Software Plan

Med/Trak

Visual Design Technologies

September 24, 2003

Prepared by: Kenneth Abbatello
Peter Kitz, Team Leader
Ryan Krisolosky
Ryan Newsome
Anthony Puglisi
Brett Rhymestine
# MedITrak Software Plan

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1.1: **Problem Definition**

The ease and efficiency of electronically transmitting data from one location to another has put companies to work switching from normal file organization. Dr. LaRow, the Health Professions Advisor, is in charge of helping Science students apply and gain admission to Medical School. The lengthy profiles for each student in their four years here at Siena make the amount of paperwork tremendous. Files such as test scores, letters, activity sheets, and other documents, make it difficult to maintain the student’s personal portfolio. Dr. LaRow has requested for the development of an electronic organization database system to help organize the massive amounts of documents these pre-med students need to maintain.

1.2: **System Justification**

The main purpose of our software is to help Dr. LaRow keep track of each student’s progress throughout their four years preparing for entry into medical school. An electronic database will save both the student, and the professor, a great deal of time and energy. All files will either be entered by the student or electronically scanned. The system will also allow Dr. LaRow to view all accounts and make changes as he sees fit, in order to help the student make important future/career decisions. The dual accessibility will allow for greater student/teacher communication and progress.

1.3: **Goals for Project**

The goal of our project is to develop a highly efficient database to help Dr. LaRow keep track of each student’s progress towards his/her entry into Medical School. This system will help each user and the administrator keep the files organized, and easily accessible. All paperwork not entered in by the student will be electronically scanned and stored into the system. Our goal is to create a program that will save both the students and the professor time, energy, and plenty of stress.

Our goal as a team is to acquire crucial knowledge in the field of Software Engineering. We are now in the “finishing school” of Computer Science, and we hope to gain the essential experience needed to advance in the technology job market. We will develop a better understanding of all models, principles, and practices used by computer scientists in the working environment. We will also gain valuable teamwork abilities, which are mandatory to excel in the future.
1.4: **Constraints on the Project/System**

The system is going to have dual access control. It is obvious that all people not involved into the student progression towards Medical School will not have any kind of access. Other than that the constraints are as follows:

- **Student Access** → can only access his/her individual accounts. They can change what is available to them only. They cannot access any other accounts, or make changes to files forbidden by the professor (administrator).
- **Professor(Administrator) Access** → can access all accounts and make any changes thought to be necessary. He/She can also add his/her own confidential files to any account which cannot be accessed by any other user.

1.5: **Functions to be provided (Hardware and Software)**

- The main function of this software is for a database to store information about health professions students at Siena College. The database will keep records of all the information concerning the students. The people who are inputting this information are students moving on to medical school. The software will allow students to input information concerning their GPA (grade point average), recommendations from teachers, personal information, along with other incites to which medical schools they are interested in.

- Dr. LaRow, Health Professions Advisor and Team Manager, will be able to have access to this database. He will be able to see everyone’s personal information, while at the same time, be able to change, insert, or delete that information.

- Students will have access for adding new information concerning schools, accept/reject information, adding references, personal information, and other actions concerning school work.

- This could possibly be an online software package which would be accessed via a network of computers. This would allow access from many computers on the Siena network. However, it might also be on a two computer network.

- Health Professions majors, starting with their freshman year, will use this software in keeping their records up to date throughout their four years at Siena College. By their junior year they are to have three letters of recommendation, personal information, and checklists for future plans.

- Only students of the Health Professions majors will be able to sign on using their Siena College logins. This will provide a security service which will help prevent wrong information to be entered by incorrect personal.
1.6: **User Characteristics**

There will be two types of users accessing this software. First, Dr. LaRow will be monitoring this software and all the information provided by the students. This is his way of accessing the records of students when it is time to apply to medical school. Second, the Siena College students who are Health Professions majors only will be using this software. The students will be checking their information and entering new information on a regular basis. They are the only two types of users which will have access to this software.

1.7: **Development and Maintenance**

This software will be developed and maintained on the computers in the Software Engineering Lab. Users of the software will be able to make changes with the information of the software through the computers with the software, or possibly through the internet. The platform will be decided at a later date.

1.8: **System Requirements**

The most important system feature is maintaining constant security over the database. We will create Usernames and Passwords for those who will be using this system. This allows each user to access and edit only their personal information. The software managers will be able to view and access all the records. Convenience, organization, and a user-friendly environment are all important aspects of this software.

