



USER'S MANUAL

Wildcat Applications Equipment Management System

Central Washington University

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Revision Sheet

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USER'S MANUAL

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1.0 GENERAL INFORMATION

1.1 System Overview

This is the User Manual for the Wildcat Applications Equipment Management System. This program will allow users to find and view information for equipment belonging to the Biology, Geology, and Chemistry departments at Central Washington University. The goal of the program is to make it easy to keep track of the equipment as well as standardize the information for each item. There are two main parts of this program that provide different functionality. All faculty and staff members for the three departments get access to the program, but with limited ability. The full capabilities of the program are reserved for the system administrator. As such, the two types of users receive different portions of this document. It is important to keep in mind that any functionality a regular user has, the administrator has it as well.

This is a summary of the capabilities explained in later sections. Along with this list on functions, and throughout the paper, the Use-Case Diagram in Appendix A will assist in keeping track of the connections between the functions.

User Functions

- Change the Theme
- Search For Equipment //map,drop,serial>manual
- View Information (Single or Multiple Items) //equipment or manual
- Print Information (Single or Multiple Items)
- Report a Problem

Administrator Functions

- Add Instrument
- Edit Instrument //dept.,location,manufacturer,retirement
- View/Delete History
- View/Edit/Print any Maintenance on an Instrument //2 print functions,
- Add Recurring Maintenance Issues
- Add/Edit Manuals
- Print Inventory
- Scanning Mode // inventory tracker
- View/Edit Alerts
- Backup/Restore/Import Information In Database

1.2 Project Resources

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1.3 Authorized Use Permission

This program is the property of Central Washington University. Access is explicitly restricted to the faculty and staff of the Chemistry, Biology, and Geology departments at Central Washington University. The information on the program is not to be viewed by anyone outside of those given access to the program. If the program is accessed without correct permissions, legal actions can be taken. To request permission to access the program, please contact Jeff Wilcox. You can find his contact information in the section below.

1.4 Points of Contact

For any questions or troubleshooting for users, please contact Jeff Wilcox. You can find his information in section 1.2. One of the program creators should handle any questions or troubleshooting from an administrator. The creators and their contact information is listed below for reference.

Program Creators

Andy Rose – Project Leader

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1.5 Organization of the Manual

This manual is divided into two parts, separating the user from the administrator. Each of the main functions listed in sub-section 1.1 will be main points and will have their own sub-sections. Third-layer sections will describe the different abilities and ways to perform the subject of the sub-section. Nothing in this document will go beyond a third-layer section.

1.6 Acronyms and Abbreviations

C# – Object-Oriented Programming Language
Ctrl – The control button on the keyboard
CWU – Central Washington University
GUI – Graphic User Interface

2.0 SYSTEM SUMMARY

The code for the program is written in C# which is an object-oriented programming language. The graphic user interface (GUI) uses Windows Forms, which is the regular outer box you see on most any Windows programs.

2.1 System Configuration

The design of this program is directed toward Windows users, thus will not work on a Macintosh OS. However, if you were to run Windows on a Macintosh computer, the program would be able to run. The system for the program uses a database to store the information on each item. This is done behind the scenes and is never seen by the user. The program and database are stored locally on the Central Washington University servers.

2.2 Data Flows

The information inserted into the program by the administrators is stored into a database that holds all of the information. The most appealing factor of using a database is the speed at which you can search through it. The dropdown menus and anywhere you see information on equipment all search the database. A database however cannot have multiple open lines of communication. To resolve this, the lists only update once every two minutes. In other words, there will be up to a two-minute delay before other users can view new information. When backing up the system, all information in the database is stored into a file, which is located on the same drive as the program.

2.3 User Access Levels

Access to the program is limited by using the Novell account system currently existing on the CWU campus. The drive which the program and database are stored can only be accessed by those who have the correct permissions, granted to them based on their Novell login. This limits unwanted access from restricted users.

2.4 Contingencies and Alternate Modes of Operation

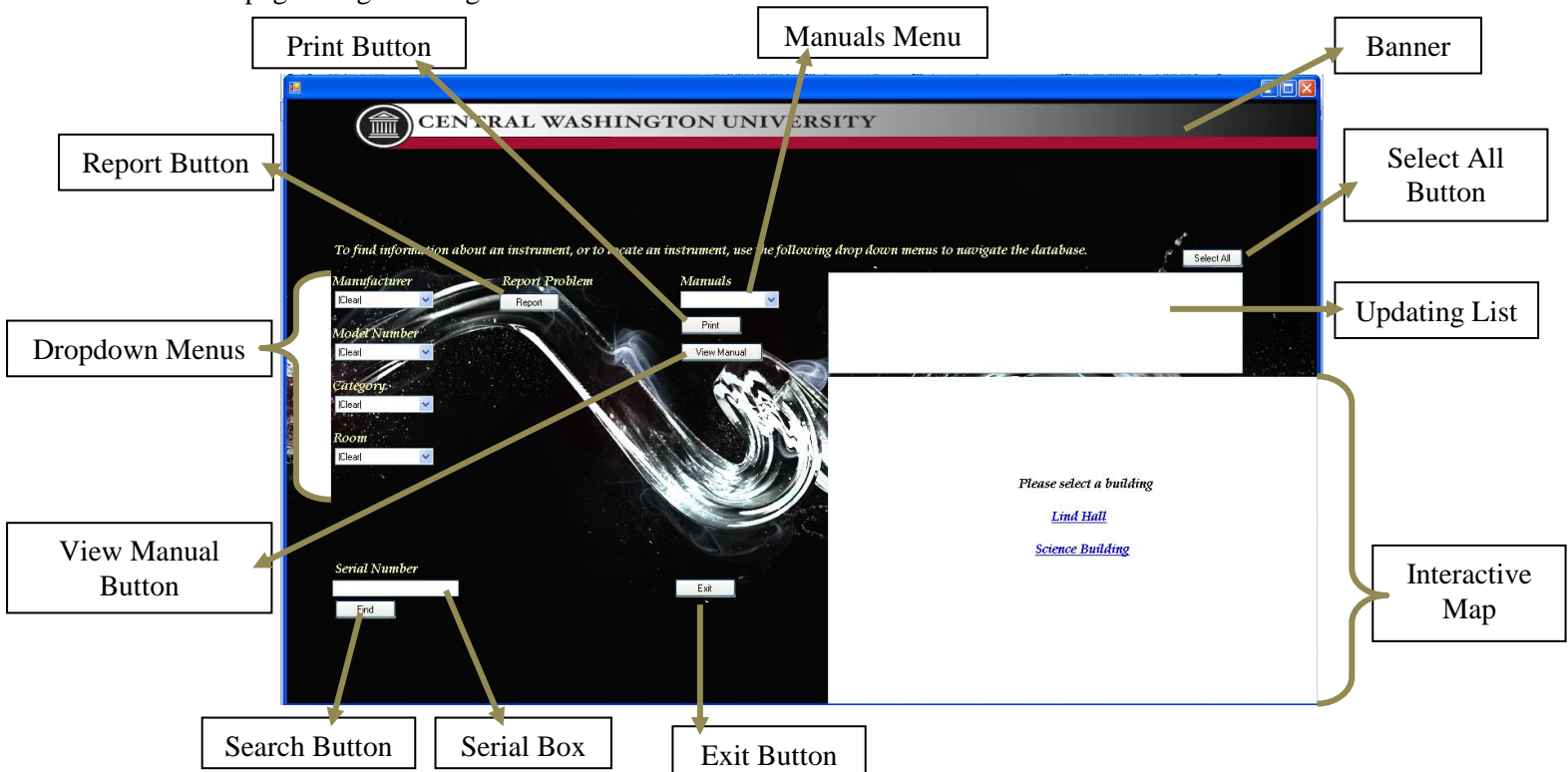
This program is crafted for a specific purpose, and therefore lacks in its contingency plans. Any major changes must be made in the code of the software. All of the programming was done in Microsoft Visual Studio, which is recommended for any edits that are to be made. There are ways to make changes, even if you don't know the C# language. The code has comments throughout that describe each method and the processes it completes. One instance of a major change is if a building were to be added to the group of departments. The coding for the testing building name and using it as a reference is embedded in multiple places in the code and would get incredibly confusing to alter. However, Visual Studio has a search function much like the one you see on the internet and many programs by pressing ctrl-f. Somebody editing the code could search for one of the other building names in the code and repeat the same processes for the new building. Another circumstance that would take some effort to implement is adding a new department.

*****WARNING*****

IF YOU ARE PLANNING ON MAKING CHANGES TO THE CODE, COPY AND PASTE THE ENTIRE PROGRAM FILE TO A DIFFERENT LOCATION ON A DIFFERENT DRIVE. DO NOT IMPLEMENT THE CODE UNTIL IT HAS BEEN FULLY TESTED. ONCE THE PROGRAM IS OVERWRITTEN, THERE IS NO WAY TO CHANGE IT BACK WITHOUT AN EXTRA COPY. ALSO, WORKING ON THE SAME DRIVE WILL SLOW IT DOWN FOR OTHER USERS.

3.0 USER FUNCTIONS

This section provides a general walkthrough of the system for regular users. It covers all of the capabilities that any user can perform. First, we will identify the terminology for all of the items on the main page using the image below.



3.1 Changing the Theme

For added personalization and aesthetic appeal, each department has its own theme in the program. There is also a theme for maintenance and a generic theme for when none are selected. The theme can be changed by clicking anywhere on the banner at the top of the application.

3.2 Searching

There are four ways to find an instrument using this program. You can use the dropdown menus, map, manuals, or search by the serial number.

