Work Order System Application

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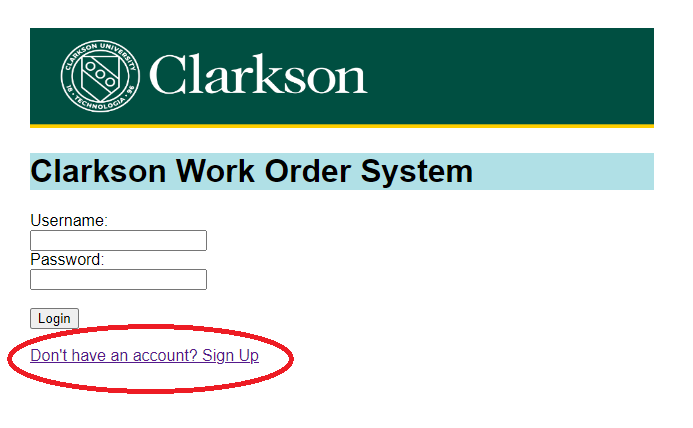
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## Introduction

In general, the purpose of the web-based application “Clarkson Work Order System” is to provide an occupant of a building the ability to report facilities-related issues to the management of that building. It also gives the facilities management team the opportunity to manage the reported issues, known as work orders. This document will explain the application in detail from the perspective of each type of user: Requester, Technician, and Manager.

Upon loading the home page of the application, the user will be prompted to login with a Username and Password. If the user has never used the system before, they will first need to choose the “Sign Up” option at the bottom of the login page (as seen in the image below) to create an account.



The user will be prompted for their name, email, password, phone number and typical room they occupy within the building. Once they click “Submit”, the information will be saved, and the user will be brought back to the home page in order to log into the system.

Graphical user interface, application

Description automatically generated

It should be noted that the **Location** field is not required, since Technician’s use the same page to sign up for an account, and they don’t always have a typical location in the building.

When an account is created, it is automatically assigned the role of “Requester”. For a user who needs to become a “Technician” or “Manager”, another manager/administrator will have to enter the system and update their “Role”.

## Interface Descriptions

# Requester

When a user who is a Requester logs into the application, they will be greeted with following interface:

Graphical user interface, application

Description automatically generated

The options listed do the following:

* Report a Problem – allows the user to log a work order, i.e. report a problem they have encountered within the building.
* Update Your Account – provides the opportunity for the user to update their information, i.e. phone number, location, password.
* Review Work Orders - this will list all of the work orders that the Requester has entered in the past, no matter their status.

#### Report a Problem

This page is where a Requester can report a problem they are having to the building facilities team. By default, their office location is listed but a dropdown list allows the user to change if necessary.

Graphical user interface, text, application, email

Description automatically generated

The “Problem/Issue:” is a required value and must be at least 10 characters in length but can be up to 100. Once the user has entered the desired text, they click on Submit to log the issue.

#### Update Your Account

Using this section of the application allows the Requester to alter their account details. They can change any of the data provided on the page.

Graphical user interface

Description automatically generated

#### Review Work Orders

Clicking on this option loads the Work Order List for the current Requester. It provides the Work Order #(Number), the Date the Work Order was entered, a description of the problem and the current status.

Timeline

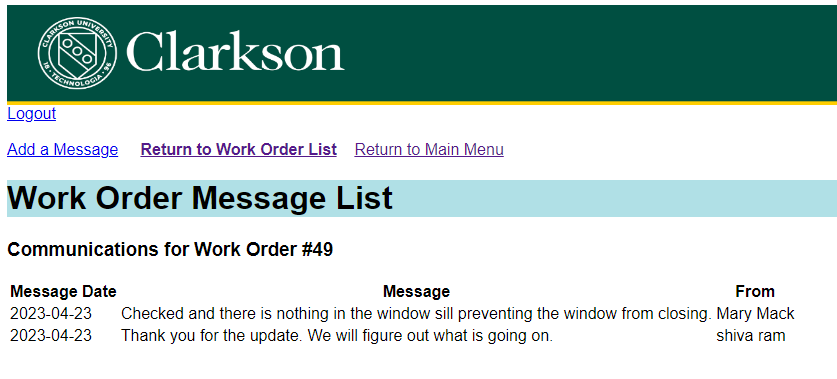
Description automatically generated with medium confidence

Clicking on one of the Work Order #s, will move the user to another page that provides more details associated with that work order.

Graphical user interface, application

Description automatically generated

This page not only gives the user a chance to review the summary of the work order, but from the top choice menu the user can access the Message interface.



This page provides all communications exchanged within the system between the Requester, the assigned Technician, and the Manager. Clicking on the “Add a Message” from the menu at the top of the page is where the user can add to the conversation.

