

CURRICULUM VITAE *for peter franceschi*

I. Background

- a. **Born:** February 24th, 1981
- b. **From:** Raised in New Bedford, MA and relocated to Rochester, NY at age 10
- c. **Martial Status:** Single
- d. **Citizenship:** United States
- e. **Occupation:** Web Developer / Programmer
- f. **Home Address:**
593 Park Avenue, Apt 1
Rochester, NY 14607
585-733-3145
- g. **School Address:**
100 Lomb Memorial Drive
Rochester, NY 14624
585-475-2411

II. Purpose

- a. This vitae was created to provide insight to the author's educational background and experience. Its purpose is two-fold: Firstly, to inform the reader of the author's educational curriculum, coursework, and areas of study. Secondly, to establish credibility and provide concrete evidence of possessing the knowledge in the former in terms of course descriptions and personal supplement. Such is also intended to provide an educational technologically-centric backing to the knowledge and experience presented in the author's professional resume. The supplement is the authors own words and describes his experience with a particular course. It is *not* meant to inform the reader of the author's professional background. Professional experience and relevant positions held can be found in the authors resume which may be viewed at http://www.88west.com/files/PeterFranceschi_WebDeveloper.pdf

III. Educational History

- a. **University:** Rochester Institute of Technology
- b. **Major:** Information Technology
- c. **Minor:** Creative Literature / Prose / Fiction
- d. **Degree:** B.S. Information Technology
- e. **Honors:** Dean's List – 3 of 11 quarters, Merit List – 5 of 11 quarters

IV. Coursework – Core Courses

- i. **Course:** Introduction to Multimedia: The Internet and the Web
 1. **Description:** This class provides an introduction to key Internet, web, and multimedia technologies, as well as familiarity with the Macintosh computer platform. Topics covered include computer-mediated communication, basic Internet applications such as telnet, FTP, and the WWW, basic digital image, audio, and video techniques, and web page development and publishing. (Computer Literacy)
 2. **Supplement:** Was personally responsible for the generation of a homepage for use in all class projects and submissions. Required becoming familiar with the UNIX platform, basic shell commands as well as programs such as Telnet and PINE and the Pico UNIX text-editor. Basic HTML skills required in the form of

table-based pages, and simple hyperlinks. A detailed history of the web and its creation by founder Tim Berners-Lee as well as a brief history of the foundation of the personal computer and the beginning of the digital age.

ii. **Course:** Programming for Information Technology I

1. **Description:** This is the first course in the introductory programming sequence required for all Information Technology students. Topics include elementary data types, arithmetic and logical operations, control structures and error handling, methods and functions, and an introduction to object-oriented programming design and implementation. Emphasis is placed on the development of problem-solving skills.
2. **Supplement:** The first of a three-course series in Visual Basic that taught the founding principles of programming, object oriented programming, scope, and encapsulation. Projects typically involved building on top of each other to produce a greater result. Such projects ranged from simple alert forms, manipulation of windows via the Visual Basic API, and basic algorithms presented in the form of purchase orders or movement functions. Variables, looping, if/else conditions and the Visual Basic UI were primary topics. My final project for the course was a modified version of the old "memory" game usually played with cards. Numbers were randomly loaded into containers and the user was allowed to click, if there was a match, they were removed, if not the game continued on.

iii. **Course:** Programming for Information Technology II

1. **Description:** This is the second course in the introductory programming sequence required for all students majoring in Information Technology. Topics include further exploration of classes and objects, programming through composition and inheritance, reusability, input/output, and object oriented design. Emphasis is placed on the development of problem-solving skills. Moderately large programming assignments are required.
2. **Supplement:** This was the second course of the series and focused on more advanced principles of programming. Logic statements, encapsulations, functions, sub-procedures, case statements, open/reading/writing/closing files, parsing data, search strings, inheritance, and similar principles. Projects focused on combining these principles into functional executables and were often accompanied by class presentations. My final project was a Photo Album application that allowed the user to browse for images on their computer, add them to the gallery, add notes to them, and cycle between them through the use of a custom GUI.

iv. **Course:** Interactive Digital Media

1. **Description:** Students will create interactive multimedia content for CD-ROM and the World Wide Web. They will capture, combine, control and synchronize video, audio, text and images using authoring environments such as Macromedia Director.

Students will write event handlers to control interactive applications.

