Virtual Network Device Mapping System

Detailed Design

By

MAJIK Software Solutions

March 6, 2007

Welcome

Mr. Eric Crossman

Assistant Systems and Operations Manager

School of Science

Siena College

&

Mr. Ken Swarner

Systems & Operations Manager

School of Science

Siena College

Our Team

- Kevin Johnson – Development Manager
- Ian Kost – Programmer
- Mark Riley – Testing Manager
- Amanda Danko – Team Leader

Agenda

- Introduction – Amanda Danko
- Prototypes – Kevin Johnson
- Test Plan – Mark Riley
- Database Design – Mark Riley
- Going forward – Amanda Danko

Introduction

- Graphical layout of the devices on the network in the School of Science.
- Web-based
- Allows for retrieval of device information

Agenda

- Introduction – Amanda Danko
- Prototypes – Kevin Johnson
- Test Plan – Mark Riley
- Database Design – Mark Riley
- Going forward – Amanda Danko

Login

Virtual Network Device Mapping System

The Virtual Network Device Mapping System is a web-based application which graphically represents the layout of network devices within the Siena College School of Science. It gives the user a bird's eye view of individual floors, allowing them to select a room from that floor and view a detailed layout of the network devices in that room. Individual devices can then be selected to display comprehensive information about them.

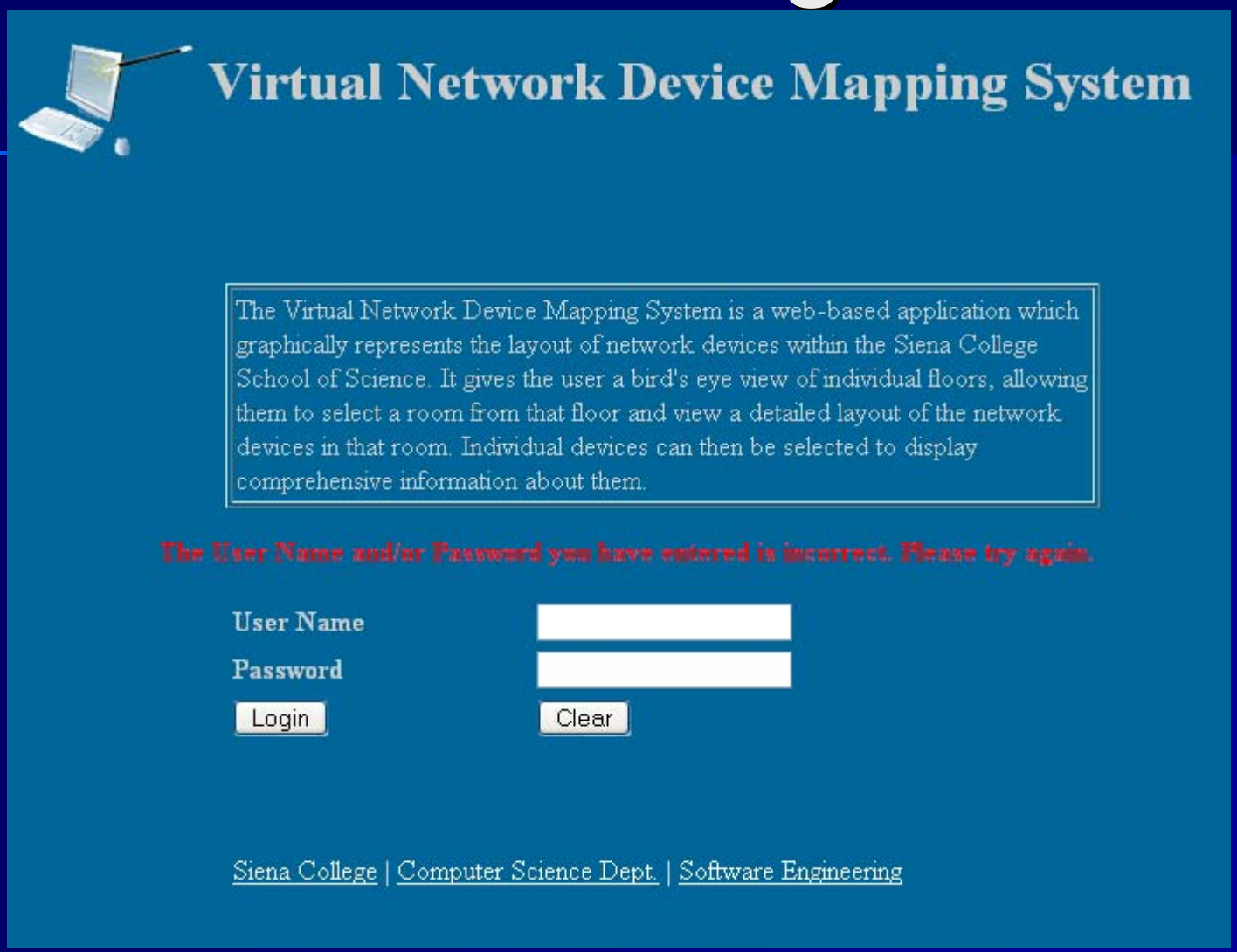
User Name

Password

Login Clear

Siena College | Computer Science Dept. | Software Engineering

Failed Login



Logged In

Control Panel

Logout from **Administrator**

Using the Search Feature

To access the Search feature simply click the link in the heading above. Or, to do so from any other page, click the "Search" button in the upper right-hand corner.

