledge in computer science.

Education B.A., Computer Science, Expected December 2002 Calvin College, Grand Rapids, MI

- CS GPA: 3.50/4.0, Cumulative GPA: 3.13/4.0
- CPSC 186, Introduction to Data Structures with C++ (C++, Visual Studio 6.0)
- CPSC 210, Web Site Administration (HTML, CGI, Perl, Apache Web Server)
- CPSC 230, Data Structures and Algorithms (C++, Java, Visual Studio 6.0)
- CPSC 247, Software Engineering (C, UML)
- CPSC 270, Operating Systems (C++, Java, Perl)
- CPSC 300, Computer Graphics (OpenGL)
- CPSC 330, Databases (mySQL, Oracle, Java)
- CPSC 370, Networking (TCP, UDP)
- CPSC 380, Programming Languages (C++, ADA, LISP, Smalltalk)
- CPSC 392, Ethics in Computing
- CPSC W80, Cryptography and Computer Security
- ENGR 220, Computer Architecture (SPARC/MIPS, Assembly Programming)

School Address
Calvin College
Grand Rapids, MI 49546
(616) 555-1234

Bob Dyksen

bob@dyksen.net

Permanent Address
2175 Burcham Dr.
East Lansing, MI 48823
(517) 555-1212

Objective To secure a full time position as a software engineer that utilizes my skills and expands my knowledge in computer science.

Education B.A., Computer Science, Expected December 2002 Calvin College, Grand Rapids, MI

- CS GPA: 3.50/4.0, Cumulative GPA: 3.13/4.0
- CPSC 300, Computer Graphics (OpenGL)
- CPSC 330, Databases (mySQL, Oracle, Java)
- CPSC 370, Networking (TCP, UDP)
- CPSC 380, Programming Languages (C++, ADA, LISP, Smalltalk)
- CPSC W80, Cryptography and Computer Security
- ENGR 220, Computer Architecture (SPARC/MIPS, Assembly Programming)

Course Related Projects

- Linux Kernel Network Router (CPSC 370)
  - Implemented a kernel-resident network router.
  - Routed IP network traffic across two or more NICS.
  - Optimized routing times via cached routes.
- Virtual Private Network (CPSC W80)
  - Designed a virtual private network protocol.
  - Implemented a VPN via TCP/IP tunneling.
  - Utilized DES3 cryptography for secure IP data packets.

E.J. Dyksen

School Address
2148 Raspberry Court SE, Apt H
Grand Rapids, Michigan 49546

ej@dyksen.net
(517) 555–1234

Permanent Address
2175 Burcham Drive
East Lansing, Michigan 48823
(517) 555-1212

Objective Secure an internship that will expand my knowledge and experience in computer science.

Education

BA, Computer Science — **Calvin College**

Expected May 2008 — Grand Rapids, Michigan

- CS 108, Introduction to Computing (Java)
- CS 112, Introduction to Data Structures with C++ (C++)
- CS 212, Data Structures and Algorithms (Java)
- CS 214, Programming Language Concepts (Java, Lisp, and Scheme)
- CS 232, Operating Systems and Networking
- CS 262, Software Engineering
- CS 352, Computer Graphics
- ENGR 220, Introduction to Computer Architecture (SPARC Assembly)
- MATH 161, Calculus I
- MATH 156, Discrete Mathematics for Computer Science
- MATH 256, Discrete Structures and Linear Algebra

Interview Tip

- Be ready to answer questions like…
  - “So, what did you do in CSE 422?”
  - “Tell me about a favorite course.”
  - “Tell me about Linux Kernel Network Router.”
- Know Your Courses
  - Topics
  - Books and Readings
  - Projects
- Know Some Projects in Depth
  - Requirements
  - Implementation
  - Complexities
  - Cool Features

Skills

- Simple List
  - Languages
  - Operating Systems
  - Software Systems
  - Software Packages
- Avoid
  - Relative Trivialities (e.g., MS Word)
  - Weak or Non-Existent Skills
  - BS (Effective Team Member, Customer Oriented, etc.)
- Possibly Classify (But Only If Room)
  - Familiar
  - Proficient
  - Certified

School Address
Calvin College
Grand Rapids, MI 49546
(616) 555-1234

Bob Dyksen

bob@dyksen.net

Permanent Address
2175 Burcham Dr.
East Lansing, MI 48823
(517) 555-1212

Objective

To secure a full time position as a software engineer that utilizes my skills and expands my knowledge in computer science.

