

Software Plan

Requested by: Dr. Eric Breimer
Web Master
Siena College
Department of Computer Science

Dr. Tim Lederman
Professor
Siena College
Department of Computer Science

Alumni Spotlight Web Systems (ASWS)

Initrode Solutions

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Alumni Spotlight Web Systems Software Plan

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System Definition

1.1 Problem Definition

As the internet continues to grow and reach out to more people, web designers face the difficult task of designing a site that will stand the test of time. While some web sites have come and gone, others continue to grow at an increasing rate. One site in particular, www.Facebook.com, has been able to add new users at an astounding pace, while also adding new features to maintain the interest of existing users. Our client, Dr. Eric Breimer, wishes to harness this craze, and use it to strengthen the Siena Community, ranging from prospective students to alumni. Dr. Breimer is acting as a representative for himself as well as the Computer Science Department, and all Siena Alumni. Dr. Eric Breimer is looking for a way in which alumni can register with Siena, and provide information about themselves and their experiences. The information to be included in the member's profile will be, but is not limited to, a biography, current employment information, favorite classes, memories, and a photograph of themselves. The hope is that prospective students will see the level of excellence they can achieve with a degree from Siena. The goal is to create a dynamic portal that will make user profiles easy to access and update. In addition, this website will allow the webmaster to select and display a profile in an "Alumni Spotlight" section that will be added to the Siena webpage. Studies have shown that a more personal website will encourage people to return to that site and this will allow Siena College stand out in the minds of parents, and students alike.

1.2 System Justification

The purpose of our system is to draw people to Siena College by showing the level of excellence that can be achieved after receiving a degree. After registering with our software, Siena Alumni will be able to provide information, such as biographies, employment information, and memories from their time at Siena College. In addition, each user will be able to upload a photo of them that will be displayed along with their profile. A featured Siena Alumnus can then be chosen from the registered profiles to be displayed on the Siena College page in an "Alumni Spotlight" section. This will allow prospective students and their parents to see a Siena Alumni's personal experiences both during and after their attendance at Siena College.

1.3 Goals for the System and Project

The goal of our project is to develop and implement a web-based Content Management System (CMS) that will allow Siena Alumni to create profiles in a legitimate and user-friendly fashion, as well as share the Siena Alumni profiles with prospective students. In addition, the "Alumni Spotlight" must be easy to update and change.

This project must be compatible with a number of different browsers, primarily Mozilla Firefox, Internet Explorer (IE), Netscape Navigator, and Safari. In addition, compatibility with less well-known browsers will be explored.

1.4 Constraints on the System and on the Project

The verification process of the profiles posted by the Siena Alumni is one constraint on this project. These profiles must be checked in some way to ensure that they are legitimate and taken seriously. A second constraint is the need for login information to be handled securely. Another constraint is that the project must be compatible with Mozilla Firefox, IE, Netscape Navigator, and Safari web browsers.

1.5 Functions to be Provided (Hardware & Software/people)

- An online database to store the profiles of alumni.
- Online forms for alumni to use for registration and updating profiles.
- Organized, simple, and structured fields for information collection from alumni to create/update profiles.
- Upload feature for pictures.
- Secure login system for alumni to manage profiles.
- “Alumni Spotlight” feature, which allows the webmaster to select an Alumni profile to be displayed on the Siena page.
- Allow for ease of expansion of the CMS.
- Compatibility with major browsers, such as Mozilla Firefox, IE, Netscape Navigator, and Safari.
- Allow non-registered users, such as prospective parents and students, to view profiles in addition to the “Alumni Spotlight” profile.
- Automated legitimization of profiles.

1.6 User Characteristics

The primary users of this system will be Siena Alumni, who will manage and update their profiles. In the future, the system may also be expanded for use by current students, faculty, and staff. Another type of user will be an administrator, who will be able to update the “Alumni Spotlight” feature and monitor profiles.

