Welcome

Mr. Kenneth Swarner
Computer Science System
Administrator, Siena College

&

Dr. Timoth Lederman
Professor of Computer Science,
Siena College
SaintSoft Team Organization

- Daniel Schuldt - *Team Leader*
- David Moore - *Systems Administrator*
- Christian Damberg – *Webmaster*
- Hannah Palmer – *Librarian*
- Lioubov Mikhailova - *Design Consultant*
- Tina Ting - *Software Developer*
Agenda

- **Introduction** - Daniel Schuldt
- **Use Cases and Data flow diagrams** – Hannah Palmer
- **Functional Requirements** – Christian Damberg
- **Prototypes** - Daniel Schuldt
- **Development/Production Environments and Data Dictionary** - David Moore
- **Product Testing** – Christian Damberg
- **Conclusion and Questions** – Daniel Schuldt
Use Cases & Data Flow Diagrams

Hannah Palmer
Use Cases

- Sensored User
  - Login
  - Register with system
  - Change Sensor Settings
  - View Account and Sensor Information
  - Change Personal Information
  - Add or Remove Sensors
Use Cases Cont’d

- Remote User
  - Login
  - Change Personal Settings
  - View Account and Sensor Information
  - Add Sensors
Use Case Cont’d

- Website Administrator
  - Special Login
  - Change Admin Password and E-mail
  - View System Status
  - Query the Database for User Information
  - Change User Information
  - Activate and Deactivate Accounts and Sensors
Data Flow Symbols

- Process
- Data Flow
- Data Store
- Data Source
Functional Requirements
Christian Damberg
Functional Requirements

- Sensored User
  - Login
  - View Sensor Information and Personal Profile
  - Add or Delete Sensor
  - Change Sensor Thresholds and Personal Profile
  - Logout
Functional Requirements Cont’d.

- Remote User
  - Log in
  - View Sensor Information
  - View Alert History
  - Logout
  - When User adds sensor the user becomes a Sensored User
Functional Requirements Cont’d

Administrator

- Log in
- View System Status
- View and Change Users Profiles
- Activate or Deactivate User accounts and Sensors
- Change Administrator Information
- Log out
Log In Screen

Environmental Monitoring System

NEWS

New Microphone Sensor developed. Click here for more details.

More than 5,000 customers now have the Environmental Monitoring System.

User Name:  
Password:  

Login

Forget password? Click here to recover
Don't have a User Name? Click here to register
Password Recovery

Enter your username, which is your e-mail address, below and answer the security question. If both are correct then an e-mail will be sent to your e-mail address with your password.

User name (e-mail address):

Security question: What is your mother's maiden name?

Answer:

Submit   Back
Welcome New User

We are pleased that you picked the Environmental Monitoring system for your monitoring and security needs.

Account Information
This information will allow you to enter into our system. Your e-mail address will be your USERNAME and will be the address where billing and updated system information will be sent. Your password must adhere to some of our standards. The password must be at least 6 characters long. The password must have at least 1 upper case letter, 1 lower case, and 1 special character. The special characters include _ , & , + , * , ? , % , ^ . Additionally, you must pick a security question and provide an answer for it. You will need to know the security question and answer if you forget your password. You can click on the “Forgot your password?” link on the log in page. All the fields are required.

E-mail: 
Password: [ ] Retype Password: [ ]
Security question: What is your mother's maiden name? 
Answer: 
Submit  Back
Second Registration Screen

Contact Information

Please fill out the form below so we are able to contact you, all fields are required.
NOTICE: Do not register on this computer unless this will be the computer you will be attaching sensors to!!

First Name: __________________ Last Name: __________________
Street: __________________
City: __________________ State: AL
Location Name: __________________ (Home, Office, Classroom, Jim's Office)
when you sign onto this computer the Location name will appear
Phone: (____) _____ - _____

Submit  Back
# Third Registration Screen

### Notification Information

This information will allow our system to contact you when a threshold is exceeded on your sensors or there are errors. You are allowed to enter up to 5 different e-mail addresses and 5 phone numbers. Please, via the check boxes choose which e-mail address and phone number you would like to be notified by. Also specify what type of phone you are using. Landline phones include digital phones and regular home/office phones. You will always be notified via your primary e-mail address.

#### E-mail Address:

<table>
<thead>
<tr>
<th>E-mail Addresses</th>
<th>E-mail address to use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <a href="mailto:movesaintsoft@siena.edu">movesaintsoft@siena.edu</a></td>
<td>✓</td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
</tr>
</tbody>
</table>

#### Phone:

<table>
<thead>
<tr>
<th>Numbers</th>
<th>Type</th>
<th>Phone to use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Cell</td>
<td>✓</td>
</tr>
</tbody>
</table>

**E-mail Address:**

- **E-mail Addresses:**
  - 1. movesaintsoft@siena.edu
  - 2. (empty)
  - 3. (empty)
  - 4. (empty)
  - 5. (empty)

**Phone:**

- **Numbers:**
  - 1. (Cell or Landline)
Initial Monitored User Screen

Welcome Mr. Swarnar

IP Address: 192.168.0.1
Location: Home

You currently have no sensors registered.
Click below to add device.