Education

B.A., Computer Science, Expected December 2002 — Calvin College, Grand Rapids, MI

- CS GPA: 3.50/4.0, Cumulative GPA: 3.13/4.0
- CPSC 186, Introduction to Data Structures with C++ (C++, Visual Studio 6.0)
- CPSC 210, Web Site Administration (HTML, CGI, Perl, Apache Web Server)
- CPSC 230, Data Structures and Algorithms (C++, Java, Visual Studio 6.0)
- CPSC 247, Software Engineering (C, UML)
- CPSC 270, Operating Systems (C++, Java, Perl)
- CPSC 300, Computer Graphics (OpenGL)
- CPSC 330, Databases (mySQL, Oracle, Java)
- CPSC 370, Networking (TCP, UDP)
- CPSC 380, Programming Languages (C++, ADA, LISP, Smalltalk)
- CPSC 392, Ethics in Computing
- CPSC W80, Cryptography and Computer Security
- ENGR 220, Computer Architecture (SPARC/MIPS, Assembly Programming)

Skills

C, C++, ADA, Smalltalk, Lisp, Java, Perl, HTML, Windows 2000/XP, UNIX, Linux, Visual Studio 6.0

E.J. Dyksen

School Address
2148 Raspberry Court SE, Apt H
Grand Rapids, Michigan 49546

ej@dyksen.net
(517) 555–1234

Permanent Address
2175 Burcham Drive
East Lansing, Michigan 48823
(517) 555-1212

Objective Secure an internship that will expand my knowledge and experience in computer science.

Education

BA, Computer Science — **Calvin College**

Expected May 2008 — Grand Rapids, Michigan

- CS 108, Introduction to Computing (Java)
- CS 112, Introduction to Data Structures with C++ (C++)
- CS 212, Data Structures and Algorithms (Java)
- CS 214, Programming Language Concepts (Java, Lisp, and Scheme)
- CS 232, Operating Systems and Networking
- CS 262, Software Engineering
- CS 352, Computer Graphics
- ENGR 220, Introduction to Computer Architecture (SPARC Assembly)
- MATH 161, Calculus I
- MATH 156, Discrete Mathematics for Computer Science
- MATH 256, Discrete Structures and Linear Algebra

Experience

Skills

- Java, C#, C++, PHP, CSS/XHTML, Ruby (and Rails), SQL, UML, Visual Studio 2005
- Windows Server 2003 System, Exchange Server 2003, IIS 6.0, SQL Server 2005
- Microsoft Windows Vista, Tablet PC platform, Media Center platform, Windows Mobile 5.0
- Eclipse IDE, Linux, Apache, MySQL, PostgreSQL, other open source products
- Adobe Premiere Pro 2.0, Adobe After Effects 7.0, Macromedia Fireworks 8.0

Interview Tip

- Be ready to answer questions like…
  - “How proficient are you in Perl?”
  - “What have you written using Ruby on Rails?”
  - “Have you ever administered an Exchange Server?”
- Know
  - Your Skills
  - Examples of Using Your Skills
  - Your Limitations

Experience

- Position Description
- Company
- Dates
- Bullet List of Accomplishments
  - Concise
  - Specific
  - Begin with Action Verb
  - One Line Per Bullet
  - Sentence Fragments Okay
- Only Most Relevant and Most Recent

Skills C, C++, ADA, Smalltalk, Lisp, Java, Perl, HTML, Windows 2000/XP, UNIX, Linux, Visual Studio 6.0

Experience

Software Engineering Internship **The Boeing Company, St. Louis, MO**

- Made corrections in T-38C cockpit software Summer 2002
- Used System Integration Lab (SIL) to test changes to MDP software
- Developed ACMI debrief application for T-38C aircraft (SDT, C++, Visual Studio 6.0)
- Participated in software development processes

Software Engineering Internship **The Boeing Company, St. Louis, MO**

- Participated in SEI Level 3 Activities Summer 2001
- Developed automated testing utilities for the AHWCS project (Java, C++)
- Tested the launch control software for the *Harpoon Block II* missile
- Managed group web pages

Program Analyst Internship **Mutual of Omaha, Omaha, NE**

- Designed and implemented software (Java, some C++)Summer 2000 - Spring 2001
- Involved in a major company project
- Worked closely with associates from other companies (Trilogy, ICONIXX)
- First telecommuting intern

Experience

Program Manager Intern — **Microsoft Corporation**

Summer 2006 — Terminal Services

- Investigated solutions for a large software architecture problem
- Initiated communication with external teams for alternative solutions
- Delivered a V1 specification encapsulating the first step in the solution