1.7 Development/Operating/Maintenance Environments

The system will be developed on the Siena College Software Engineering workstations. The operation of this system will be accessible from any computer system with Internet capabilities. Individual users will be able to access the website and view the profiles of all alumni who have registered and created profiles. In addition, alumni will be able to login and perform any necessary changes to their individual alumni profile. Administrators will be able to access the web site and perform maintenance activities on profiles, select new profiles

for the “Alumni Spotlight,” and handle reports of inappropriate profiles. The maintenance of this system will be determined at a future date.

1.8 Solution Strategy

The project team will use the Linear Sequential Model (also known as the Classic Waterfall Model) to develop the product requested by our client. The Linear Sequential Model involves the following major activities:

- Project Definition – The project team will define the problem that needs to be solved.
- Analysis and Requirements – The project team will meet with our clients and document the requirements of the new system.
- Design of the Solution – The project team will translate the system requirements into software requirements.
- Code and Test the Solution – The project team will translate the software requirements into a programming language. The product will be tested along the way.
This step will not occur until the Spring 2007 semester.
- Install and Maintain – This step involves the actual installation of the software product. Documentation that will assist the client in using and maintaining the system will be provided in the Spring 2007 semester.

1.9 Priorities of System Feature

One of the most important features of our system is maintaining a serious, yet user-friendly environment to attract both alumni and viewers to using the system. A second feature that is important is the security of the system to ensure that profiles are not falsified or tampered with.

1.10 System Acceptance Criteria

The web-based system will allow for a number of online activities including, but not limited to the following:

1. Siena Alumni to register with the system.
2. Siena Alumni to create and update profiles.
3. Siena Alumni to upload a personal picture for use in the profile.
4. An “Alumni Spotlight” to highlight one alumni profile for a set period of time.
5. Legitimizing of profiles entered by alumni.
6. Secure login to profiles.
7. The viewing of every profile by non-registered users, such as prospective students and parents.

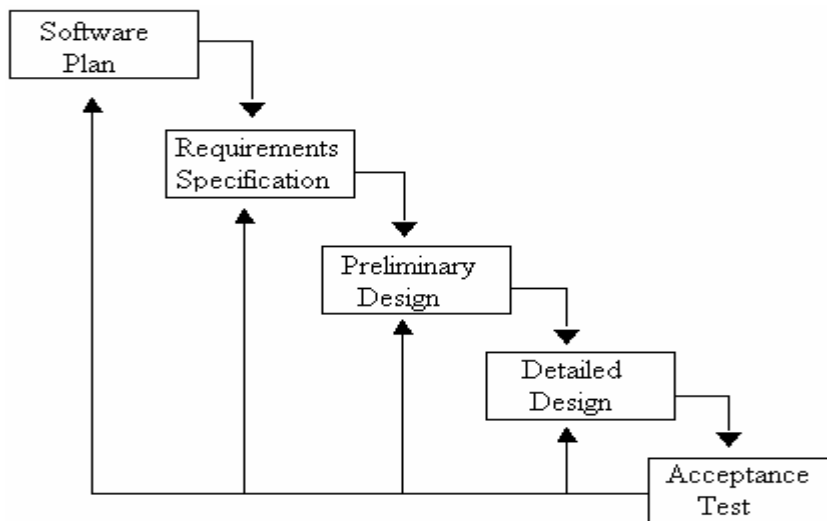
1.11 Sources of Information

The major source of information for this project resulted from meetings with our client's representative, Dr. Eric Breimer. We also plan to take a survey on current students, as well as CS faculty, and contact a few Siena alumni as well. The hope here is to see what it is about facebook.com that students like, also to see what the faculty members would really want from this system, and what alumni would want to see, that would make them want to participate in this system. Other sources of information include Dr. Lederman's class lectures, the Software Engineering class textbook *Software Engineering: A Practitioner's Approach* by Roger S. Pressman, and previous Software Engineering teams' projects.

Project Plan

2.1 Life-Cycle Model

Our project is modeled after the Waterfall method.



Software Plan

Defines the problem and establishes goals and requirements to solve that problem.

Requirements Specification

Team establishes a better understanding of the requirements needed to complete the project

Preliminary Design

The first steps taken to translate the requirements for the project into software representation.

Detailed Design

Preliminary design code is produced and prepared for testing.

