SCAR

Siena College Accurate Registration
Software Plan

Requested by:

Mr. Michael Papadopoulos
Assistant Vice President of Student Affairs
Director of Public Safety
Siena College
Loudonville, New York

Prepared by:

D&C Solutions
Vincent Hueber, Team Leader
Patrick Decker, Project Manager
Hans Hansen, Web-Master
Donovan Jackson, Documentarian
David Scirto, System Administrator

September 21st, 2012

Contents

Chapter 1

System Definition

1.1   Problem Definition

Siena College's Director of Public Safety, Mr. Michael Papadopoulos would like to streamline and modernize the implementation of Siena College's guest registration form. The current implementation of guest registration was installed approximately five years ago and Mr. Papadopoulos wishes to update the current implementation and architecture to take advantage of more modern technology. Mr. Papadopoulos ultimately would like to speed up the process of guest registration for Siena students, Siena guests, and Siena College Public Safety officials. Mr. Papadopoulos would like to utilize Siena Student Identification (SSID) numbers to populate the guest registration form with accurate student information. In addition, Mr. Papadopoulos would like to have the ability to scan a Siena guest's driver's license to ensure quick and accurate information to be input into the guest registration form. The only manual information Mr. Papadopoulos would like entered for the Siena guest is the Siena guest's emergency contact information and the email address of the overnight host. This information will be stored in a database so that a Siena student who registers the same guest multiple times does not have to continually enter the same guest's information. At the end of the guest registration form, a Terms and Conditions outline must be accepted. The system needs to adhere to all current visitation guidelines as outlined in Siena policy (2012 – 2013). An email verifying that a guest has been registered must be sent to the registering Siena student, the guest being registered, the overnight host of the guest being registered, and Siena College Public Safety. The new guest registration system must restrict registration of certain forbidden guests accurately as well as offer a verification process for Siena College Public Safety officials when a guest is successfully registered. A searchable database for Siena College Public Safety officials must be implemented so that Siena College Public Safety officials can scan to see if a guest is registered.

1.2   System Justification

The purpose of re-engineering Siena College's guest registration is to streamline the process so that guest registration is faster and more accurate for Siena students and Siena student's guests. The current implementation of the guest registration system requires manual entry of data every time a Siena guest is registered. The current guest registration system is cumbersome and can lead to clerical errors through the accidental input of incorrect data into the current guest registration form by Siena students. By automating the majority of the guest registration form data, through the input of SSID numbers, the process of registering a Siena guest should be a much easier, efficient and accurate process for Siena Students, Siena guests, and Siena College Public Safety officials.

1.3   Goals for the System and the Project

Mr. Papadopoulos feels that reducing the amount of manually-entered data required by the current guest registration form will make the guest registration process faster and offer accurate data for Siena College's Public Safety. D&C Solutions' goal while working on SCAR is to implement an easier, more efficient, and more accurate guest registration system at Siena College.

1.4   Constraints for the System and on the Project

Siena students and Siena guests use a wide variety of technologies and devices to access web pages. SCAR will be implemented to run on all major web browsers including Google Chrome, Mozilla Firefox, Internet Explorer, and Safari.

1.5   Functions to be Provided

The following functions will be provided in D&C Solutions' re-engineering of the Siena College guest registration system:

- Siena students will have their information populated within the guest registration form by providing the SSID number.

- Siena guests will be able to have information populated within the guest registration form by scanning a valid driver's license.

- Siena College Public Safety will be provided with a Guest Registration Identification (GRID) number to ensure there is no falsification of registration papers.

- Siena College Public Safety will also have an easy to use interactive interface in which Siena College Public Safety can search a database for any necessary guest registration information.

- Four parties will be emailed upon completion of the guest registration form
    1.) The registering Siena student
    2.) The overnight host of the registered guest
    3.) The guest of the registering Siena student
    4.) Siena College Public Safety

- The guest registration form will have knowledge, stored in a database, of previously registered Siena guests to cut down on entering data.

- Restricted Siena guests will be prohibited from being registered as guests of Siena College by Siena students.