2. **Supplement:** Was responsible for the creation of animated short movies produced in Adobe Premiere, as well as digital mixing of audio in AudioCatalyst. In addition, animated shockwave movies were created in Macromedia Director to replicate specific scenarios such as the physics of a bouncing ball. My projects consisted of several games, scripted with Directors proprietary code language Lingo, in the form of replicas of the 1970's classic, Galaga and the 1980's console game, Duck Hunt.
- v. **Course:** Computer Concepts and Software Systems
1. **Description:** A study of the concepts of computer hardware design and organization needed for effective system implementation. Topics include computer peripherals and interfacing techniques, Boolean algebra, digital logic design, integrated circuit families, central processing unit design, buses and addressing, interrupts and direct memory access, hierarchical memories, system performance evaluation and a survey of commercially available computers.
 2. **Supplement:** All aspects of the hardware and communication between hardware of a personal computer were covered. Coursework involved constructing the highest-end PC possible with the lowest budget, doing simple algebra in binary, binary/hex/octet conversions, and the history of the personal computer starting with the flexible computing devices of the 1930's and 40's up through the first mainframe produced by IBM in the late 70's.
- vi. **Course:** Data Communications and Computer Networks
1. **Description:** This course provides an introduction to data communication hardware and software, and use of these components in computer networks. Topics include but are not limited to communication system components, communications software, packet switching, common carrier issues, wide area networks vs. local area networks, and performance considerations over different media.
 2. **Supplement:** Coursework covered data communications in most of its popular formats. Transmission formats were also discussed; digital vs. analog, input/output, encoding types, as well as encryption and secure sending. The Hamming Code was discussed in depth, with an eventual final project being to accept a 16 bit binary string with a random error bit, parse it against the Hamming Code, determine the error bit, and recompile it correctly.
- vii. **Course:** Internetworking Laboratory
1. **Description:** This course is a laboratory-based course on the interconnection of digital devices for the purpose of enabling data communication. The focus is on the hardware, software, and protocols for peripheral and network communication, supported with a substantial laboratory component. Accessing computers and networks from a remote site will also be studied. Students will

be required to construct cables, install network cards, configure modems and establish a variety of working connections between various digital devices. Problems may be introduced into working systems and students will be required to use diagnostic tools (both software and hardware) to determine and repair the problem.

2. **Supplement:** Protocols, differences in networks such as Token Ring, LAN, WAN, Wireless, LocalTalk, and PtP were a principle focus. Various procedures with communication mediums including phone, cat5, cat5e, fiber, and wireless were conducted. Primarily coursework entailed remotely connecting to, diagnosing, or packet sniffing a predetermined connection. Understanding how to properly set/obtain an IP address, Subnet Mask, Gateway, and MAC address was critical. Also learned how to properly install a local network, pulling cable, corner drops, booting and socketing.

viii. **Course:** Introduction to Database and Data Modeling

1. **Description:** A presentation of the data modeling process and database implementation fundamentals. Data modeling, fundamental relational concepts, the process of normalization, relational algebra, SQL, and guidelines for mapping a data model into a relational database will be covered. Students will model a multimedia or text-only information problem and implement it with a commercially available database package on a single machine.
2. **Supplement:** Responsible for learning the foundations of databases, planning, generating a schema, and normalizing database into 1, 2 or n-tier class systems. Fundamental database principles including relationships, attributes, primary and foreign keys, indexing, and database administration were covered in coursework. Taught how to maintain data integrity, and reduce and/or eliminate data redundancy. Diagramming of database systems using ERWin was required on a near-daily basis.

ix. **Course:** Human Factors

1. **Description:** Human Computer Interaction (HCI) is a multidisciplinary field of study concerned with how humans interact with software and hardware interfaces. This course will focus on theories of human information processing, human behavior and their implications for user-centered design of interfaces. Topics include: HCI history, cognitive psychology, user analysis, task analysis, and requirements analysis in the usability engineering process.
2. **Supplement:** The symbiosis between human interaction with interfaces and the cognitive and learning psychology behind it. Being able to take a product, evaluate it against the seven principles of proper design and ensure those principles are consistent across a variety of personality types (based on the work of psychologist Carl Jung). Coursework included taking random products, electric guitars, food products, as well as software interfaces to determine if they were functional and examples of proper design and, if not, correct them. My final

project consisted of exactly that, a 10 page essay on the usability of a high-end model blender.

