CS3733-D23 Prof. Wong

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User Manual

Product Name: C-Dawg

Team GitHub: https://github.com/CS-3733-D23-Team-C

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The reset password feature allows users who have forgotten their password to configure a new password. Upon entering the user's username in the reset password field, the user will check his or her email for one time a verification link, expiring in 10 minutes. After clicking on the link, the user can enter a new password to be updated in the database on the website. 43
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1. Introduction

Thank you for choosing our application as your preferred tool for navigating and utilizing services at Brigham Women's Hospital! Our application is available on all local desktops within the hospital, making it easily accessible for a wide range of users.

With our application, hospital administrators can efficiently place service requests, manage patient and employee lists, adjust the positioning of rooms, and perform other vital tasks. Meanwhile, employees can view their responsibilities and navigate the hospital with ease. Patients can also benefit by staying informed of incoming notifications, signing up for text message alerts, and finding their way around the hospital without hassle.

We take pride in providing a comprehensive and user-friendly experience through our application, which meets the unique needs of all hospital stakeholders. Please refer to the instructions below to explore all the features and functionalities available on our application. If you require any further assistance, please do not hesitate to contact our customer support team, who are always ready to help.

2. System Requirements

In order to use this application, your computer must be able to run JAR files. This application was written using Java SDK 17, so it is also imperative that you have the proper java version installed. Additionally, we recommend having at least 4GB of ram and a modern processor.

3. Using the Application

3.1 Permission levels

There are 3 permission levels:

1. **Admin**

   Admin users have the highest level of permissions in the application, and are permitted access to all features. Admin specific features include Edit Map, Move Table, Edit Signage, Employee Table, Patient Table, Login Table, and the Import/Export page.

2. **Employee/Staff**

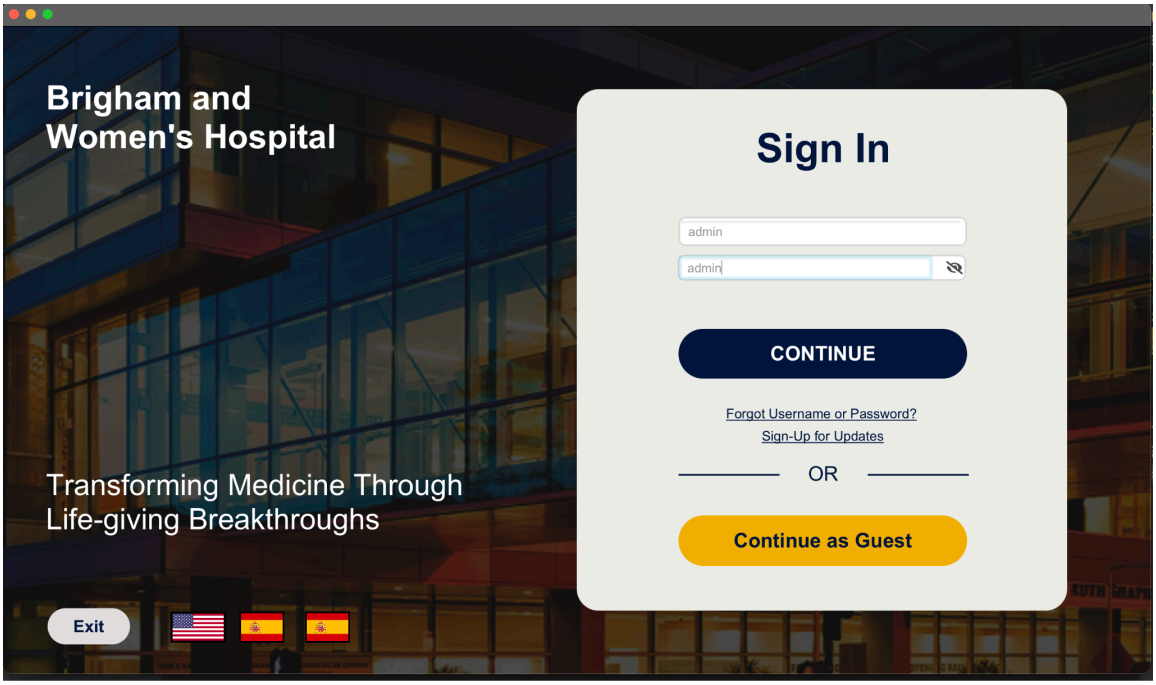
   Employee and staff users have a high level of permissions, and are permitted access to most features in the app. The only exception to their permissions are admin specific features.

3. **Guest**

   Guest users have the lowest level of permissions in the application. They do not have their own logins, and the functionality they can access is very limited. From the guest login, a user can only access pathfinding and the view signage page.