- Siena College guest registration will follow all Siena policy according to the Siena Life – Student Handbook

1.6   User Characteristics

There will be a total of three different types of users utilizing the Siena College guest registration system:

- Siena College Public Safety
    - Receive confirmation email that a Siena guest has been registered.
    - Receive notification if a prohibited Siena guest has been registered.
    - Receive GRID number to confirm a Siena guest was properly registered.
    - Be able to quickly and accurately access guest information via a database.

- Siena Guest
    - Be able to scan valid driver's license, at Kiernan Hall, to be registered as a Siena guest
    - Receive confirmation email that guest is registered.
    - Receive a unique GRID number to serve as another form of identification.

- Siena Student
    - Be able to use SSID number to streamline the process of registering a Siena guest online.
    - Receive a confirmation email that a Siena student's guest has successfully been registered.
    - Be able to select from previously-registered Siena guests when registering a Siena guest online.

1.7   Development Environment

Software Engineering Lab's Windows Computer
Model: Dell OptiPlex 760
Operating System: Windows Vista Enterprise
Processor: Intel Core 2 Duo 2.93 GHz
RAM: 4GB
HDD: 300GB

Software Engineering Lab's Macintosh Computer
Model: iMac 5.1
Operating System: Mac OS X
Processor: Intel Core i5 2.5 GHz
RAM: 4GB (1333 MHz DDR3)
Graphics: AMD Radeon HD 6750M 512MB
HDD: 500GB

Adobe Dreamweaver, Adobe Fireworks, Apache HTTP server, BlueJ, Eclipse, Microsoft Office 2007-2010, \MySQL, Notepad++, and SmartDraw

1.8   Solution Strategy

D&C Solutions will setup SCAR, a website that will receive and record a Siena guest's information into a database. D&C Solutions will also implement a driver's license scan, in Kiernan Hall, to ensure quick and accurate guest registration.

1.9   Priorities of the System Features

SCAR setup for Siena College guest registration is to provide a faster and more accurate way of recording guests being registered at Siena College. Using SCAR's final form, Siena College Public Safety should be able to accurately populate the guest registration system by using only SSID numbers or a Siena identification card and a valid driver's license of the guest to be registered. The only information that should require manual recording are the Emergency Contacts of the Siena guest. The restrictions of guest registration will follow the guidelines outlined in the Siena Life-Handbook. Once a guest is registered, the guest info will be stored in a database for future retrieval if necessary, this will allow a Siena student to quickly register a guest that had already been registered before.

1.10   System Acceptance Criteria

SCAR will have to adhere/ comply too all the needs of and restrictions set in place by Mr. Papadopoulos, and will have to be tested thoroughly to ensure all bugs are fixed, and little maintenance, if any, is necessary in the future. SCAR will also need to adhere to all guidelines set out in the Siena Life-Handbook.