Add Device
REGISTER SENSORS

Here you can add the sensor you have attached to your computer. Enter the name of the owner of the sensor in the first box.
Then enter the location of the sensor, for example Home, Office, Sister’s House. IP address and Operating systems should be pre-filled, then select the type of sensor using the drop-down box. Click submit when you are finished.

Owner of the Sensor: ____________
Location: ____________
IP address: 192.168.0.1
Operating System: Windows XP
Sensor Type: Water

Submit | Back
Sensored User Screen

Welcome Mr. Swarner

IP Address: 192.168.0.1 Location: Home

Current Status of your Devices

<table>
<thead>
<tr>
<th>HOME</th>
<th>OFFICE</th>
<th>BASEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>74°F</td>
<td>No Motion</td>
<td>No Sound</td>
</tr>
<tr>
<td>Alert History</td>
<td>Alert History</td>
<td>Alert History</td>
</tr>
<tr>
<td>Device Options</td>
<td>Device Options</td>
<td>Device Options</td>
</tr>
</tbody>
</table>

Delete Delete Delete
User Profile Screen

User Profile

Your profile information will appear here. You are able to change any of it just by deleting what is in the text box, inserting the corrected information and pressing submit.

Contact Information

First Name: Ken
Last Name: Swanner
Street: 11 Generic Dr.
City: Albany State: NY
Location: Home
Phone: (518) 399-5555
Sensor Alert Screens

Temperature Sensor Alerts

Alerts: 2

<table>
<thead>
<tr>
<th>Time</th>
<th>Date</th>
<th>Alert</th>
</tr>
</thead>
<tbody>
<tr>
<td>19:48:00</td>
<td>12/25/05</td>
<td>Temperature Exceeded 90°F</td>
</tr>
<tr>
<td>19:49:00</td>
<td>12/25/05</td>
<td>Temperature decreased to under 90°F</td>
</tr>
<tr>
<td>05:25:26</td>
<td>1/12/05</td>
<td>Temperature Exceeded 90°F</td>
</tr>
<tr>
<td>05:55:26</td>
<td>1/12/05</td>
<td>Temperature decreased to under 90°F</td>
</tr>
</tbody>
</table>
Device Options Screens

Temperature Sensor

Current Temperature: 74°F

Owner of Sensor: Ken Swaimer

Location: Home

Threshold: 90 °F

Enable ☑️ Disable ☐

Submit  Cancel
Remote User Screens

Welcome Mr. Swarner

Current Status of your Devices

<table>
<thead>
<tr>
<th>HOME</th>
<th>OFFICE</th>
<th>BASEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>74°F</td>
<td>No Motion</td>
<td>OK</td>
</tr>
<tr>
<td>Alert History</td>
<td>Alert History</td>
<td>Alert History</td>
</tr>
</tbody>
</table>
Administrator Screens

Welcome Administrator

IP address: 192.168.0.1  Location: Ken's Office RB 352

Statistics:
- Number of users: 1,000
- Number of Sensors: 2,325
- Current users logged in: 625

System Status: NORMAL

External Connection error,

Recent Alerts (within the last 24 hours):
- Temperature 12/25/05 19:15:23
- Water 12/25/05 15:35:23
- Temperature 12/25/05 08:56:45
Administrator Screens Cont.

View/Modify User Data:

Search By:
- Username
- Sensor
- Alerts
- Name
- Date

Information to include:
- Username
- Sensor
- Alerts
- Name
- Date

Sort By:
- Ascending
- Descending

Status: NORMAL

(External Connection error, Database Down, software error)

Temperature 12/25/05 08:56:45

sd926913@siena.edu
Admin Location:

The computer you are at now will be considered the admin workstation if you click submit. Your IP address is below and please enter the location of the computer (ex Office, Computer room)

Location: Ken's Office RB 552

IP Address: 192.168.0.1

Submit  Back
Change E-mail Screen

E-mail Change:

Please enter your old e-mail then your new e-mail twice, then click submit.

Old E-Mail: ____________________________

New E-Mail: ____________________________

Retype E-mail: ____________________________

Account Management

User Name: ____________________________

Delete Account

Deactivate

Disable/Enable Send

Activate

Submit  Back
Change Password Screen

Password Reset:

Please enter your old password then your new password twice, then click submit.

Old Password:  

New Password:  

Retype Password:  

Account Management

User Name:  

Delete Account

Deactivate

Disable/Enable Send

Activate

Submit  Back
Disable/Enable Sensor Screen

Username: ilovesaintsoft@siena.edu

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Location</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>Home</td>
<td>Enable Disable</td>
</tr>
<tr>
<td>Web Cam</td>
<td>Office</td>
<td>Enable Disable</td>
</tr>
<tr>
<td>Water</td>
<td>Basement</td>
<td>Enable Disable</td>
</tr>
</tbody>
</table>

Account Management:
- User Name: [Input Field]
- Submit
- Back

Options:
- Delete Account
- Deactivate
- Disable/Enable Sensor
- Activate
Query Result

Click on headings (Username, Sensors, etc) to sort by that field. A triangle will indicate the field and the direction of the sort (ascending or descending).