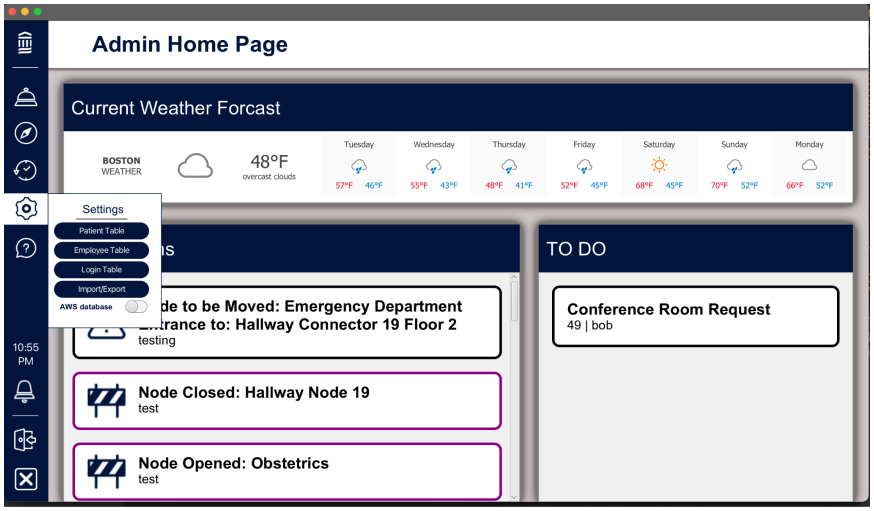
4. Initial Setup

Firstly, log in with the username admin, and the password admin. This will give you access to all of the features as well as give you the ability to add new users. After clicking continue, you will be brought to the home screen



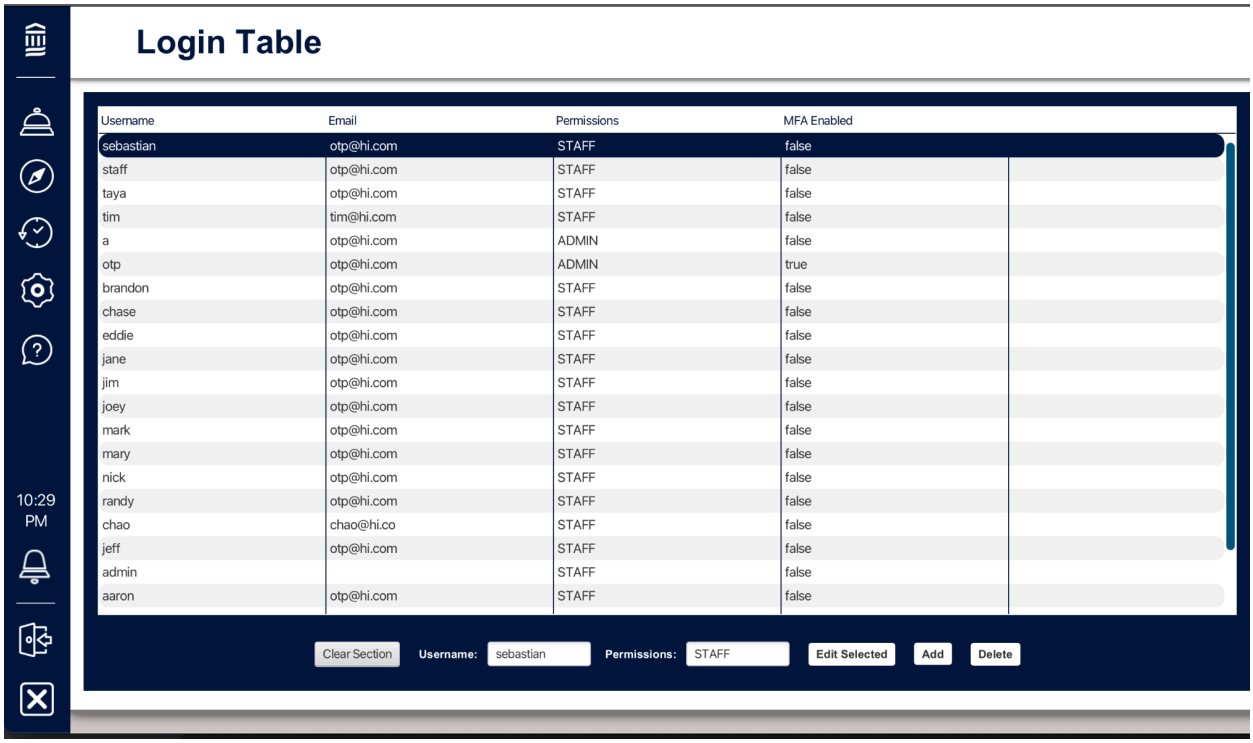
Navigate to the left side of the home screen where the menu bar is, and click on the settings icon. This will give you a few options:

1. Login table: Allows you to insert, update and delete login information
2. Employee table: Allows you to insert, update and delete employees from the system
3. Patient Table: Allows you to insert update and delete patient entries
4. Import/Export: Allows you to import and export database tables from the system.