Chapter 2

Project Plan

2.1   Project Management & Development Model
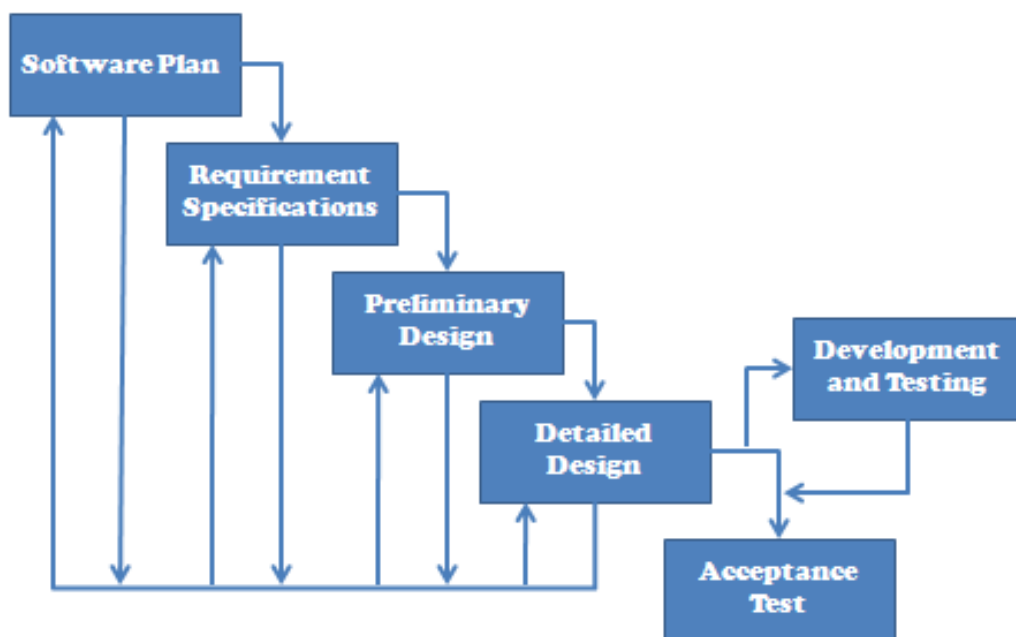
  D&C Solutions uses an altered version of the classic waterfall model of software development as a design strategy. Throughout the course of SCAR's development, the design model pictured above will provide a structure by which D&C Solutions' design team can judge progress and organize future endeavors. The concept behind the waterfall model is that one phase must be completed in order to move on to the next phase. Should one phase be determined to be incomplete at any stage during SCAR's development, D&C Solutions' design team may move back to the incomplete phase and continue on again once the incomplete phase is completed.
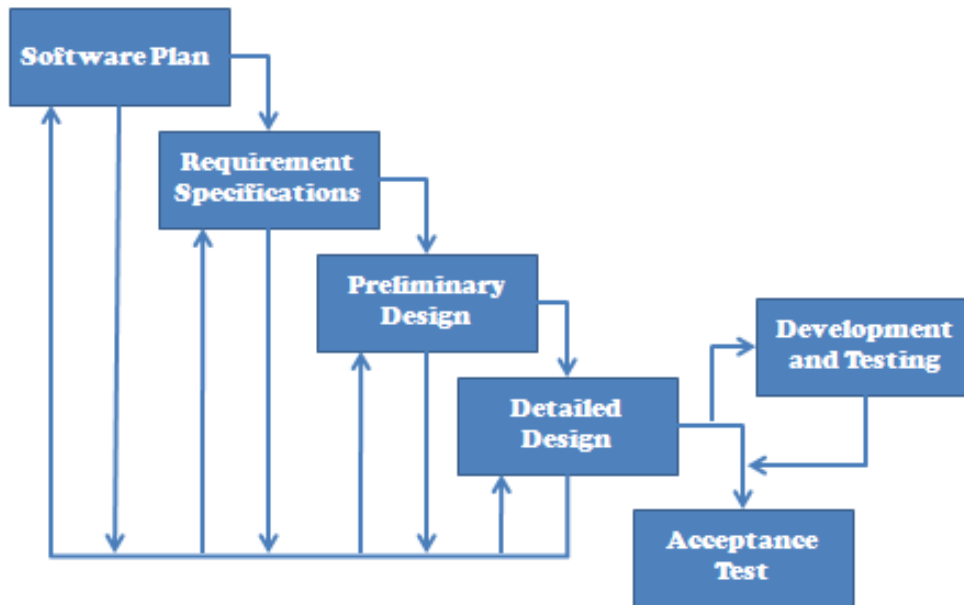
- **Software Plan:** Clearly and concisely describes the problem that D&C Solutions' design team is attempting to solve.

- **Requirement Specifications:** Describes the problem more in depth giving considerations to the specific restraints that the client places on the final product.

- **Preliminary Design:** An initial solution to be approved by the client to ensure all constraints are being considered.

- **Detailed Design:** An implementation of the preliminary design is created and ready to be tested.

- **Development and Testing:** Product is tested and altered until the product meets the specific requirements set out by the client.

