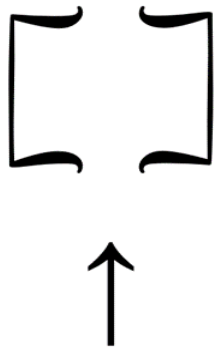
Saw Blade Tracking System



The Empty Indices

User's Manual Document

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4/13/2019

USER'S MANUAL
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1 GENERAL INFORMATION

1.1 System Overview

The Saw Blade Tracking Device was developed for Corning to serve as a web-based user interface for employees to view reports on various values for blades, saws, and lines. It would also serve as an interface for employees that have been given proper authentication to add new blades, update blades, send blades out for a rework, scrap blades, and return blades from rework. The files for this system would be contained on a server, and accessible by computers within the Corning network. The Empty Indices have provided this system for free as part of a school project. This is a major application specifically designed towards Corning employees. There are two major sections of the application; a Report section and a Blade Maintenance section. The reports section allows users to view reports based on the blades and their values, while the maintenance section allows users with proper access to make changes to the blades. The system was developed as a ASP.NET web form, with Visual Basic.

1.2 Authorized Use Permission

This system will belong to Corning and unauthorized copies of the software, data, reports, and/or documents fall under their jurisdiction.

1.3 Points of Contact

1.3.1 Information

Provide a list of the points of organizational contact (POCs) that may be needed by the document user for informational and troubleshooting purposes. Include type of contact, contact name, department, telephone number, and e-mail address (if applicable). Points of contact may include, but are not limited to, help desk POC, development/maintenance POC, and operations POC.

Name: Brian T. Lane
Relation: Client and receiver of system
Email: lanebt@corning.com

1.3.2 Coordination

Provide a list of organizations that require coordination between the project and its specific support function (e.g., installation coordination, security, etc.). Include a schedule for coordination activities.

Installation coordination will be handled by Corning's IT department once files have been acquired. The client liaison will likely assist in this installation as well.

2 SYSTEM SUMMARY

2.1 System Configuration

The system was created to integrate a webform with an SQLServer database server and an SQLServer Report Server (SSRS). All programming was done in a windows environment, using servers contained within each computer as well as databases for development. After giving the program to the client, the webform will be contained on a server under Corning's control, and will only be accessible from within Corning. Reports have printing capabilities, so printers connected to the working device are included within the scope of communications. Human Machine Interfaces (HMIs) for saws will send files across the network to an awaiting server that will use the database to insert data into tables that are used by blade reports. Development was done without access to these HMIs, as this functionality would be handled by Corning's IT team.

2.2 Information Flow

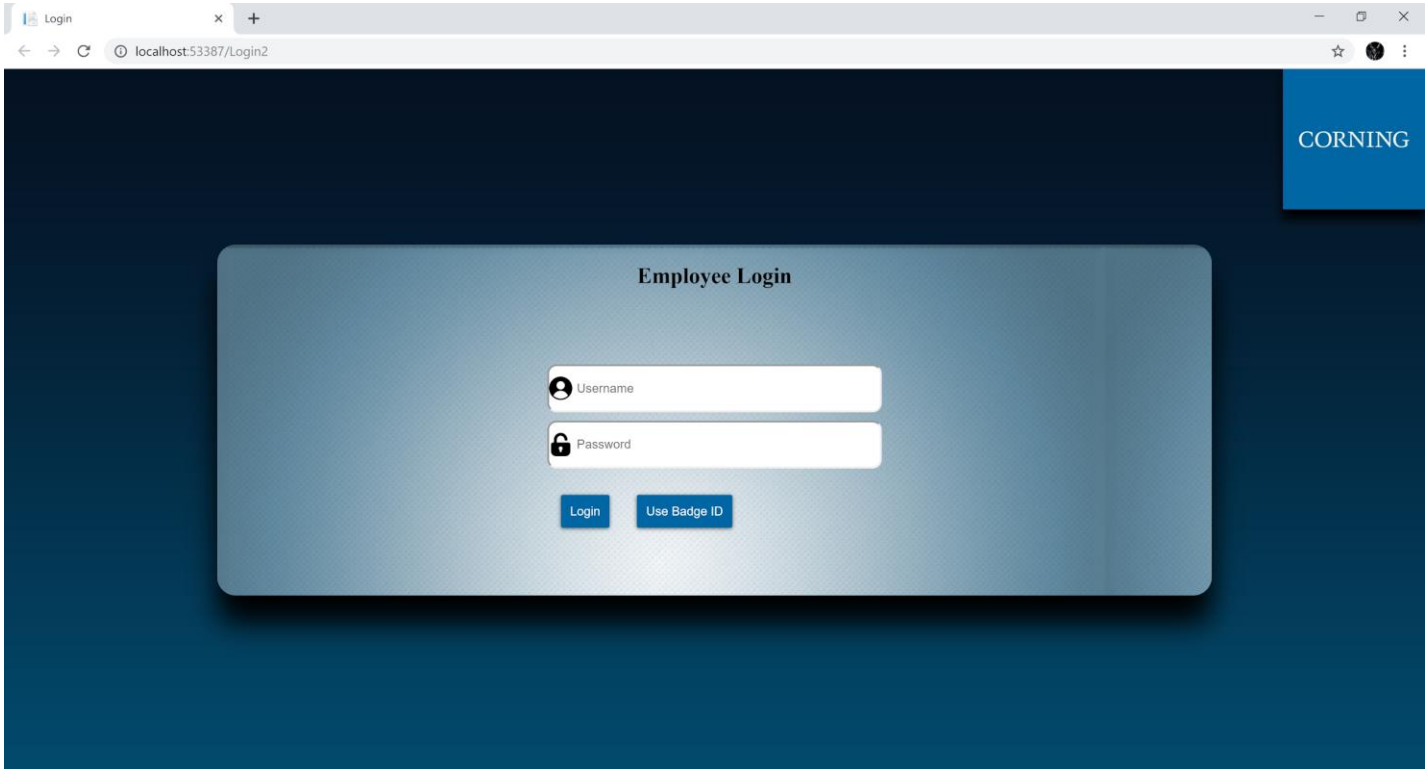
A database containing employee information will be consulted to validate users logging in to the system. Once validated, a user will be brought to the report screen. User's can request reports contained on the SSRS, and view them with the webform's report viewer. If a user navigates to the blade maintenance section, they can request blade information from a search bar. This information is contained within the database which is dedicated to blades. Users can also update information about a blade or other factors such as blade reworks, in which update requests are sent to the database and executed based on the values provided by the user. The webform also keeps track of the current user's username and access level throughout the time they are logged in. This information is forgotten after logging out, or after a specified time has passed without user interaction.

2.3 User Access Levels

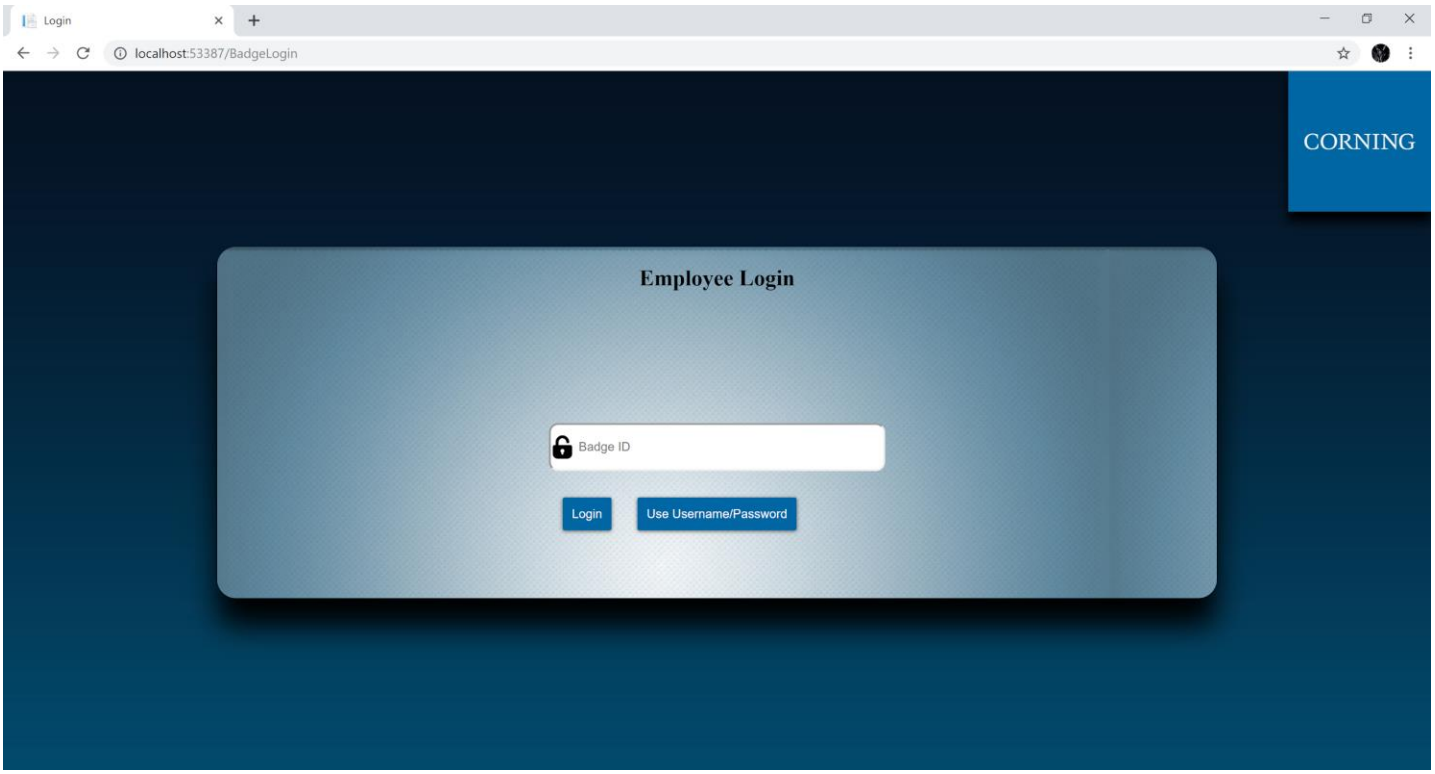
There are two types of users the system accommodates for. Users with a low access level, and users with a high access level. Users with high access levels can view reports, add and update blades, and scrap blades. Users with low access levels can only view reports.