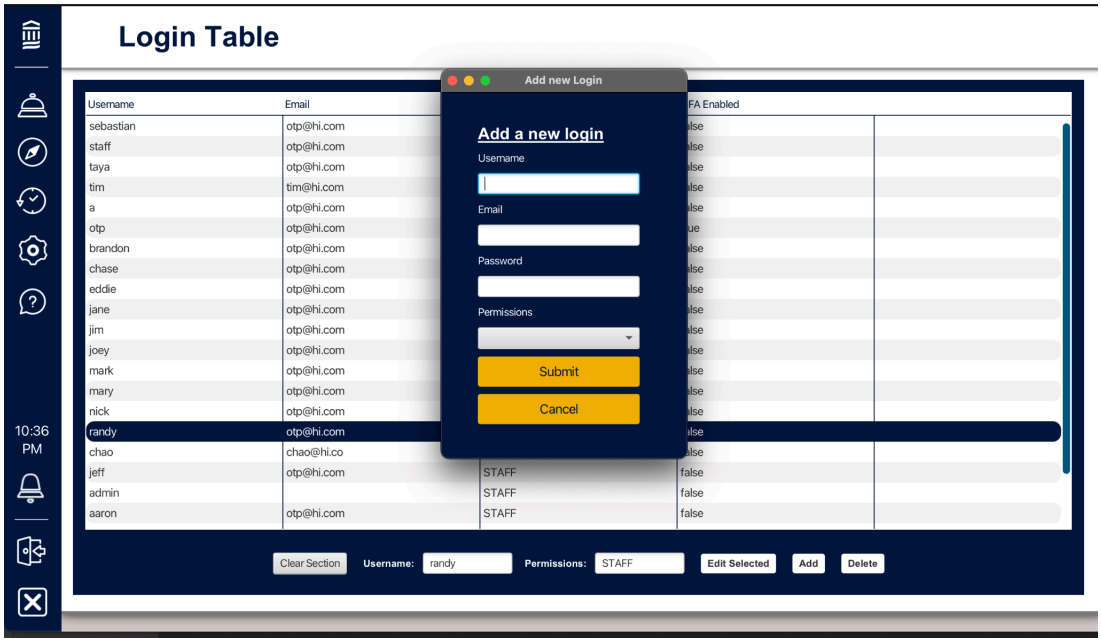


4.1 How to add user logins to the database

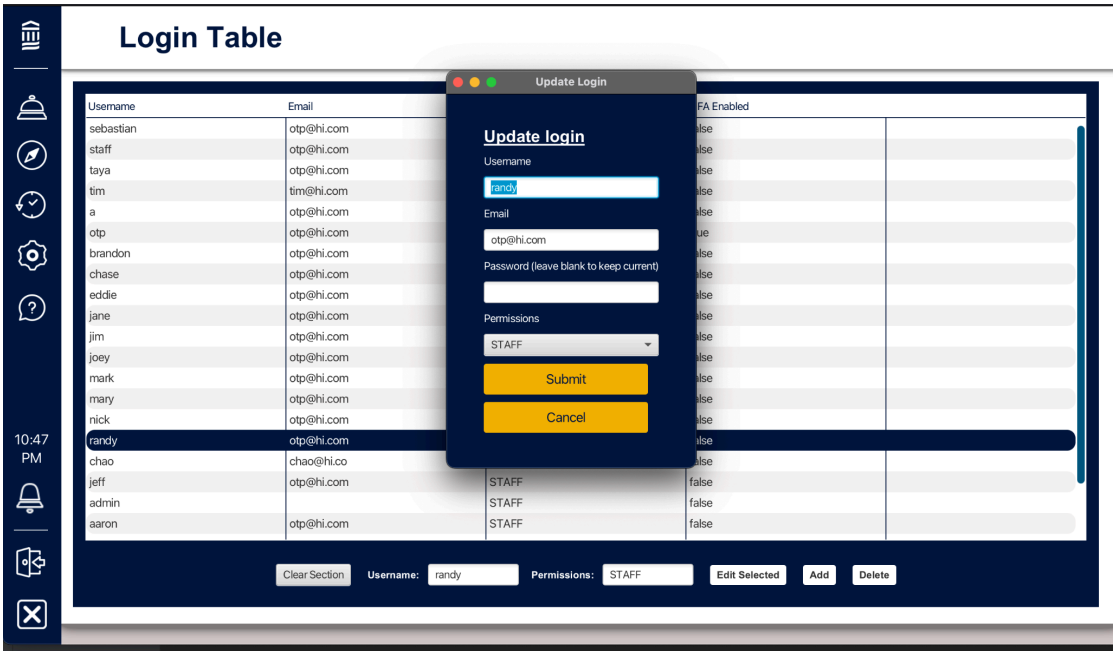
After navigating to the login table, you have the ability to add new users with different permissions. To add a new user, click the add button in the bottom right hand corner. This will open a pop-up where you can fill in the information for the new user. Be careful when setting the permissions for users. Only assign admin permissions to those who **absolutely** need it, as they will have access to all of the features within the app which includes editing login and employee information. Most employees will only have staff level permissions. After setting up your new users, make sure to delete the default admin and staff logins. To delete a user click on the row in the table and click the delete button in the bottom right corner. You can also click the edit selected button which will give you a popup to edit the selected user.