x. **Course:** HCI 2: Interface Design and Development

1. **Description:** The design of usable interfaces is based on the principles and theories of human computer interaction. This project based course is focused on the application of the usability engineering process, including analysis, design, prototyping, and testing. Additional topics include: what is usability, heuristic evaluation, usability goal setting, interaction design and styles, assessment methods and international user interfaces. Team projects are required.
2. **Supplement:** This course is the second of a two part series on interface design and usability. Whereas the former focused on taking a finished product and correcting it to make it usable, this course focused on the generation of the product itself and the heuristics that follow. Proper planning, prototyping, designing, and development of several products were key projects for the course. The teachings of usability expert Jakob Neilson had a heavy influence on the course and his 10 principles of good design. Heuristic evaluations were conducted on 'test users' to see flaws in design that were then corrected. My final project consisted of a 10 page heuristic evaluation of the popular chat client Instant Messenger. Tests were run against the application using the 10 principles established by Neilson and research was gathered as to why the application was or was not a success.

xi. **Course:** Needs Assessment

1. **Description:** The nature of complex problems in modern organizations requires an information technologist to systematically analyze problem areas to determine the most effective and cost-efficient solutions. This course is designed to build student skills in two different--yet interacting--areas: needs assessment (requirements analysis) and group problem solving. The student will use interviewing and problem solving techniques to uncover the constraints that surround problem areas. The student will learn the questions to ask during needs assessment, along with developing the interpersonal skills to conduct these meetings. Emphasis is on the steps in creative problem solving, the basics of planning to maximize group effectiveness and helping a client to focus his concerns into a clearly defined problem.
2. **Supplement:** Coursework typically fell under the domain of problem solving and user/product interaction. It informed me how to analyze a situation, product or process, and determine if it was progressing properly and, if not, to determine specifically where the problem lies and how to correct it. Multiple interviews of students, professors, and personal colleagues were conducted as practice sessions in analyzing. The final project consisted of a 15 page essay and transcript of a session with my boss at the time. The interview was conducted to take a real life interaction and analyze it against the principles taught in class. Secondary to

that, it was a lesson in learning when to ask the right question, and how to handle the more difficult questions.

xii. **Course:** Technology Transfer

1. **Description:** Technology transfer is an umbrella term that refers to the creation, adoption, and consequences of new technologies in a variety of settings. For example, how does a new idea become implemented in an organization? What are some of the factors that contribute to one new idea being accepted while another is rejected? How do individuals within an organization influence the acceptance of new ideas? When is it wise to "go out on a limb" for a new idea, and when is it wise to wait? How accurately can we predict the success of new technologies? These are the topics that we will explore in this course.
2. **Supplement:** Areas of study centralized around the four stages of product adoption, and the categories of users that accompany them. It was a study in how people react to new products/services and how to account for such reactions prior to the release of the product. The stages of acceptance, once a product has been adopted, were also discussed citing key examples such as the electric transistor, the steam engine, and the Model-T Ford auto. Lastly, and underlying all areas of study, was the principle of diffusion and how new ideas and products will diffuse, to where, what group of people, and why. This principle was key in understanding why even early adopters will reject something if other factors come into play such as relationship to other adopters, gatekeepers that hold the right (or wrong information) and the speed at which different groups adopt.

V. **Courses – Concentrations**

i. **Course:** Web Site Design and Implementation

1. **Description:** An overview of Web design concepts, including usability, accessibility, information design, and graphic design in the context of the Web. Introduction to Web site technologies, including cascading style sheets and dynamic HTML.
2. **Supplement:** I was required to produce a homepage using the foundations taught in Intro to Web Development in addition to new techniques taught throughout the course. A thorough look at CSS1 and 2 were presented and eventually incorporated into nearly all work in some form. In addition, advanced web techniques were covered including server side includes, basic JavaScript commands, and basic DHTML manipulation. Beginner design theory and design principles (color theory, target audience, negative space, leading the eye) were also covered as part of the design segment. A brief introduction to Flash was also covered as a prologue to later development courses.

ii. **Course:** Network-Based Multimedia

1. **Description:** With the Internet changing the way information is delivered and the scope of user interaction, multimedia is being transformed: CD-ROM is being replaced by the Web browser and modem. As bandwidth for typical users increases, the ability to

deliver highly interactive multimedia over an Internet/intra-net connection will begin to parallel the capabilities to which users are accustomed on their desktop computers. This course presents fundamental topics of designing and implementing multimedia on the Internet. Each topic is presented along with the underlying computer technology that supports it and hands-on projects incorporating the concepts.