- **Acceptance Test:** Final product is demonstrated for the client. The product is accepted if all of the client's constraints have been met and the product performs the desired task.
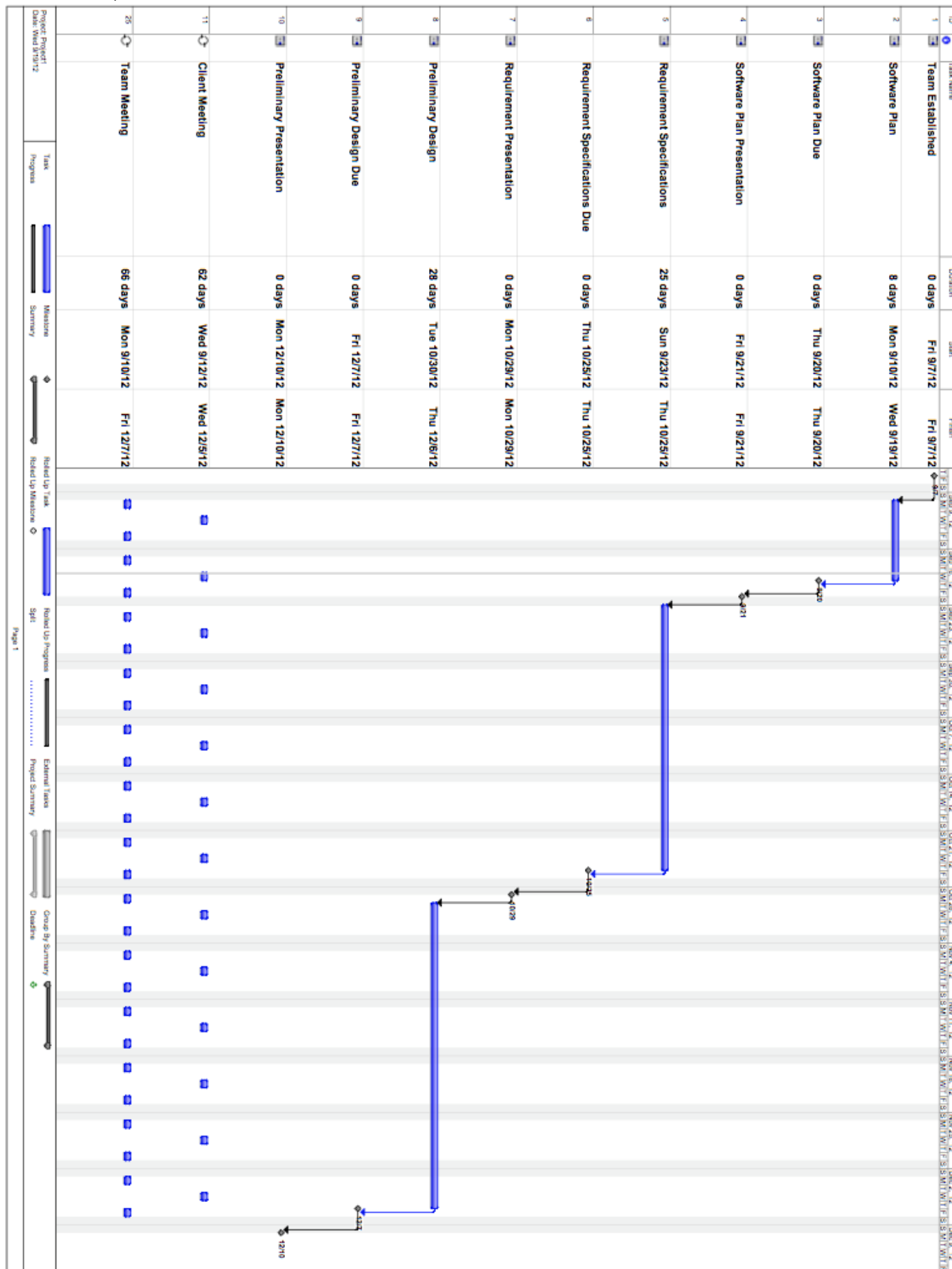
2.2   Organizational Structure

Name	Phone Number	Email
Hueber, Vincent	(631) 220-6006	vc10hueb@siena.edu
Decker, Patrick	(315) 219-6986	pa23deck@siena.edu
Hansen, Hans	(518) 361-0300	ha15hans@siena.edu
Jackson, Donovan	(917) 716-0520	da29jack@siena.edu
Scirto, David	(716) 866-1111	dt04scirt@siena.edu

Hueber, Vincent   Team Leader
Direct link between the D&C Solutions' design team and the client. Organizes client and team meetings and coordinates all the actions of the D&C Solutions design team.