System Architect and Administrator — **Michigan State University**

Summer 2005 — College of Agriculture and Natural Resources

- Designed and implemented a major Windows Server 2003 and Exchange Server 2003 installation to handle 2,000 users
- Maintained two concurrent Active Directory forests with trusts for migration purposes
- Recovered overnight from a university-wide security issue

System Administrator — **Michigan State University**

Summer 2003, Spring and Summer 2004 — Clara Bell Smith Center

- Designed and implemented a Windows Server 2003 and Exchange Server 2003 installation
- Converted from stand-alone desktops to fully managed desktops
- Packaged custom applications for group policy rollout

Programmer — **Michigan State University**

Summer 2002 — Men's Basketball

- Investigated ways to use technology in the collegiate athletic environment
- Developed web service for contacting players via mobile phone
- Administered desktops with Windows XP, 2000 in a mixed Windows/Novell environment

Skills

- Java, C#, C++, PHP, CSS/XHTML, Ruby (and Rails), SQL, UML, Visual Studio 2005
- Windows Server 2003 System, Exchange Server 2003, IIS 6.0, SQL Server 2005
- Microsoft Windows Vista, Tablet PC platform, Media Center platform, Windows Mobile 5.0
- Eclipse IDE, Linux, Apache, MySQL, PostgreSQL, other open source products
- Adobe Premiere Pro 2.0, Adobe After Effects 7.0, Macromedia Fireworks 8.0

Interview Tip

- Be ready to answer questions like…
  - What kind of corrections did you make to the T38C software?
  - What's an SEI Level 3 activity?
  - What's a V1 specification?
  - What was the university-wide security issue and how did you recover?
- Know Your Summer Internships
  - Concise Description
  - Software Systems
  - Your Responsibilities
- Know Some Specific Accomplishments

Other Activities

- Including…
  - Clubs
  - Awards
  - Hobbies
  - Outside Interests
- Concise
- Avoid
  - Trivialities and/or BS
  - High School Activities and/or Awards
- Omit If None

Experience

Software Engineering Internship — **The Boeing Company, St. Louis, MO**

- Made corrections in T-38C cockpit software — Summer 2002
- Used System Integration Lab (SIL) to test changes to MDP software
- Developed ACMI debrief application for T-38C aircraft (SDT, C++, Visual Studio 6
- Participated in software development processes

Software Engineering Internship — **The Boeing Company, St. Louis, MO**

- Participated in SEI Level 3 Activities — Summer 2001
- Developed automated testing utilities for the AHWCS project (Java, C++)
- Tested the launch control software for the *Harpoon Block II* missile
- Managed group web pages

Program Analyst Internship — **Mutual of Omaha, Omaha, NE**

- Designed and implemented software (Java, some C++) Summer 2000 - Spring 2001
- Involved in a major company project
- Worked closely with associates from other companies (Trilogy, ICONIXX)
- First telecommuting intern

Hobbies

- Licensed Private Pilot
- Piano & Pipe Organ

System Architect and Administrator — **Michigan State University**

Summer 2005 — College of Agriculture and Natural Resources

- Designed and implemented a major Windows Server 2003 and Exchange Server 2003 installation to handle 2,000 users
- Maintained two concurrent Active Directory forests with trusts for migration purposes
- Recovered overnight from a university-wide security issue

System Administrator — **Michigan State University**

Summer 2003, Spring and Summer 2004 — Clara Bell Smith Center

- Designed and implemented a Windows Server 2003 and Exchange Server 2003 installation
- Converted from stand-alone desktops to fully managed desktops
- Packaged custom applications for group policy rollout

Programmer — **Michigan State University**

Summer 2002 — Men's Basketball

- Investigated ways to use technology in the collegiate athletic environment
- Developed web service for contacting players via mobile phone
- Administered desktops with Windows XP, 2000 in a mixed Windows/Novell environment

Skills

- Java, C#, C++, PHP, CSS/XHTML, Ruby (and Rails), SQL, UML, Visual Studio 2005
- Windows Server 2003 System, Exchange Server 2003, IIS 6.0, SQL Server 2005
- Microsoft Windows Vista, Tablet PC platform, Media Center platform, Windows Mobile 5.0
- Eclipse IDE, Linux, Apache, MySQL, PostgreSQL, other open source products
- Adobe Premiere Pro 2.0, Adobe After Effects 7.0, Macromedia Fireworks 8.0

Awards

- First Place, Memories Category, Microsoft Start Something Amazing Awards, 2005
- Choral Honor Award, Okemos High School, Okemos, Michigan, 2004

Activities

- Calvin IMPROV, Leader
- Capella Choir of Calvin College

Good idea to include links.