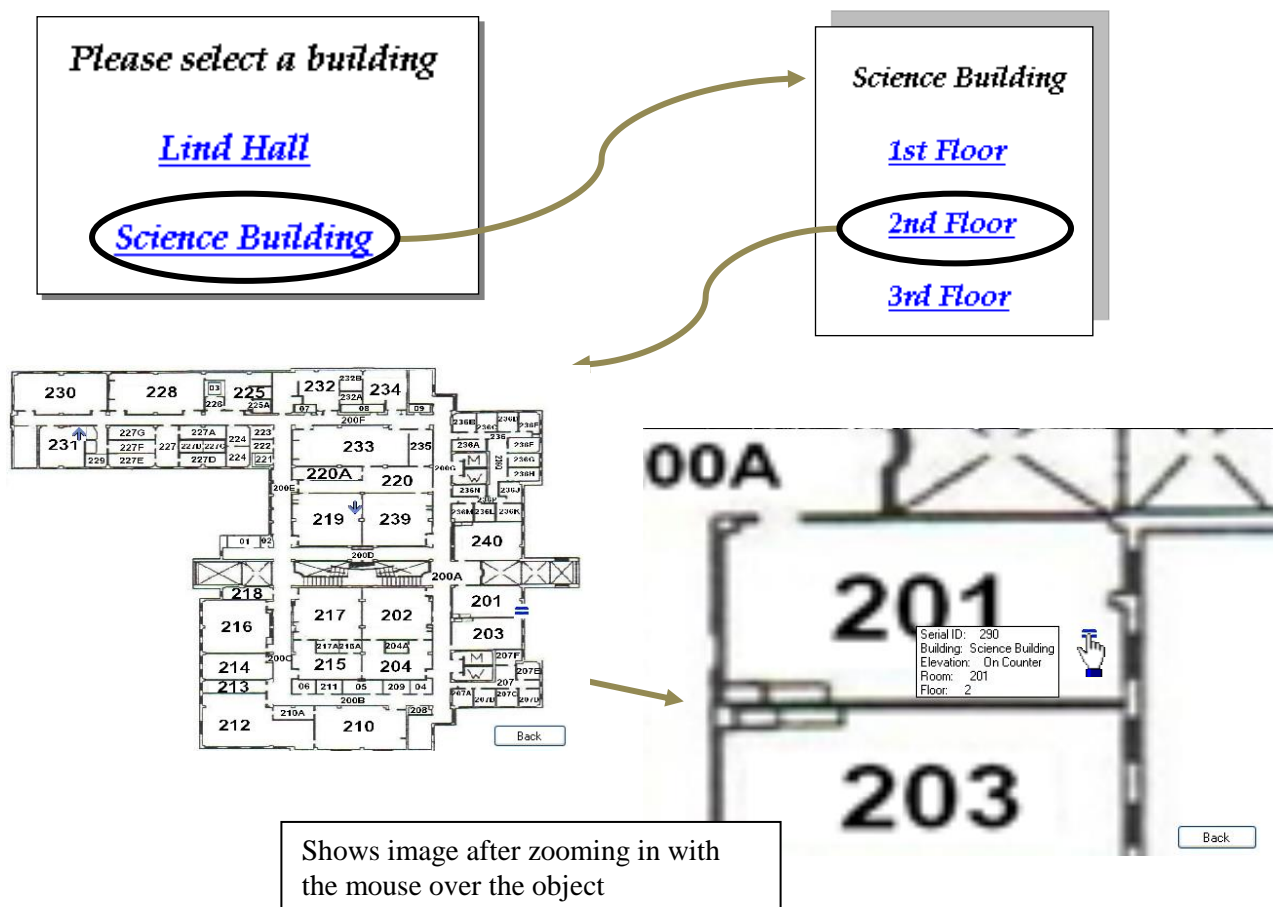
3.2.1 Search By Dropdown Selection

The dropdown menus are used to search by the general information on an object. Users have the ability to search by manufacturer, model, category, and room number. The menus are located on the left of the main window as seen above. To quickly select a value once a menu has been open, you can use the scrollbar on the right of the box to move through the list. The mouse wheel can also be used. The search is compiled by combining the contents of all of the dropdown menus. In order to narrow your search, it is best to have values in more than one of the menus. In order to clear the value of a dropdown, select the

value at the very top of the menu labeled ‘|clear|’. As you use the select values in the dropdown menus, the updating list on the right side of the window fills with items that match the given requirements.

3.2.2 Search By Interactive Map

Another way to search for an item is by using the interactive map. This feature is useful for a user that knows the location of an item. Displayed below are the steps for operating the map. The first part of the map asks you what building the instrument resides. Once the user selects one of these options, the map asks which floor to search. After the user selects a floor, the image in the map becomes a floor plan. The map at this point gets new functionality. Users can zoom in on the picture using the “wheel” of the mouse accompanied with a panning feature, performed by clicking and dragging the image. On the floor plan will be smaller images showing an arrow or an ‘equals’ sign. These are instruments in that area. The image is determined by the elevation of the item. The up arrow is above the counter, the ‘equals’ sign is on the counter, and the down arrow is below the counter. When the mouse scrolls over an object, a box pops up displaying information on the location of the item. Lastly, a user can click on any object and the information window will pop up for that object, offering the abilities to print or view the manual. The map can go back a step at any time by clicking the ‘Back’ button in the lower right. A step-by-step diagram is shown below for locating an item in room 201 of the Science Building.



3.2.3 Search By Manual

This type of search find all items in the database that use a particular manual. This is a good way to find all equipment that uses a certain manual, or just to view the manual in general. To search by manual, simply select the desired manual from the ‘Manuals Menu’ illustrated above. All instruments that use that menu will appear in the updating list.

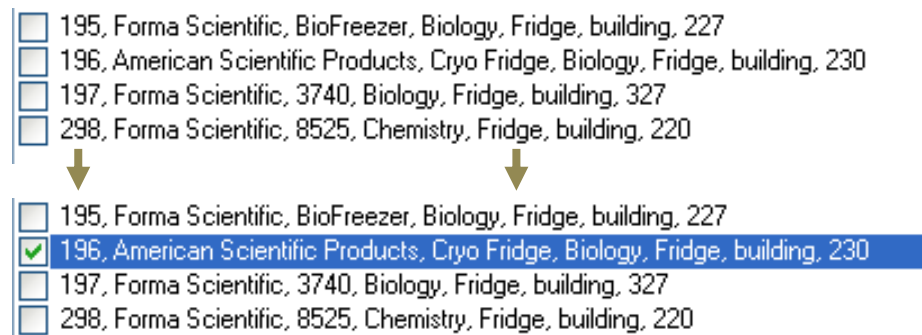
3.2.4 Search By Serial

This method of searching for equipment is for those who know the serial number of the item which they are searching for. The only step to searching this way is to type in the serial number into the serial number box and press ‘enter’ or click find.

3.3 View Information

3.3.1 Viewing Instrument Information

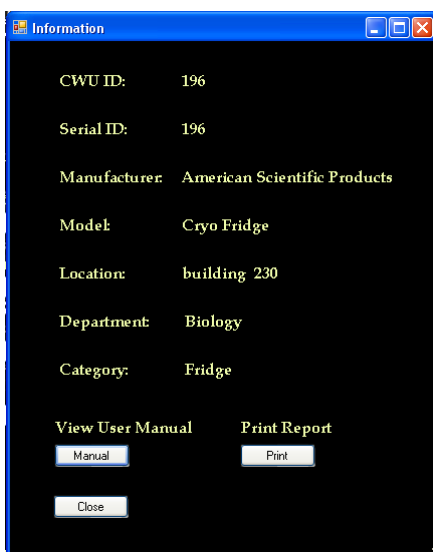
There are several ways to view the information. Above instructs how to view the information of an item by clicking on it on the map. The second way to view information is from the updating list. To do this, find an instrument using one of the methods described in the last section that isn’t using the map. Next, select the item from the updating list by clicking the checkbox next to the item name once.



Once the item is selected, you can either click the ‘find’ button or the ‘print’ button illustrated in the image at the beginning of the section.

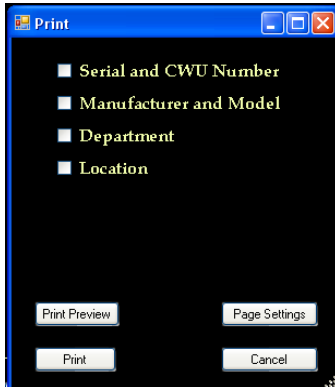
3.3.2 Viewing a Manual

Performing the actions above will bring up the window you see on the left. This is the “Information Window”. As you can see, there is a button on the



window to view the user manual. Clicking this will open the file which the instrument is linked to. If there is no electronic manual associated with the item, a message box will appear informing that the item does not have a manual available.

3.4 Print Information



As you can see in the image above, once you open the “information page”, there is a button that says ‘print’ and has a label ‘print report’. Clicking this button will open another window, which is the “Print Window” (displayed on left). This window lets you choose the types of information you would like to have displayed on the print form. Options can be selected/deselected by clicking on the boxes next to each option. After choosing the desired information to show, there are several options. Clicking ‘Print Preview’ will open a page that displays what the printed page will look like. Clicking ‘Page Settings’ brings up a print settings box that allows the user to choose the size, source, orientation, and margins for document you want to print. Finally, clicking the ‘Print’ button will open

the normal printing dialog box seen in other Windows applications. From here, you can select the printer as well as set many other options.

The process to print more than one instrument only varies in the first step from printing one. To print multiple items, from the main page, select several instruments from the updating list before you click the ‘print’ button, also on the main page. The rest of the process is the same, but the document will show multiple items.

3.5 Reporting a Problem

Reporting a problem is useful for pointing out problems with equipment to those who can fix it. To do this, start by clicking the ‘Report’ button on the main screen. This will open the ‘Help Request’ page. No item has to be selected in order to do this, but it is helpful to have the ‘Information’ page open for the instrument that has the issue. This will make entering the information on the ‘Help Request’ page much easier. Once a problem has been entered, click the submit button at the bottom of the window. A dialog box appears asking if you would like to submit another report. Click ‘No’ and the process is complete.

3.6 Closing the Program

Once a user finishes using the program, clicking the X in the upper-right corner of the window or pressing the exit button on the main page will end the program. Both methods effectively close the program. There is no saving or backing up necessary before exiting.