Devices can be searched for using any of the categories of information stored. Please note that although all of the categories are displayed, you do not have to fill in all of them. Whatever categories you fill in will be used, and those left blank will not be. This is meant to give you the greatest amount of flexibility possible in finding a device.

Search results are displayed with abbreviated information. The Device Name, Building, Room, IP address, MAC address, and Equipment Type of each device matching the search criteria are displayed. Selecting the Device Name will display the Room Layout view of the room that the device is located in, with the full device information in the dialog box below the layout.

Welcome, to the Virtual Network Device Mapping System. In order to get started, you have two options. You may either use the Search feature, as described in the box on the left, or select a floor from below.

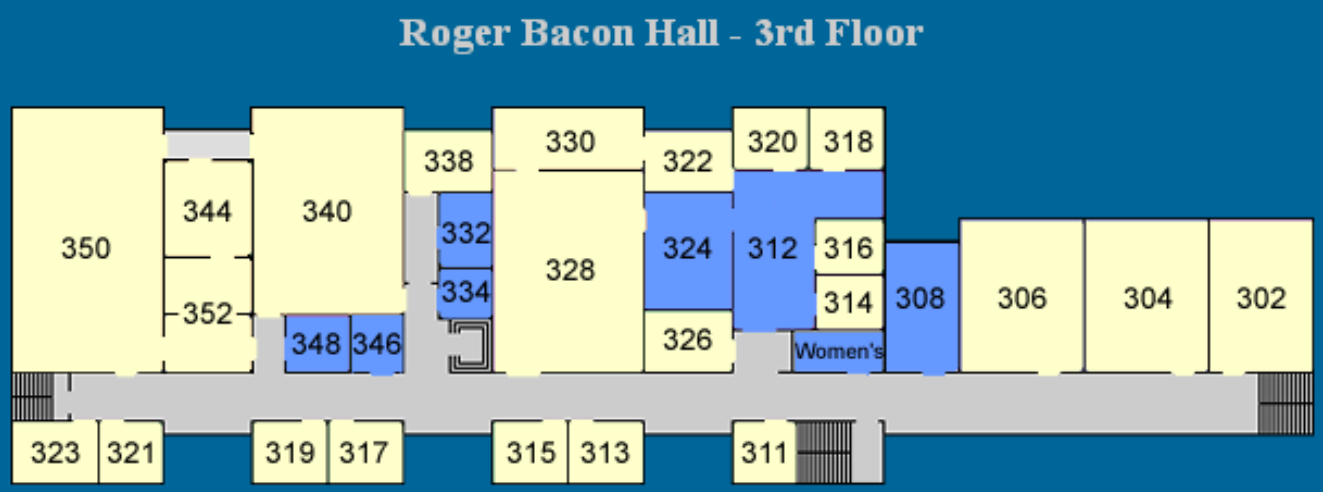
To select a floor, first decide which building you wish to view, and then select a floor number from below it to display that floor plan. The floor plan will load on a new page which will give you the layout of the rooms on that floor and further directions. On all subsequent pages, you will be able to select floors from dropdown menus in the upper left-hand corner of the page. If you have any further questions, please visit our HELP page.