3 QUICK START GUIDE

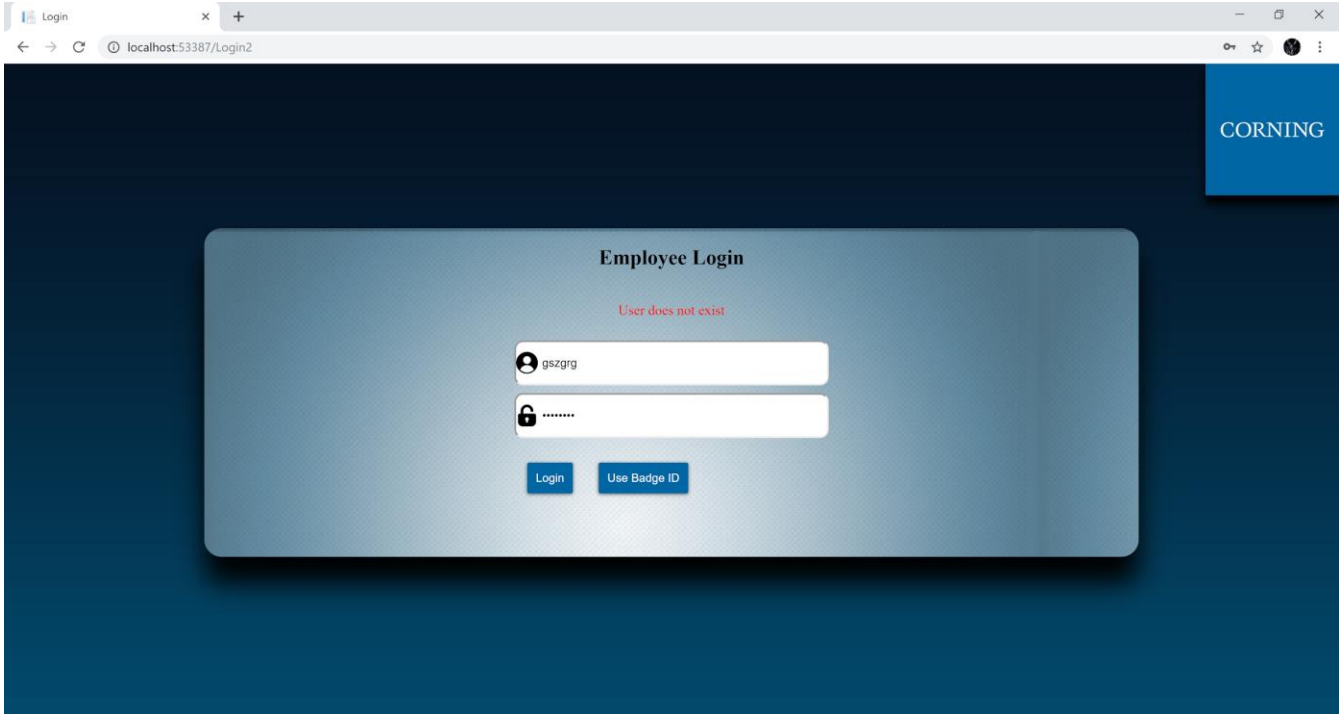
3.1 Logging On (Gaining Access to the System)



The image depicted above displays the screen which will allow users to log in to the system. This specific image depicts the login page for a Username and Password. By selecting the “Use Badge ID” button, the page will change to take in a badge ID only.



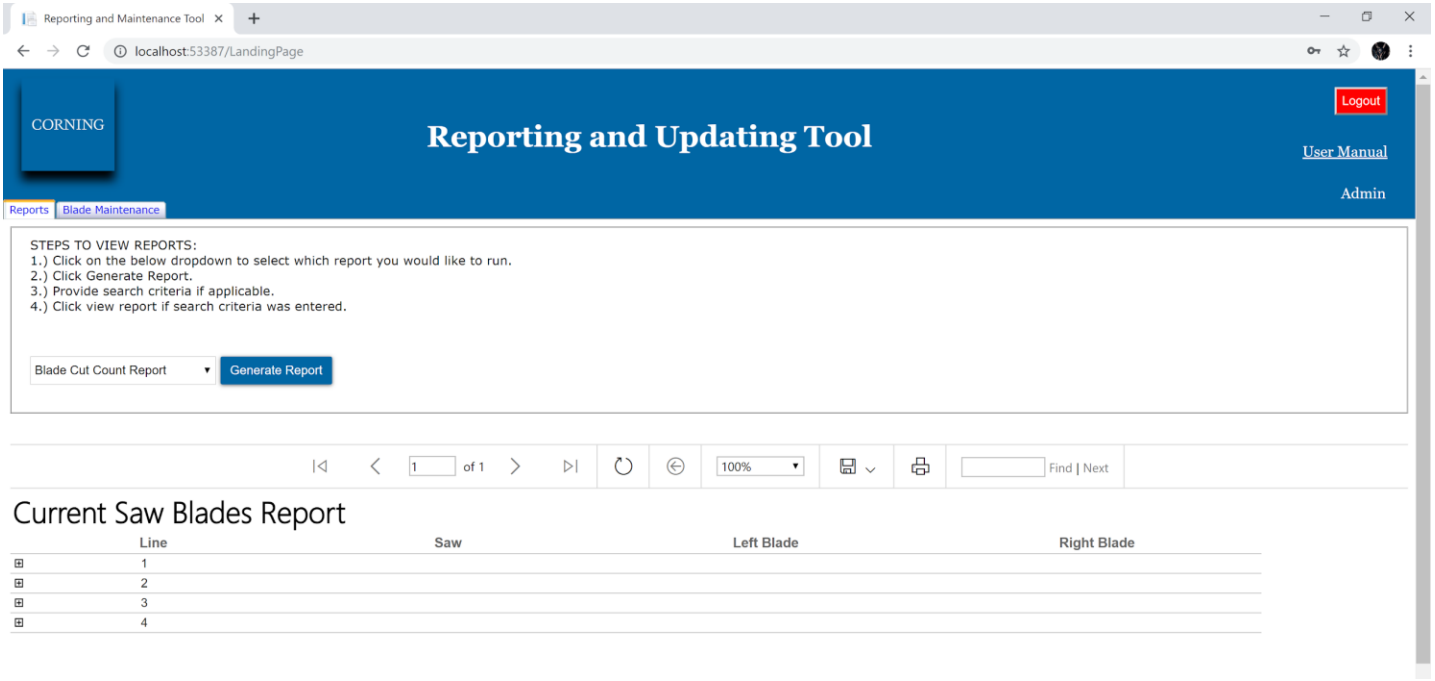
The image above depicts the badge ID login screen. Each login works similarly, with them consulting the User database to validate if a user exists. If the credentials are correct, then the successful login will occur. If the credentials are incorrect, then an error message will display. Clicking the “Use Username/Password” button will return the user back to the previous screen.