Acceptance Test

The team will look over the final project, and check to see that it:

- 1.) Works properly with all platforms.
- 2.) Meets as many specifications that the client wanted.
- 3.) Is user friendly.
- 4.) Correct all errors that may be found before final distribution.

This process will be done towards the end of the Spring 2007 semester.

2.2 Organizational Structure

Initrode Solutions is comprised of the following members:

| <u>Name</u> | <u>E-mail</u> | <u>Phone Number</u> |
|--------------------------|--------------------|---------------------|
| Angelucci, Anthony | saa5557@siena.edu | (845) 797-5472 |
| Feltes, Charles A. | ca25felt@siena.edu | (518) 584-5670 |
| Hearn, Elise D. | seh5924@siena.edu | (518) 320-4914 |
| Luck, David W. | sdl3242@siena.edu | (518) 258-1551 |
| McConnell, Christopher T | ct14mcco@siena.edu | (518) 878-6200 |

Initrode Solutions is organized as follows for the Alumni Spotlight Web Systems Project via the Computer Science website:

Angelucci, Anthony - System Administrator
Feltes, Charles - Webmaster
Hearn, Elise - Librarian / Software Engineer
Luck, David - Software Engineering Analyst and Design Consultant
McConnell, Christopher - Team Leader / Coordination Consultant

The team structure of Initrode Solutions is Democratic. All of the decisions will be decided by majority vote. The team leader will be the tiebreaker in the decisions.

The work assignments for each member are as follows:

| | |
|-----------------------|---|
| Team Leader | Organizes team and client meetings and guides the team throughout the semester. |
| Systems Administrator | Maintains user accounts for the team and is responsible for software installation and administration. |
| Webmaster | Creates and maintains the project web page. |
| Librarian | Responsible for compilation and organization of documentation related to project work. |

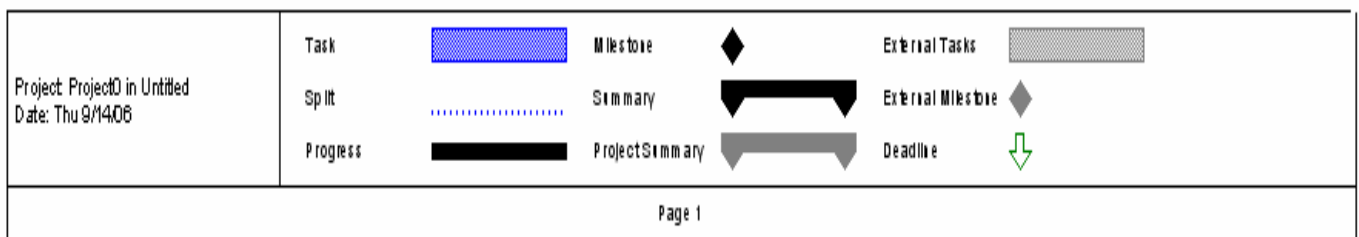
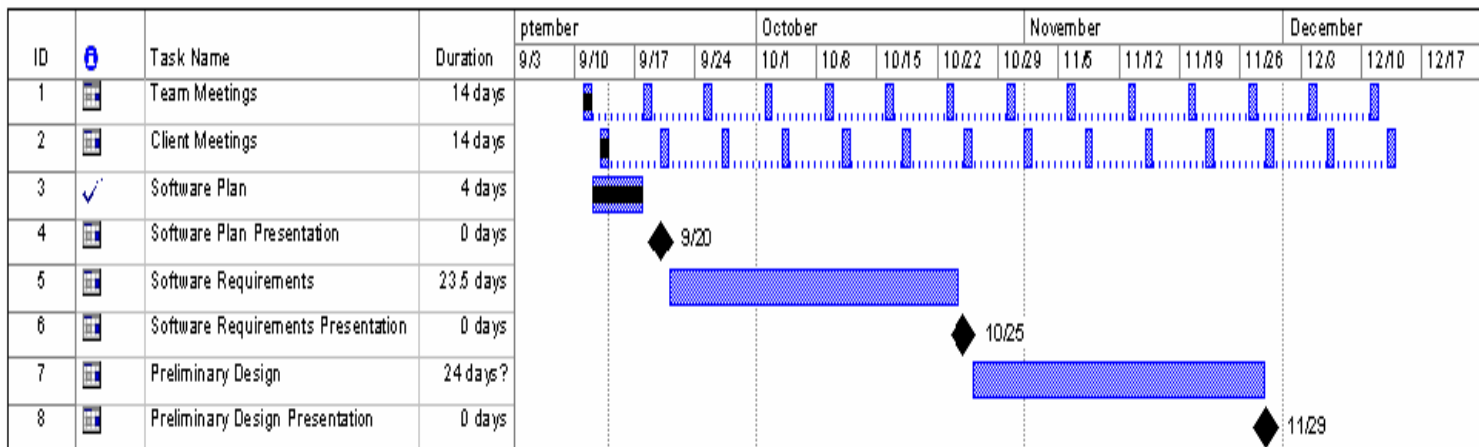
Software Engineering Analyst
presented and Design Consultant