4.0 ADMINISTRATOR FUNCTIONS

4.1 Adding an Instrument

1. From the main page enter administrator mode by pressing CTRL-J.
2. Enter password for administrator mode and click "ok".
3. From the administrator page click the add instrument button.

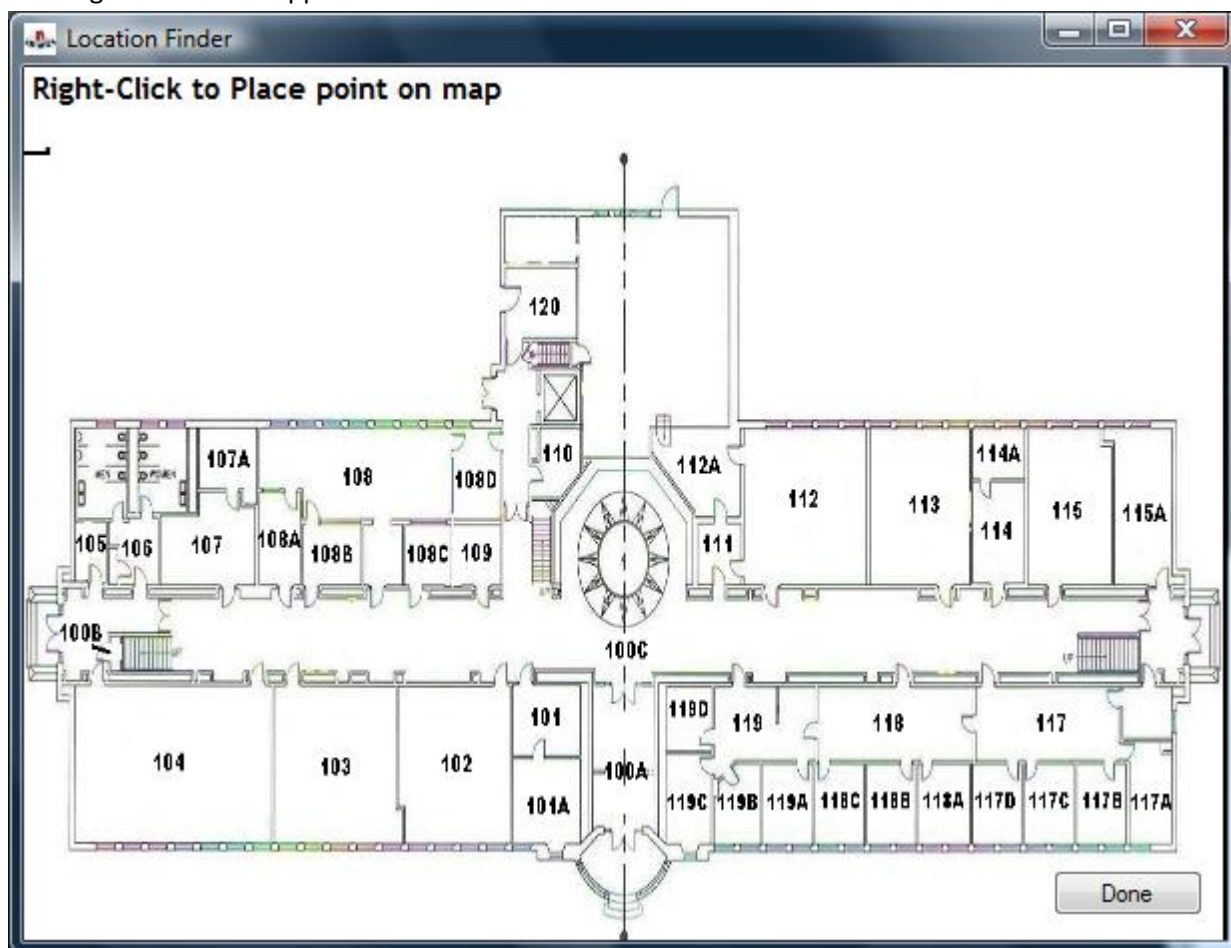


The add instrument form will appear.

A screenshot of a software window titled "Add". The window has a dark background and a light-colored border. It contains the following fields and controls:

- Manufacturer:** A text input field.
- Model:** A text input field.
- Serial Number:** A text input field.
- CWU Number:** A text input field with a "Generate" button to its right.
- Building:** A dropdown menu.
- Room:** A text input field with a "Get Location" button to its right.
- Elevation:** Three radio buttons labeled "Above Counter", "On Counter", and "Below Counter". The "On Counter" button is selected.
- Department:** A text input field.
- Category:** A text input field.
- At the bottom, there are two buttons: "Cancel" and "Add".

4. Enter the instrument's manufacture, model, and serial number.
5. Enter a CWU number. If there is no CWU number, Click the "Generate" button to have one created.
6. Select a building from the drop down menu. Lind and the Science Building can be selected.
7. Enter a room number for the selected building.
8. Once the room has been entered click the "Get Location" button. A map of the selected building and floor will appear.



9. Right click at the location the instrument is placed in the building. A Small circle will appear on that spot. The map can be zoomed in and out using the mouse's scroll wheel. The map can also pan to view different areas when zoomed by left clicking and holding while dragging the mouse. (If zooming or panning after the location point has been placed it will be discarded and will need to be placed again.)
10. Once the point has been placed click "Done". The map window will now disappear.
11. Next select if the instrument is below, on, or above the counter using the radio buttons.
12. Enter the department the instrument belongs to and the category the instrument belongs.
13. Once all the information has been entered click the "Add" button. A dialog box will appear stating the instrument has been added to the database.

14. If you do not wish to enter an instrument click the “Cancel” button to close the form without adding to an instrument to the database.

4.2 Editing an Instrument

1. From the main page enter administrator mode by pressing CTRL-J.
2. Enter password for administrator mode and click “ok”.
3. Enter a serial number for an instrument stored in the database into the serial number box.



4. From the administrator page click the edit instrument button.



A window will appear displaying the instruments information. From this window many tasks can be

performed.

The 'Edit Instrument' window displays the following information:

- CWU ID:** 601
- Serial ID:** 601
- Manufacturer:** Central Scientific (Cenco Instrum)
- Model:** 97012-16
- Building:** building (dropdown menu)
- Room:** 233
- Location:** (1, 3) (button: Change Location)
- Elevation:** ☐ Above Counter ☒ On Counter ☐ Below Counter
- Department:** Biology
- Category:** Water Bath
- Retirement Status:** False (dropdown menu)

History sections:

- Manufacturer History:** No Information (Remove button)
- Location History:** No Information (Remove button)

Action buttons:

- View User Manual:** Manual (button), Add Manual (button)
- Print Report:** Print (button)
- Accept Changes:** Accept (button), Close (button)

- The manufacture and department can be changed by entering text into the box and clicking "Accept". After the "Accept" button has been clicked any changes made to the manufacture will be stored in the manufacture box whereas the manufacture that was previously displayed in the manufacture box will be shown in the manufacture history box.

Manufacturer History (Remove button)

Central Scientific (Cenco Instruments inc)

- The building the instrument is located in can be changed by selecting either Lind Hall or Science Building from the drop down menu.

Building: Lind Hall (dropdown menu)

The room can be changed by entering a 3 digit number in the room box. The first digit of the number determines the floor the instrument is located on.

Room:

When the “Accept” button is clicked and either the building or room has been changed the currently enter information is stored and the old location is placed in the location history box.

Location History

Building: building, Room: 233

The elevation of the instrument can be selected using the radio buttons. This changes the how it is displayed on the map.

Elevation: ☐ Above Counter ☒ On Counter ☐ Below Counter

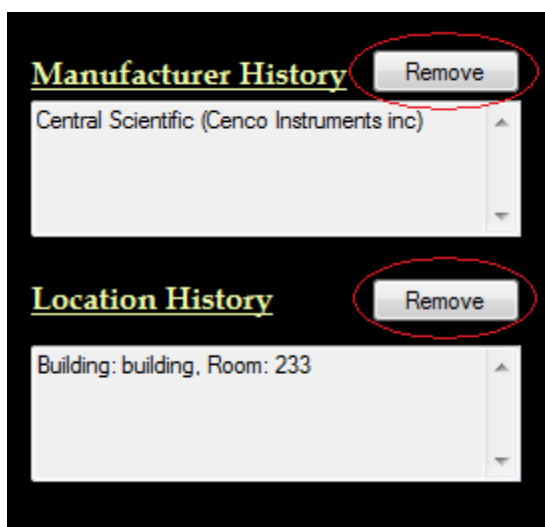
7. The location on the map can be changed by clicking the “Change Location” button. This will bring up a map very similar to the get location used in the add menu. When right clicking on the map a Small circle will appear on that spot. This marks the location of the instrument. The map can be zoomed in and out using the mouse’s scroll wheel. The map can also pan to view different areas when zoomed by left clicking and holding while dragging the mouse. (If zooming or panning after the location point has been placed it will be discarded and will need to be placed again.) Once the location has been set and the “Accept” button has been clicked the location coordinates will be updated.

Location:

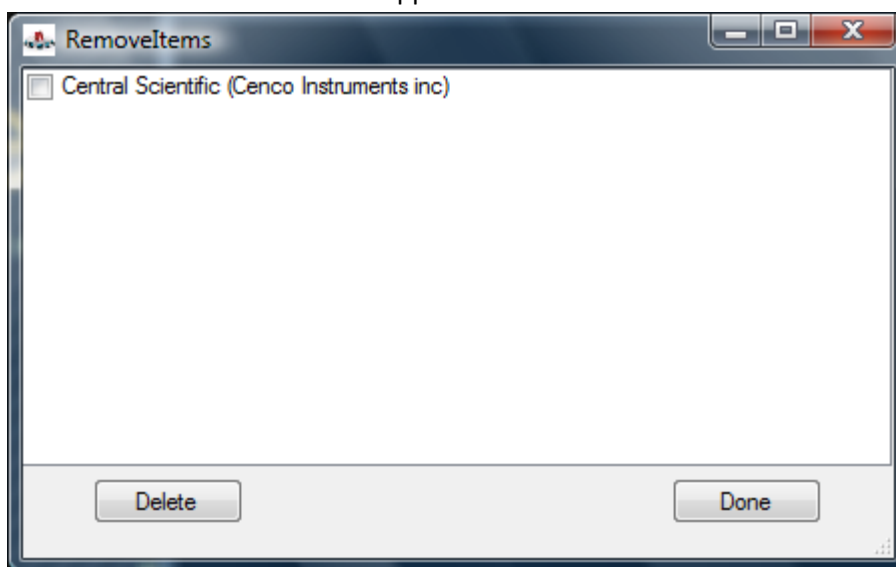
8. The retirement status of an instrument can be changed by selecting either retired or active from the drop down menu. If the retirement status is set to true the instrument will be retired and can no longer be found in a search. (If an instrument needs to be taken out of retirement the instrument can still be opened up in the edit menu).