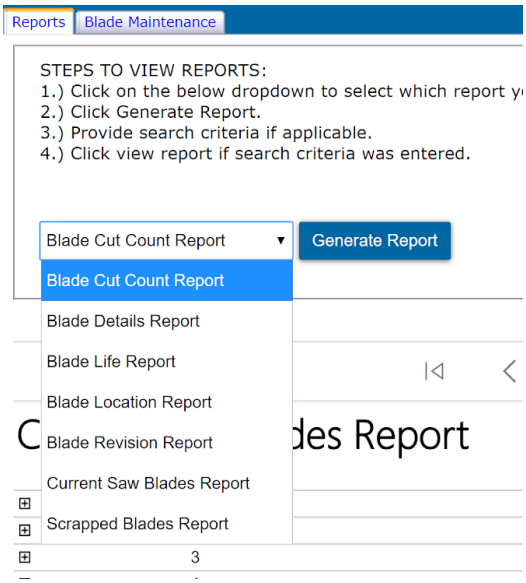
The image above displays an example of an error message occuring during login.

3.2 System Menu

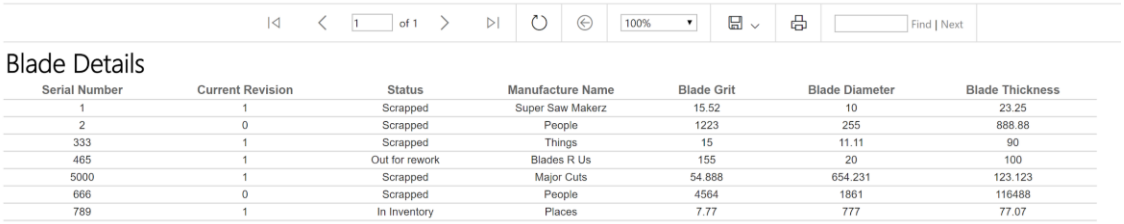
3.2.1 View Reports (Average Response Time: 1 minute)



The image above depicts the report section, which the user is brought to after logging in. Or by selecting the "Reports" tab located under the company logo. The Current Saw Blades Report is shown by default, but a user can select a report to view by selecting from the dropdown menu and selecting the "Generate Report" button as shown in the image below.



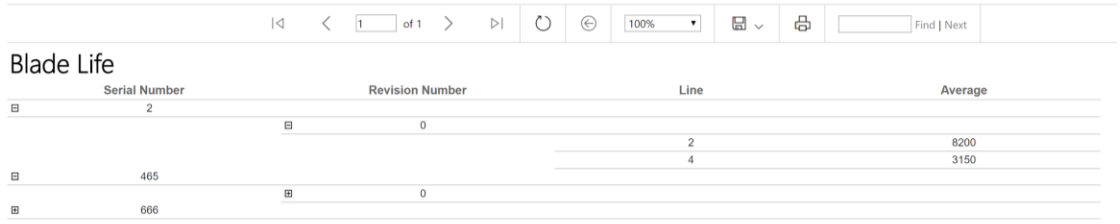
Some reports will depict all the information at once, some will require the user to select the "+" icon next to values to view further information, and some will allow a user to specify certain values to display only. Examples of these reports are shown in the images below.



Blade Details

Serial Number	Current Revision	Status	Manufacture Name	Blade Grit	Blade Diameter	Blade Thickness
1	1	Scrapped	Super Saw Makerz	15.52	10	23.25
2	0	Scrapped	People	1223	255	888.88
333	1	Scrapped	Things	15	11.11	90
465	1	Out for rework	Blades R Us	155	20	100
5000	1	Scrapped	Major Cuts	54.888	654.231	123.123
666	0	Scrapped	People	4564	1861	116488
789	1	In Inventory	Places	7.77	777	77.07

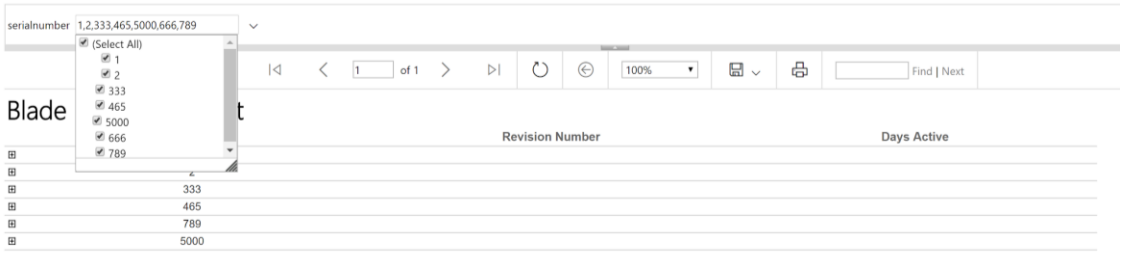
(All info at once)



Blade Life

Serial Number	Revision Number	Line	Average
2			
	0		
		2	8200
		4	3150
465			
	0		
666			

(“+” icon drill down)

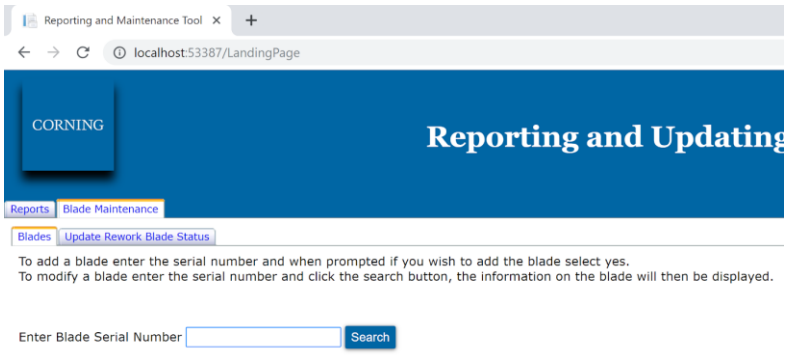


Blade

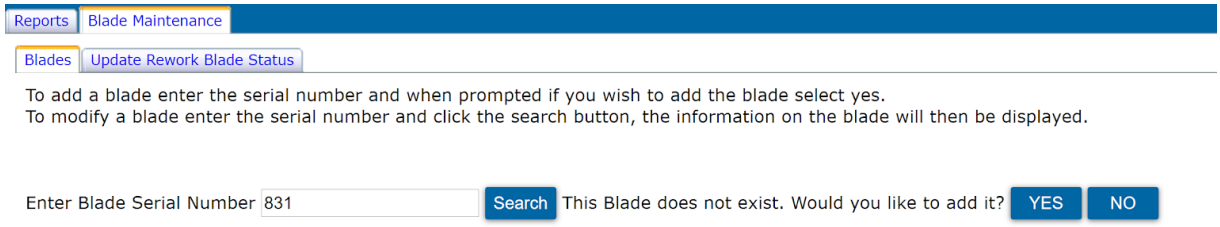
Revision Number	Days Active
2	
333	
465	
789	
5000	

(serial number value selector)

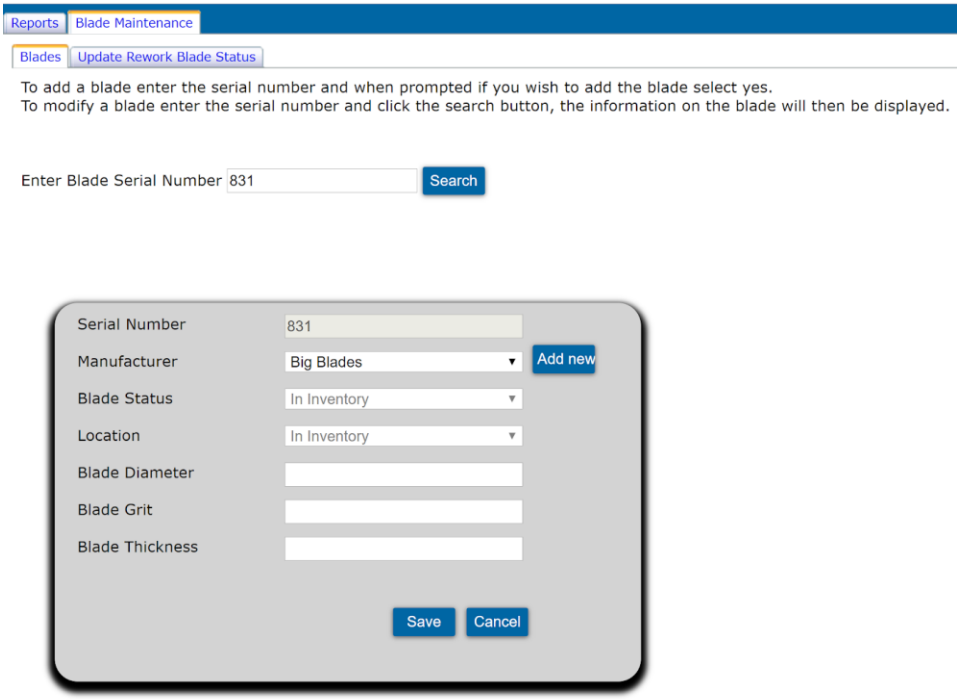
3.2.2 Insert New Blade (Average Response Time: 1 minute)