Default screen for login table



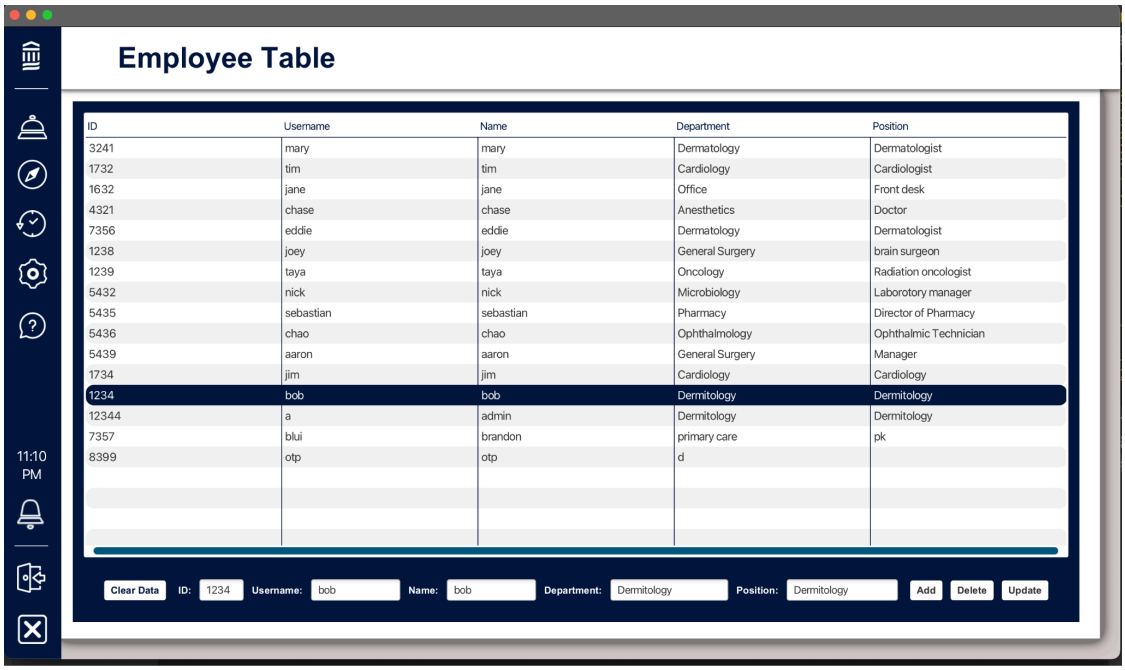
Pop-up screen to add a new user



Pop-up screen to update a user's login information

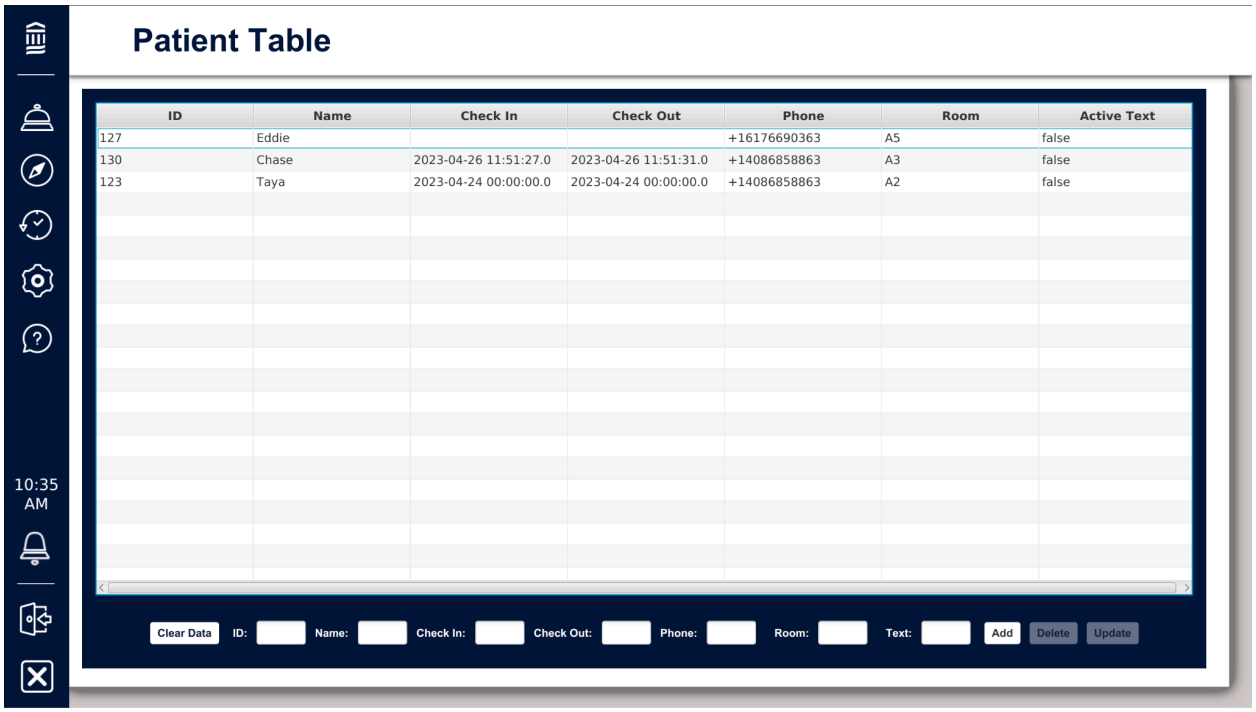
4.2 How to add Employees to Database

Adding Employees to the system is a very similar approach as login information. To add an employee, fill in the information in the text fields at the bottom of the page and click the add button. To delete an employee, simply click on the entry on the table and click delete. To update an employee, click on the row, update the text fields, and click update. You can also clear the text fields with the clear data button in the bottom left hand corner.



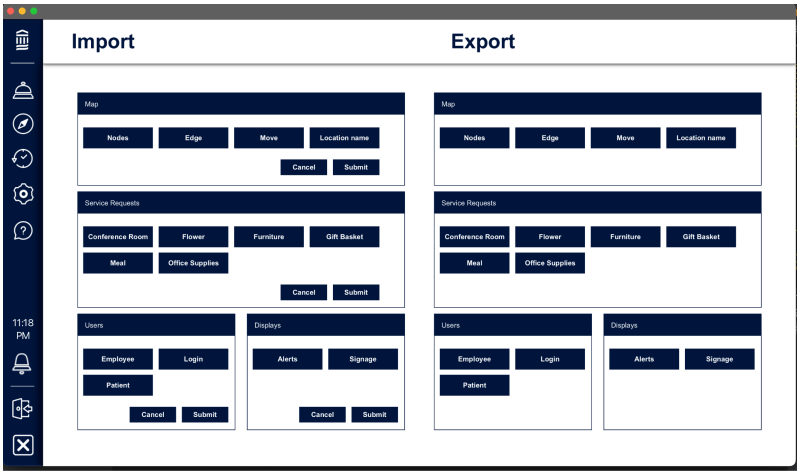
4.3 How to add Patients to the Patient Table

The process to add a patient into the system follows the pattern of adding a User or an Employee. To navigate to the patient table, click on the settings icon in the menu and select the patient table. To add a patient. fill in the information in the text fields at the bottom of the page and click the add button. To delete a patient, simply