Retirement Status:

9. If a manufacture and location history needs to be removed from the manufacture history or location history boxes click the “Remove” button next to the respective box.

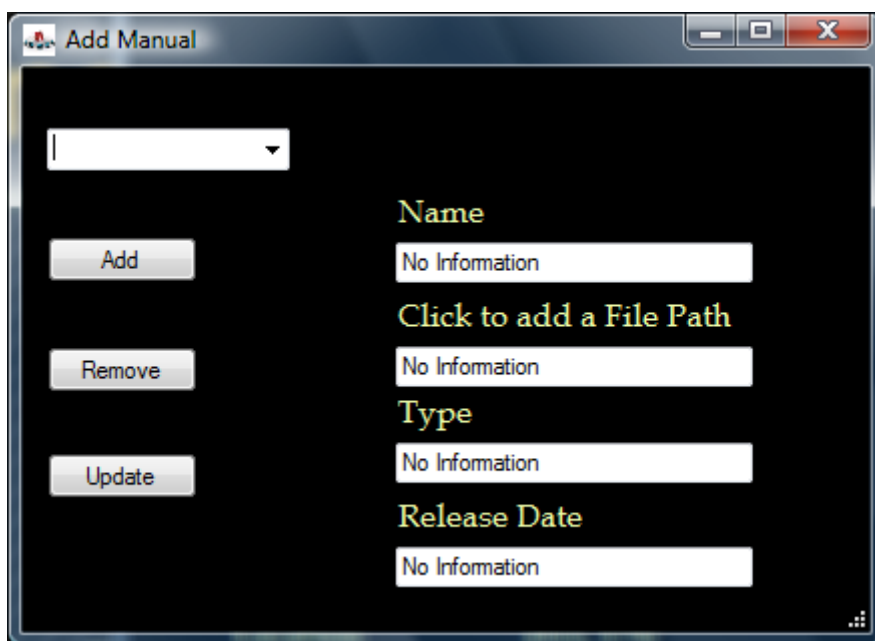


Once clicked a remove box will appear.

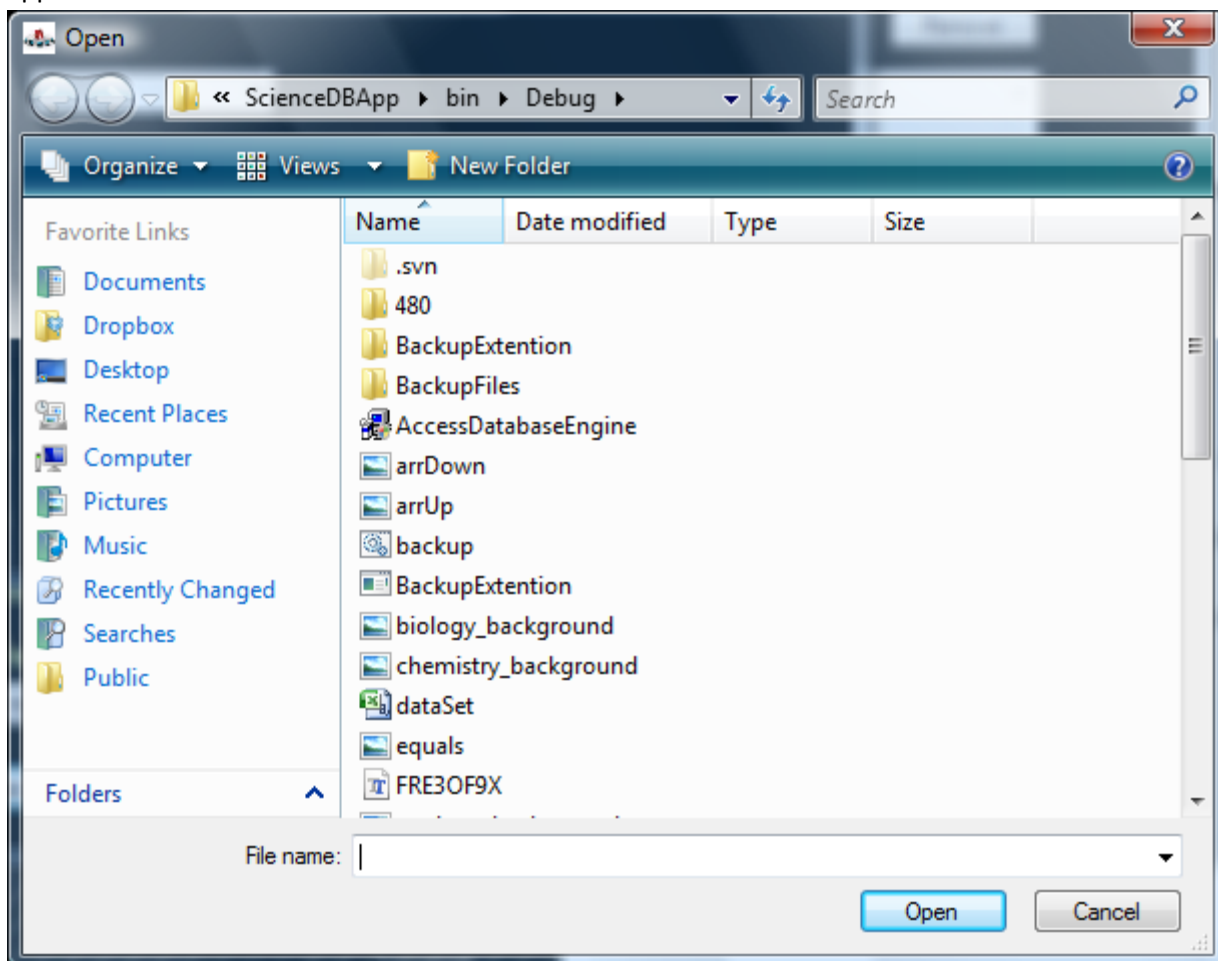


The item wished to be removed can be clicked and a check mark will be placed next to the item. Click the “Delete” button and the dialog box will appear asking if you are sure you wish to delete the item. Once the item has been deleted click the “Done” button and the item will be removed permanently from the history.

10. A user manual can be added to the instrument by clicking the “Add Manual” button. This will cause the “Add Manual” menu to appear.



From this menu enter a name for the manual, a manual type and a release date for the manual. To select what manual is attached click the “Click to add a File Path” text to cause a file browser box to appear.

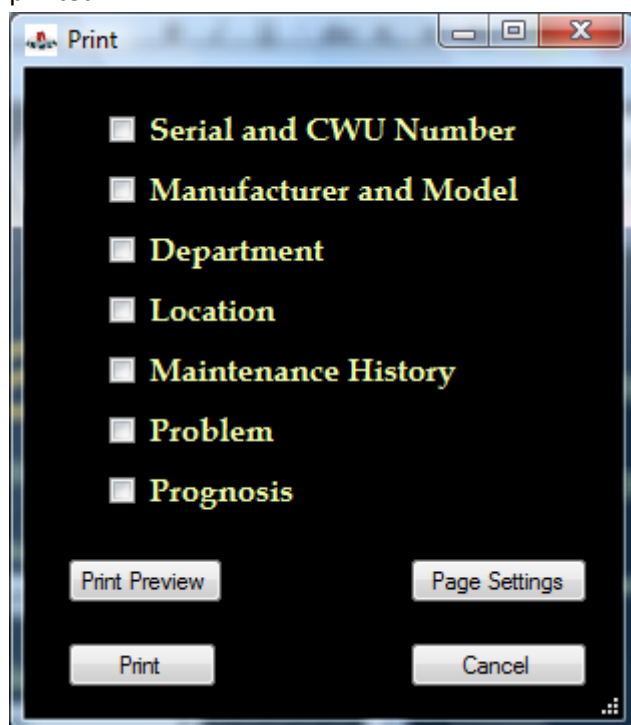


Once all four fields have been filled in click the “Add” button to add the instrument to manuals drop down list. This will allow repeated use of the same manual for multiple instruments. To add the manual to the instrument select the manual to be added from the drop down box. Click the “Update” button to attach the manual to the instrument. To remove a manual click the remove manual button to remove the manual from the instrument.

11. The manual for an instrument can be viewed by clicking the “Manual” button.
12. The instrument’s information can be printed by clicking the print button on the instrument edit page.



Once the “Print” button has been clicked a menu will appear displaying the information that can be printed.



The different items can be checked to filter which information is printed. Clicking on the “Print Preview” button allows for a preview of the information to be displayed. Page settings can be changed by clicking the “Page Settings” button. Clicking the print button will send the information to the printer to begin printing.

4.3 Viewing Alerts

Once the Administrator has logged in, if there are any alerts in the system, there will be a message in the top-right of the main window, underneath the banner, telling the admin user how many alerts they have. This message is shown below.



Alerts can be either reports for maintenance issues from users or an upcoming recurring maintenance issue. To view the alert messages, click on the message. The 'Alert' window (displayed below) will appear displaying all of the messages along with a brief description of the instrument.

Alerts			
Submitted on 3/10/2011 12:00:00 AM	Department: Chemistry	Location: building 202	Contact: ?
Submitted on 3/10/2011 12:00:00 AM	Department: Biology	Location: building 235	Contact: ?
Submitted on 3/18/2011 8:41:43 PM	Department: ?	Location: ?	Contact: ?