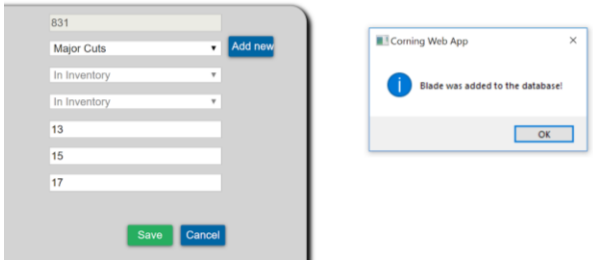
The image above depicts which tab the user must go to to insert a new blade. By following the instructions, the user can enter a serial number that does not exist within the search bar.



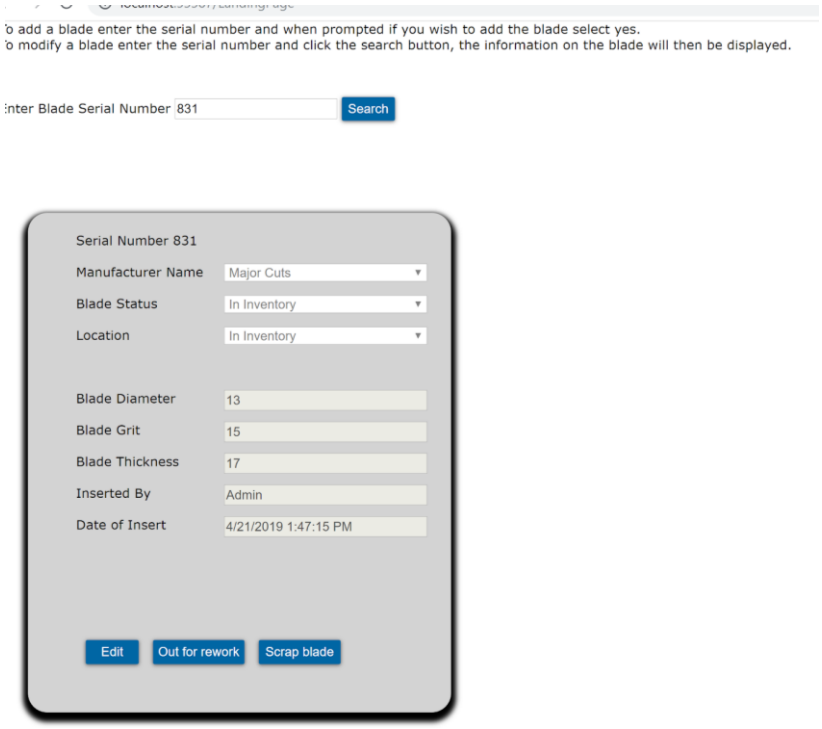
The image above prompts a choice from the user to begin adding the blade



After selecting “Yes” to adding the blade, the image above depicts a form in which the user will fill out the values of the blade.

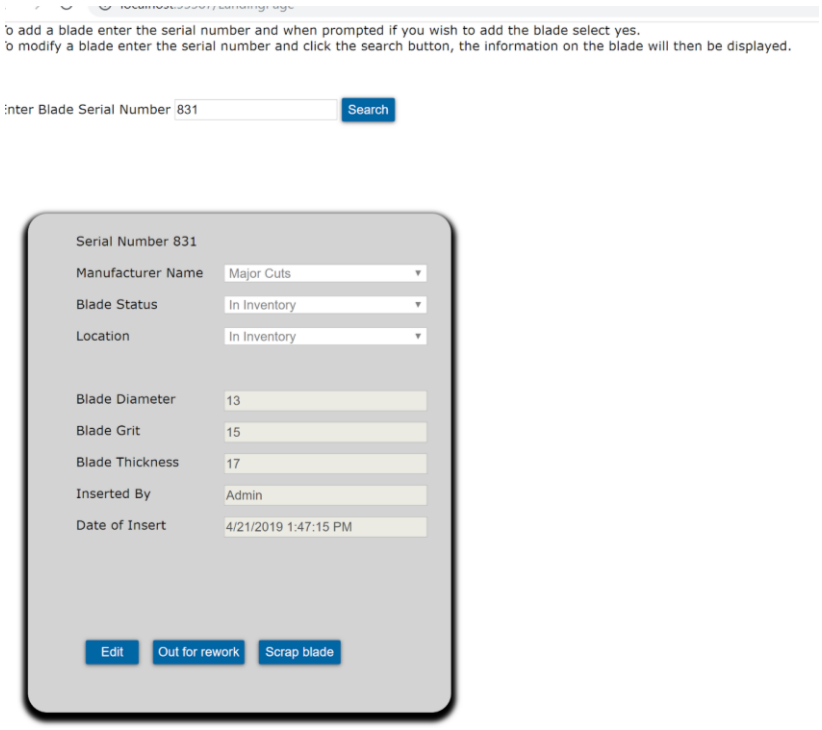


Once the information has been entered, a notification will appear telling the user that the blade was successfully added as depicted in the above image.

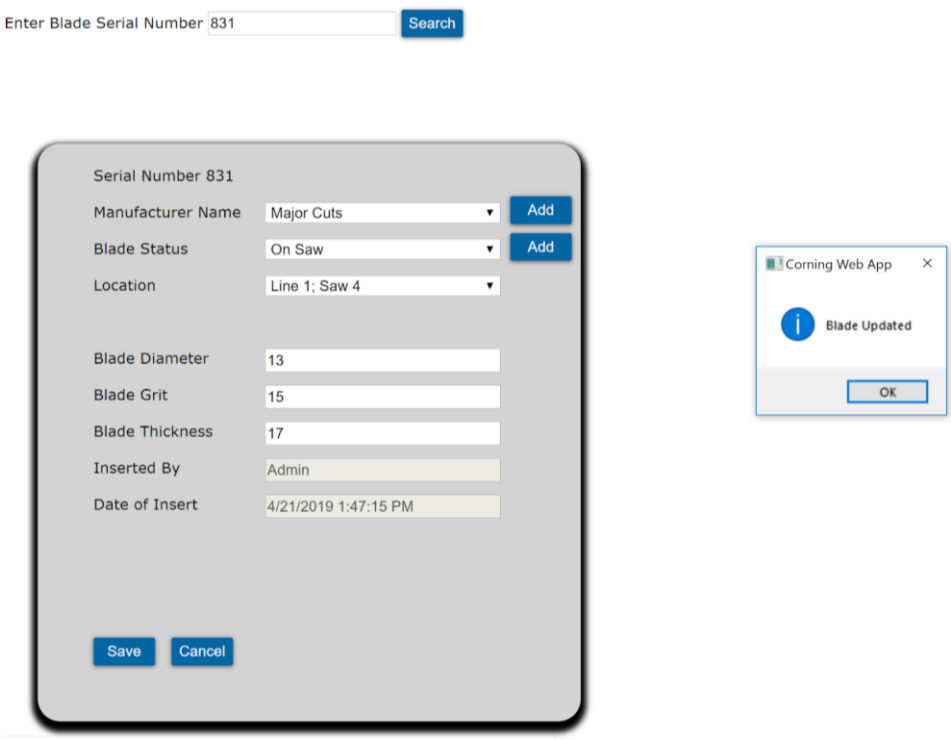


After adding the blade, the user will be brought to the page depicting the blade's current values as depicted in the above image.