Leveraging the Capstone Course

Software Engineer Intern **Fall 2008**

The Toro Company **Riverside, California**

- Worked on a team of four students in MSU senior capstone course.
- Designed and implemented Golf Vision Interface for Turf Guard.
- Worked directly with customer to develop a complete project plan.
- Produced video about project and delivered software product.
- Awarded the TechSmith Screencast Award.

Good idea to include links.

Interview Tip

- Be ready to answer questions like…
  - “So, what do you do for fun?”
  - “What do you do when you’re not working?”
  - “Do you have any hobbies?”
  - “What’s ACM?”
  - “What did you do accomplish as president of WIC?”

Bonus Resume Tip

- Learn how to use Microsoft Word!
  - Use Paragraph Spacing
    - Do use paragraph spacing between lines.
    - Do not use empty lines, i.e., just hit return.
  - Use Styles
  - Use Tabs
    - To Line Up Things
    - Do not use spaces, which won't work anyway.
  - Use Right Justified Tabs
    - To Justify Things on the Right Margin
    - Do not use tabs and/or space, which won't work anyway.
  - Etc...
- Submit PDF, Not Word Source
- Test Print Resume (on Paper)

Bonus Resume Tip

- Single Page Limit

  But...

- Multiple Versions Possible
  - Target For Particular
    - Industry
    - Company
  - Vary
    - Lists of Courses
    - Lists of Course Projects
    - Bullet Points Describing Experiences/Internships

Resume Writing and Interviewing

✓Resume Writing

➢Interviewing

Clean Up Your Web Presence

- Facebook
- Twitter
- Personal Web Pages
- Flickr
- Etc...

HR people will and do check these things out.

What about your 1st Amendment rights?