1.9: **System Acceptance Criteria**

This multi-user database system will allow user and managers in the following way:

1. The program will have Dual Access:
   a) Student Users will be allowed to edit and update their individual accounts
   b) Professor or software manager has access to edit and update all accounts.

2. Each individual account should contain files needed to register for medical school.
3. Software manager will be able to add confidential files to each User Account, that only the software manager will be able to access.

1.10: **Sources of Information**

The majority of the information used for this section of the project resulted from meeting with our client Dr. LaRow. Other sources of information include Dr. Lederman’s class lectures, the software engineering class textbook *Software Visual Design Technologies*. 
2.1: Life-cycle model: Linear Sequential (Classic Waterfall) Model

Visual Design Technologies will be using the linear sequential model also known as the waterfall model, in the design of the MedITrak. This model calls for the completion of each phase of the project before moving on to the next phase. This will allow us to ensure that nothing is being overlooked and that each step is completed properly. This will also allow you to see our progress at each step. This approach will ensure that your finished program will meet your needs. See graph below.

**The Linear Sequential Model**

- **Software Plan**
- **Requirements Specification**
- **Preliminary Design**
- **Detailed Design**
- **Acceptance Test**

**Project Definition**
Define the problem that needs to be solved.

**Requirements Specification**
In this step we gather information from the client. We determine what the client wants in their program. When this process is finished we have the program requirements.

**Preliminary Design**
Translates requirements into representation of software that can be assessed for quality before coding begins.

**Detailed Design**
After the preliminary design is accepted it is translated into machine readable code.
Acceptance Test
The finished software is delivered to the client and is tested to make sure it meets their requirements.

2.2: Organizational Structure

Visual Design Technologies is encompassed of the following associates:

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail Address</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenneth Abbatiello</td>
<td><a href="mailto:kenneth.abbatiello@students.siena.edu">kenneth.abbatiello@students.siena.edu</a></td>
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<td>(518) 857-2012</td>
</tr>
<tr>
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<td>(518) 782-6068</td>
</tr>
</tbody>
</table>

Visual Design Technologies is structured as follows for the MedITrak:

Kenneth Abbatiello – Webmaster and Librarian
Peter Kitz – Team Leader and Systems Administrator
Ryan Krisolofsky – Blackboard Engineer
Ryan Newsome – Assistant Webmaster
Anthony Puglisi – Software Analyst
Brett Rhymestine – Design Expert

The team structure of Visual Design Technologies is controlled decentralized. All decisions will ultimately come from the defined leader but individual team members will be considered in all decisions. Each position in the team will act as secondary leaders specialized in their own area and will report with the defined leader on all decisions.

The work assignments for each member are as follows:

**Team Leader** – Organize meeting and interviews; guide the team to their goals during the semester.
**Systems Administrator** – Manage the systems that will be used by the team.
**Webmaster** – Creates and maintains the project website.
**Assistant Webmaster** – Will assist the Webmaster in maintaining the project website.
**Librarian** – Keeps of all documents at team meetings or client meetings.
**Software Analysis** – Learns and manages the software that will be used during the duration of the project.
**Design Expert** – Focuses on the Design and layout of the project.
**Database Administrator** – Maintains the database that the team will be creating.
2.3: Preliminary Staffing and Resources Requirements

The software resources we will need to complete this project will be Microsoft Access, database software, Macromedia Fireworks and Dreamweaver, a web page editor. The hardware resources we will be using are the computer systems, printers, and scanner local in the software engineering lab and Roger Bacon computer lab. Our client, Dr. LaRow, is our primary resource as well as Dr. Lederman our Software Engineering professor.

2.4: Preliminary Development Schedule

Please refer to the preliminary development schedule, or Gantt chart on page 8.

2.5: Project Monitoring and Control Mechanisms

Our team plans to meet with Dr. LaRow twice a week during the planning and development stages of the project. We will also meet as a team at least once a week outside of class to discuss and plan the development process. We will assess our client’s responses to our presentations of the Project Definition / Project Plan and Software Requirements Specifications and Preliminary Design, to determine if our development process will meet the client’s needs. If it is found that the project is not meeting the needs of our client, necessary corrections will be made.