2. **Supplement:** Online media in many of its forms were covered ranging from RealTime to QuickTime to Windows Media. Audio and Video capturing software was experimented with to understand the varying formats, why some formats are better than others, and when is the proper time to use them (plugins). Video and Audio compression was also covered using student-captured samples. Projects typically involved capturing video or audio from various sources and re-structuring it in terms of compression, file size, display size, lossy/lossless standards, and file format. The final project was a class project that involved taking a student created movie and streaming it out live to the campus in the format of our choice.

iii. **Course:** Web Client Side Programming

1. **Description:** This course will explore the possibilities and purpose of client side scripting over the Internet. Students will learn to use both native and plug-in technologies to build interactive interfaces that are both usable and effective. Key features that will be addressed are browser compatibility, object reusability (bandwidth issues), and different scripting environments. Programming is required.
2. **Supplement:** An advanced course in JavaScript. Three-fourths of the course focused on Javascript, manipulating and traversing the Data Object Model (DOM), and interacting with forms via Javascript. Basic to intermediate level Javascript was covered as a foundation. The latter half of the course entailed the transition from Javascript to Actionscript in the Macromedia Flash MX environment. Basic actionscripting, movie clips, looping, pre-loaders, input/output and file segmentation were covered with an emphasis on e-commerce Flash applications. My second project was an online Flash applet that allowed the user to add items to a cart, tally the total, display the bill, purchase the items, and lastly email the user with a confirmation by means of an external PHP mail-to script. The last segment of the course focused on generating applications with Scalable Vector Graphics (SVG). Common SVG plugins were introduced; the SVG structure, language, and usage were also covered. My final project was a SVG post-graduate applet on my options out of college complete with vacation graphics and tropical islands generated with SVG.

iv. **Course:** Programming for the WWW

1. **Description:** The World Wide Web is no longer just linked, static html documents. Web pages can be generated dynamically and can interact with a user to modify pages on-the-fly, validate user inputs and entertain. This course is an overview of several forms

of programming that are used in the creation of interactive and dynamic web content. This course provides a practical overview of programming in the context of the World Wide Web. It will enable students to develop web pages and web sites that incorporate both client side and server-side programming by installing and modifying existing scripts as well as writing new scripts.

2. **Supplement:** A look at the web in terms of server side scripting languages and manipulating the web and the user experience by user input. The language of choice for the class was Perl/CGI and PHP, all programs, scripts, and jobs were accomplished through the use of server side Perl/CGI scripting. An advanced look at the language with respect to its usage on the web was discussed with coursework and projects following this idea. Typical coursework covered server configuration, storing user information server side, server side user verification (login/password), encryption, regular expressions, validation, and web site security. Projects consisted of building upon an existing website and adding such features as SOAP news feeds, server-side login and password protection, and pulling web stats with Perl. A brief look at the history of Perl, its usages in data mining, as well as a look into the future with PHP was also discussed.

v. **Course:** Web Site Design and Implementation

1. **Description:** An overview of Web design concepts, including usability, accessibility, information design, and graphic design in the context of the Web. Introduction to Web site technologies, including cascading style sheets and dynamic HTML.
2. **Supplement:** An advanced look at web development that picks up where Intro To Web Design leaves off. Advanced look at DHTML, manipulation of all HTML tags via CSS, selectors, classes, inheritance and further coverage of Javascript and its role on the web were covered. My final project consisted of a single omni-page that combined all aspects of all web courses taken thus far into a single application and presented it in a seamless, graphically pleasing manner.

vi. **Course:** Introduction to VRML

1. **Description:** This course will focus on basic and advanced concepts of 3D environment creation and implementation within the Virtual Reality Markup Language (VRML) specification implemented on the World Wide Web. Students will work individually and in groups to create VRML environments on their own home pages and in a larger scale group environment.
2. **Supplement:** An extensive look at VRML and its practical use on the web. At the time, Adobe was about to release Atmosphere, a VRML based 3D browser allowing the user to 'walk' into the Gap instead of seek it out via a typical URL. Our project focused on a more realistic, fun approach. Our course-long project consisted of learning the VRML language, and creating 'pieces' of our virtual world – a Vegas Casino. My team of 5 collectively produced over 200 pieces of our virtual world including things

such as: dice, chairs, toilets, mirrors, sconces, blackjack tables, craps tables, roulette, realistic lighting, rugs and carpet, multi-level buildings, and more. The completion of the project allowed a user to enter the virtual world by means of the Corona plugin for your browser and interact with the world as you would any other Casino.