click on the entry on the table and click delete. To update a patient, click on the row, update the text fields, and click update. You can also clear the text fields with the clear data button in the bottom left hand corner.

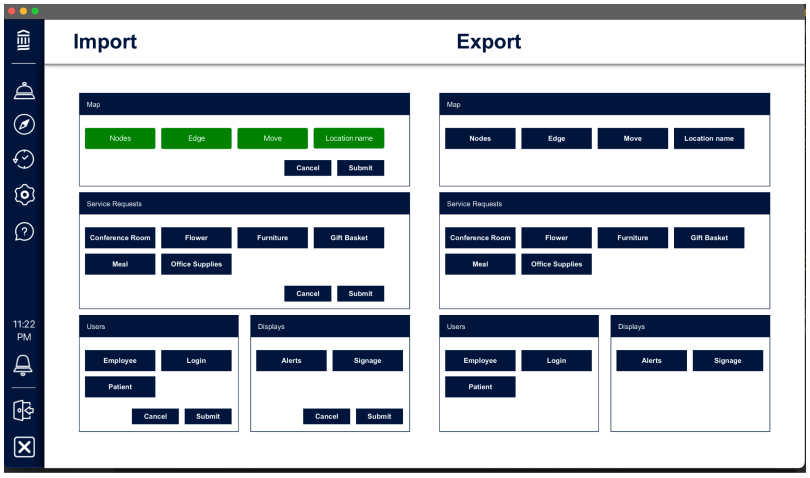


4.4 How to Import and Export data

In the settings menu, navigate to the import/export page. To import your CSV files into the database, use the buttons on the left side of the screen. For the Map CSVs, you must import the Nodes, Edges, Moves, and Location names at the same time. Select all four files and press submit to import the files to the database. You must also submit the Employee table and their corresponding logins at the same time as well. The buttons will turn green if the selected CSV is valid. You can import the service requests and display tables individually if you would like, as well as the patient table. Use the buttons on the right side to export the current database entries to CSV files. When clicking on an export button, it will open up your file finder where you can choose your specified path to store the files.