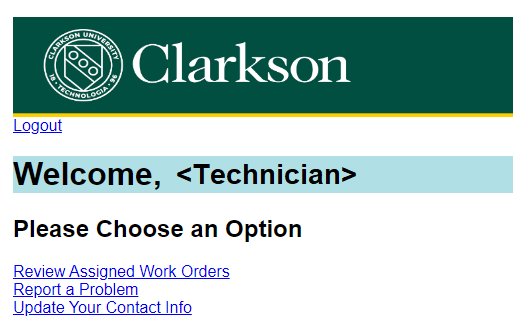
Graphical user interface

Description automatically generated with medium confidence

This page of the application is pretty straightforward and self-explanatory.

# Technician

The main menu page for the Technician looks like the following:



These options allow the Technician to perform the necessary documentation of their work.

* Review Assigned Work Orders – allows to Technician to see all “Open” work orders assigned to them.
* Report a Problem – in the event that the Technician observes an issue within the building or due to the problem at hand, has a subsequent/follow-up issue that needs to be resolved by someone else, this link gives them the opportunity to enter a new work order.
* Update Your Contact Info – if anything changes in the Technician’s account details, they can use this link to make those changes to their record.

#### Review Assigned Work Orders

The Work Order List page provides a quick summary of each of the currently open work orders assigned to the Technician who is logged in.

Graphical user interface

Description automatically generated with medium confidence

By clicking on the work order number located on the left of each line, the Technician will be provided with the complete details of the work order or Work Order Summary.

Graphical user interface, text, application, email

Description automatically generated

As explained at the top of the page, the Technician can provide updates to the lines where there is a drop-down list or input box. For example, if the asset or location of the problem is incorrect, the Technician can choose the appropriate asset from the available list.

Most importantly, this is the interface in which the Technician closes the work order. To do so, the Technician should change the Status to “Complete”, enter the total number of hours it took to solve the problem, and enter a quick description of how the issue was resolved.

In addition, this page is where a Technician can check on any messages left by the Requester or add any messages/questions to pass along to the Requester. The messaging interface for the Technician is the same as for the Requester so please refer to that section of this document to learn more.

#### Report a Problem

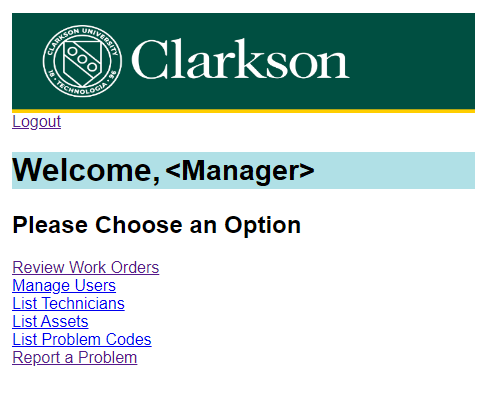
This page is the same as for the Requester, please refer to the above section for details on what it entails.

#### Update Your Contact Info

Once again this link leads to a page that is exactly the same as for the Requester, so for a description please review the Requester’s “Update Your Account” segment of this document.

# Manager (Administrator)

Below is what a user who as Manager (or Administrator) permissions would see upon logging in:



As expected, the Manager will have access to several of tools that were not available to the Requester or Technician.

* Review Work Orders – Provides a list of ALL work orders, no matter the status. As with the other users, this also gives the Manager the opportunity to access communications associated with the work orders. It’s also where the Manager updates work orders in regards to assignments and categorization of issues.
* Manage Users – This page provides the chance to update account information for any user. It is where a Manager makes a user a Technician.
* List Technicians – Each technician listed and how to reach them.
* List Assets – This page provides a complete list of each asset within the system. The Manager would use this section of the application to add assets as well.
* List Problem Codes – A summary of the available Problem Codes available. Again, the Manager also has the ability to add codes to the list.
* Report a Problem – This page for the Manager is a little different than the one for the Requester and Technician, as it also allows the Manager to assign it at the same time as entering the work order.

#### Review Work Orders

As described above, this page is a complete list of ALL work orders in the system.

A picture containing timeline

Description automatically generated

From this page, the Manager can quickly see the basic details of each work order. Most importantly they can see which work orders were most recently entered into the system and which ones need their attention. It’s the Manager’s responsibility to assign a technician to each work order as well as fill in a couple of other details. To do this, the Manager only needs to click on the Work Order # on the left side of the desired line.

Graphical user interface, text, application, email

Description automatically generated

To assign a technician to a work order, the Manager chooses the appropriate technician from the “Assigned Technician” list. From this list, they are provided with not only the available technician’s name but their trade so they can make an informed decision.

Graphical user interface, text, application, chat or text message

Description automatically generated

Next the Manager should choose which “Shop” will be involved in resolving the issue. Then the Problem Code should be selected to further categorize the work order.

On this page is also where the Manager would close a work order if necessary. Please see the Technician’s “Review Assigned Work Order” explanation for more details on this. More often than not, the Manager would not close a work order, a Technician would but there might be an occasion where this would happen and typically when the work order needs to be Canceled. Once all the Manager is done making edits, clicking the Submit button at the bottom of the page will save edits to the database.