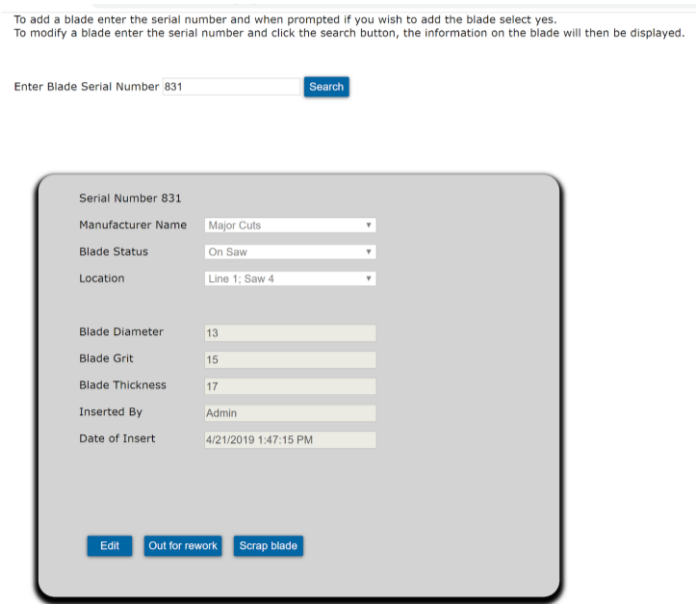
3.2.3 Edit Blade (Average Response Time: 1 minute)



The image above displays the results of searching for a blade that exists within the database. Selecting the "Edit" button will allow a user to make edits to the blade.

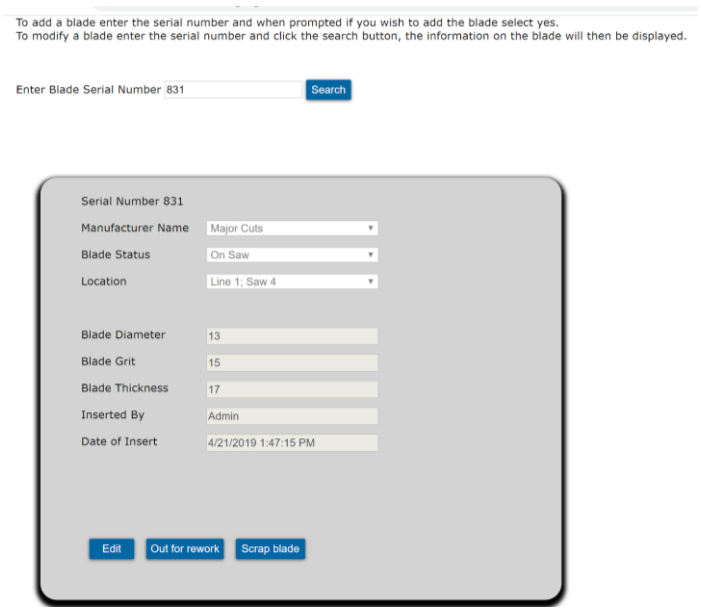


The image above displays the form that allows users to edit the blade. Once values are edited, and the user selects the “Save” button, a notification will appear telling them that the blade was updated.

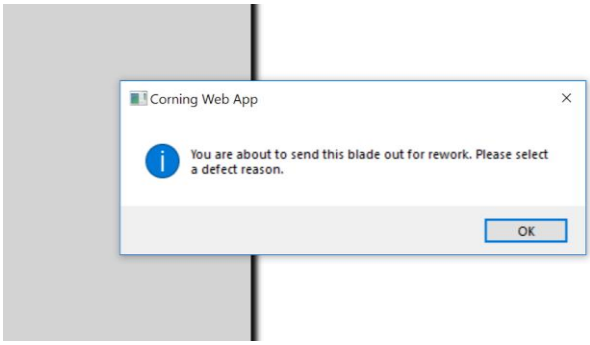


After updating the blade, the form will depict the new updated values as depicted in the image above.

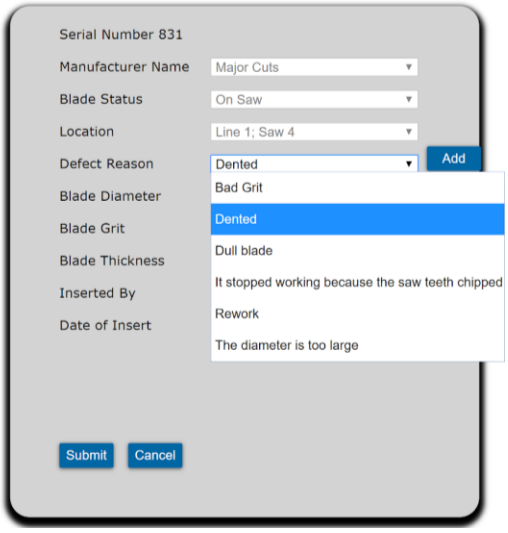
3.2.4 Send Blade out for Rework (Average Response Time: 2 minutes)



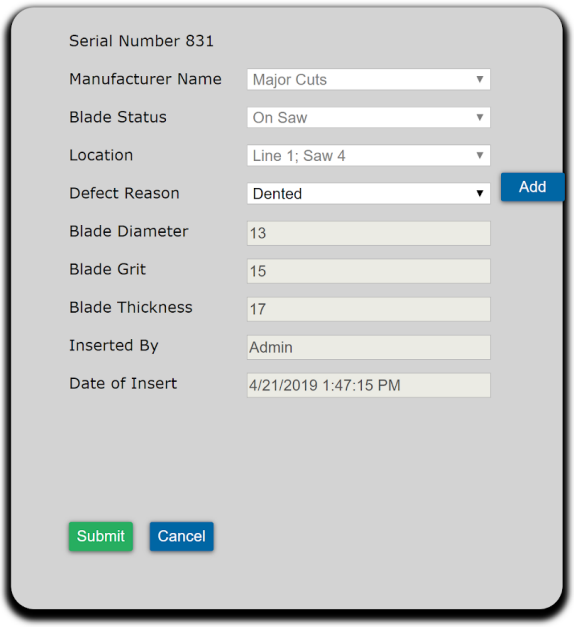
The image above displays the results of searching for a blade that exists within the database. Selecting the "Out for rework" button will allow a user to send the blade out for a rework.

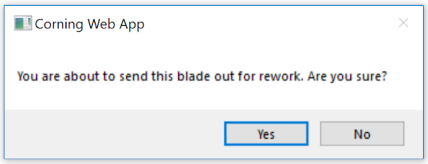


The notification in the image above will appear after selecting the "Out for rework" button, letting the user know they are about to send the blade out for a rework, and that a defect reason will need to be selected.

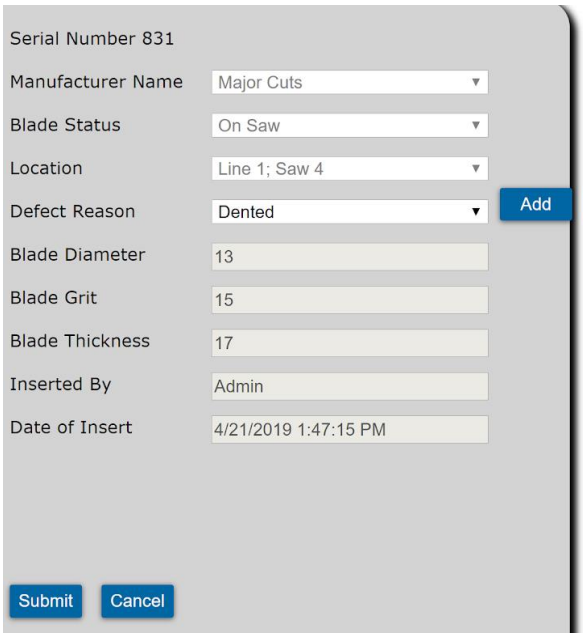


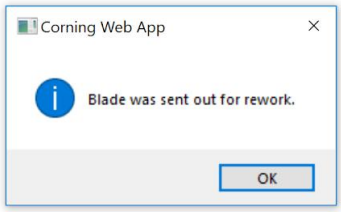
The user will select from a list of defect reasons to apply for the rework. The user will then select the "Submit" button to submit the rework.





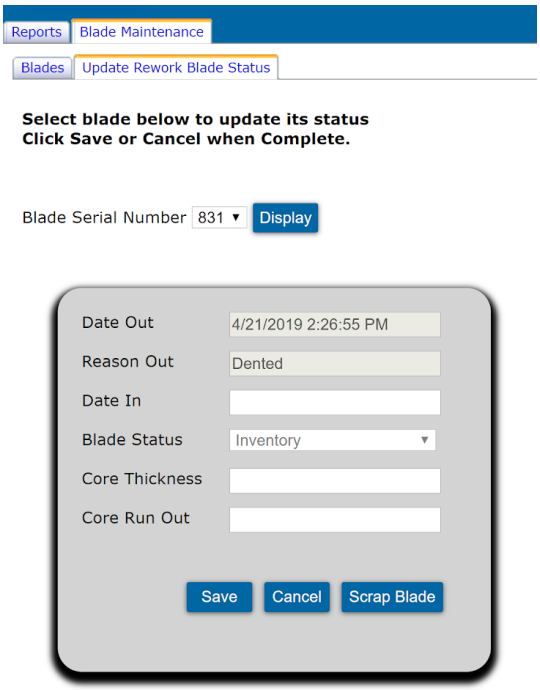
A notification will appear after selecting "Submit". Selecting "Yes" will bring up a notification that the rework was sent out as depicted in the image below.