Responsible for analyzing the problem
and assisting team members whenever
needed.

2.3 Preliminary Staffing and Resource Requirements

Our required software resources will include a database management system, Oracle. The server we will be running this on is a Linux Server, named Oraserve, which is running the Linux Red Hat distribution. For our website, we will be using a combination of editors such as Macromedia Dreamweaver along with a CMS system that has yet to be determined. The use of PHP, version 5.1.6 is possible, along with basic HTML, XHTML, and JavaScript. The primary machine we will be operating with is a Dell Desktop with Windows XP Professional SP 2 located in the Software Engineering Lab third floor Roger Bacon Hall, room 352. Our main staff we will be working with is our client, Dr. Eric Breimer of the Siena College Computer Science Department, as well as Dr. Tim Lederman, our Software Engineering professor.

2.4 Preliminary Development Schedule



2.5 Project Monitoring and Control Mechanism

In addition to the client interviews, the project team members will meet regularly to discuss the status of the project and determine the next steps that each team member will need to do in order to provide a working, completed project. As our client responds to our work, the team will determine whether the team's work is really going towards what the client is looking for. We will continue to update our plans, work, and presentations to fit the need of our client(s). The system will be thoroughly tested throughout its development on multiple platforms to ensure the best possible outcome for all users. In the event the project team or the clients determine that the system is off-track, the project team will take the necessary steps to correct the situation.

2.6 Tools and Techniques to Be Used

Computers with the various programs including but not limited to Macromedia Dreamweaver, Microsoft Project, Microsoft Office, Adobe Photoshop, and Macromedia Fireworks. Our team will be using PHP, HTML, and CSS to design the team website and complete the project. We will be using techniques learned in Software Engineering and other computer science classes to accomplish our goals.

2.7 Programming Languages

Introde Solutions will be using the same languages for our Alumni project and our team website. These languages include HTML, XHTML, JavaScript, PHP, CSS, and MySQL.

2.8 Testing Requirements

Throughout the creation of our project, there will be extensive testing of all of our material. Members of our team as well as other students will do the testing for this project. The client will receive the results of the tests and we be asked to be involved in the testing process.

2.9 Supporting Documents Required

The supporting documents will be provided to our client by the following dates:

1. Project Definition/Project Plan - September 18, 2006
2. Software Requirements Specifications - October 23, 2006
3. Preliminary Design - November 27, 2006

2.10 Manner of Demonstration and Delivery

There will be several presentations throughout the development process. The presentations will consist of PowerPoint presentations, speeches, handouts and other demonstrations. The purpose of these presentations is to update our client

on our progress and to verify that the standards are being met. The dates for the presentations are as followed:

1. Project Definition/Project Plan - September 20, 2006
2. Presentation of Project Plan – September 21/23. 2006
3. Software Requirements Specifications - October 23, 2006
4. Specifications Presentation – October 25/27, 2006
5. Preliminary Design - November 27, 2006
6. Preliminary Design Presentation – November 29/
December 1, 2006

2.11 Sources of Information

The main source of information comes from the client meetings with Dr. Eric Breimer. Other sources of information include lectures and handouts from Dr Lederman’s class and from the textbook

Appendices

Appendix A: Team Résumé

Anthony Angelucci

Present Address

Siena College, SPOB 3568
515 Loudon Road
Loudonville, NY 12211
E-Mail: saa5557@siena.edu

Permanent Address

13 Barbara Lane
Wappingers Falls, NY, 12590
(845) 896-8765

OBJECTIVE

To obtain an internship position that will help me gain experience and develop my computer science skills.