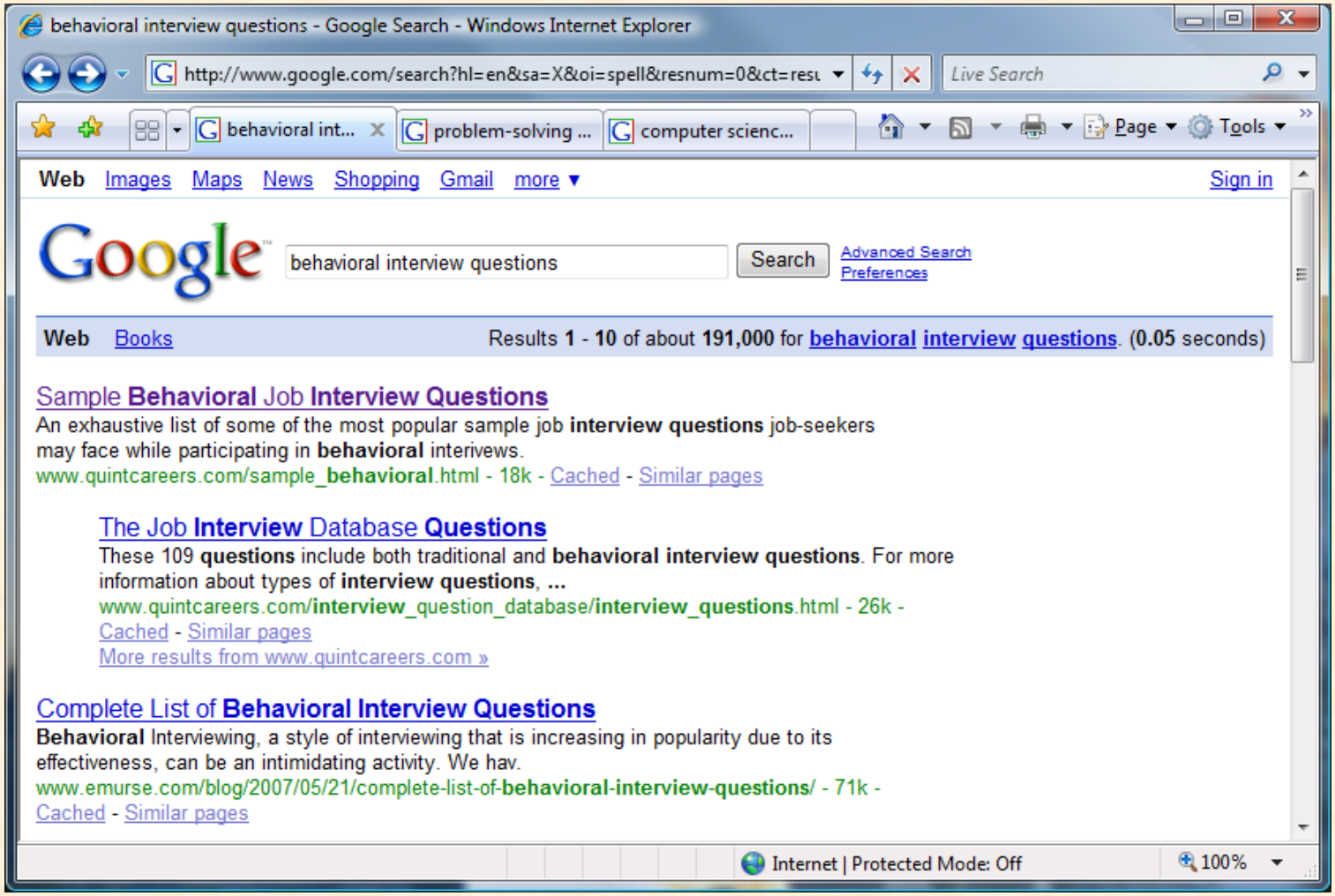
Due Diligence

- Research the company.
- Research the interview.
  - Talk with others who have been interviewed.
  - Ask “What style of interview should I expect?”
- Research the interviewers.
  - Get an interview schedule with names and titles.
  - Figure out who does what.
  - Google for interviewer interests and hobbies.
- Research the dress code.
  - Ask recruiter/interviewer.
  - Ask others.
- Do not be surprised.

Interview Styles

- Many & Varied
  - Technical (How does IPv6 differ from IPv4?)
  - Problem-Solving (In the adjacent room are three lights…)
  - Behavioral (Tell me about a time when…)
  - Coding (Write a recursive function that…)
  - Etc…
- Research
  - Types of Interview
  - Questions for Each Type
  - Type to Be Used
- Do not be surprised.