1st Floor
2nd Floor
3rd Floor
4th Floor

1st Floor
2nd Floor
3rd Floor

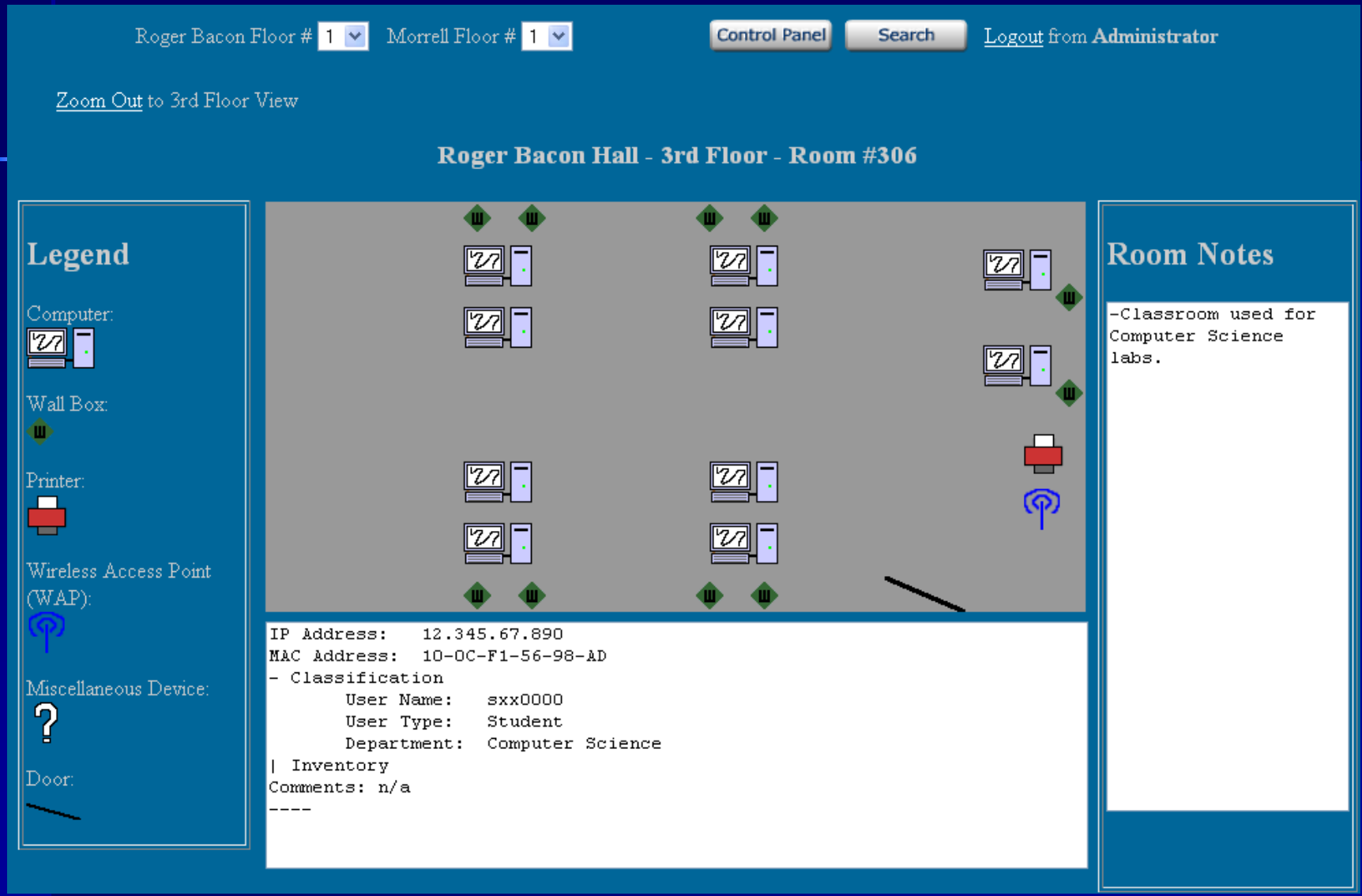
Floor Plan

Roger Bacon Floor # 1 Morrell Floor # 1 Control Panel Search Logout from **Administrator**



Rooms colored **yellow** may be clicked to display a detailed "Room View" which will show the layout of network devices in that room. Rooms colored **blue** are not viewable.

Room Layout


Roger Bacon Floor # 1
Morrell Floor # 1
Control Panel
Search
Logout from Administrator
Zoom Out to 3rd Floor View
Roger Bacon Hall - 3rd Floor - Room #306
Legend
Computer:
Wall Box:
Printer:
Wireless Access Point (WAP):
Miscellaneous Device:
Door:
IP Address: 12.345.67.890
MAC Address: 10-0C-F1-56-98-AD
- Classification
User Name: sxx0000
User Type: Student
Department: Computer Science
| Inventory
Comments: n/a
Room Notes
-Classroom used for Computer Science labs.