2.6: Tools and Techniques to be Used

Computers with Microsoft Project, Microsoft Access, Macromedia Dreamweaver, and Macromedia Fireworks will be used. Microsoft Project will be used to detail the ongoing progress of the software development. Also, we will be utilizing the Blackboard Courseware for the majority of the project development.

2.7: Programming Languages

In order to develop our client’s information system, we will use SQL along with tools included in Microsoft Access. To create the Visual Design Technologies web site, languages such as HTML and JavaScript will be used.

2.8: Testing Requirements

As it is developed, our system will be thoroughly tested. All testing will be conducted by our team members and Dr. LaRow.
2.9: Supporting Documents Required

Supporting documentation that will be provided to our client includes:

1) The Project Definition / Project Plan – This document is due to the client on September 22, 2003.
2) The Software Requirements Specifications – This document is due to the client October 29, 2003.
3) The Preliminary Design – This document is due to the client on November 24, 2003.

2.10: Manner of Demonstration and Delivery

During the planning and development process, a number of in-class presentations will be given. The purpose of these presentations will be to explain the progress of our project as well as the accomplishments of our team. Our client, Dr. LaRow, will be present at these presentations to make sure that the project’s progress is satisfactory. Dates of in-class presentations and delivery of client documents are as follows:

1) Project Definition / Project Plan – September 22, 2003
2) Project Definition / Project Plan Presentation – September 24, 2003
3) Software Requirements Specifications Document – October 29, 2003
4) Software Requirements Specifications Presentation – October 31, 2003
6) Preliminary Design Presentation – December 3, 2003

2.11: Sources of Information

The primary source of information for the planning phase of this project is our meetings with our client, Dr. LaRow. Other information has been gathered from Dr. Lederman’s class lectures, the textbook *Software Engineering: A Practioner’s Approach, 5th Edition (2002)* by Roger S. Pressman, all previous Software Engineering team’s projects, as well as our own experiences.
Kenneth Abbatiello
Kenneth.Abbatiello@students.siena.edu

Present Address               Permanent Address
Siena College, SPOB 2002            211-05 75th Ave
515 Loudon Road                          Oakland Gardens, NY
11364                                    (718) 217-7194
Loudonville, NY 12211
(518) 782-5937

OBJECTIVE
A computer science position; special interest in web design and development, and programming.

EDUCATION
Siena College, Loudonville, NY
B.S. in Computer Science, Business Minor
GPA in Major: 3.5/4.0, President’s List Fall 2000, Spring 2002;
GPA in Minor: 4.0/4.0, Deans List Spring 2001, Fall 2001, Fall 2002, Spring 2003

COMPUTER AND TECHNICAL SKILLS
- Programming: Scheme, Visual C++, C, HTML, XML, Java Script, Assembly Language, PERL, Pascal,
  Basic, and Oracle/SQL,
- Experience with Web Design Programming (Spring 2003):
  - Set-up and maintained a personal web page.
  - Experienced with Macromedia Fireworks, Dreamweaver, and Flash.
- Proficient with all versions of Microsoft Windows, Red Hat Linux, and Mac OS.
- Experience with Databases (Fall 2002)
- Familiar with Systems Hardware (Fall 2002, Spring 2003) and Assembly Code (Fall 2001)
- Further Coursework: Calculus I and II, Discrete Mathematics Structures I and II, Digital Electronics I and II

EXPERIENCE
Sales Assistant/Inventory Specialist, Leiser’s Liquors, Flushing, NY, Summer 2001-Present
- Analyzed and organized inventory.
- Assisted managers with sales and making orders.
- Performed daily computer tasks to handle merchandise.
- Monitored and trained new employees; organized group tasks

Assistant Dairy Manager, Key Food, Fresh Meadows, NY, Spring 1998- Spring 2000
- Analyzed and organized inventory
- Prepared orders to lower inventory shrinkage and increase Gross Profit
- Assisted customers with daily shopping needs.

ADDITIONAL EXPERIENCE
Cashier and Supervisor, Burger King, Latham, NY, 2000-2001
Stock Worker, Price Chopper, Latham, NY, 2002

ACTIVITIES
Siena College Basketball Intramurals, 2001-2003
Helping High School Students with Web Applications, Siena College, NY, Spring 2003
OBJECTIVE
To obtain a position in the computer science field.