Decker, Patrick   Project Manager
Manages all D&C Solutions' actions with regards to the current project. Works with team leader to develop deadlines for each phase of the project and coordinates with the rest of the team to ensure that deadlines are met.

Hansen, Hans   Web-Master
Responsible for managing the D&C Solutions' web site.

Jackson, Donovan   Documentarian
Records and manages all significant aspects of D&C Solutions' design team meetings. Responsible for capturing the most relevant information in interviews with the client.

Scirto, David   System Administrator
Manages D&C Solutions' development environment. In charge of maintaining all system software and permissions on D&C Solutions' workstations.

The above descriptions capture only the specific duties of each member's respective positions. D&C Solutions maintains a work environment based entirely on the collaboration of all team members to create an exceptional product. Beyond the respective responsibilities of the positions that team members hold, all team members will have integral roles in the physical creation of the final working implementation.

2.3 Development Schedule Time-Line (Gantt Chart)

ID	Task Name	Duration	Start	Finish
1	Software Plan	8 days	Mon 9/10/12	Wed 9/19/12
2	Team Established	0 days	Fri 9/7/12	Fri 9/7/12
3	Software Plan Due	0 days	Thu 9/20/12	Thu 9/20/12
4	Software Plan Presentation	0 days	Fri 9/21/12	Fri 9/21/12
5	Requirement Specifications	25 days	Sun 9/23/12	Thu 10/25/12
6	Requirement Specifications Due	0 days	Thu 10/25/12	Thu 10/25/12
7	Requirement Presentation	0 days	Mon 10/29/12	Mon 10/29/12
8	Preliminary Design	28 days	Tue 10/30/12	Thu 12/6/12
9	Preliminary Design Due	0 days	Fri 12/7/12	Fri 12/7/12
10	Preliminary Presentation	0 days	Mon 12/10/12	Mon 12/10/12
11	Client Meeting	62 days	Wed 9/12/12	Wed 12/5/12
25	Team Meeting	66 days	Mon 9/10/12	Fri 12/7/12

Project: Project
Date: Wed 9/19/12

Task / Progress / Milestone / Summary / Rolled Up Task / Rolled Up Milestone / Rolled Up Progress / Split / External Tasks / Project Summary / Group By Summary / Deadline

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2.4 Project Monitoring and Control Mechanisms

In order to ensure D&C Solutions stays on point D&C Solutions will hold two pre-scheduled team meetings per week, which will allow ample time to assign individual work and to complete group work. In addition D&C Solutions will hold a minimum of one client meeting per week with Mr. Michael Papadopoulos (barring any unforeseen circumstances). Ensuring that D&C Solutions have at least one client meeting per week will allow D&C Solutions to properly communicate and discuss critical criteria important to SCAR's success. D&C Solutions will frequently use email and cellular phone texting as a means of constant communication to keep tasks and goals clear and in order.

2.5   Tools and Techniques

D&C Solutions will be using many techniques acquired through team members past computer science experience, including, but not limited to, software engineering. The applications D&C Solutions will be using, but are not limited to, are Adobe Dreamweaver, Adobe Fireworks, Apache HTTP server, BlueJ, Eclipse, Google Chrome, Internet Explorer, Microsoft Office 2007-2010, Mozilla Firefox, MySQL, Notepad++ and Safari. In addition resources allocated to D&C Solutions via the software engineering lab will be used as well for this project.

2.6   Programming Languages

D&C Solutions will utilize the following programming languages while re-engineering the Siena College guest registration system; Java, JavaScript, PHP, SQL and XHTML.

If new developments arise further programming languages may be needed.

2.7 Testing Requirements

Testing for SCAR will be run during the development of D&C Solutions' new guest registration system. Also intermittently throughout development of SCAR testing will be run on students attending Siena College to ensure that D&C Solutions meets the requirement set out by Mr. Papadopoulos to streamline the guest registration process for Siena students. In the month of April 2012 a final test will be run to assure D&C Solutions has completed all the goals which Mr. Papadopoulos has set out as requirements.

