Environmental Intelligence Network Systems
Remote Monitoring System
- Requirements Specification -

Welcome

Mr. Ken Swarner               Dr. Tim Lederman
Systems Administrator                   Professor
Requirements Specification Presentation

Roger Bacon 328
October 28, 2005

Michael Devanandan: Introduction & Summary
Ybelka Brito: Data Flow Diagrams
Joseph Halvey: Prototypes
Vernell Mitchell: Development Schedule
EIN Systems Organization

Team Structure

Ybelka Brito - Librarian
Michael Devanandan - Team Leader
Joseph Halvey - Software Developer
Michael Jakubowski - Project Engineer
Vernell Mitchell - Webmaster
Anthony Ruotolo - Systems Analyst
Functional Requirements

- Create a database to store user information
- Have a web-based application that will interface with the database
- Allow users to create accounts and register a sensor device
- Allow users to view and manage their monitoring devices
Regular User

- Able to add or delete both regular and “read only” user accounts
- Able to add or delete a monitored location
- Able to add or delete a sensor
- Able to change both system and personal preferences
“Read Only” User

- Able to check any sensored location data
- Unable to change any settings
- Unable to add or delete sensors, locations, or accounts
- Associated with a Regular User account that created it
Website Administrator

- Has ability to make visual changes to the site
- Has ability to make functional changes to website or database
- Can add users or otherwise make annual changes if problems occur
- Has complete control of everything our program controls except the installation and setup of the software on the server
System Administrator

- Has total control over the server our program runs on
- Can install or remove our software as needed and maintain the server
- Sets up access privileges for the Website Administrator and others as needed
- Can access any information and make any changes, but it is not his/her job to interact with users or make changes
Context Diagram

Remote User
- Request for Information
- Sensor Information

Manage User Request
- Request for Information
- Raw Sensor Data
- New Device Information
- Database Information
- View Database Information

User Database
- Request Device Information
- Device Information

Website Administrator

Sensed User

Remote Monitoring System
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Decomposition of Manage User Request
Decomposition of Authenticate User
Decomposition of Manage User Choices
# User Home Page

![E.I.N. SYSTEMS](image)

<table>
<thead>
<tr>
<th>Home</th>
<th>Registration</th>
<th>Login</th>
<th>FAQ</th>
<th>About</th>
</tr>
</thead>
</table>

## Account Home Page

Welcome Mr. Swann.

### Location: Office

<table>
<thead>
<tr>
<th>Sensors</th>
<th>Reading</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermometer</td>
<td>Temp 72 C</td>
<td>Enabled</td>
</tr>
<tr>
<td>Water Sensor</td>
<td>Dry</td>
<td>Enabled</td>
</tr>
</tbody>
</table>

### Location: Home

<table>
<thead>
<tr>
<th>Sensors</th>
<th>Reading</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motion Detector</td>
<td>No Motion</td>
<td>Enabled</td>
</tr>
</tbody>
</table>

For additional device information, click here for Monitor Summary page.

- Click here to add a new device.
- Click here to remove a current device.
- Adjust warnings for a device on the Events to Log page.
Device Alert Settings

Temperature #1

Acceptable Range

0 °F to 85 °F

Grace range of +/− 5 °F

OK Cancel
## Logs by Device

**Thermometer #1 (Home)**  [Click for More]

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Reading</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/1/05</td>
<td>4:53:09 Am</td>
<td>Timed Reading</td>
<td>73.2°F</td>
</tr>
<tr>
<td>8/1/05</td>
<td>3:53:09 Am</td>
<td>Timed Reading</td>
<td>73.1°F</td>
</tr>
<tr>
<td>8/1/05</td>
<td>3:15:09 Am</td>
<td>Warning</td>
<td>69.0°F</td>
</tr>
<tr>
<td>8/1/05</td>
<td>2:53:09 Am</td>
<td>Timed Reading</td>
<td>73.2°F</td>
</tr>
</tbody>
</table>

**Thermometer #2 (Office)**  [Click for More]

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Reading</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/1/05</td>
<td>4:53:09 Am</td>
<td>Timed Reading</td>
<td>73.2°F</td>
</tr>
<tr>
<td>8/1/05</td>
<td>3:53:09 Am</td>
<td>Timed Reading</td>
<td>73.1°F</td>
</tr>
<tr>
<td>8/1/05</td>
<td>3:15:09 Am</td>
<td>Timed Reading</td>
<td>69.0°F</td>
</tr>
<tr>
<td>8/1/05</td>
<td>2:53:09 Am</td>
<td>Timed Reading</td>
<td>73.2°F</td>
</tr>
</tbody>
</table>
Classic Waterfall Model

Step 1: Software Plan

- Software Plan
- Analysis
- Preliminary Design
- Detailed Design
- Development & Testing
- Acceptance Test
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Classic Waterfall Model

Step 3: Preliminary Design

- Software Plan
- Analysis
- Preliminary Design
- Detailed Design
- Development & Testing
- Acceptance Test
Classic Waterfall Model

Step 4: Detailed Design

- Software Plan
- Analysis
- Preliminary Design
- Detailed Design
- Development & Testing
- Acceptance Test

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## Gantt Chart
### Development Plan

<table>
<thead>
<tr>
<th>ID</th>
<th>Task Name</th>
<th>Duration</th>
<th>Start</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Team Meetings</td>
<td>23 days</td>
<td>Mon 9/19/05</td>
</tr>
<tr>
<td>2</td>
<td>Client Meetings</td>
<td>12 days</td>
<td>Mon 9/19/05</td>
</tr>
<tr>
<td>3</td>
<td>Software Plan</td>
<td>8 days</td>
<td>Fri 9/18/05</td>
</tr>
<tr>
<td>4</td>
<td>Software Plan Presentation</td>
<td>3 days</td>
<td>Fri 9/23/05</td>
</tr>
<tr>
<td>5</td>
<td>Software Requirements</td>
<td>25 days</td>
<td>Mon 9/26/05</td>
</tr>
<tr>
<td>6</td>
<td>Software Requirements Presentation</td>
<td>3 days</td>
<td>Fri 10/2/05</td>
</tr>
<tr>
<td>7</td>
<td>Preliminary Design</td>
<td>25 days</td>
<td>Mon 10/31/05</td>
</tr>
<tr>
<td>8</td>
<td>Preliminary Design Report</td>
<td>3 days</td>
<td>Fri 11/29/05</td>
</tr>
</tbody>
</table>

*Colors indicate progress: Green for completed, Yellow for in progress, Red for behind schedule.*

Remote Monitoring System
EIN Systems
Essential Documents

- **Software Requirement Specifications**
  - Document Due: October 24, 2005
  - Date of Presentation: October 28, 2005

- **Software Preliminary Design**
  - Document Due: November 28, 2005
  - Date of Presentation: November 30, 2005
Summary & Questions

Any Questions?