EDUCATION
Siena College, Loudonville, NY
Bachelor of Science in Computer Science, May 2004
Minor in Business
September 2000 – Present

COMPUTER EXPERIENCE
• Programming in C++, HTML, Assembly Language, and Scheme
• Familiarity with Oracle, Windows 95/2000/XP/NT, UNIX
• Working knowledge of Microsoft Visual C++ 6.0, Internet Explorer, Oracle and various search engines.

RELEVANT COURSE WORK
Current course work Bioinformatics, Software Engineering, and Accounting II.

RELEVANT COMPUTER EXPERIENCE
Systems Administrator, Siena College, Loudonville, NY Fall 2003
• Currently Systems Administrator for the Software Engineering lab. Learning how to add/update software for the course.
Software Engineer, Siena College, Loudonville, NY Fall 2003-Present
• Currently working with six peers to design and build health information system software for Dr. LaRow.

WORK EXPERIENCE
Town of Haverstraw Parks Department 1997 – 2003
• Cashier 2000-2003, Was entrusted with closing and securing large amounts of money and developed good communication skills with the public.
• Attendant 1997-1999, Learned to adapt and work various jobs that mostly were team-oriented situations. Also gained experience in communicating to the public.

ACTIVITIES
Ambassadors Club, member, 2002-Present, My role is to communicate to perspective students and their families the facilities and aspects of Siena College.
History Club, member, 2002-Present
Ryan Krisolofsky

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ryan.krisolofsky@students.siena.edu
Website - www.cs.siena.edu/~srk3179

Permanent Address
16 Phyllis Rd.
Manchester, CT 06404
(860)643-5330
ryan.krisolofsky@cox.com

OBJECTIVE
A challenging position which will utilize my skills in the field of Computer Science.

EDUCATION
Siena College, Loudonville, NY.
BS in Computer Science, Minor in History, May 2004.

COMPUTER EXPERIENCE
• Programming in C, C++, Assembly, VB, HTML, JavaScript, ASP, Perl, PHP, and SQL
• Familiar with UNIX, Linux, and all Windows Operating Systems including XP
• Database background in Sybase, Oracle, and Microsoft Access
• Knowledge of all Microsoft Office package, all versions
• Familiar with Macromedia MX package for Web Design

COURSE WORK

WORK EXPERIENCE
Software Engineer, LexisNexis Matthew Bender, Albany, NY, 2003-
• Maintained several business applications supporting Sales and IS Teams.
• These applications used technologies including VB, Access, Sybase, HTML, and ASP.
• Preformed analysis, debugging, design, development, and testing activities.

Data Technician, The Hartford Insurance Company, Hartford, CT, 2002
• Employed for accounts and policies work using Siebel database system.
• Demonstrated great working habits and achieved dependability.
• Developed business environment communication skills.

Car Wash Attendant, Pinstripes Car Wash, Manchester, CT, 2000-2001
• Exhibited great communication skills working with customers.
• Projected good working habits onto other employees.

ADDITIONAL EXPERIENCE AND ACTIVITIES
• Christmas in April volunteer program: Manchester, CT, 1998.
• Experienced in computer architecture, building computers.
RYAN W. NEWSOME

Present Address
SPOB
Siena College
Loudonville, NY 12211
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Email: Ryan.Newsome@students.siena.edu

Permanent Address
548 High Street
Monroe, NY 10950
(845) 782-7274

OBJECTIVE
To obtain a summer internship position in Information Technology.

EDUCATION
Siena College, Loudonville, NY
B.S. in Computer Science, May 2004

COMPUTER EXPERIENCE
• Programming in C, C++, JavaScript, VB, HTML, Assembly language, Perl, PHP
• Proficient in Unix, and all Windows Operating Systems
• Database background in Oracle/SQL, and Microsoft Access
• Knowledge of Macromedia Fireworks, Flash, Dreamweaver, and Microsoft Office package

RELEVANT COURSE WORK

EXPERIENCE
Web Services Department, at MapInfo Corporation. Troy, NY, June 2003-present
• Web Programmer on the Corporate and International Web Sites
• Program both Static and Dynamic Pages within a team
• Research and present information on all domain name listings

Computer Department Retail Employee, at Best Buy Co., Inc. Albany, NY, April 2003-July 2003
• Trained to present the latest available home computing equipment
• Worked within a team to accomplish tasks by a deadline
• Help troubleshoot many home computing problems

• Educated and Supervised children in a class room setting
• Assist students/faculty with designated assignments and responsibilities

Camp Counselor, Siena College Soccer Camps, Loudonville, NY, Summer 2002
• Supervised and taught children the fundamentals of soccer

ACTIVITIES
Division I Athlete, Siena College Men’s Soccer Team, 2000-present
Expanding your Horizons Workshop, Siena College workshop in Flash MX, Spring 2003
OBJECTIVE
An entry level position in the Computer Science field.