Lastly, as with the Requester and Technician, the Manager has an opportunity to review or add Messages to a Work Order. It works the same as the Requester, so please review the previous documentation for more details on Work Order Messages/Communications.

#### Manage Users

To update a user’s account, the Manager would follow this link. They would then be provided with a list of ALL user’s in the database.

Table

Description automatically generated

Clicking on the User ID for the particular user would produce another page with more details for that user.

Graphical user interface, table

Description automatically generated

From here, the Manager can change any of the information except for the Password. To reiterate, this is the page that the Technician status is assigned. When a user account is initially created, it is automatically assigned a role of Requester. It is the Manager’s responsibility to alter the “Role” option on this page in order to make them a Technician.

Graphical user interface, text, application

Description automatically generated

At this time they should also assign a “Shop”.

Graphical user interface, text, application, chat or text message

Description automatically generated

Submit will save the updates to the database.

#### List Technicians

This page allows the Manager to see who is available to be assigned work orders.

Graphical user interface, table

Description automatically generated

It also provides another way to update the account information for Technicians.

#### List Assets

As one would expect, this link allows the Manager to see a complete list of Assets in the database.

Table

Description automatically generated

The page provides a quick description of each asset. Clicking on the Asset ID on the left of each line will allow the Manager to edit information associated with the Asset.

Graphical user interface, text

Description automatically generated

This is important if for some reason a room changes type for example.

The Manager can also add an asset to the system from this page.

Graphical user interface, application

Description automatically generated

The first step is to choose the “Parent Asset”, which is the asset in the database that the new asset would belong to. If the asset is a room it would be the building name. If it the asset is a piece of equipment, the Parent would be the room the piece of equipment can be found. Then choose an “Asset Type” from the drop-down list. Finally assign an “Asset Tag”. We have created a naming convention as a guide, however the management can create their own, whatever is best for the institution. Once all values are entered, clicking on the “Submit” button will add the asset to the database.

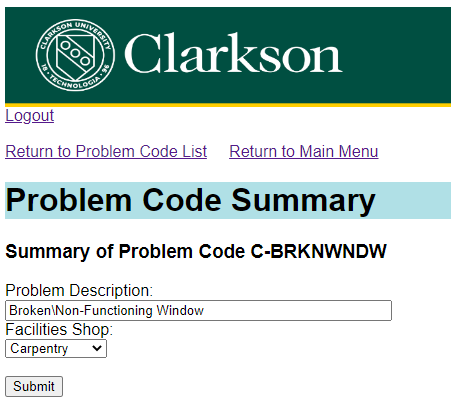
#### List Problem Codes

Problem Codes are a way for the Manager to categorize the issues reported to the system. This link provides a list of the codes available within the system as well as a way to add new ones.

Graphical user interface, application

Description automatically generated with medium confidence

As with the previous list pages, the Manager can get a quick description of each code plus edit the data associated with each.



To add a new code to the system, clicking on the “Create New Problem Code” available from the Problem Code List page.

Graphical user interface, text, application, email

Description automatically generated

The page is self-explanatory but as with the Asset Tag, there is a suggested naming convention for the Problem Code. However the management can use whatever they feel is best. There is no reliance within the programming of the application that expects anything specific except that the values cannot be blank.

#### Report a Problem

For the Manager, this interface looks a little different than the other users in that there are a few more details they can populate.

Graphical user interface

Description automatically generated

The can enter the work order for another user so they are prompted for the Requester. In addition they can make the assignment at the same time.

# *Features Not Included*

Below are some features that were not included with this application but would be a good addition:

* A tool to import assets into the Assets table. Currently the only way to add assets into the table is to use the Add option within the Manager’s interface. It would be ideal if a tool was provided to import a list of assets into the database using an repeating INSERT INTO SQL statement.
  + Same with the Problems table. It would be easier to create the problem codes within a separate software, i.e. Excel, and then load it into the application.
* Reporting tool – An excellent addition to this application would be to have a reporting mechanism that would allow the management to analyze problems with specific pieces of equipment, most common problems reported, etc.
* In the Manager interface, it would be great if the List Technicians page also included the number of open work orders each tech has is currently assigned and even the opportunity to see a list of the work orders.
  + Same with Assets. It would be ideal if when you clicked on an Asset it could provide you with all work orders associated with it. Another way to analyze the data.
* Currently there is no delete option provided for any feature within the database, i.e. the user cannot delete an asset, another user, a work order or a message. While having the ability to delete items in the database would seem useful, it’s best to leave all information in the database so as not to corrupt any relationships. However, it is acknowledged that it might be helpful to have a way to deactivate a feature if it is no longer needed, i.e. if a renovation occurs and a wall is removed which makes a room no longer available to issue work orders against.
* Asset Types….currently there is no way to add an Asset Type. We didn’t even think about this until documenting how the interface works. Ideally it would be a choice available from the drop down list that would then prompt them for a new equipment or room type. Since this list is created from the unique values in this field the new type would be added to the database and then be available in the list the next time the list was generated.