To open a message, double-click on the item. This will bring up the 'Commit Alert' window shown

 A screenshot of the 'Commit Alert' window. It has a blue title bar with the text 'Commit Alert'. The main area is white. At the top, it says 'Submitted on 3/10/2011 12:00:00 AM'. Below this are fields for 'Serial ID:' (610), 'CWU ID:' (610), 'Manufacturer:' (VWR), 'Model:' (1122), 'Department:' (Biology), 'Location:' (building 235), and 'Category:' (Water Bath). To the right of the Serial ID field, it says 'Match found for Serial ID.'. Below these fields is a section titled 'Problem' with a text area containing 'Recurring Maintenance: A new maintenance with a date that is less than 14 days away.' At the bottom, there is an 'E-mail Address: ?' field and three buttons: 'Cancel', 'Commit', and 'Delete'. Above the buttons, it says 'Commit this issue to the database'.

below. This window shows more detailed information on the instrument and the issue report for that item. From here you can delete the message if you have committed the problem already by clicking the 'Delete' button. This page will also allow you to commit the issue to the maintenance log of that instrument in the database by clicking the 'Commit' button. Once an item has been committed, it becomes a maintenance issue for the instrument in question. You can view the problem by looking at the maintenance page. This is accessed by finding the object and clicking the 'View Maintenance' Button on the main page. Below we describe how to track the maintenance for a desired instrument.

4.4 Maintenance

On the maintenance form, the following include several procedures that the administrator can perform:

1. Add a start date for an instruments problem reported by end-users
2. Add a completion date for an instruments problem
3. Enter a prognosis for an Instrument in regards to a specific problem
4. Scroll through different problems and prognoses
5. Print an instruments problems or prognosis
6. View an instruments recurring maintenance
7. Edit an instruments recurring maintenance

4.4.1 Add a start date for an instruments problem reported by an end-user

- First, click in the text box to right of the label “Start Date” as in Figure 1.

Figure 1

- Enter a start date in the format shown underneath the text box.
- To save the changes click on the accept button as shown in Figure 2.

The screenshot shows a software window titled "Maintenance Edit". The window has a green background and contains several sections:

- Location History**: A section with the text "Building: building, Room: 227".
- Recurring Maintenance**: A section with the text "No Information Available".
- Form Fields**: A list of fields on the left side, including "CWU ID: 290", "Serial ID: 290", "Manufacturer: Percival Scientific", "Model: 101", "Building: Science Building", "Room: 201", "Department: Biology", "Category: Incubator", "Submitted On: Not Available", "Start Date: No Start Date", "Completion Date: No End Date".
- Problem and Prognosis**: Two large text input areas labeled "Problem:" and "Prognosis:".
- Buttons**: A row of buttons at the bottom, including "Close", "Print", "Accept Changes" (circled in red), "Next", and "Previous".

Figure 2

4.4.2 Add a completion date for an instruments problem

- First, click in the text box to the right of the label “Completion Date” as shown in Figure 3.

The screenshot shows a 'Maintenance Edit' window with a green background. On the left, instrument details are listed: CWU ID: 290, Serial ID: 290, Manufacturer: Percival Scientific, Model: 101, Building: Science Building, Room: 201, Department: Biology, Category: Incubator, Submitted On: Not Available, Start Date: No Start Date (MM/DD/YYYY), and Completion Date: No End Date (MM/DD/YYYY). The 'Completion Date' text box is circled in red. On the right, there are sections for 'Location History' (Building: building, Room: 227) and 'Recurring Maintenance' (No Information Available). Below these are 'Problem:' and 'Prognosis:' text areas. At the bottom, there are buttons for 'Close', 'Next', 'Print Report' (with a 'Print' sub-button), 'Accept Changes' (with an 'Accept' sub-button), and 'Previous'.

Figure 3

- Enter the completion date in the format shown underneath the text box.
- To save the changes click on the accept button as shown in the previous Figure 2.

NOTE: Upon clicking on the accept button the problem with the completion date will be removed permanently to the alert system. However, the information is stored as history and can still be viewed from the maintenance form.

4.4.3 Enter a prognosis for an instrument in regards to a specific problem

- First, click in the prognosis text box as shown in Figure 4.

The screenshot shows a 'Maintenance Edit' window with a green background. On the left, instrument details are listed: CWU ID: 290, Serial ID: 290, Manufacturer: Percival Scientific, Model: 101, Building: Science Building, Room: 201, Department: Biology, Category: Incubator, Submitted On: Not Available, Start Date: No Start Date (MM/DD/YYYY), and Completion Date: No End Date (MM/DD/YYYY). On the right, there are sections for 'Location History' (Building: building, Room: 227) and 'Recurring Maintenance' (No Information Available). Below these is a 'Problem:' text box. At the bottom right, a 'Prognosis:' text box is highlighted with a red oval. At the bottom, there are buttons for 'Close', 'Next', 'Print Report' (with a 'Print' sub-button), 'Accept Changes' (with an 'Accept' sub-button), and 'Previous'.

Figure 4

- Enter the prognosis for the problem.
- To save the changes click on the accept button as shown in the previous Figure 2.

4.4.4 Scroll through different problems and prognoses

- To view any of the problems associated with this instrument, the administrator uses the **Next** and **Previous** button located at the bottom of the page.
- Clicking on the **Next** button (as shown in Figure 5) will display the next problem, prognosis, start date, completion date, and submit date for the problems in order.

The screenshot shows a web application window titled "Maintenance Edit". The background is green. On the left, there is a list of instrument details: CWU ID: 290, Serial ID: 290, Manufacturer: Percival Scientific, Model: 101, Building: Science Building, Room: 201, Department: Biology, Category: Incubator, Submitted On: Not Available, Start Date: No Start Date (with MM/DD/YYYY format), and Completion Date: No End Date (with MM/DD/YYYY format). On the right, there are two sections: "Location History" showing "Building: building, Room: 227" and "Recurring Maintenance" showing "No Information Available". Below these are two large white text areas labeled "Problem:" and "Prognosis:". At the bottom, there are several buttons: "Close", "Print Report" (with a "Print" sub-button), "Accept Changes" (with an "Accept" sub-button), "Next" (circled in red), and "Previous".

Figure 5

- Clicking on the **Previous** button (as shown in Figure 6) will display the previous problem, prognosis, start date, completion date, and submit date for problems in reverse order.

The screenshot shows a software window titled "Maintenance Edit". The window has a dark green background. On the left side, there is a list of fields with their corresponding values: CWU ID: 290, Serial ID: 290, Manufacturer: Percival Scientific, Model: 101, Building: Science Building, Room: 201, Department: Biology, Category: Incubator, Submitted On: Not Availble, Start Date: No Start Date (with a date format MM/DD/YYYY below it), and Completion Date: No End Date (with a date format MM/DD/YYYY below it). On the right side, there are two sections: "Location History" with the text "Bulding: building, Room: 227" and "Recurring Maintenance" with the text "No Information Available". Below these sections are two large white text boxes labeled "Problem:" and "Prognosis:". At the bottom of the window, there are several buttons: "Close", "Next", "Print" (under the heading "Print Report"), "Previous" (circled in red), "Accept" (under the heading "Accept Changes"), and "Accept".

Maintenance Edit

CWU ID: 290

Serial ID: 290

Manufacturer: Percival Scientific

Model: 101

Building: Science Building

Room: 201

Department: Biology

Category: Incubator

Submitted On: Not Availble

Start Date: No Start Date
MM/DD/YYYY

Completion Date: No End Date
MM/DD/YYYY

Location History
Bulding: building, Room: 227

Recurring Maintenance
No Information Available

Problem:

Prognosis:

Close

Next

Print Report

Print

Previous

Accept Changes

Accept

Figure 6

4.4.5 Print an instruments problems or prognosis

- Click on the print button as shown in Figure 7.

The screenshot shows a 'Maintenance Edit' window with a green background. On the left, instrument details are listed: CWU ID: 290, Serial ID: 290, Manufacturer: Percival Scientific, Model: 101, Building: Science Building, Room: 201, Department: Biology, Category: Incubator, Submitted On: Not Available, Start Date: No Start Date (MM/DD/YYYY), and Completion Date: No End Date (MM/DD/YYYY). On the right, there are sections for 'Location History' (Building: building, Room: 227) and 'Recurring Maintenance' (No Information Available). Below these are 'Problem:' and 'Prognosis:' text areas. At the bottom, there are buttons for 'Close', 'Next', 'Previous', 'Print' (circled in red), 'Accept Changes', and 'Accept'.

Figure 7

- Check the problem and or prognosis check box.
- Click the print button.

NOTE: Upon clicking on the print button, all problems and or prognoses will print for the instrument.

4.4.6 View an instruments recurring maintenance.

- All recurring maintenance for an instrument can be viewed in the recurring maintenance box. This box is scrollable and displays all of the recurring maintenance associated with the instrument. Also listed with the description is the frequency, as number of days, for each recurring maintenance in the text box shown in Figure 8.

The screenshot shows a software window titled "Maintenance Edit" with a green background. On the left, instrument details are listed: CWU ID: 290, Serial ID: 290, Manufacturer: Percival Scientific, Model: 101, Building: Science Building, Room: 201, Department: Biology, Category: Incubator, Submitted On: Not Availble, Start Date: No Start Date (MM/DD/YYYY), and Completion Date: No End Date (MM/DD/YYYY). On the right, there are two sections: "Location History" showing "Building: building, Room: 227" and "Recurring Maintenance" which is a scrollable box containing "No Information Available" and is circled in red. Below these are "Problem:" and "Prognosis:" text areas. At the bottom, there are buttons for "Close", "Next", "Print Report" (with a "Print" sub-button), "Accept Changes" (with an "Accept" sub-button), and "Previous".

Figure 8

4.4.7 Edit an instruments recurring maintenance.

- Editing an instruments recurring maintenance can be done by clicking on the **Recurring Maintenance** label shown in Figure 9. This displays the recurring maintenance form described in more detail in the next section.