EDUCATION
Siena College, Loudonville, NY
Dual Major, B.S. Computer Science and Information Systems, Marketing and Management, May 2004
GPA 3.37

Schenectady County Community College, Schenectady, NY
A.S. Business Administration May 2001
GPA 3.5/3.93
President’s List 1998-2001

COMPUTER SKILLS
Languages:
C++, UNIX, SQL, Visual Basic, Scheme, Assembly

Programs:
Oracle, Microsoft Excel, Microsoft Word, Power Point, Quick Books, Word Prefect

Skills:
Internet, Software installation, Minor hardware installation, File organization

EXPERIENCE
Food Service Manager, Jumpin’ Jacks Drive-In, Scotia, NY, 1998-Present
Supervised twenty employees.
Generated weekly scheduling for ten employees under my direct supervision.
Controlled inventory management of stock for the ice cream building.
Maintained over $100,000 worth of equipment.
Trained new employees.
Specialized in problem resolution.

General Manager, Carm’s Restaurant, Scotia, NY, 1993-1997
Processed accounts payable and receivable.
Hired and trained employees.
Generated weekly payroll.
Controlled inventory and ordering.
Maintained Computer and software for the business.
Managed all other aspects of a small family business.

ACTIVITIES
Finance Committee Member, Our Redeemer Lutheran Church, Scotia, NY, 1997-Present
Treasurer, Siena College Computer Science Club, Loudonville, NY, 2003-2004 School Year
Treasurer, Our Redeemer Lutheran Church, Scotia, NY, 1997-2001
Monitored and generated annual budget of $150,000.
Generated and filed employee taxes for six employees.
Brett Rhymestine
600 Johnson Avenue
Herkimer, NY 13350
(315)866-2963
Brett. Rhymestine@students.siena.edu

OBJECTIVE
To obtain a challenging position in a technology related field.

EDUCATION

Bachelor of Science, Computer Science
Siena College September 2003
3.05 G.P.A. Loudonville, NY
Senior Class (2003-2004)

Honors: Recipient of Presidential Scholarship, 2000-2003
Dean's List, Spring 2003

- Proficient with C++ (including Visual C++), strong knowledge of Object Oriented Programming.
- Knowledge of RISC Assembly Language.
- Experience using Oracle and SQL to create and manage a database.
- Experience with computer graphics using OpenGL and EZWin.
- Experience in Web Design and Analysis of Algorithms.
- Currently taking Software Engineering and Data Communications.

RELEVANT EXPERIENCE

Summer Intern June 2003 – August 2003
Air Force Research Laboratory IFEC Division, Rome NY
- Developed an application in C++ to assist in Speech Enhancement algorithm development.
- Application was showcased at September NATO conference in Switzerland.

Helpdesk Consultant January, 2001 - Present
Siena College
- Assist other students with PC, network, and software problems.

Information Systems Technician June 2002 - August 2002
Riverhawk Company, New Hartford NY
- Assisted in establishing an inventory database using SyteLine ERP software.

Technology Services Intern September, 1999 - May, 2000
Herkimer County Community College
- Assisted with Maintenance and installation of computer systems on campus.
- Set up new PCs and software for use on campus network.
- Monitored computer lab.

COLLEGIATE ACTIVITIES

Participant Intramural Floor Hockey League, 2002
Member Math & Computer Science Society, 2000 - Present

WORK EXPERIENCE

Sales Associate Hannaford, Herkimer June 2002 – January 2003
Glossary of Terms

**Database** - A large, organized collection of information that is accessed via software.

**Gantt Chart** – A timeline chart that depicts the schedule of the software development process.

**Linear Sequential Model** – A systematic, sequential approach to software development that begins at the system level and processes through analysis, design, coding, testing, and support. (also known as waterfall model)

**Software** – Computer program that when executed provide desire function and performance.