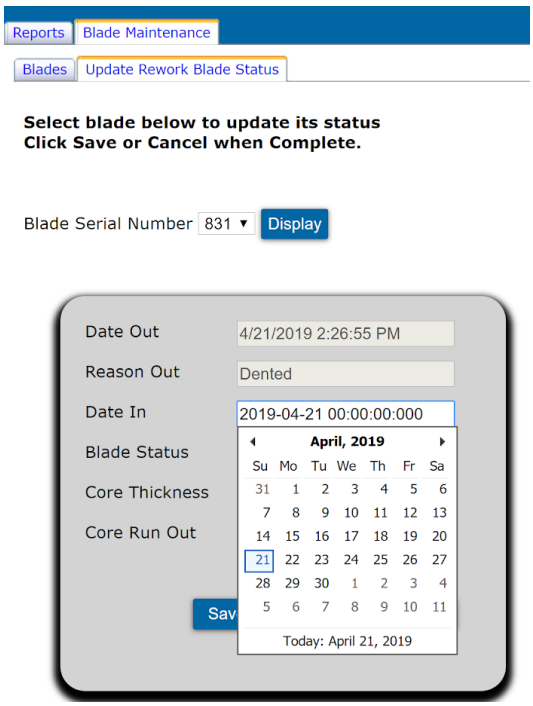


3.2.5 Bring a Blade Back from Rework

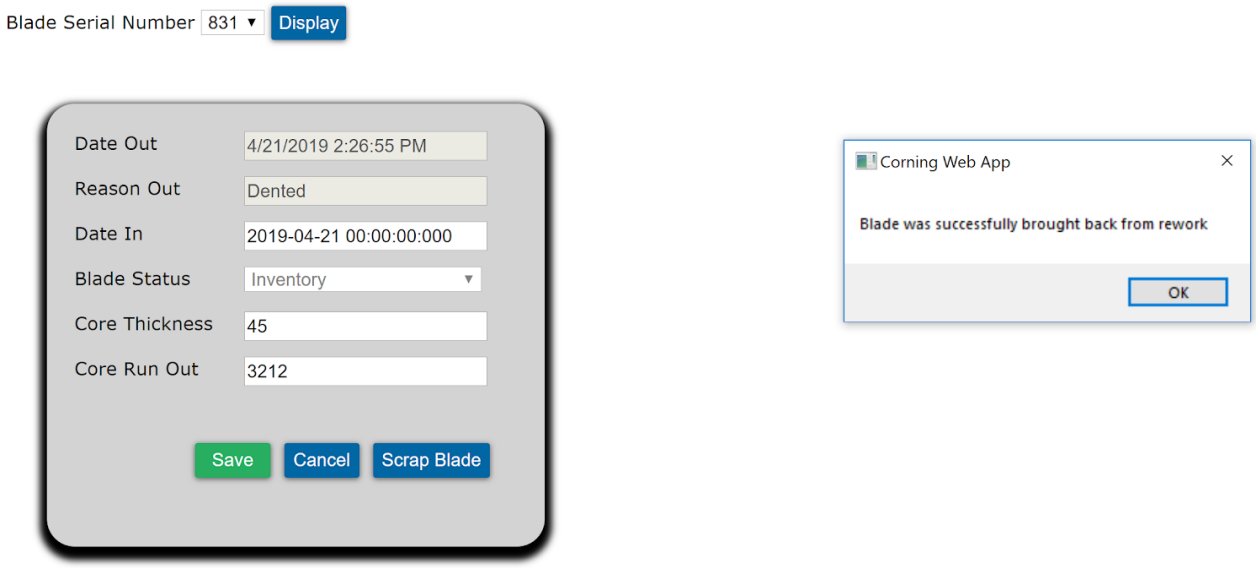
The user can navigate to the “Update Rework Blade Status” tab inside the “Blade Maintenance” tab to bring blades that are out for rework back in. The image above depicts the blade number 831 that is out for rework. Clicking the “Display” button will display the rework detail form.



The form for filling out a rework is shown in the above image. Users can fill out this report by giving a date in, a core thickness, and core run out.

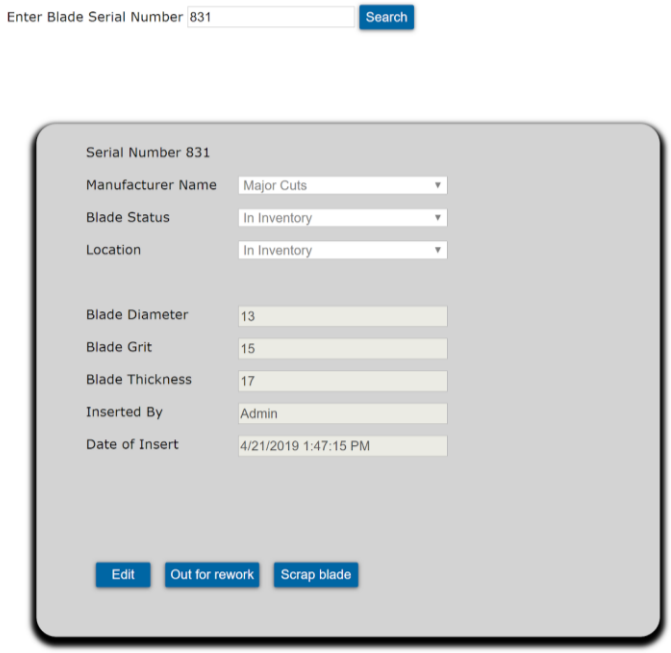


The image above depicts the use of a calendar to select the date for the date in value.

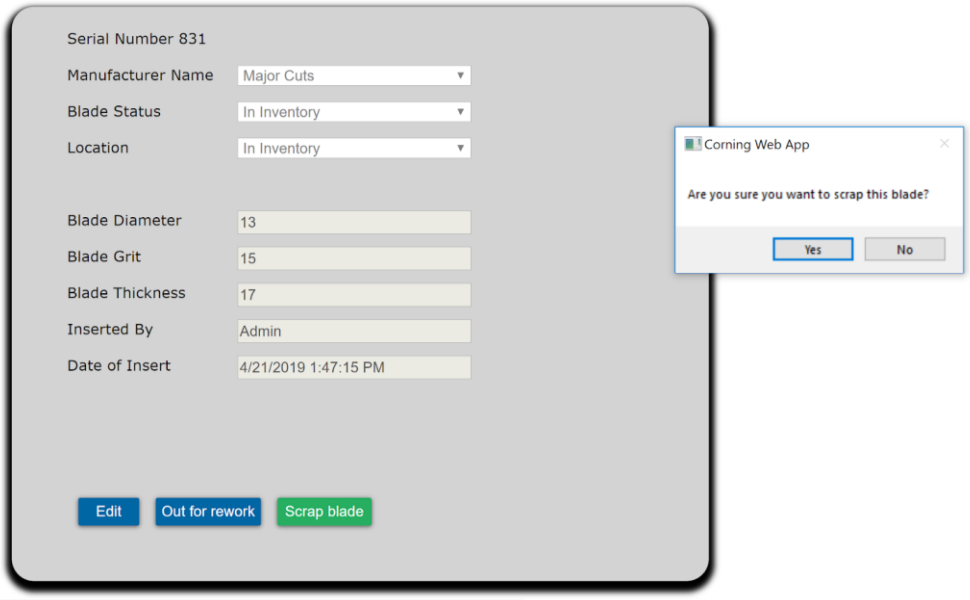


The image above depicts the notification message that appears when the “Save” button is selected, letting the user know that the blade was brought back from rework.