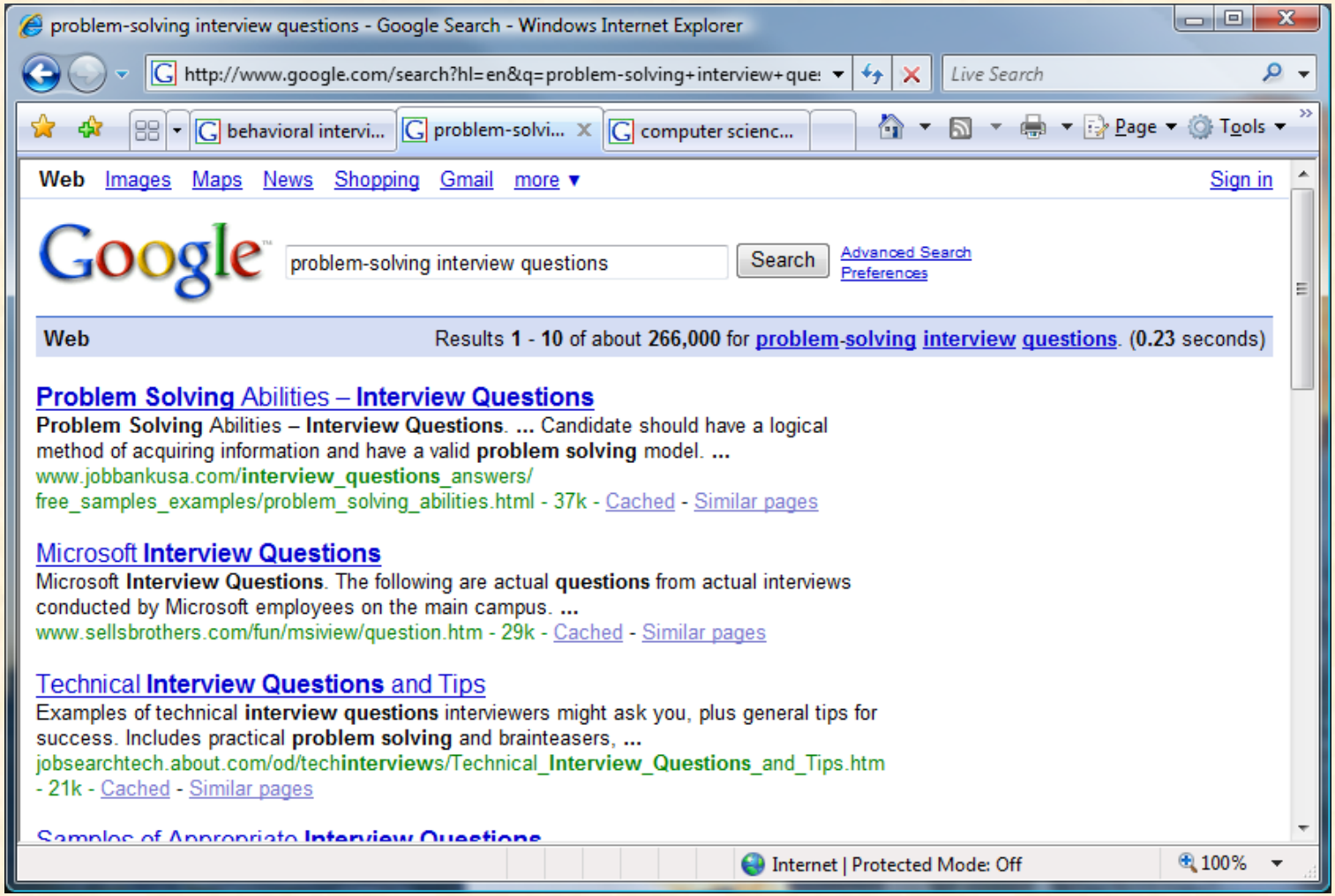
Google behavioral interview questions



Behavioral Interview Questions

1. Describe a situation in which you were able to use persuasion to successfully convince someone to see things your way.
2. Describe a time when you were faced with a stressful situation that demonstrated your coping skills.
3. Give me a specific example of a time when you used good judgment and logic in solving a problem.
4. Give me an example of a time when you set a goal and were able to meet or achieve it.
5. Tell me about a time when you had to use your presentation skills to influence someone's opinion.
6. Give me a specific example of a time when you had to conform to a policy with which you did not agree.
7. Please discuss an important written document you were required to complete.
8. Tell me about a time when you had to go above and beyond the call of duty in order to get a job done.
9. Tell me about a time when you had too many things to do and you were required to prioritize your tasks.
10. Give me an example of a time when you had to make a split second decision.
11. What is your typical way of dealing with conflict? Give me an example.
12. Tell me about a time you were able to successfully deal with another person even when that individual may not have personally liked you (or vice versa).

Google problem-solving interview questions



Problem Solving: Riddles

- Why is a manhole cover round?
- How many cars are there in the USA?
  (A popular variant is "How many gas stations are there in the USA?")
- How many manhole covers are there in the USA?
- You've got someone working for you for seven days and a gold bar to pay them. The gold bar is segmented into seven connected pieces. You must give them a piece of gold at the end of every day. If you are only allowed to make two breaks in the gold bar, how do you pay your worker?
- One train leaves Los Angeles at 15mph heading for New York. Another train leaves from New York at 20mph heading for Los Angeles on the same track. If a bird, flying at 25mph, leaves from Los Angeles at the same time as the train and flies back and forth between the two trains until they collide, how far will the bird have traveled?
- Imagine a disk spinning like a record player turn table. Half of the disk is black and the other is white. Assume you have an unlimited number of color sensors. How many sensors would you have to place around the disk to determine the direction the disk is spinning? Where would they be placed?
- Imagine an analog clock set to 12 o'clock. Note that the hour and minute hands overlap. How many times each day do both the hour and minute hands overlap? How would you determine the exact times of the day that this occurs?
- You have two jars, 50 red marbles and 50 blue marbles. A jar will be picked at random, and then a marble will be picked from the jar. Placing all of the marbles in the jars, how can you maximize the chances of a red marble being picked? What are the exact odds of getting a red marble using your scheme?

Problem Solving: Algorithms

- What's the difference between a linked list and an array?
- Implement a linked list. Why did you pick the method you did?
- Implement an algorithm to sort a linked list. Why did you pick the method you did? Now do it in O(n) time.
- Describe advantages and disadvantages of the various stock sorting algorithms.
- Implement an algorithm to reverse a linked list. Now do it without recursion.
- Implement an algorithm to insert a node into a circular linked list without traversing it.
- Implement an algorithm to sort an array. Why did you pick the method you did?
- Implement an algorithm to do wild card string matching.
- Implement strstr() (or some other string library function).
- Reverse a string. Optimize for speed. Optimize for space.
- Reverse the words in a sentence, i.e. "My name is Chris" becomes "Chris is name My." Optimize for speed. Optimize for space.