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viii. **Course:** The Applications of Wireless Networking

1. **Description:** This course explores wireless data networking technologies and equipment. As its basis it uses the fundamental concepts and technologies learned in 4002-342 and expands upon them to include other contemporary and emerging technologies. In this course we will discuss topics such as WLANs, wireless network operation, network integration, construction and network design.
2. **Supplement:** Originally titled Internetworking Lab II, I took this course as an elective and follow-up to I Lab I. Where the preceding course focused on the various mediums and types of communications used on the internet, this one focused entirely on 802.11 wireless communications. The course covered everything about wireless communication including the analog to digital conversion, hub/access point interaction, frame relay, WAP keys, WAP encryption, wireless security, and much more. Hands on examples and tests were conducted with wireless laptops to determine roaming distances, signal degradation, and causes of interference.

ix. **Course:** Raster Based Imaging

1. **Description:** An introduction to basic computer software skills, terminology, and technology as related to raster based computer-imaging software (such as Photoshop). This course provides the

skills necessary to use drawing software relative to the design curriculum. The areas of file formats, software tools, image creation, and file output are covered.

2. **Supplement:** An elective I took to fill remaining credits in my major. Topics covered the more basic to intermediate fundamentals of Photoshop including layering, blending options, working with filters and layer styles, photographic manipulation, feathering, image repairing, and working with the levels/curves and histogram tools.

x. **Course:** Vector Based Imaging

1. **Description:** An introduction to basic computer software skills, terminology, and technology as related to vector based computer drawing software (such as Freehand and Illustrator). This course provides the skills necessary to use drawing software relative to the design curriculum. The areas of file formats, software tools, image creation, and file output are covered.
2. **Supplement:** An elective I took to fill remaining credits in my major. Topics covered the more basic to intermediate fundamentals of Illustrator including: paths, freeform drawing with the Pen tool, masking, clipping paths, gradients, raster/vector blending, converting raster to vector, working with the artboard, importing/exporting, and vector typography. The differences between raster and vector and their best uses were also discussed.

xi. **Course:** Intro to XML

1. **Description:** This course will focus on the development and use of the extensible markup language (XML) to create structured data. Emphasis will be place on the conceptual framework of XML, key components and practices of XML design, XML standards and methods of creating structured data and metadata, and research issues in XML development and use.
2. **Supplement:** A graduate level course I took to fill remaining credits in my major. Coursework focused on understanding XML and why semantic markup is useful to the web, the language as a whole, and its manipulation and conversions by stylesheets and schemas. Basic XML sample files were created including address books and CD lists which were then manipulated by means of DTD schemas or XSLT stylesheets. These were then incorporated into a website developed by the student and displayed as semantically marked up HTML. This process was used in the final project by way of a full functional web log.

xii. **Course:** Advanced Photoshop Techniques

1. **Description:** This course offers a strategic view of the Photoshop/digital imaging work environment, with an emphasis on preparing high-quality images for print. Instead of specific tools, it will focus on broader techniques and strategies with an emphasis on preparing high-quality images for publication. Topics such as image correction, color models, file formats and additional image types such as duotones will be discussed in detail

2. **Supplement:** A graduate level course I took to fill remaining credits in my major. The course picks up where the Intro level course leaves off. Coursework focused heavily on image manipulation, photographic work, and understanding the differences between images. Heavy emphasis was put on being able to pin-point flaws in images and how to correct them by working with levels, brightness/contrast, the histogram, curves, color correction, and sharpening. Additional techniques were taught in the way of image repairing, using the stamp and healing brush to repair broken images, as well as being able to isolate improper colors and other flaws and repair them as needed. My final project for the course consisted of taking a handful of photographs dating from the 1800's and on and restoring them. In addition, I selected six photographs of elderly couples and removed years off their age by use of the stamp and healing brush.

VI. Publications

- a. Personal website featured in "CSS-Mania" online publication, 2003
http://www.nv30.com/mt/blogomania/2004_09.php?page=10
- b. Educational website featured in "The Reporter" print publication, 2002

VII. Affiliations/Memberships

- a. Founding member of the RIT Home Networking Lab, Supervisor Bruce Hartpence. Responsible for QA and product testing for various networking products including hubs, routers, modems, switches, VOIP telephony, and various software applications.

VIII. Upcoming Projects

- a. Working on a submission to the CSS Zen Garden (<http://www.csszengarden.com>) set to be completed before January 1st.
- b. Designing/deploying new personal site to accompany 88West that will feature a Photoblog of images taken with my Canon S1 IS digital camera.
- c. Early stage of development in a personal business site to also accompany 88West where I may freelance/consult out work on a per-client basis.
- d. Submitting <http://www.88west.com> to CSS Reboot on November 1st, 2005.

IX. References

- a. Please refer to the authors resume located at http://www.88west.com/files/PeterFranceschi_WebDeveloper.pdf for a copy of his professional experience and references.