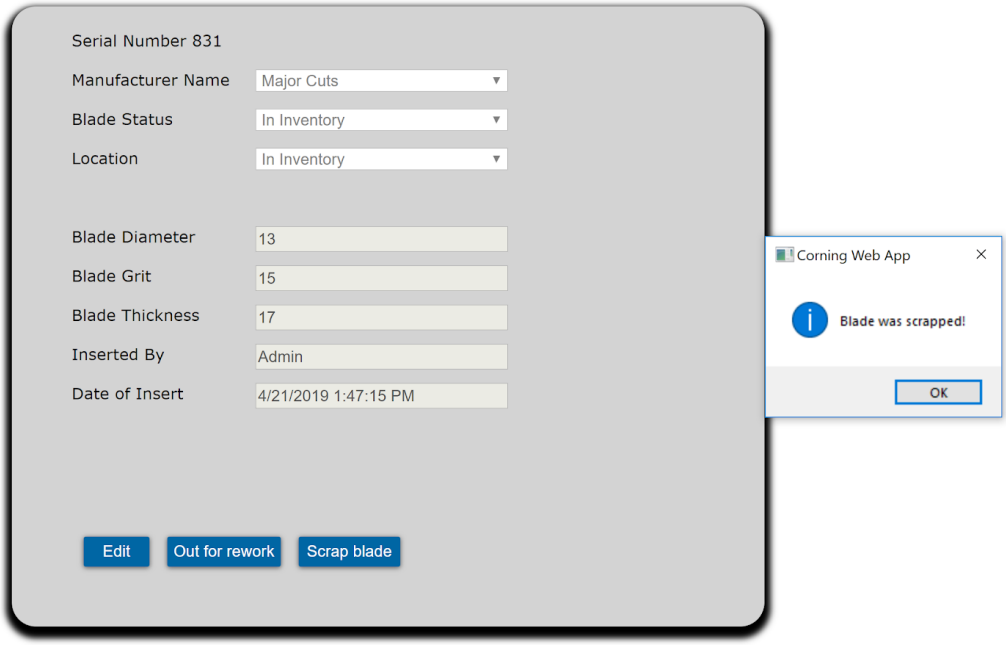
3.2.6 Scrap a Blade (Average Response Time: 30 seconds)



The image above displays the results of searching for a blade that exists within the database. Selecting the “Scrap Blade” button will allow a user to scrap the blade.

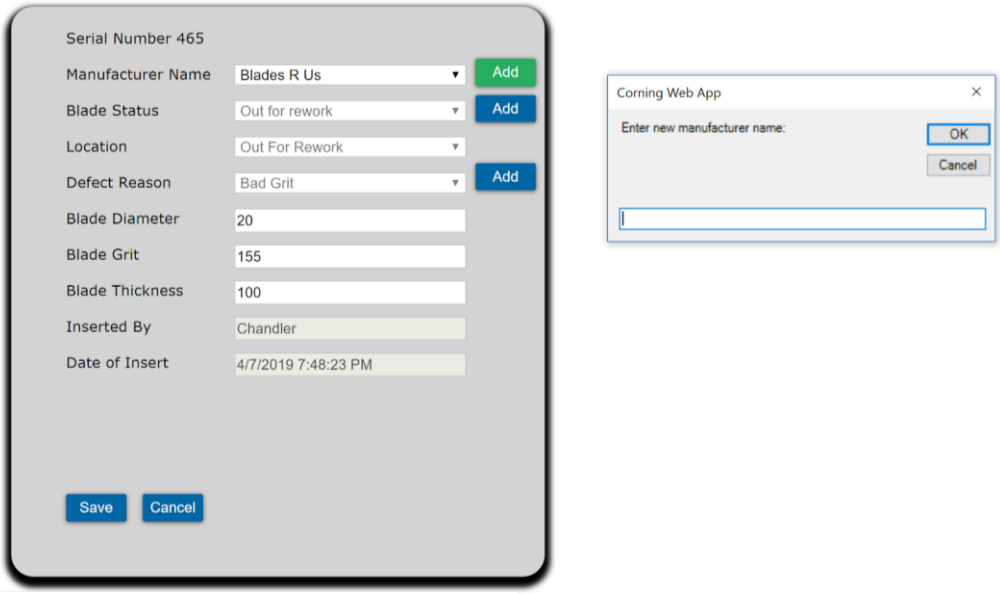


When the user selects the “Scrap Blade” button, a notification message will appear asking the user to confirm if they wish to scrap the blade, as depicted in the above image.



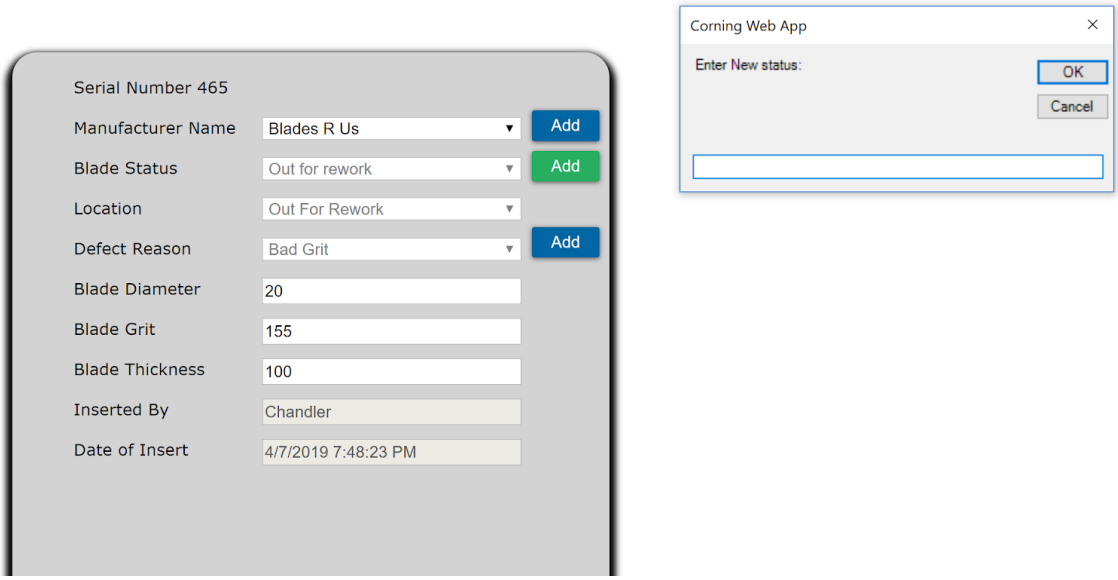
After the user confirms that they wish to scrap the blade selected, this notification message will appear letting the user know the blade was scrapped.

3.2.7 Add a new Manufacturer (Average Response Time: 30 seconds)



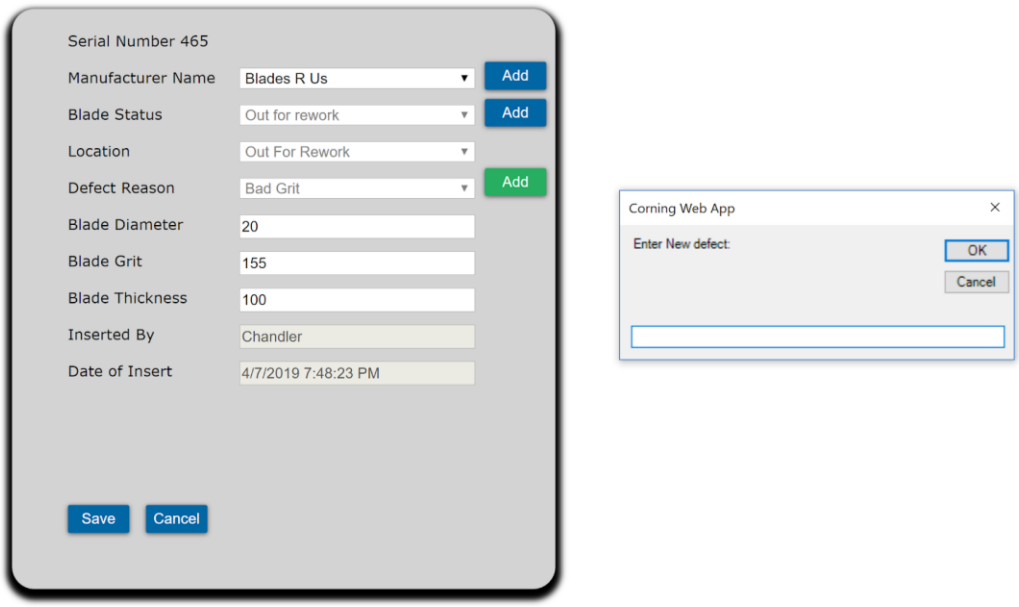
A user can add a new manufacturer to the list of manufactures by selecting the "Add" button next to the manufacturer name input field on the Edit form of a blade. An input message will appear and prompt the user to insert a new manufacturer, as depicted in the image above.