The screenshot shows a 'Maintenance Edit' window with a green background. On the left, instrument details are listed: CWU ID: 290, Serial ID: 290, Manufacturer: Percival Scientific, Model: 101, Building: Science Building, Room: 201, Department: Biology, Category: Incubator, Submitted On: Not Available. Below these are date pickers for 'Start Date' (No Start Date) and 'Completion Date' (No End Date). On the right, there are two tabs: 'Location History' (selected) and 'Recurring Maintenance' (circled in red). The 'Location History' tab shows 'Building: building, Room: 227'. Below the tabs are text areas for 'Problem:' and 'Prognosis:'. At the bottom, there are buttons for 'Close', 'Next', 'Print Report' (with 'Print' sub-button), 'Accept Changes' (with 'Accept' sub-button), and 'Previous'.

Figure 9

4.5 RECURRING MAINTENANCE

- 4.5.1 Assign a recurring maintenance.
- 4.5.2 Remove a recurring maintenance.
- 4.5.3 Add a recurring maintenance.
- 4.5.4 Modify a recurring maintenance.

4.5.1 Assign a recurring maintenance

- Select a recurring maintenance name from the drop down menu located underneath the **Maintenance Name** label shown in Figure 10.

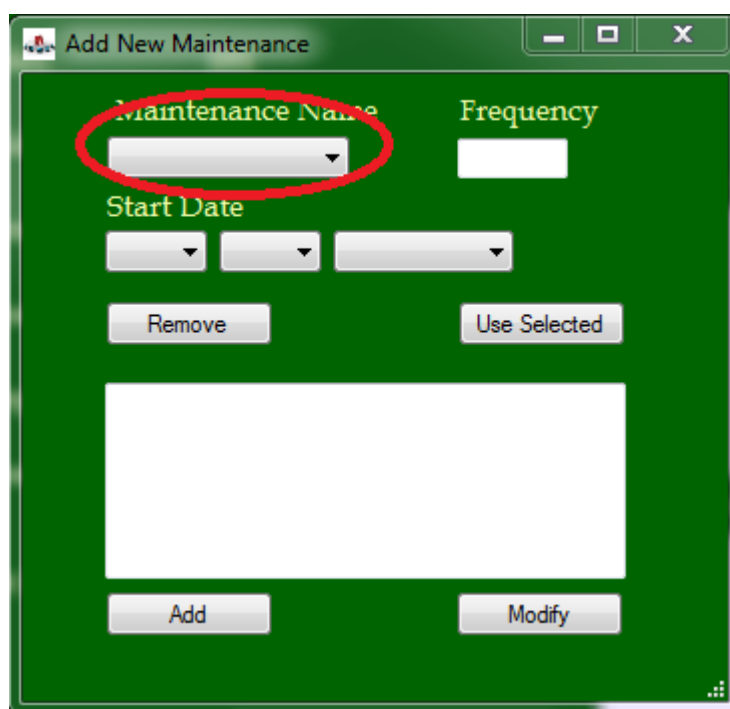
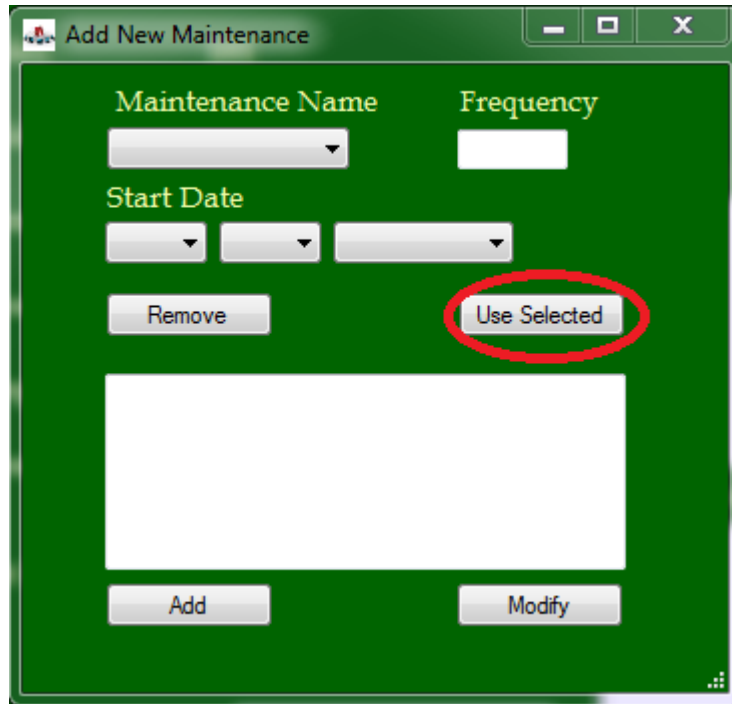
The image shows a software window titled "Add New Maintenance". It has a green background. At the top, there are standard window controls (minimize, maximize, close). Below the title bar, there are two labels: "Maintenance Name" and "Frequency". Under "Maintenance Name" is a dropdown menu, which is circled in red. Under "Frequency" is a text input field. Below these, there is a label "Start Date" followed by three dropdown menus for day, month, and year. At the bottom of the window, there are four buttons: "Remove", "Use Selected", "Add", and "Modify". A large empty text area is located between the "Start Date" fields and the bottom buttons.

Figure 10

- If the information for the start date drop downs, frequency text box, and description text box is correct, then click on the **Use Selected** button (shown in Figure 11) to add it to the instruments recurring maintenance.

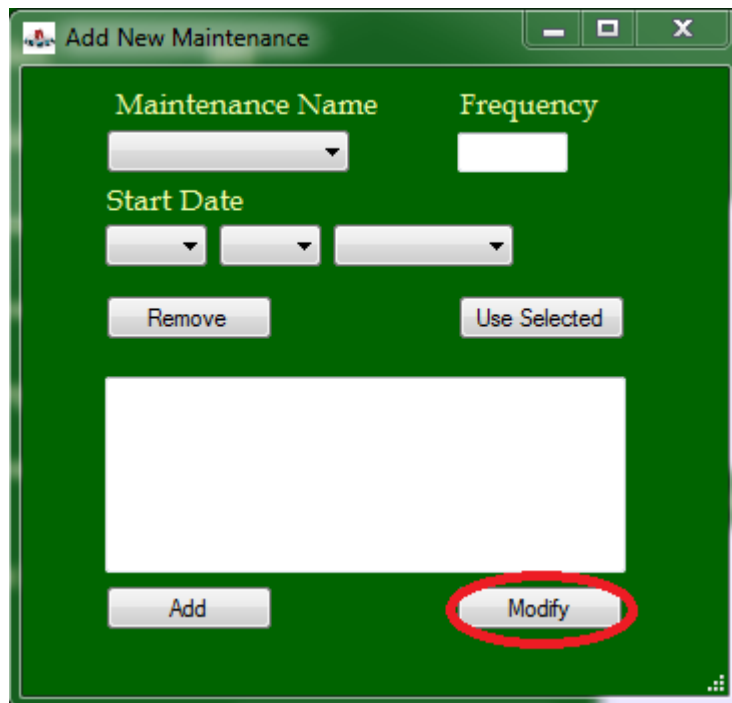


The screenshot shows a window titled "Add New Maintenance" with a green background. It contains the following elements:

- Maintenance Name:** A dropdown menu.
- Frequency:** A text input field.
- Start Date:** Three dropdown menus for day, month, and year.
- Buttons:** "Remove" and "Use Selected" (circled in red).
- Description:** A large white text area.
- Bottom Buttons:** "Add" and "Modify".

Figure 11

- If the information is not correct, then change the information in the description text box, start date drop downs, frequency text box, and then click on the **Modify** button shown in Figure 12.

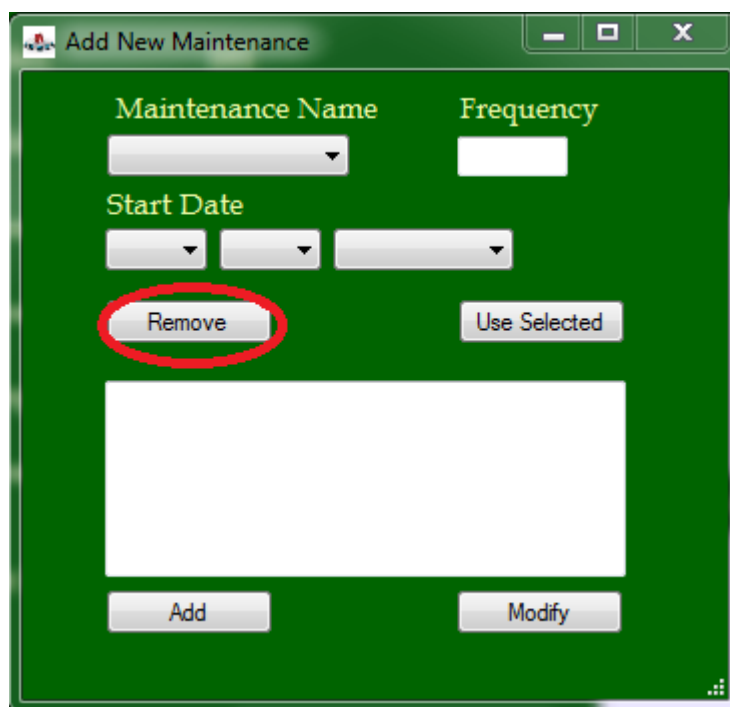


This screenshot shows the same "Add New Maintenance" window as Figure 11, but with the "Modify" button at the bottom right circled in red. The "Use Selected" button is no longer circled.

Figure 12

4.5.2 Remove a recurring maintenance.

- Select a recurring maintenance name from the drop down menu located underneath the **Maintenance Name** label shown in the previous Figure 10.
- Click on the **Remove** button shown in Figure 13.