EDUCATION

Siena College, Loudonville NY
B.S. in Computer Science, May 2007
GPA: Overall - 2.7/4.0, Computer Science - 3.0/4.0
Deans List 2005-2006
National Honor Society 2002-2003

EXPERIENCE

Stock/Cashier, Grand Union, Mahopac, NY, Summer 2001 & 2002

- 1 Stocked the shelves
- 2 Had the ability to run a register if needed

Front End Manager, Key Food Marketplace, Carmel, NY, Summer 2003

- 1 Responsible for the activities of all the cashiers
- 2 The head of customer service
- 3 Maintained the appearance of the front of the store

Assistant Manager, Key Food Marketplace, Pleasant Valley, NY, Summer 2004- Summer 2006

- 1 Responsible for maintaining the well being of the store
- 2 Make sure all jobs are completed as expected
- 3 Responsible for the customer service of the store

ADDITIONAL EXPERIENCE

Camp Counselor, John Jay Soccer Camp, East Fishkill, NY, Summer 2001-Summer 2003
Familiar with ICL & IBM registers

ACTIVITIES

Captain, John Jay Soccer Team, 2002

COMPUTER SKILLS

Experience with HTML, PHP, CSS, MySQL, and Flash
Experience in Java and Microsoft Visual Basic
Microsoft Word, Excel, PowerPoint, Internet

Charles A. Feltes III
140 Young Road

Middle Grove, NY 12850
(518) 584-5640
Email: raljah@yahoo.com

OBJECTIVE

To obtain an engaging position, which will utilize the skills I have learned in the field of computer science, and where I can apply my problem solving skills to design programs to complete specific tasks.

EDUCATION

Siena College, Loudonville, NY

B.S. in Computer Science, expected May 2007

GPA: 3.79/4.0; Computer Science: 3.65/4.0

San Diego Community College, San Diego, CA

Attended Fall 2003-Spring 2006

GPA: 3.95/4.0; Phi Theta Kappa International Honor Society

COMPUTER EXPERIENCE

- Programming in C++, Java, Assembly, HTML, CSS, VB, Scheme, MySQL
- Knowledge of Microsoft Office, Microsoft Visual C++, Microsoft Visual Basic, jGRASP, BlueJ, JavaScript

RELEVANT COURSE WORK

| | |
|---|-----------------------------------|
| Software Engineering I | Introduction to Computer Science |
| Data Structures | Java Programming |
| Object-Oriented Design and Programming | C++ Programming |
| Visual Basic Programming | Principles of Information Systems |
| Web Page Creation with HTML | Discrete Structures |
| Assembly Language and Computer Architecture | |

EXPERIENCE

Webmaster, Fall 2006, Software Engineering Class, Siena College

- Member of a 5-member team working with a real client on a real project, in a 2-semester course.
- Developed the team's webpage.

Cashier, Miramar College Bookstore, San Diego, CA January 2005 – August 2006

- Helped to provide superb Customer Relations.
- Designed an inventory system to help catalog books in the overflow area for previous years. This enabled the bookstore to return a large portion of unusable books, write-off others, and gain extra space to use for books that were coming in for new semesters.
- Assisted in the training of new employees.

Independent Study, Professor Ed Brunjes, San Diego, CA, Fall 2005 (HTML and CSS)

- Designed and implemented a website for use in an educational setting according to W3C standards.

Elise D. Hearn

Current Address:
3 Fenimore Trace Apartments #M

Permanent Address:
11 Deerfield Place

Watervliet, NY 12189
Email: Elise.Hearn@.siena.edu

Scotia, NY 12302
Cell Phone: (518) 320-4914

OBJECTIVE

To obtain a career in the field of computer science.