Default import/export screen

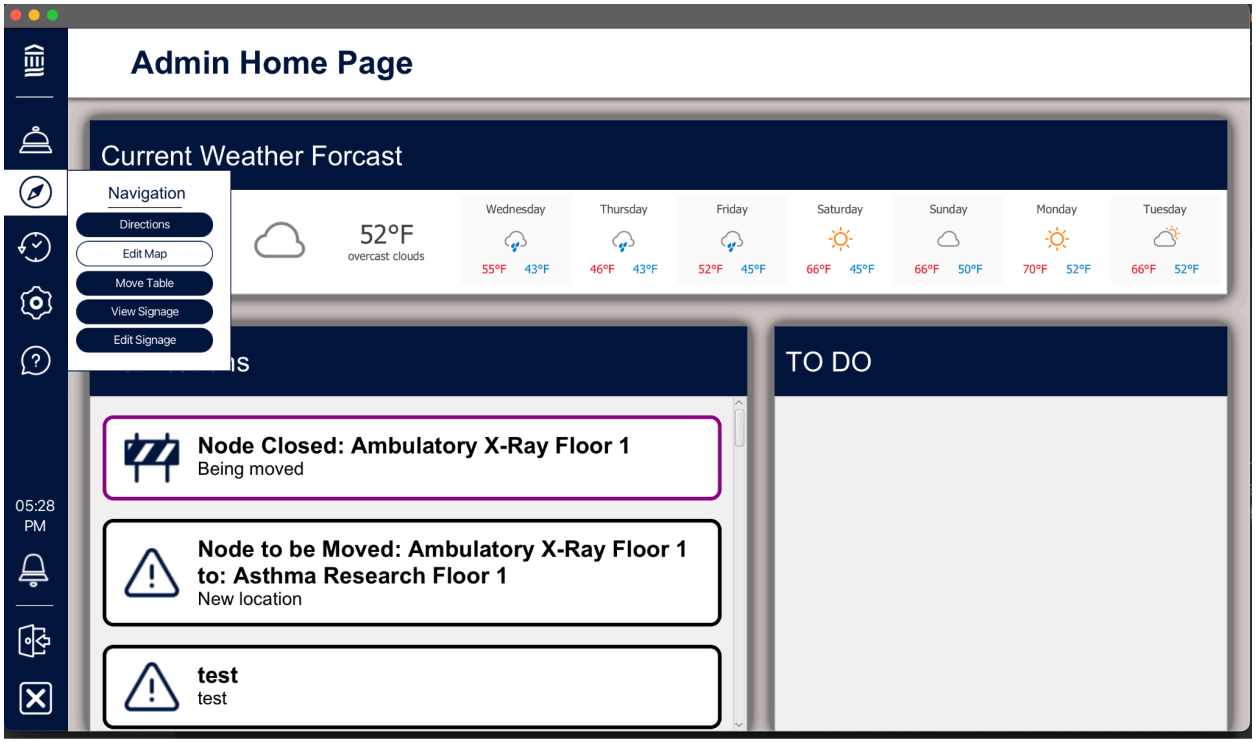


Buttons will turn green when the files are valid, you can now submit!

