




# The 10 Technologies that Will Help You Stay Employed

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## Agenda


- XML
- Web Services
- Object-Oriented Programming
- Java, C++, C#, VB .NET
- JavaScript
- Regular Expressions
- Design Patterns
- Flash MX
- Linux/Windows
- SQL



## XML (1/2)

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- XML Specification
- XHTML
  - Preferred method for writing HTML
- XSLT and XSL
  - Transform XML documents into something else
- DTDs and XML Schema
  - Describe the content type that an XML file can contain
  - Let you validate the content of XML



## XML (2/2)

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- XPath and XQuery
  - XPath: declarative language to describe specified set of nodes from XML documents
  - Xquery: query language for XML documents like SQL for relational databases
- SOAP
  - Standard communication protocol between Web services



## Web Services (1/2)

- Direct outgrowth of XML's popularity
  - XML makes an extremely convenient base format for a cross-platform communication standard
- You almost certainly will be exposed to Web services within five years
  - It is the simplest way anyone has yet invented for applications to communicate across disparate machines, languages, platforms, and locations



## Web Services (2/2)

- John Bosak, Chair of the XML Working Group said that XML "gives Java something to do"
- Web services give every language something to do; for examples
  - Let COBOL applications running on mainframes talk to Java applications running on handheld devices
  - Let Java applets talk to .NET servers



## Object-Oriented Programming

- Providing tools for the programmer to represent elements in the problem space
- Main characteristics of OOP
  - Everything is an object
  - A program is a bunch of objects telling each other what to do by sending messages
  - Each object has its own memory made up of other objects



## Development

- Let a specific problem generate a class
- Discover the classes you need (and their interfaces) is the majority of the system design
- Don't force yourself to know everything at the beginning; learn as you go
- Classes partition the problem and help control anarchy and entropy
- Always keep it simple



## Java, C++, C#, VB.NET

- One of the most efficient ways of learning to program is by looking at codes
- A huge amount of the code is probably not written in your favorite development language
- Over the past few years, language capabilities have become increasingly similar
- The four languages listed here form



## JavaScript

- All the major browsers use JavaScript
- You can also use JavaScript as
  - A server language for ASP or ASP.NET
  - A functional language for extending XSLT
- JavaScript is highly likely to be
  - The scripting language for new devices in the future
  - The macro language for major applications



## Regular Expressions

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- You search relational databases with SQL, XML with XPath and XQuery, and plain text with regular expression
- Example: You can find and remove all comments from an HTML document via a single document
- Every major development language now provides access to a regular expressions implementation



## Design Patterns

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- Just as OOP simplifies programming by letting you collect and classify object
- Design patterns classify common object interactions into named patterns
- The more you use OOP, the more useful design patterns become



## Flash MX

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- ❑ When you need more client-side graphics and programming power than you can get with HTML and CSS, Flash is the answer
- ❑ Programming in Flash is much faster and easier than programming graphics applications with Java applets or .NET code
- ❑ Flash's also capable of consuming SOAP Web services and calling ColdFusion, Java, or .NET code



## Linux/Windows


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- ❑ Get familiar with Linux
- ❑ The world no longer belongs exclusively to Windows
- ❑ If you're a hard-core Linux developer, drop your antipathy towards Windows and see what you can adopt
- ❑ There's a reason why Windows is still king of the desktop
- ❑ You should try to gain experience more than one platform



## SQL

- Although SQL's likely to diminish in importance over the next decade, it's still an essential skill
- Don't rely on GUI-based SQL builders to do the job for you; write your queries by hand
- Understanding SQL now help you
  - Learn XQuery later
  - Find ways to immediately simplify or improve your current development projects



## Curiosity (No. 11)

- The most important skill you can acquire is curiosity
- Try things out: new language or new tool
- You may never need to become an expert in any of these technologies
- But by cultivating curiosity you'll find out the things that you do need to know



## References

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- <http://www.devx.com/DevX/Article/10244>