EDUCATION

Siena College, Loudonville, NY

BS in Computer Science (with Minors in Mathematics and Business), May 2007

Scotia-Glenville High School, Scotia, NY

COMPUTER EXPERIENCE AND RELEVANT COURSE WORK

- Programming in C++, Visual Basic, Visual Basic for Applications, Java, Assembly and C.
- Proficient with Microsoft Office Package and Internet Explorer
- Introduction to Computer Science (Visual Basic), Introduction to Programming (Java), Data Structures, Assembly Language and Computer Architecture, Object-Oriented Design and Programming, Analysis of Algorithms, Database Management, Advanced Database, Web Design, Software Engineering, Calculus I and II, Discrete Structures I and II, Digital Electronics, Introductory Electronics.

EXPERIENCE

Student Assistant, NY State Dept of Tax and Finance – Albany, NY, Summer 2005 – Present
(Member of Desktop Support Unit assigned to special projects in Empire Services Division (ESD))

- Convert databases from Lotus Approach to Microsoft Access.
- Meet with clients regarding issues and problems with the conversion of their files. Determine best plan of action for converting those files.
- Train and support new members of the conversion team.
- Create applications in VBA that will satisfy more advanced conversion needs
- Attend meetings to report on and update management on the status of the conversion effort.
- Train users how to use conversion tools independently.
- Assist other desktop support employees with help tickets.
- Ghost blank machines with appropriate images and roll machines out to users.
- Install, uninstall and repair software and hardware on user's machines'.

Tutor, Siena College Computer Science Department, Loudonville, NY, January 2005 – Present

- Offer one-on-one help and group help to students in two different introductory Computer Science Courses (CSIS110 and CSIS120).
- General course help, project assistance, lab assistance.
- Notify professors of students who may need more in class attention and/or more tutor time outside of the classroom.

ADDITIONAL EXPERIENCE

Taxpayer Assistance Operator, NY State Dept of Tax and Finance, Albany, NY, Summer 2004 and Dec'04/Jan'05

Cashier, Hannaford Bros. Supermarkets, Glenville, NY, August 2000 – July 2006

Student Worker, Siena College Post Office, Loudonville, NY, September 2004 – Present

Student Poller, Siena College Research Institute, Loudonville, NY, September 2004 – December 2004

ACTIVITIES

Ambassador, Siena College Office of Admissions, Siena College, January 2004 – January 2006

Second Chair Alto Saxophone, Siena College Pep Band, Siena College, October 2004 – March 2005

Student at Large, Siena College Student Finance Committee, Siena College, January - December 2004

Volunteer, Siena College Habitat for Humanity, Siena College, September 2003 – May 2004

Volunteer, Equinox Thanksgiving Dinner, Albany, NY, November 2003

Volunteer, Albany City Rescue Mission, Albany, NY, September 2003

Member, Siena College Intramural Volleyball, Loudonville NY, September 2003 – Present

David W. Luck

Current Address

3807 Carman Rd
Schenectady NY, 12303
(518) 258-1551

Permanent Address

3807 Carman Rd
Schenectady NY, 12303
(518) 258-1551

E-mail Address

david.luck@siena.edu

OBJECTIVE

To achieve a position in a company with room for growth in the field of Computer Science.

EDUCATION

B.S. in Computer Science, Graduation Date: December 2006
Siena College. Loudonville, NY

WORK EXPERIENCE**Camp Counselor, June - September 2003 - 2006**

Campus Children's Center, Albany, NY

Worked as a camp counselor leading, teaching, and supervising games/activities to children ages 6-13.

Web Developer, March 2006

Website developed for personal uses during spring semester of 2006.

Cashier, June 2000 - March 2002

Movies & More, Guilderland, NY

Responsibilities included: Opening/Closing the store, taking inventory, training new employees, counting down and depositing money.

SKILLS

Proficient in VB, Java, HTML, Javascript.

Experienced in PHP, Oracle SQL, Dreamweaver, Fireworks, and Microsoft Office.

REFERENCES

Furnished upon request.