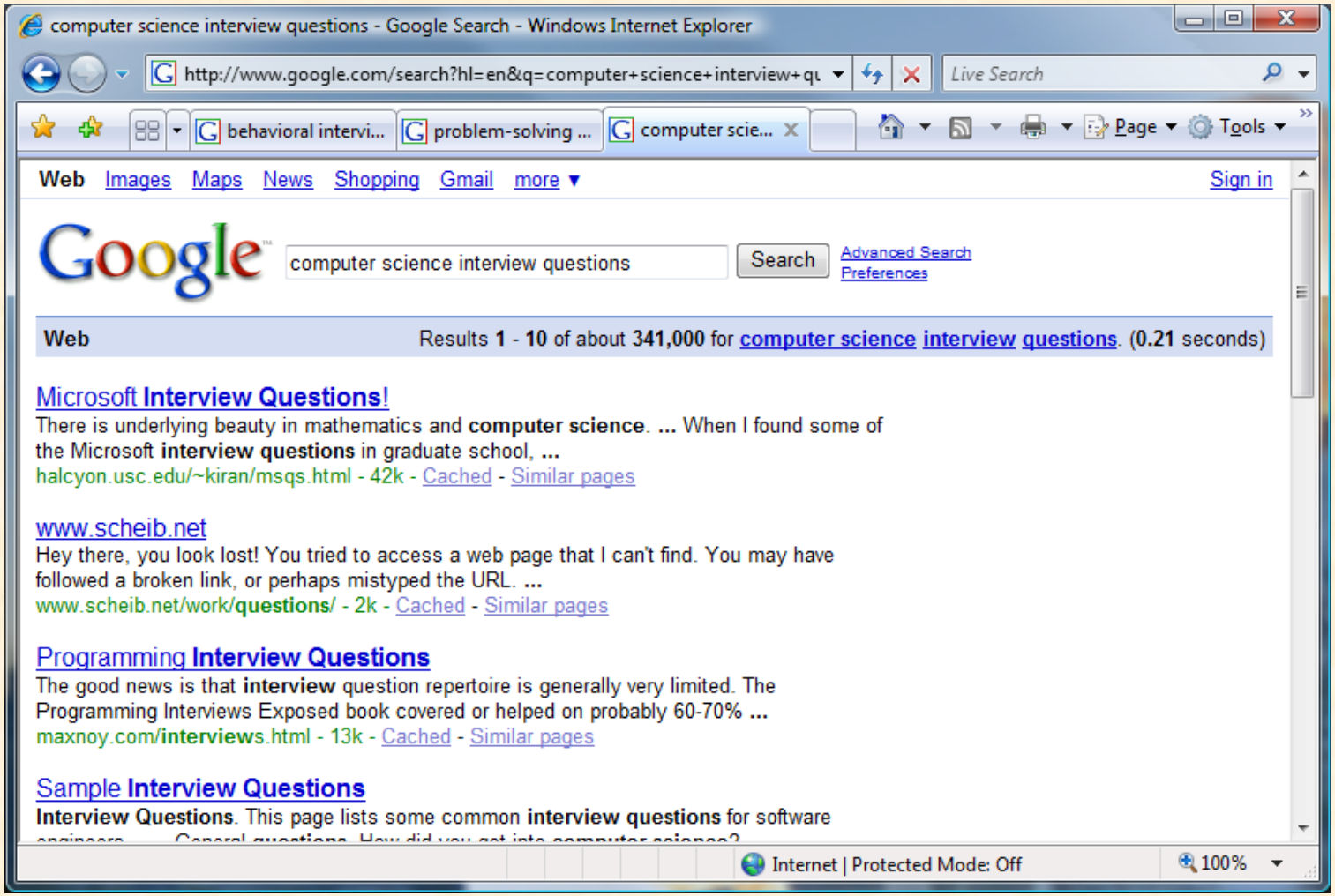
Problem Solving: Applications

- How can computer technology be integrated in an elevator system for a hundred story office building? How do you optimize for availability? How would variation of traffic over a typical work week or floor or time of day affect this?
- How would you implement copy-protection on a control which can be embedded in a document and duplicated readily via the Internet?
- Define a user interface for indenting selected text in a Word document. Consider selections ranging from a single sentence up through selections of several pages. Consider selections not currently visible or only partially visible. What are the states of the new UI controls? How will the user know what the controls are for and when to use them?
- How would you redesign an ATM?
- Suppose we wanted to run a microwave oven from the computer. What kind of software would you write to do this?
- What is the difference between an Ethernet Address and an IP address?
- How would you design a coffee-machine for an automobile.
- If you could add any feature to Microsoft Word, what would it be?
- How would you go about building a keyboard for 1-handed users?
- How would you build an alarm clock for deaf people?