3.2.8 Add a new Blade Status (Average Response Time: 30 seconds)



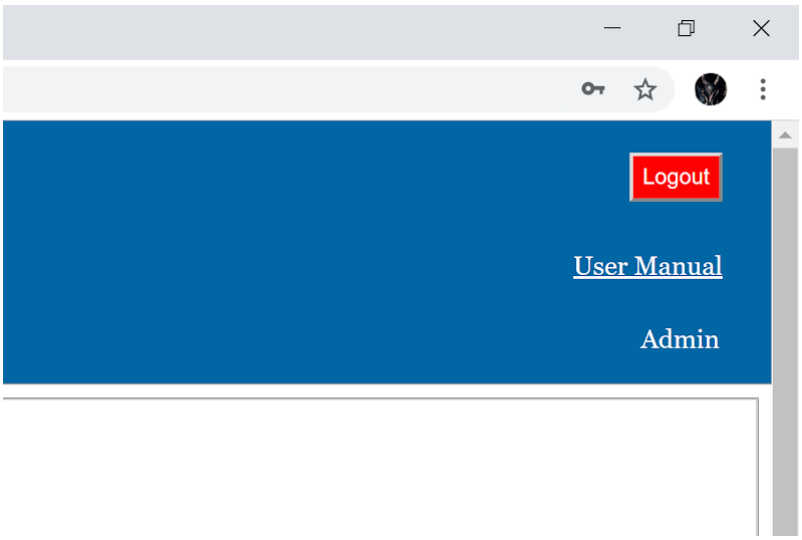
A user can add a new blade status to the list of blade statuses by selecting the "Add" button next to the blade status input field on the Edit form of a blade. An input message will appear and prompt the user to insert a new blade status, as depicted in the image above.

3.2.9 Add a new Defect Reason (Average Response Time: 30 seconds)

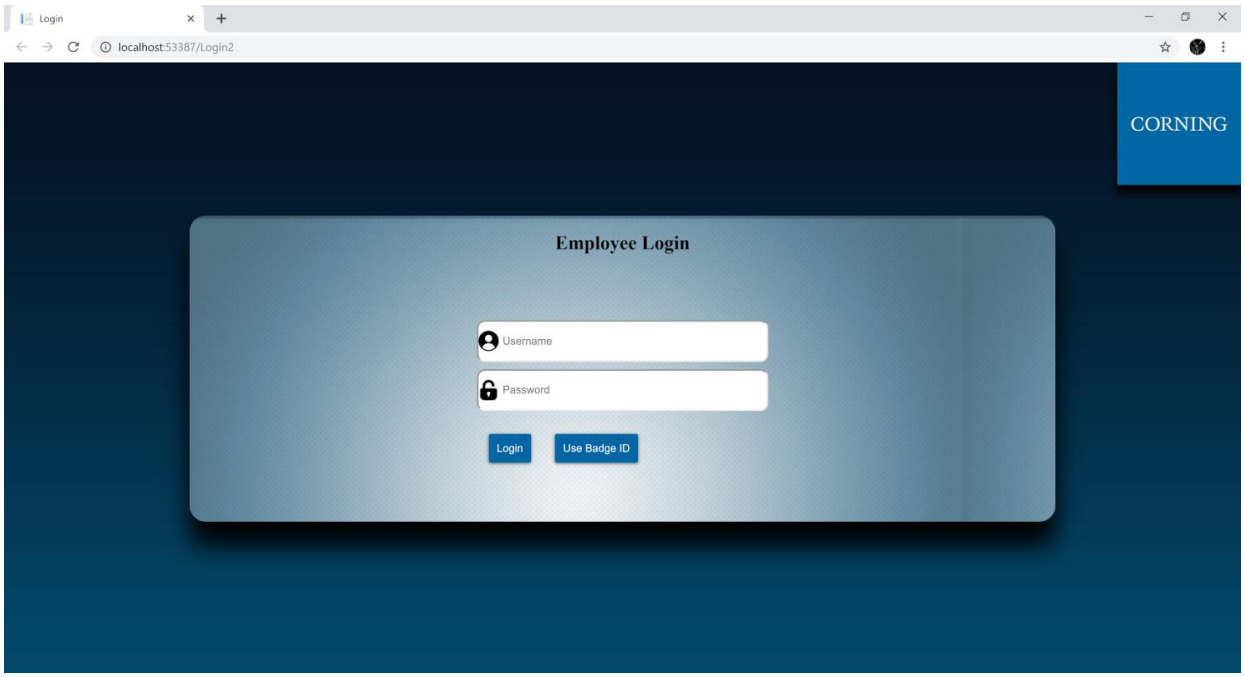


A user can add a new defect reason to the list of defect reasons by selecting the "Add" button next to the defect reason input field on the Edit form of a blade. An input message will appear and prompt the user to insert a new defect reason, as depicted in the image above.

3.3 Exiting the System



A user can exit the system any time by clicking the red "Logout" button at the top right corner of each page. It is located right above the link to the user manual and current user logged in, as depicted in the image above.



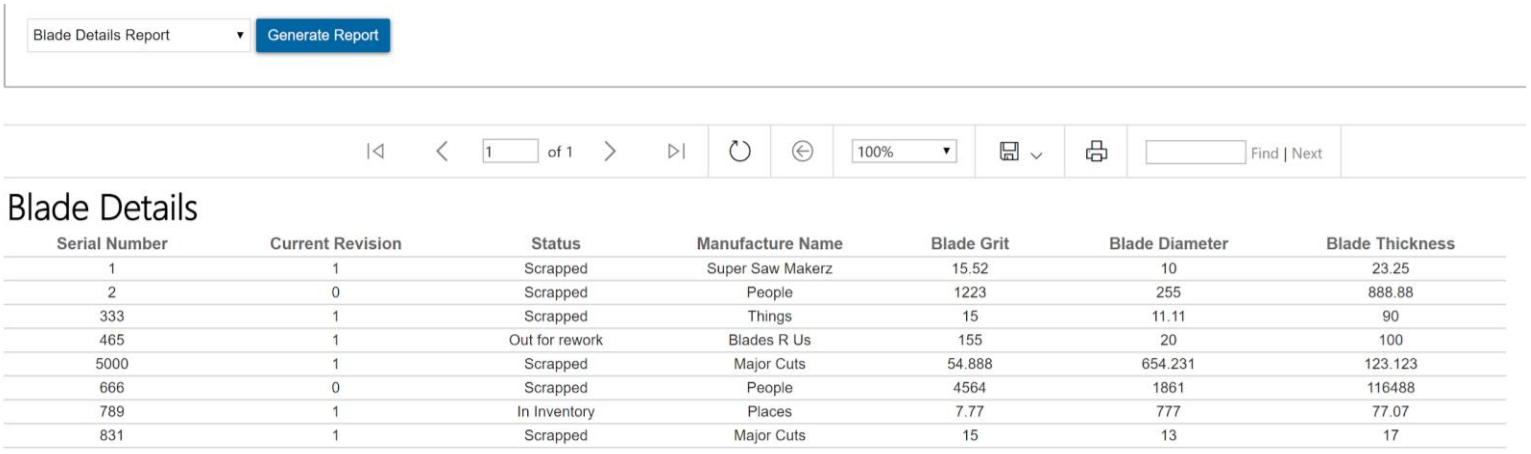
Logging out of the system will return the user to the login menu depicted in the image above.

3.4 Special Instructions for Error Correction

If a user mistakenly inserted incorrect values for a blade, the "Edit" functionality found when searching for the blade in the "Blades" tab in the "Blade Maintenance" tab, can allow a user to correct mistakes. Error messages can occur in the system when not inserting correct values, and help prevent invalid data to begin with. If a user attempts to select multiple buttons at once before the actions of one can be completely finished, then there can be input queuing based on the buttons selected. This can be avoided by clearing all notification messages prior to selecting more options from the main page once again.

3.5 Caveats and Exceptions

After a blade has been inserted, updated, scrapped, brought out for rework, brought in from rework, etc., a user can check the reports for blades to ensure that the data they inserted was properly saved.



Serial Number	Current Revision	Status	Manufacture Name	Blade Grit	Blade Diameter	Blade Thickness
1	1	Scrapped	Super Saw Makerz	15.52	10	23.25
2	0	Scrapped	People	1223	255	888.88
333	1	Scrapped	Things	15	11.11	90
465	1	Out for rework	Blades R Us	155	20	100
5000	1	Scrapped	Major Cuts	54.888	654.231	123.123
666	0	Scrapped	People	4564	1861	116488
789	1	In Inventory	Places	7.77	777	77.07
831	1	Scrapped	Major Cuts	15	13	17

The image above gives an example of the serial number "831" having its status and revision displayed based on the example images throughout this document.

3.6 Maintenance Capabilities

Future maintenance should be conducted in a separate testing environment to the live system, and should incorporate database and report connections as well, ensuring that correct values are being inserted into the system. However, the IT team at Corning will have the final decision when it comes to maintenance on the system.