Christopher T. McConnell

School Address

Permanent Address

SPOB #3052, Siena College
Loudonville, NY 12211

1248 Highbridge Rd
Schenectady, NY 12303

(518)878.6200; ChrisTM@nycap.rr.com

EDUCATION

Siena College, Loudonville, NY

BS in Computer Science, Minors in Business, Mathematics, May 2007

Cumulative GPA: 3.52/4.0 Major GPA: 3.95/4.0 Business Minor GPA: 3.67/4.0

Mathematics Minor GPA 3.10/4.0

RELEVANT COURSES

Software Engineering I, Operating Systems, Web Design, Analysis of Algorithms, Object-Oriented Design and Programming, Assembly Language and Computer Architecture, Procedural Design-Programming Data Structures, Intro. Computer Science, Intro. To Programming, Intro to Computer Applications

PROGRAMMING LANGUAGES

Visual Basic, Java, HTML, VB.Net, ASP, ASPX, C, C++, PHP, JavaScript, SQL

DATABASE MANAGEMENT SYSTEMS

SQL Server, Microsoft Access

RELEVANT WORK EXPERIENCE

Siena College Computer Science Department, *Web Designer*, Summer 2006 – Fall 2006

- Created web pages for Dr. Larry Medsker, the Dean of the School of Science
- Created two sites, one regarding the Luce Foundation Scholarship as well as a High School technology conference hosted by Siena

Siena College School of Sciences, *Web Master Apprentice*, Fall 2006

- Assist Eric Crossman, Dr. Eric Breimer, and Ken Swarner with redesign of School of Science Website
- Re-create the School of Science page, including sites for Biology, Computer Science, Chemistry, Mathematics, and an informational page about the Luce Foundation Scholarship

Golub Corporation, *Student Intern*, June 2006 – August 2006

- Modified and enhanced preexisting applications written in VB6 to VB.NET as well as Access applications to VB.Net
- Supervised two other interns in a Web based survey site to create/edit/take surveys related to company issues and jobs.
- Updated passwords for multiple systems including SQL database changes as well as ODBC connections.

RESEARCH EXPERIENCE

- Will be working with Dr. Breimer on a research project related to Protein strands and Computer rendering/prediction of protein folds.

ADDITIONAL WORK EXPERIENCE

Price Chopper Supermarkets, *FE Supervisor/Customer Service*, March 2002 – June 2006

- Supervised front end supervising upwards of forty employees.

- Promoted to customer service and took on the responsibilities of the office supervisor's back up.

ACTIVITIES

Siena ADHOC Recycling Committee, VP, Siena College, Spring 2006

Appendix B: Glossary of Terms

Portal – a specific kind of Content Management System Web site, password protected to allow Site Administrators to edit text, images and other content as and when necessary. This allows easy updating of the website content without the need to learn programming code.

CMS – Content Management System – Web based management system that will allow the team and webmaster to edit, modify, and remove profiles and web pages.

IE – Internet Explorer – Microsoft based program used for browsing the internet.

Profiles – User created accounts that will be customizable according to each specific person.

HTML – Hypertext Markup Language – Predominant markup language used for the creation of webpages.

Markup Languages – Combines a set of text, along with extra information about this text, such as formatting.

XHTML – Extensible hypertext Markup Language – has same capabilities of HTML but is more restricted to allow for conformity among multiple platforms.

CSS – Cascading Style Sheets – These are used to describe a specific style for a web page or set of pages, a website.

PHP – Hypertext Preprocessor – An open source (free) programming language that is used for dynamic pages and is a high-level scripting language.

MySQL – A Multithreaded, multi-user SQL Database Management System.

Code - The symbolic arrangement of data or instructions in a computer program or the set of such instructions.

Database - A collection of data arranged for ease and speed of search and retrieval.

Gantt chart - A chart that depicts progress in relation to time, often used in planning and tracking a project.

Internet - An interconnected system of networks that connects computers around the world via the TCP/IP protocol.

Linear Sequential Model / Classic Waterfall Model – A systematic, sequential approach to software development that begins at the system level and progresses through analysis, design, coding, testing, and support.