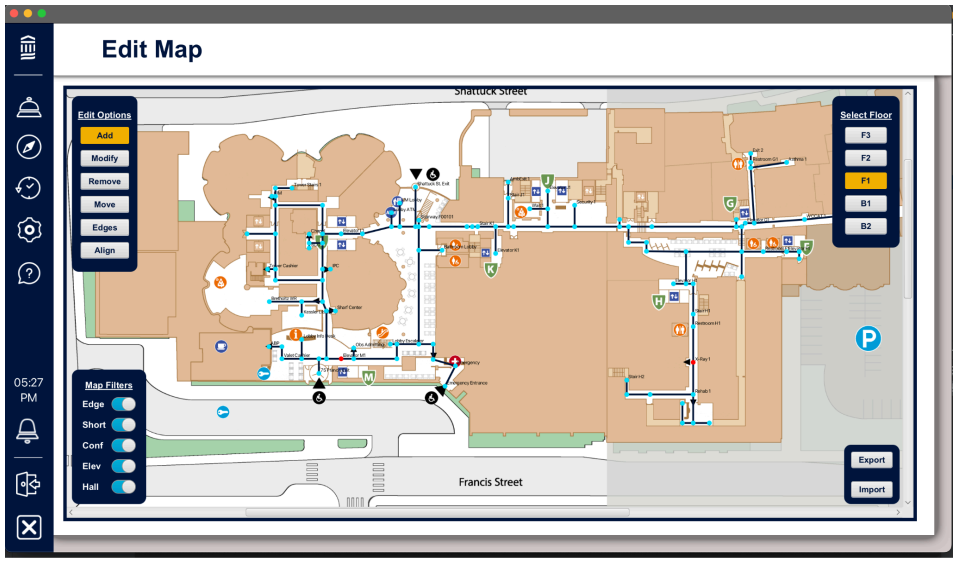
5. Navigation

5.1 How to Edit the Map

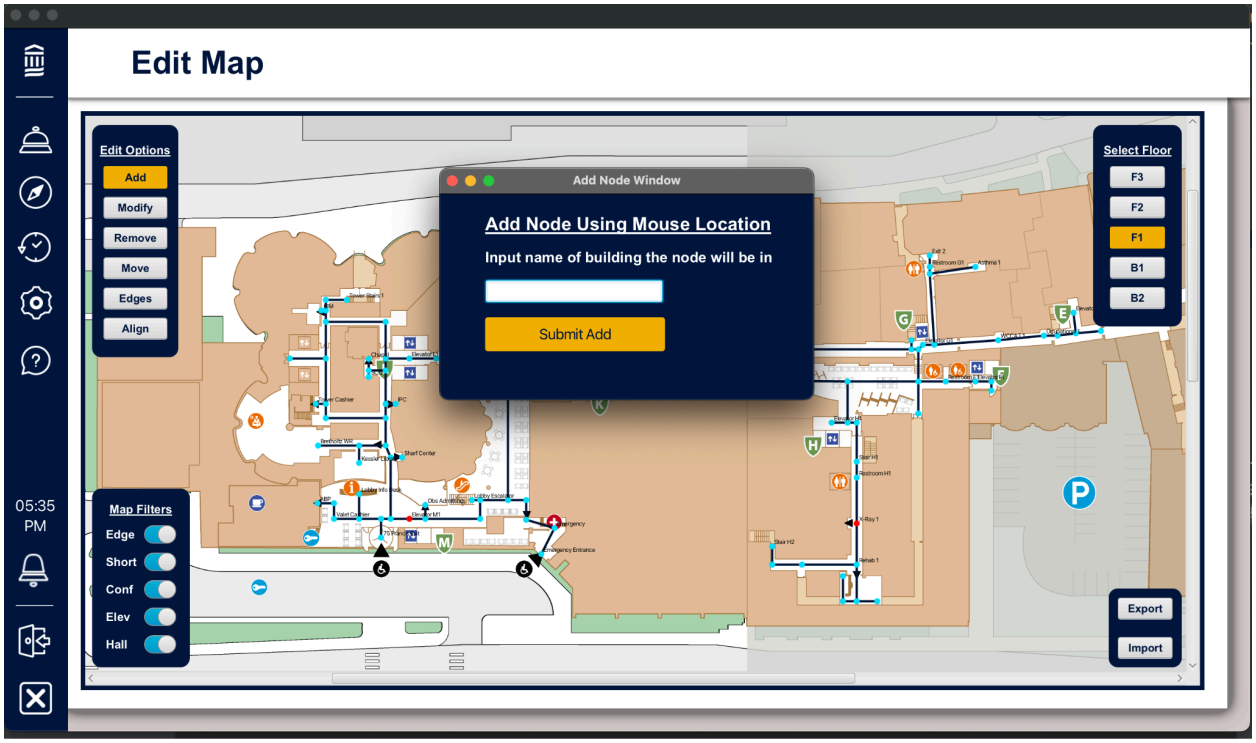
To edit the map, go to the navigation icon on the menu and click edit map.



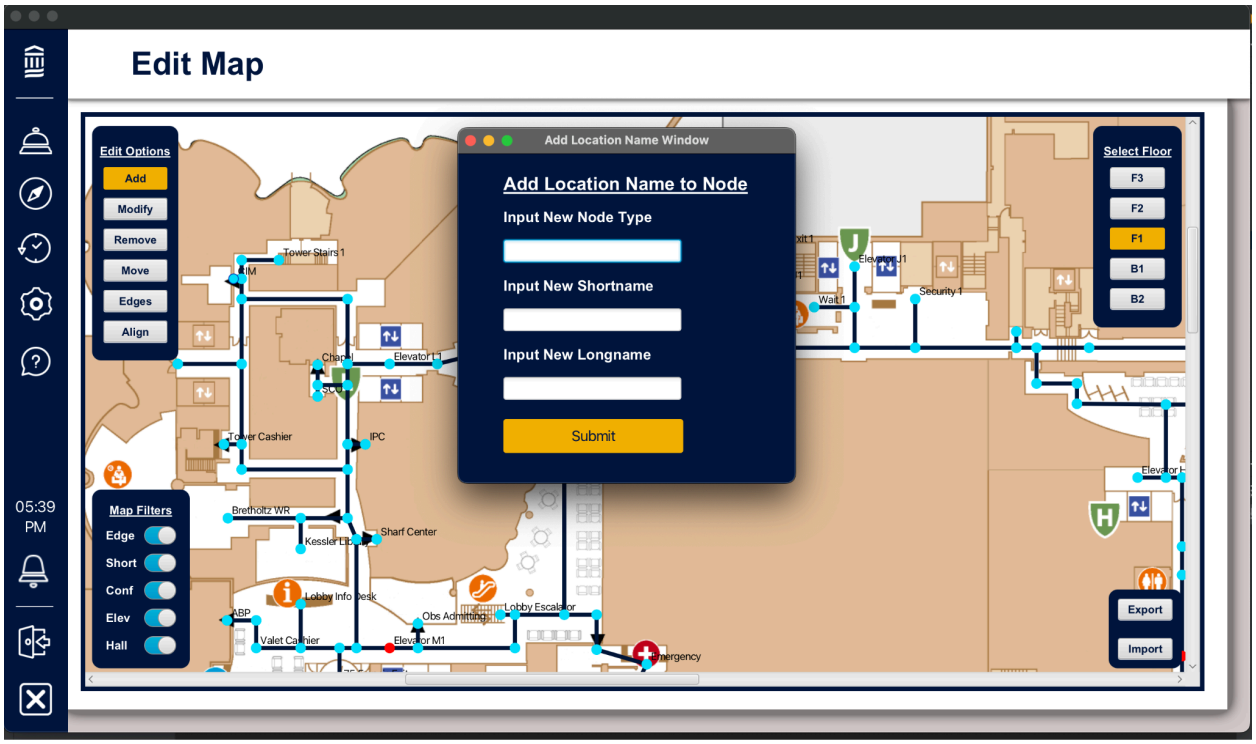
On the map editor, there is a list of filters in the bottom left hand corner. Toggling them will hide the items from the map. In the top right corner, you can use the buttons to select which floor you would like to view. There are a few editing options to choose from: Add, Modify, Remove, Move, Edges, and Align.