2.8 Supporting Documents Required

The following documents will be submitted to Dr. Lederman (and D&C Solutions' client if necessary):

- Software Plan

- Requirements Specifications

- Preliminary Design

- Detailed Design

- Acceptance Test

2.9   Time of Documentations

The following documents will be delivered to Dr. Lederman (and D&C Solutions' client if necessary) on the following dates:

- Software Plan: 12:00 PM September 20, 2012

- Requirements Specifications: 12:00 PM October 26, 2012

- Preliminary Design: 12:00 PM December 7, 2012

2.10   Method of Delivery

A PowerPoint presentation will be delivered on the following dates:

- Software Plan: 8:00 – 9:00 AM September 21, 2012 at Siena College's Roger Bacon, room 328

- Requirements Specifications: 8:00 – 10:00 AM October 29, 2012 at Siena College's Roger Bacon, room 328

- Preliminary Design: 8:00 – 10:00 AM December 10, 2012 at Siena College's Roger Bacon, room 328

Appendix A

Team Resumes

- Vincent Hueber
- Patrick Decker
- Hans Hansen
- Donovan Jackson
- David Scirto

Vincent C. Hueber

515 Loudon Road, Loudonville NY 12211, vc10hueb@siena.edu

Education

Siena College   May 2013
Major in Computer Science and Minor in Mathematics

- 3.03 Current GPA

Course Work:

- Artificial Intelligence, Computer Graphics, Analysis of Algorithms, Data Structures, Object-Oriented design and Assembly Language, Communications and Networks, Database Management, and Advanced Database Management, and Discrete structures.

Work Experience

Captain Fire Island Water Taxi   June 2009-present
Long Island, NY

- Captain passenger ferries.
- Maintain and clean boats.
- Assist in evacuation of Fire Island in the state of an Emergency.

Data Mining Research   Fall 2012
Siena College

- Research with Professor Dr. Vandenberg.
- Data mined real patient data to find trends and patterns.

Siena Software Engineering   Fall 2012-Spring 2012

- Team leader fall semester.
- Redesigned Siena's guest registration system.
- Client was Mr. Michael Popadopoulos head of Public Saftey.

Additional Experience

Sports Camp Counselor   June 2006 -June 2008
Connetquot High School   Bohemia, NY

- Taught kids ranging from 6th to 8th grade how to play sports and trained new counselors.
- Was in charge of keeping watch over the kids in my group and making sure they all stayed actively engaged.

Bus boy   March 2006-October 2006
Carraba's Italian Grill   Central Islip, NY

- Cleaned tables, bathrooms, floors, and kitchen.
- Baked bread and made sure soda machine was always properly working.

Computer Science Experience

Proficiencies:

SQL(highly proficient), Java(Highly Proficient), C/C++ (Working Knowledge), MIPS (Working Knowledge)

Patrick Decker

SPOB 3580 515 Loudon Road, Loudonville, NY 12211; (315) 219-6986; pg23deck@siena.edu

Education

Siena College, Loudonville, NY
B.S. in Computer Science
- Current GPA: 3.36
- Computer Science GPA: 3.73

Relevant Knowledge

Languages: Experienced in Java, some exposure to C
Web Design: HTML, CSS
Database Management: Oracle

Relevant Courses Taken

-Object Oriented Programming
-Data Structures
-Algorithms
-Computer Graphics
-Artificial Intelligence

Relevant Experience

Software Engineering Team Project Manager
Fall 2012 D&C Solutions, Loudonville, NY
- Ensure deadlines are met throughout the course of a project
- Work on a team towards a unified goal

Siena College Army ROTC Cadet S6
Fall 2012 Mohawk Battalion, Loudonville, NY
- Responsible for all technology and communications equipment used by the Battalion
- Extreme stress on the importance of teamwork
- Placed in a position of leadership on a regular basis

GIS Data Collector
June-August 2009 Herkimer County 911, Herkimer, NY
- Worked extensively with state-of-the-art GPS systems
- Hands-on experience with advanced GIS mapping tools
- Developed route plans to maximize efficiency of route plans

Other Experience

Delivery Person/Warehouse Manager
May 2010-August 2012 Taylor Rental, Whitesboro, NY
- Critical thinking and decision making on a daily basis
- Teamwork of critical importance
- Direct contact with multiple customers on a daily basis