Problem Solving: Thinkers

- How are M&Ms made?
- If you had a clock with lots of moving mechanical parts, you took it apart piece by piece without keeping track of the method of how it was disassembled, then you put it back together and discovered that 3 important parts were not included; how would you go about reassembling the clock?
- If you had to learn a new computer language, how would you go about doing it?
- You have been assigned to design a bathroom for Bill Gates. Naturally, cost is not a consideration. You may not speak to Bill.
- What was the hardest question asked of you so far today?
- If MS told you we were willing to invest $5 million in a start up of your choice, what business would you start? Why?
- If you could gather all of the computer manufacturers in the world together into one room and then tell them one thing that they would be compelled to do, what would it be?
- Explain a scenario for testing a salt shaker.

Google computer science interview questions



What's the point?

Will you get these exact questions?

- You Might
- But Probably Not
- So, what's the point?

Look the Part

(1 of 2)

- People do judge books by their covers.
- Research the “look”.
- If you want the “part”, “look” the “part”.
- Appearance
  - Clothes
  - Shoes
  - Hair (Style, Length, Colors, …)
  - Body Piercings
  - Etc…

Look the Part

(2 of 2)

- Get Advice From Someone With Taste
  - Styles in General
  - What Looks Good on You
  - Size and Fit
  - Whole Package
    - Clothes
    - Shoes
    - Jewelry
    - Hair
    - Etc…
- Do due dilligence.
- Expectations for interviewee may be very different than for interviewer or employee.

Your Personal Presence

- Introduce Yourself
- Learn How to Shake Hands
- Avoid Nervous Habits
- Make Eye Contact (But Don’t Stare Down)
- Give “Right Length” Answers
  - Long Enough
  - Not Too Long
- If Necessary
  - Repeat Question to Buy Time
  - Ask for Clarification
- Practice Wearing Interview Attire

The First Question

- What's the first question at many interviews?
- Tell me/us about yourself.
- Be Ready
- Practice Answer
- Avoid
  - Too Short
  - Too Long
  - Too Vague
  - Too Detailed

Bad Comments to Make

...During the Interview

- “I see you just lost that big contract to Acme.”
- “Wow, your stock price really took a hit yesterday.”
- “It sure looks like the cost of living is high here.”
- “I hear a lot of complaints about Windows 8.”
- “I didn’t do well in that course because the professor sucked.”
- “I didn’t do well in that course because I wasn’t interested in it.”
- Etc…

Bad Questions to Ask...

...During the Initial Interview

- "How much will I make?"
- "How much vacation will I get?"
- "Is there dental coverage?"
- "Will you pay moving expenses?"
- "Will I get my own office?"
- "How soon will I be promoted?"
- "Will I have to work more than 40 hours per week?"
- Etc…

(What if they ask you "How much do you expect to make?")

Good Comments to Make..

...During the Interview

- “That T-38 looks like a really cool plane.”
- “The 787 looks amazing. Passengers will really like the large windows.”
- “Alan Mulally was a great hire.”
- “I’m running Windows 8 and it’s great.”
- “I’m running Exchange Server out of my apartment.”

The Last Question

- What's the last question at many interviews?
- Do you have an questions for me/us?
- What's a really bad answer?
- What are some good answers?

Good Questions to Ask...

...During the Interview

- "Are there opportunities for professional development?"
- "Is there support for advanced degrees?"
- "What career paths are available?"

Okay Questions to Ask…

- "What's the corporate culture like?"
- "What's a typical week like?"

Things Not to Do

- Don’t complain about anything like…
  - …your trip
  - …the airline
  - …the hotel
  - …the weather
  - …the interview process
  - …other interviewers
  - ...other companies
  - …etc…
- Don’t discuss politics or religion.
- Don’t drink alcohol (ever, never, not at all).
- Etc…

Business Cards

- Be ready to handout your business card.
  - Use MSU email account.
  - Include personal URL with link to resume (downloadable).

Follow-Up

- ASAP
- Hand-Written Note
  - US Mail
    (Get Business Cards for Address)
  - Buy Nice MSU Note Cards
- Try to Include Brief Personal Comment
  - Related to Interviewer
  - Record Info on Back of Business Card ASAP

Resume Writing and Interviewing

✓Resume Writing

➢Interviewing