Search Results:

<table>
<thead>
<tr>
<th>User Name</th>
<th>Sensors</th>
<th>Name</th>
<th>Select</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="mailto:sdb2081@stema.edu">sdb2081@stema.edu</a></td>
<td>3</td>
<td>Schuldt, Dan</td>
<td></td>
</tr>
<tr>
<td><a href="mailto:spiderman44@hotmail.com">spiderman44@hotmail.com</a></td>
<td>4</td>
<td>Schmidt, Joseph</td>
<td></td>
</tr>
<tr>
<td><a href="mailto:welovesaintsoft@yahoo.com">welovesaintsoft@yahoo.com</a></td>
<td>1</td>
<td>Swarner, Ken</td>
<td></td>
</tr>
</tbody>
</table>

Query Result Screen
Production/Development Environment
David Moore
Server Environment

**Oraserv**

Oracle, version 10g  
MySql, version 4.1.14  
PHP, version 4.3.11  
Apache Web Server, version 2.0.46  
Red Hat Linux – ES Release 3  
Dell 2550 Server  
  1.125 Mhz Intel Pentium III  
  512 Kb Cache  
  1 GB of RAM  

Hard drives  
2 x 73 GB  
2 x 36 GB  
2 x 18 GB
Windows Environments

- Microsoft Windows 2000 5.00.2195 Service Pack 3
- Microsoft Windows XP Professional Version 2002 Service Pack 2
PC Environment

- Dell Dimension Dim4550
- Intel Pentium 4 2.40 GHz
- 512 MB of RAM
Logical Data Stores

- User Information
  - user_id
  - fname
  - lname
  - user_name
  - password
  - primary_phone
Logical Data Stores
Cont’d
Location Information

- user id
- location
- ip_address
- street_addr
- city
- state
- zip
- phone
- phone_type
- e-mail
- last_login
Logical Data Stores Cont’d
Sensor Information

- `user_id`
- `location`
- `sensor1`
- `sensor2`
- `sensor3`

- `threshold1`
- `threshold2`
- `threshold3`
- `last_received1`
- `last_received2`
- `last_received3`
Testing

Christian Damberg
Testing Plans

- Unit Testing
- Integration Testing
- System Testing
- Acceptance Testing
## Unit Test: 1. Monitored User Screen

<table>
<thead>
<tr>
<th>ID</th>
<th>What is being tested:</th>
<th>Tested for:</th>
<th>Expected Outcome:</th>
<th>Pass or Fail:</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>User accessing monitored user screen</td>
<td>Does it load?</td>
<td>Page loads, user's name, location, and IP are displayed. User's devices show up with information regarding their status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>User clicks the Personal Profile button</td>
<td>Does it load?</td>
<td>The user's profile is displayed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>User clicks the Log Out button</td>
<td>Does it work?</td>
<td>The user is logged out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>User clicks the Alert History button</td>
<td>Does it load?</td>
<td>The Alert History page loads displaying all alerts for the specified device</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>User clicks the Device Options button</td>
<td>Does it load?</td>
<td>The Sensor Options Menu page loads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>User clicks the Refresh Devices link</td>
<td>Does it load?</td>
<td>The page is refreshed, specifically the sensors, incase one is not working properly or the browser window has been open for a long period of time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>User clicks the link to register/delete a sensor</td>
<td>Does it load?</td>
<td>The page to register or delete a sensor is loaded</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Conclusion
Daniel Schuldt
## Development Schedule

<table>
<thead>
<tr>
<th>ID</th>
<th>Task Name</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Formation of Group</td>
<td>6/28</td>
<td>9/4</td>
<td>9/11</td>
<td>9/25</td>
</tr>
<tr>
<td>2</td>
<td>Initial Team Meeting</td>
<td>6/18</td>
<td>10/2</td>
<td>10/8</td>
<td>10/23</td>
</tr>
<tr>
<td>3</td>
<td>Weekly Team Meetings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Initial Client Meeting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Weekly Client Meetings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Definition/Project Plan Development</td>
<td>8/9</td>
<td>9/12</td>
<td>9/15</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Definition/Project Plan Presentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Debriefing On Presentation</td>
<td>9/23</td>
<td>10/28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Requirements Specifications Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Requirements Specifications Presentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Debriefing on Presentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Preliminary Design Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Preliminary Design Presentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Debriefing on Presentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Project:** SaintSoft  
**Date:** Sun 10/23/05  
**Task Progress:** [progress bar]  
**Milestone:** [milestone symbol]
Project Plan

- Incomplete

Spring 2006

- Completed
- In Progress
- Incomplete

Analysis

Preliminary Design

Detailed Design

Development And Testing

Acceptance Test

Fall 2005

Software Plan
Thank You!

Any Questions?