Other Accomplishments

-US Army ROTC Cadet
-Eagle Scout

an

Hans A. Hansen III

54 Murray St.
Glens Falls, New York 12801
Phone: (518) 361-0300
Email: ha15hans@yahoo.com

SKILLS AND RELEVANT COURSES:

Skills: BlueJ, Eclipse, HTML, Java, Mathematica, Microsoft Word, PowerPoint, SQL
Relevant Courses: Computer Graphics, Database Management and Advanced Database, Differential Geometry, Designing/ User Experience Software Engineering I, Web Design

EDUCATION:

Siena College, Loudonville, NY
BA in Mathematics and BS in computer Science, Anticipated Graduation: May 2013
GPA: 3.59/4.00

EXPERIENCE:

Warehouse Coordinator, **Appliance's Unlimited**, Queensbury, New York   *06/2007 - Present*

- Increased wholesale profits by reorganizing the warehouse layout to expand capacity and improve productivity.
- Oversaw online sales for the entire company.

Receptionist, **Siena College President's Office**, Loudonville, New York   *01/2010 - Present*

- Utilized various computer applications such as Microsoft Word, Microsoft Excel, and Microsoft Publisher in order to provide clerical support for the Secretary of the President.
- Addressed visitors, answered telephone calls, and provided help on other special projects as needed.

Web Master of D&C Solutions, **Software Engineering I**, Loudonville, New York   *09/2012 - Present*

- Collaborated with four other students on the development of a new guest registration system for Siena College.
- Supervised the development of our team website (temporary.com).

VOLUNTEER EXPERIENCE:

Founder of Event, **Siena College Toys for Tots Fundraiser**, Loudonville, New York   *12/2009 - Present*

- Founded and planned a new event at which supported the Marine Toys for Tots Foundation.
- Organized volunteer groups of over 25 individuals and 3 other organizations.
- Scheduled performers, photographers, room reservations, and other important aspects critical to the success of fundraising events.
- Succeeded in raising over $3000 worth of toys and cash donations in the three years the event has been running.

Ski Chair/ Vice President/ President, **Siena Outing Club**, Loudonville, New York   *09/2010 - Present*

- Chaired a club of over 150 students in three separate positions as I progressed through the club rankings.
- Headed and coordinated trips which at times saw groups exceeding 40 college students.

ACADEMIC ACHIEVMENTS:

- Siena College, Dean's List (Fall 2009, Spring 2010, Fall 2010, Fall 2011, Spring 2012)
- Recipient of the Siena Presidential Scholarship
- Recipient of the Tech Valley Scholarship

DONOVAN JACKSON Donovan_Jackson7@gmail.com

35 Stage Lane, Staten Island, New York 10304 • (917)716-0520

Education
- Siena College, Albany, NY
- Majoring in Computer Science
- Overall GPA 3.05, Major GPA 3.02
- Anticipated date of graduation: May, 2013

Relevant Experience
Siena College's ITS(Information and Technology Services) at Loudonville,NY
Information & Technology Consultant   September 2010 – April 2011, September 2012-Present
Weekend Supervisor   September 2011 – December 2011
- Registered personal devices to the college's network, troubleshooting electronic devices and programs, and virus removals.
- Was promoted to Weekend Supervisor, which made me in charge of consultants and requests for service during the weekend. Held this position till I went to Study Abroad in Japan.

Siena College Software Engineering   Loudonville, NY
Documentarian   September 2012 - Present
- Kept records of the Software Team's meetings, discussions, and decisions.
- Helped construct, update, and maintain websites affiliated with Software Team's Work.

Skills and Relevant Courses Taken
Alice Program, Java, JavaScript, PHP, Schema, Regular Expressions, Microsoft Word, Microsoft Presentation

Current Interests and Courses Being Taken
-Web Development, Database Management, Computer Languages, Artificial Intelligence (currently, minimal experience), Video Game Designing (currently, minimal experience)

Other Experiences
Studied Abroad In Japan   Tokyo, Japan April 2012 – August 2012
- Skills polished would include problem-solving, social and communicative, and attention to detail, and my ability to adapt.