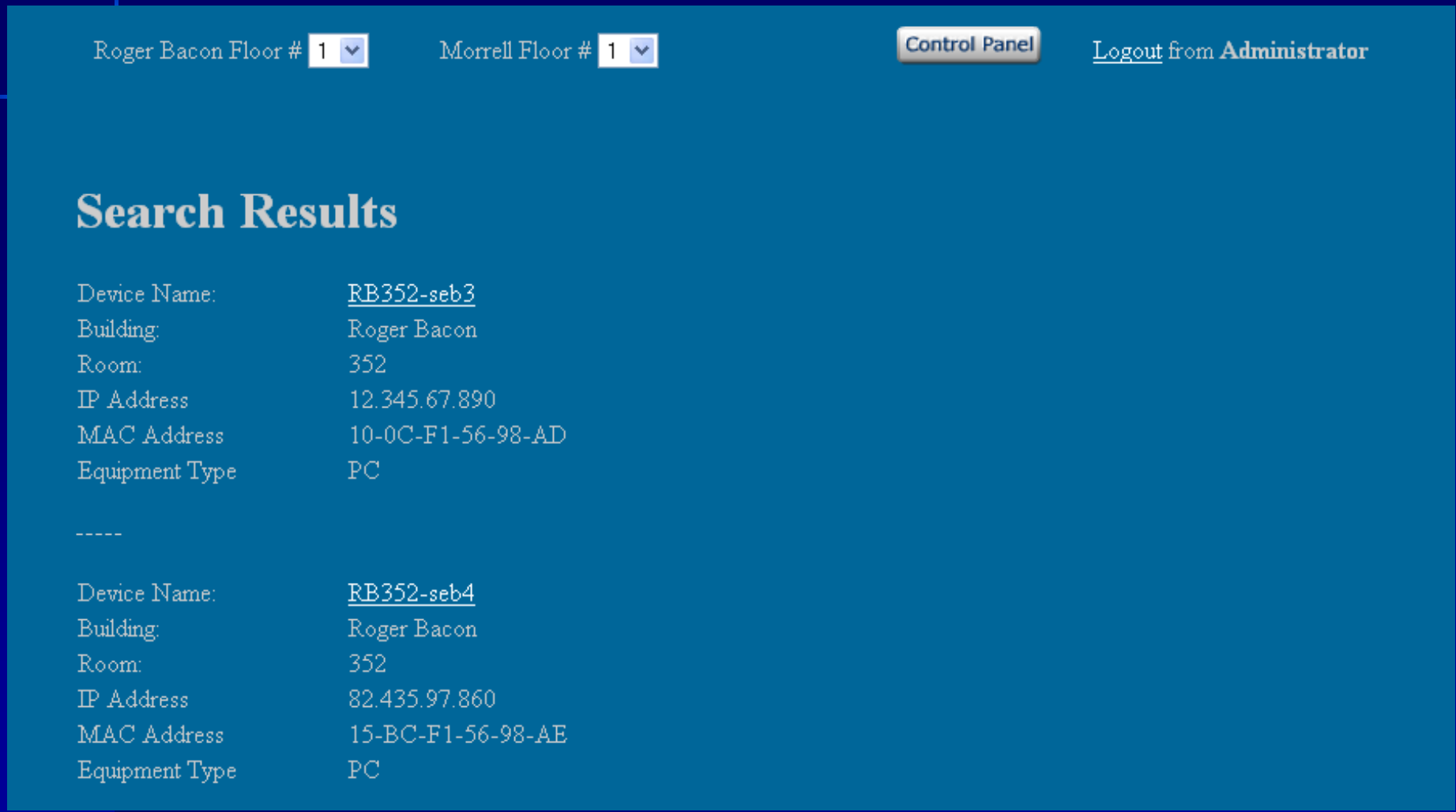
Expanded Device Information

```
IP Address:    12.345.67.890
MAC Address:   10-0C-F1-56-98-AD
- Classification
        User Name:    sxx0000
        User Type:    Student
        Department:   Computer Science
- Inventory
        Asset Tag #:        21095
        Priority:           M
        VP Code:            VPAA
        Building:           Roger Bacon
        Room #:             306
        Manufacturer:       Dell
        Model:              Dimension 4xxx
        Equipment Type:     PC
        Monitor Type:       CRT
        Purchase Year:      200x
        Installed Date:     200x
        Puchase Order #:    4185906
        CPU:                Pentium 4
        Speed:              1.3 GHz
        Disk:               20 GB
        Memory:             1 GB of RAM
        Serial #:           418A48D3C
Comments: None.
----
```