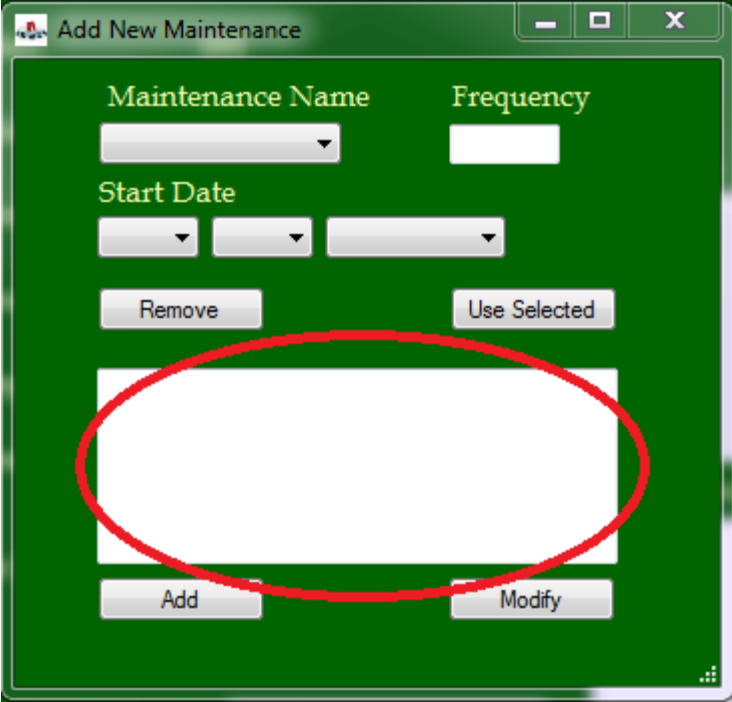
The screenshot shows a window titled "Add New Maintenance". It features a green background. At the top, there are two labels: "Maintenance Name" and "Frequency". Below "Maintenance Name" is a dropdown menu. Below "Frequency" is a text input field. Underneath these is the "Start Date" label, followed by three dropdown menus for day, month, and year. Below the date fields are two buttons: "Remove" and "Use Selected". The "Remove" button is circled in red. At the bottom of the window are two buttons: "Add" and "Modify".

Figure 13

- Follow the instructions presented in the dialog boxes to either remove the recurring maintenance from the database or just the instrument.

4.5.3 Add a recurring maintenance.

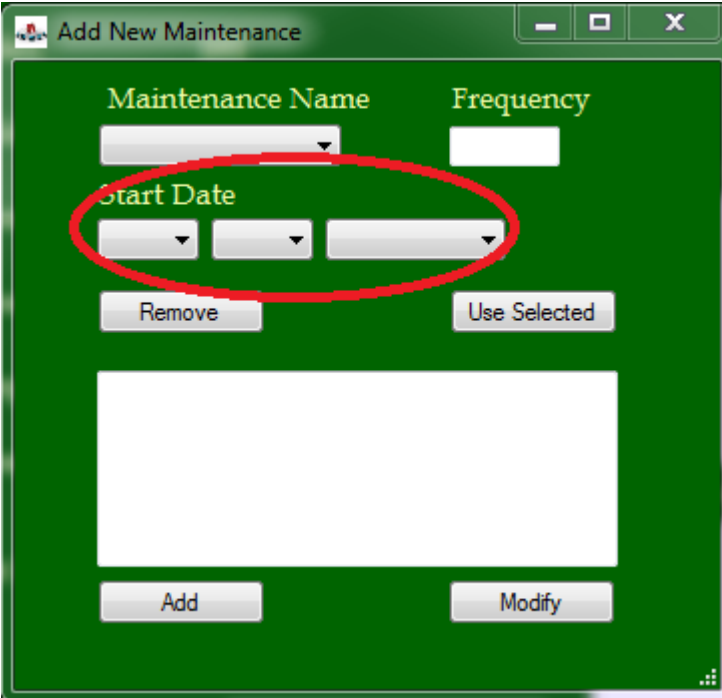
- First, enter a description in the main text box on the form shown in Figure 14.



The screenshot shows a window titled "Add New Maintenance" with a green background. It contains several input fields and buttons. The "Maintenance Name" field is a dropdown menu, and the "Frequency" field is a text box. Below these is the "Start Date" section, which consists of three dropdown menus for day, month, and year. There are "Remove" and "Use Selected" buttons. A large white text box for the description is in the center, circled in red. At the bottom are "Add" and "Modify" buttons.

Figure 14

- Choose a start date with the drop down menus as shown in Figure 15.



This screenshot is identical to Figure 14, but the three dropdown menus for the "Start Date" (day, month, and year) are circled in red, indicating the step to select a start date.

Figure 15

- Enter a frequency (as the number of days) in the frequency text box shown in Figure 16.

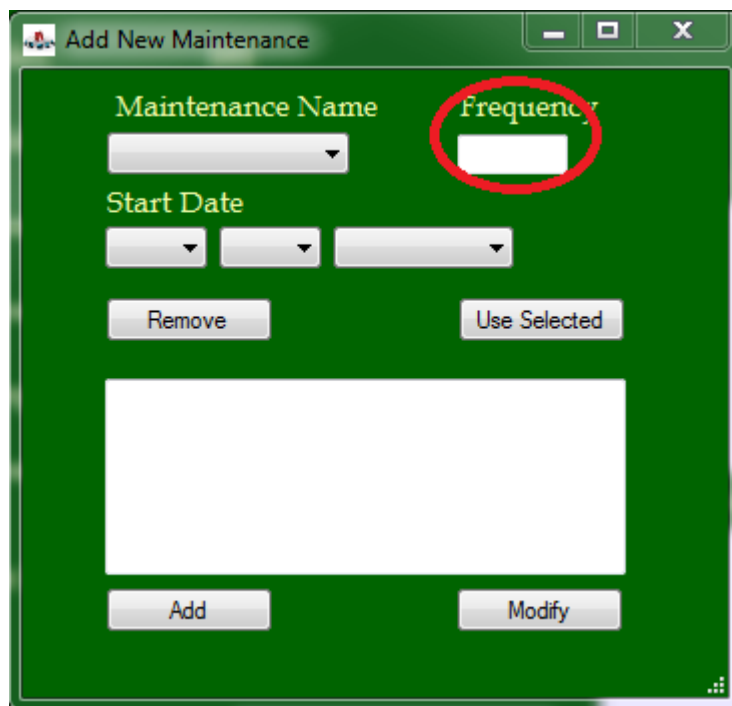
The image shows a software window titled "Add New Maintenance". It has a green background. At the top, there are standard window controls (minimize, maximize, close). Below the title bar, there are two labels: "Maintenance Name" and "Frequency". Under "Maintenance Name" is a dropdown menu. Under "Frequency" is a text input box, which is circled in red. Below these are three date selection boxes under the label "Start Date". Further down are two buttons: "Remove" and "Use Selected". At the bottom of the window is a large empty rectangular area. Below this area are two buttons: "Add" and "Modify".

Figure 16

- Then click the **Add** button (shown in Figure 17) to add the maintenance to the database.

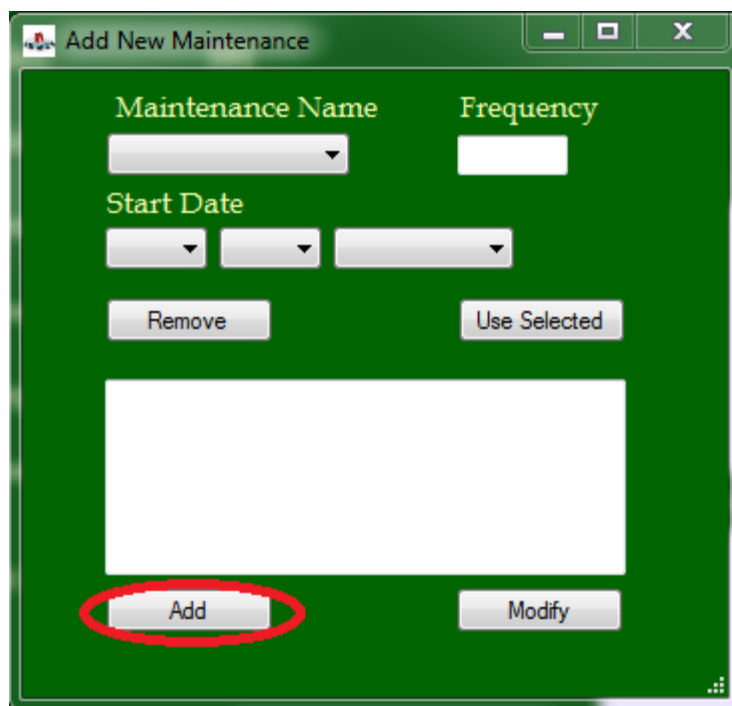
This image is identical to Figure 16, showing the "Add New Maintenance" dialog box. In this version, the "Add" button at the bottom left is circled in red, while the "Frequency" text box is no longer highlighted.

Figure 17

NOTE: Performing this action does not add the recurring maintenance to the instruments list of recurring maintenance. Adding only includes the maintenance item in the database for selection.

4.5.4 Modify a recurring maintenance.

- Select a recurring maintenance from the drop down menu shown in Figure 10.
- Change the start date, or the frequency, and or the description of the maintenance.
- Click the **Modify** button (shown in the previous Figure 12) to confirm your changes.

NOTE: Performing this action will modify the recurring maintenance for this instrument, and all of the other instruments that share this same recurring maintenance.