Chess Instructor, Tutor & CareTaker at Five Block Daycare   Brooklyn, NY July 2009 – August 2009
- Taught children between the ages of 5-10 how to play chess and its complexities.
- Partook in 1-on-1 sessions with children, tutoring them in their academics to bring them up to par.
- Took care of the children's daily needs. Sub-jobs would be serving food, acting as a cross guard, and chaperoned the children when we went on trips outside of the daycare.

New York State Beach Cleanup Volunteer   Brooklyn & Staten Island, NY April 2008 – August 2008
- Participated in Beach Cleanups.
- Helped to clean up the beach and document abnormalities in the environment.

Youth Volunteer for City Parks Foundation   Dyker Beach, NY June 2007- August 2007
- Taught children between the ages 4 and 10 how to play golf.

Honors
Dean's List Fall 2011
Presidential Scholars Program 2009-Present
Siena College Leadership Institute 2009
Fort Hamilton High School, National Honors Society 2008-2009
Marine Corps Distinguished Athlete Award, June 15, 2009
U.F.T. Outdoor Environmental Education Committee Certificate, June 15,2009

David T. Scirto

1010 Madison Avenue

Albany, NY 12208

(716) 866-1111 ~ dt04scir@siena.edu

OBJECTIVE

To secure a job using programming skills

EDUCATION

Siena College, Loudonville, NY

B.S. in Computer Science, May 2013

Computer Science GPA: 3.43

Overall GPA: 3.30

COMPUTER LANGUAGES

Java, C++, C, HTML, CSS, MIPS architecture and language, x86 architecture and language

RELEVANT COURSEWORK

Completed Object-Oriented Design, Analysis of Algorithms, Computer Organization & Architecture, Data Structures, and Discrete Structures I & II. Currently enrolled in Web Application Development, Database Management, and Software Engineering.

CLASS PROJECTS

- Designed and programmed a fully functional version of the board game "Ticket to Ride," primarily using JApplets and JComponents
- Designed and programmed a one-player game of blackjack using MASM

WORK EXPERIENCE

Senior Game Advisor, **GameStop**, Amherst, NY, October 2009 – January 2011

- o Promoted from Game Advisor to Senior Game Advisor after four months
- o Developed interpersonal skills with constant customer interactions
- o Handle responsibilities of a managerial position
- o Assist with organizing promotional store events
- o Manage existing and train new Game Advisors

Shift Manager, **Mighty Taco**, Amherst, NY, August 2006 – August 2009

- o Promoted from Crew Member to Shift Manager
- o Manage existing and train new Crew Members
- o Managed placing and receiving inventory shipments
- o Handle responsibilities of a managerial position

HONORS

Recipient of the William and Delia O'Donnell Harvey Memorial Scholarship

ACTIVITIES

Hockey, Music, Tennis, Ultimate Frisbee

Appendix B

Glossary of Terms

- Adobe Dreamweaver: web design software

- Adobe Fireworks: graphics editor

- Apache HTTP Server: open source web server

- BlueJ: java integrated development environment

- Eclipse: open source integrated development environment

- GB: Giga-Byte

- GHz: Giga-Hertz

- Google Chrome: web-browser developed by Google

- Guest (As Defined in Siena Life-Student Handbook): any person who is visiting a Siena residence living facility and is not affiliated with the college as a current student, employee or faculty member

- GRID: Guest Registration Identification

- HDD: Hard Disk Drive

- HTTP: Hypertext Transfer Protocol

- Internet Explorer: web-browser developed by Microsoft

- Java: object-oriented programming language

- JavaScript: dynamic scripting language

- MHz: Mega-Hertz

- Microsoft Office 2007-2010: word processing package developed by Microsoft

- Mozilla Firefox: web-browser developed by Mozilla Corporation

- MySQL: open source relational database management system used in many web applications

- Notepad++: free source code editor

- Operating System: collection of software that is used to manage computer software

- OS: Operating System

- PHP: scripting language used in web applications

- RAM: Random-Access Memory

- Safari: web-browser developed by Apple

- SCAR: Siena College Accurate Registration

- SSID: Siena Student Identification

- Siena Life – Student Handbook: a resource and reference guide provided to Siena College students with information regarding; operations, policies, guidelines, terms, conditions, and regulations at Siena College

- SQL: Structured Language Query

- Vista: Microsoft Windows operating system

- XHTML: Extensible HyperText Markup Language