Search

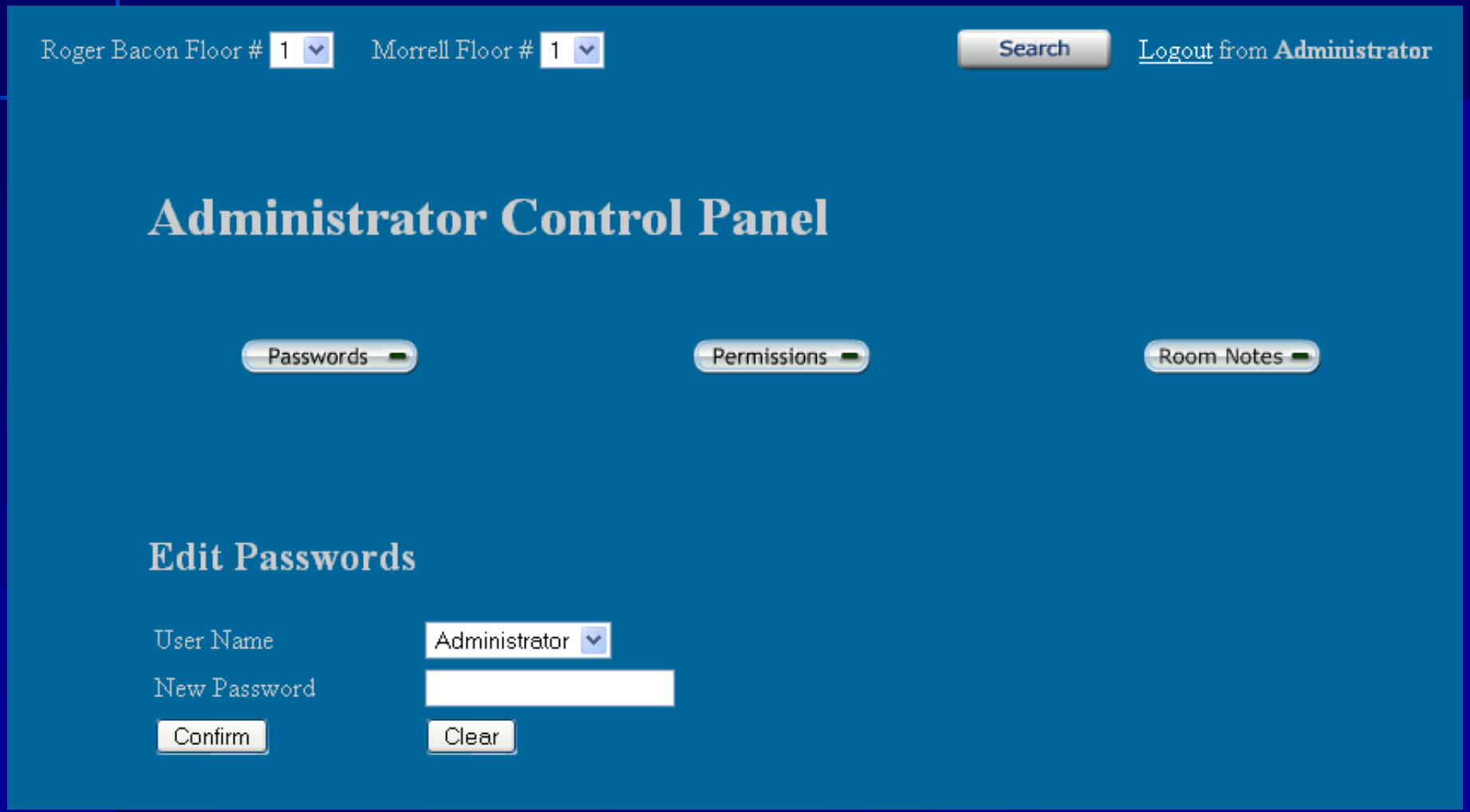
Roger Bacon Floor # 1
Morrell Floor # 1
Control Panel
Logout from Administrator
Search
Device Name:
User:
MAC Address:
Building:
Roger Bacon
Equipment Type:
Model:
Monitor Type:
Installed Date:
CPU:
Disk:
Department:
Priority:
L
Search
Asset Tag #:
User Type:
IP Address:
Room:
Manufacturer:
VP Code:
Purchase Year:
Purchase Order #:
Speed:
Memory:
Serial #:

Search Results

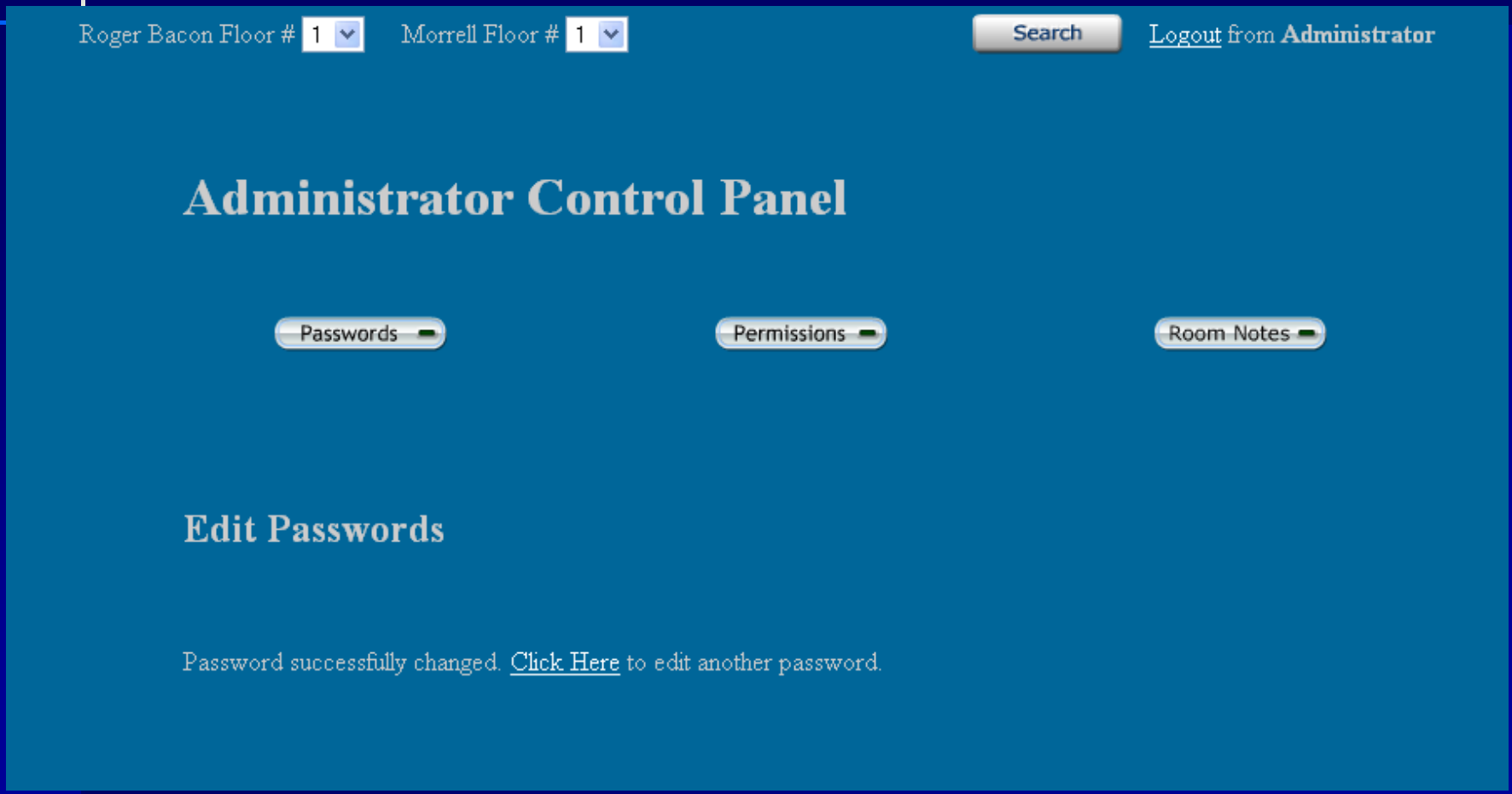


Control Panel

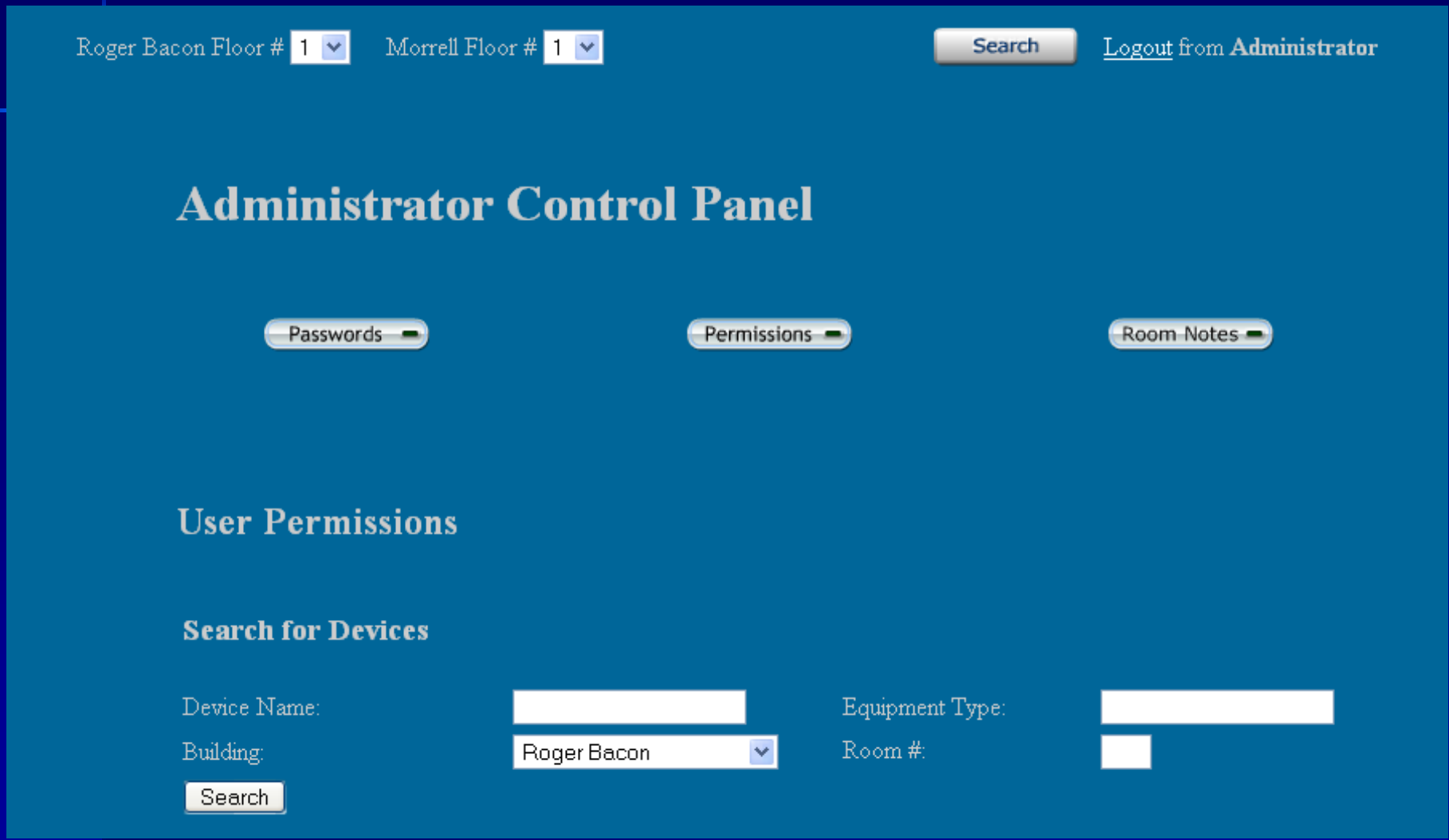
Control Panel > Passwords



Control Panel > Password Confirmation

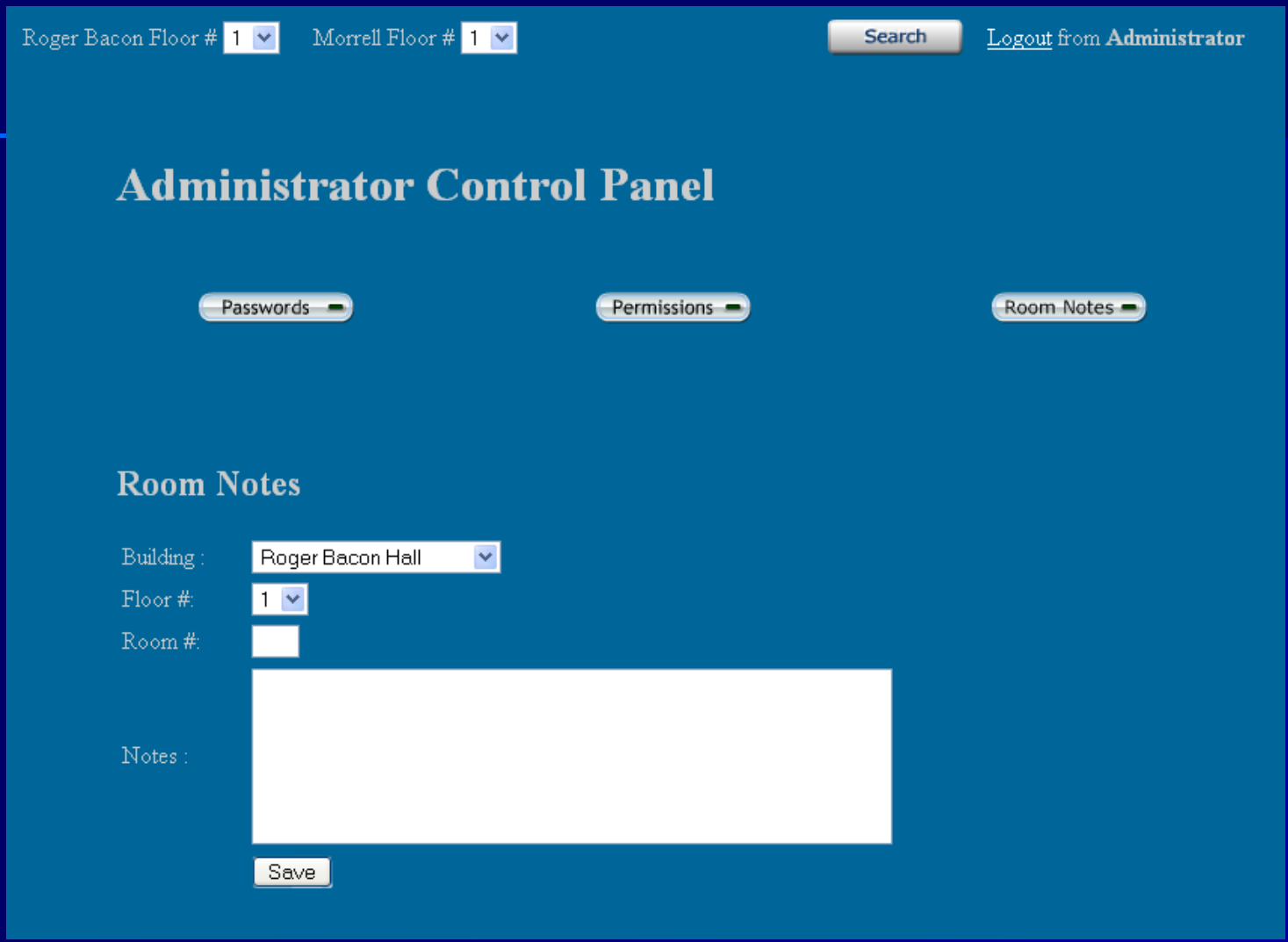


Control Panel > Permissions



Control Panel > Permissions cont.

Control Panel > Room Notes



Control Panel > Room Notes Confirmation

Agenda

- Introduction – Amanda Danko
- Prototypes – Kevin Johnson
- Test Plan – Mark Riley
- Database Design – Mark Riley
- Going forward – Amanda Danko

Unit Test Example

Test Number 1 - Login Screen Test Cases

Number	Test Case Name	Description	Input	Expected Result	Actual Result/Comments
1.1	Index Page Loads	Correct page load.	N/A	Index page loads and all components are displayed on the screen.	
1.2	Correct Login - Administrator	Log in with valid administrator account and password.	Administrator username and password	Welcome screen for administrators loads.	
1.3	Correct Login - Faculty/Staff	Log in with valid faculty/staff account and password	Faculty/Staff username and password	Welcome screen for faculty/staff loads.	
1.4	Incorrect Username Login	Login with invalid username.	Username	Message generated indicating invalid username.	
1.5	Incorrect Password Login	Log in with invalid password.	Password	Message generated indicating invalid password.	
1.6	Login with Empty Fields	Login with username and password fields empty.	N/A	Message generated indicating invalid username or password.	
1.7	Click Clear Button	User clicks clear button.	N/A	Username and password field are cleared of contents.	
1.8	Click Link to MAJIK Website	User clicks link to the MAJIK website.	N/A	MAJIK Team website loads.	
1.9	Click Link to Software Engineering Website	User clicks link to the Software Engineering website.	N/A	Software Engineering website loads.	
					Summary of Tests for