4.6 Barcode Scan Modes

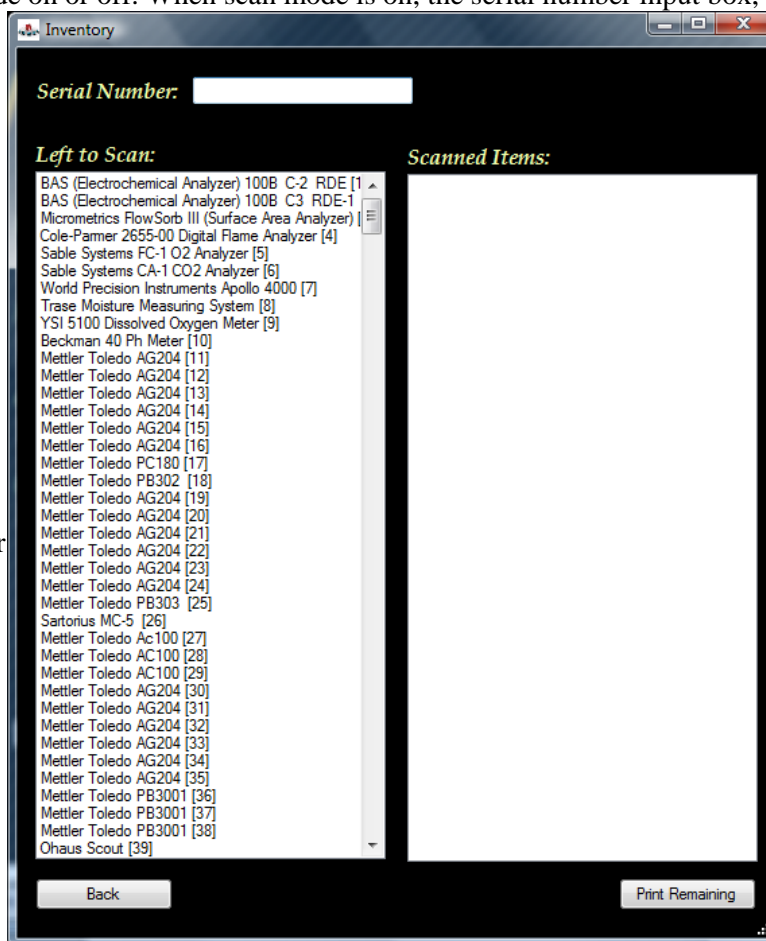
There are two distinct scan-modes for the Sciences Database Application. The first, more general mode, is used from the main admin “welcome page” while the inventory mode has its own window for doing inventory for all items in the database.

4.6.1 General Scan Mode

From the “Welcome Page” The admin is able to click the “Scan Mode” Button, underneath the Serial Number Text Box to toggle Scan-Mode on or off. When scan mode is on, the serial number input box, is changed to accept CWU numbers instead of serial numbers, and other buttons and dropdown menus used to search the database are disabled to keep the focus on the serial number input box. Scanning in this mode will either edit or add an instrument based on whether the instrument already exists in the database or not.

4.6.2 Inventory Mode

Inventory mode is reached by selecting the “Inventory” Button near the bottom left of the screen in administrator mode. From this window (shown below) CWU-number barcodes are scanned to move them from the “to-scan” list box to the “scanned” one. When the admin is done scanning all the items he or she can find, the print button can be selected in the bottom right corner of the inventory window, and the remaining items can be printed with selected information. Using these printouts, the administrator can then track down each item manually.



5.0 SYSTEM BACKUP

You can back-up the database file for later use in the event that the file becomes corrupt, is changed accidentally, or is deleted.

5.1 Backup

1. In order to backup the database in its current state it is necessary to open the backup and restore module included with the application. This may be accomplished by one of the following methods:

- User logs in as administrator to the application, then clicks the Backup and Restore button located in the lower-left corner of the home screen.
- User executes the backup extension application from the source folder that contains the main application.

2. Select the “Create a Backup for the Current Database” option on the home screen, and click the continue button.

3. Do one of the following:

- Select “Backup to Standard Location”

Note: This will copy the database file into the “BackupFiles” folder located in the same directory as the application. The file will be placed inside a folder with the current date.

- Select “Map to User Specified Location.” This requires the user to select a destination folder for the database file. Enter the directory manually following the example, or use the built-in folder mapping function.

Note: Whenever a user selects “Map to User Specified Location” the system also conducts a standard backup, placing a copy of the database in the “BackupFiles” folder.

4. Click the continue button. The module will now execute the backup operation.

5.2 Restore From Backup

You can restore backed-up versions of the database if the file becomes damaged, changed accidentally, or is deleted.

1. In order to restore the database to an earlier state it is necessary to open the backup and restore module included with the application. This may be accomplished by one of the following methods:
 - User logs in as administrator to the application, then clicks the Backup and Restore button located in the lower-left corner of the home screen.
 - User executes the backup extension application from the source folder that contains the main application.
2. Select “Restore Database from Backup File” option on the home screen, and click the continue button.
3. Select a timeframe for the restore operation on the left-hand side of the form. The list of available dates will change based on the user selected timeframe.
4. Select a single date from the list displayed on the lower half of the screen.
5. Click the continue button. The application will now display a dialog box with several options:
 - “Continue Without Backup” will overwrite the current database file without creating a backup of the current state.

Warning: This option should only be selected after the user has created a backup of the database.
 - “Backup Current Database” performs a standard backup of the current database, and will allow the user to undo the restore operation should it produce unintended results.
 - “Cancel” closes the dialog box and allows the user to select a new date for the restore operation.
6. When “Continue Without Backup” is selected the module will replace the database file used with the Science Equipment Database application based on the user selection.

5.3 Restore From File

Users can populate the database through the backup and restore module included with the application.

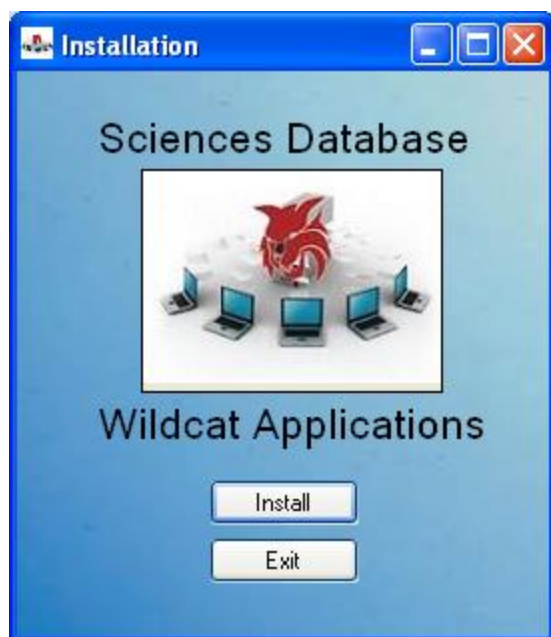
1. To use the database population feature it is necessary to open the backup and restore module included with the application. This may be accomplished by one of the following methods:
 - User logs in as administrator to the application, then clicks the Backup and Restore button located in the lower-left corner of the home screen.
 - User executes the backup extension application from the source folder that contains the main application.
2. Select “Restore Database from Backup File” option on the home screen, and click the continue button.
3. Select “Import from CSV file” option on the upper-right side of the form.
4. When the open file dialog appears select the target file.

Note: The file must be of type .CSV and follow the schema outlined in appendix ____ in order for the database population to be successful.

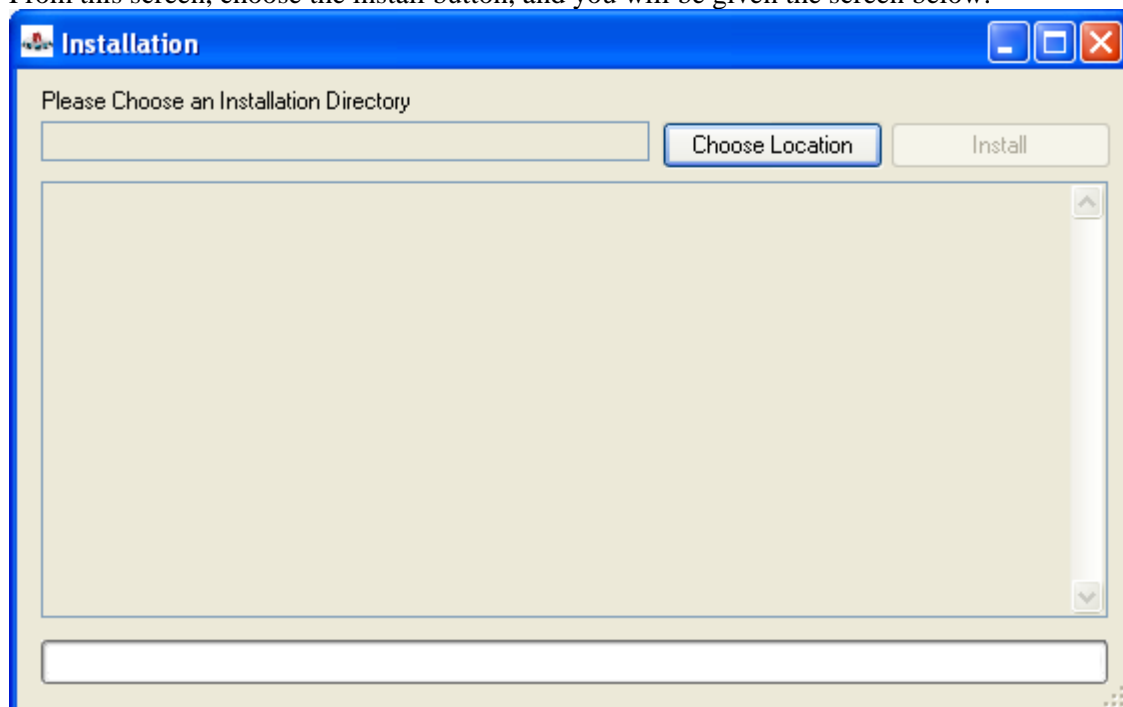
5. Wait for the operation to complete (this may take a few minutes). Exit the backup and restore module.

6.0 INSTALLATION

Installation of the Wildcat Application Sciences Database is done with the Installation Disk provided by the Wildcat Applications Team. To install using the disk, insert the disk into your CD or DVD drive. The installation program should begin automatically, but if it doesn't you can go in Windows to **Start Button->My Computer**, and double-click the CD/DVD drive.



From this screen, choose the install button, and you will be given the screen below.



From the above screen, click the "Choose Location" button which will open the following window below, and allow you to choose where you would like the application to be installed.



Once you've chosen the install location, click OK, and from the Install Window, choose the "Install" button. The install itself is automated. You will then be prompted whether or not you would like a shortcut put on your desktop for quick access. Choose your preference, and then the installation will be complete.