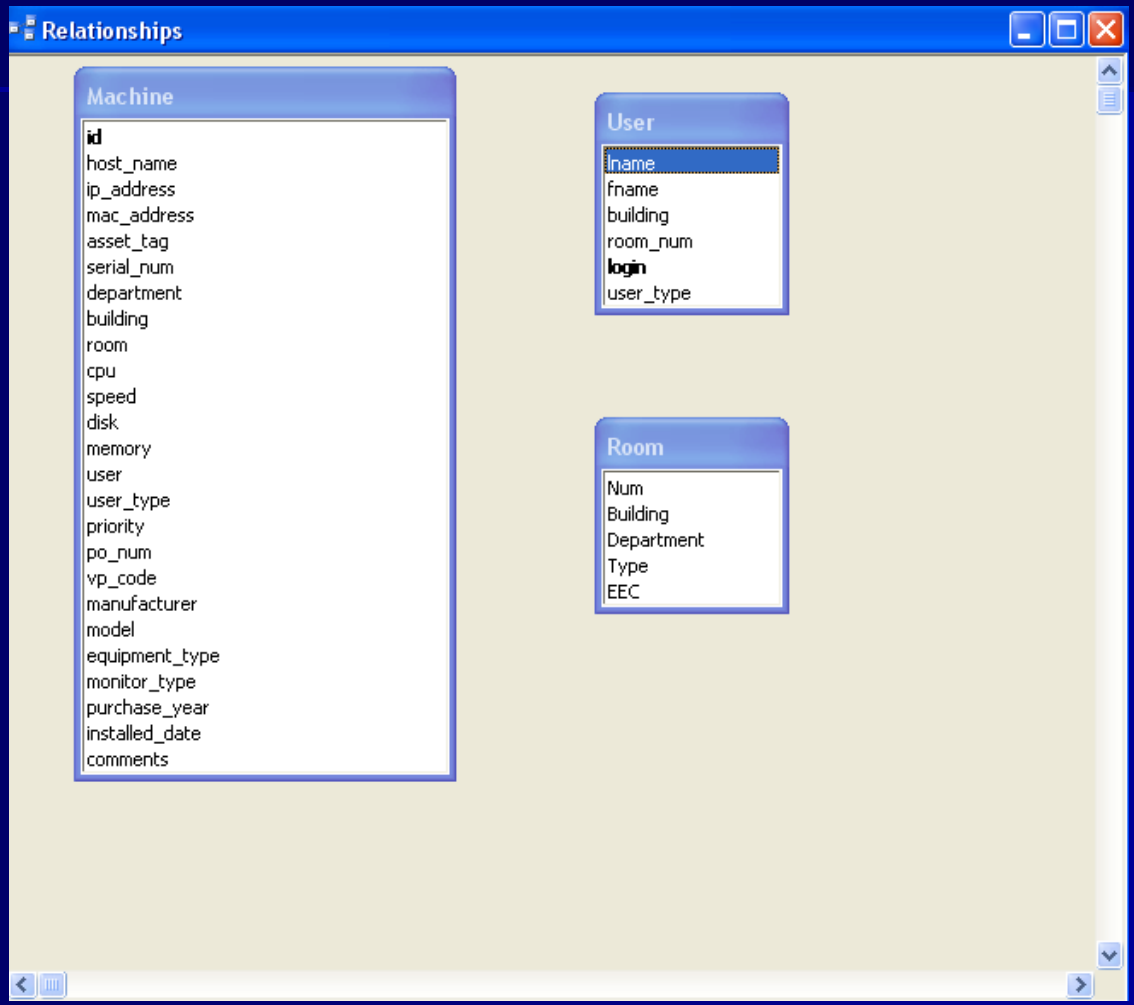
Test Plan Overview

- We have a testing manager who will work with the project manager to ensure thorough testing
- We will deliver the completed Unit Tests, with error reports and resolutions, as part of the acceptance test
- We are attempting to meet the pass/fail criteria set by the client
- We will deliver the completed documents May 1, 2007

Agenda

- Introduction – Amanda Danko
- Prototypes – Kevin Johnson
- Test Plan – Mark Riley
- Database Design – Mark Riley
- Going forward – Amanda Danko

Relationship Diagram



User Table

- This table contains the names of the individual users
- The administrator accounts are able to change the information about the users

	Field Name	Data Type	Description
▶	name	Text	User's last name
	fname	Text	User's first name
	building	Text	Name of the Building where the user's office or room is located
	room_num	Number	Number of the room which the user's office or room is located
🔑	login	Text	Name given to the user to login under
	password	Text	Password for the login, created by the user
	user_type	Text	Which class of user a login is classified as (used to specify permissions)

Room Table

- The room table contains information about the rooms in the building

Field Name	Data Type	Description
Num	Number	The room number
Building	Text	The building the room is found in
Department	Text	The department the room is used by
Type	Text	The type of room; i.e. lab, lecture, etc.
EEC	Yes/No	Indicates if the room is an Electronically Enhanced Classroom

Machine Table

Field Name	Data Type	Description
id	Number	A unique identifier
host_name	Text	The hostname of the machine
ip_address	Number	The IP address of the machine
mac_address	Number	The MAC address of the machine
asset_tag	Number	The IT&S asset tag value
serial_num	Number	The machine's serial number
department	Text	The department to which the machine belongs (the sub-network)
building	Text	The building in which the machine is located
room	Number	The room in which the machine is located
cpu	Text	The CPU type
speed	Number	The speed of the processor
disk	Number	The disk size
memory	Number	The memory size
user	Text	The name of the primary user
user_type	Text	The type of primary user; i.e. student, faculty, etc.
priority	Text	The priority level L-low; M-medium; H-high
po_num	Number	Purchase order number
vp_code	Text	Always VPAA (Vice President of Academic Affairs)
manufacturer	Text	The name of the manufacturing company
model	Text	The model name of the machine
equipment_type	Text	The type of equipment; i.e. PC, Mac, Laptop, Wireless Access Point, etc.
monitor_type	Text	The type of moniter; i.e. LCD, CRT
purchase_year	Date/Time	The date the machine/equipment was purchased
installed_date	Date/Time	The date the machine/equipment was installed
comments	Text	Comments about the machine/equipment

Agenda

- Introduction – Amanda Danko
- Prototypes – Kevin Johnson
- Test Plan – Mark Riley
- Database Design – Mark Riley
- Going forward – Amanda Danko

Going Forward…

- Development
- Acceptance Test
  - May 1, 2007
- Academic Celebration Presentation
  - May 5, 2007

Thank You!

Questions?