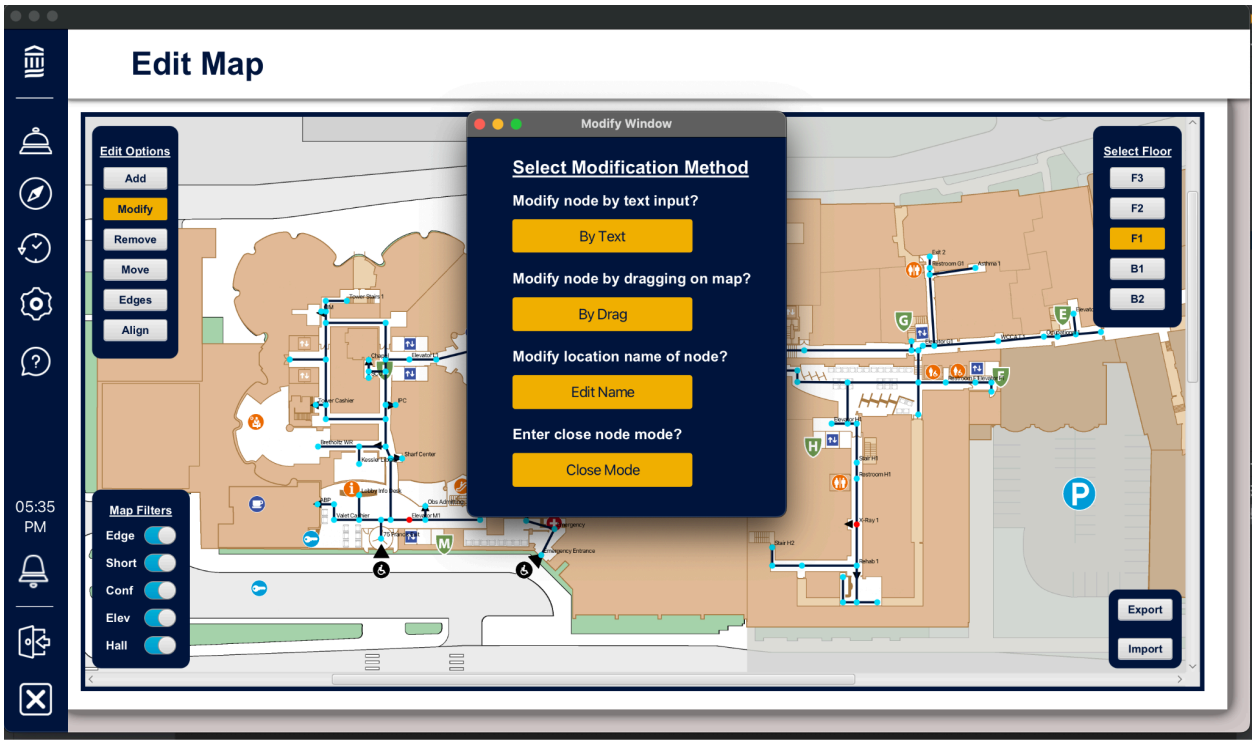
When in the add mode, click on the map where you would like to add the node. A popup will prompt you to add the building name for this node.



Alternatively, you can click on an already existing node to add a location name to that node. A pop-up will prompt you with the necessary information to add.

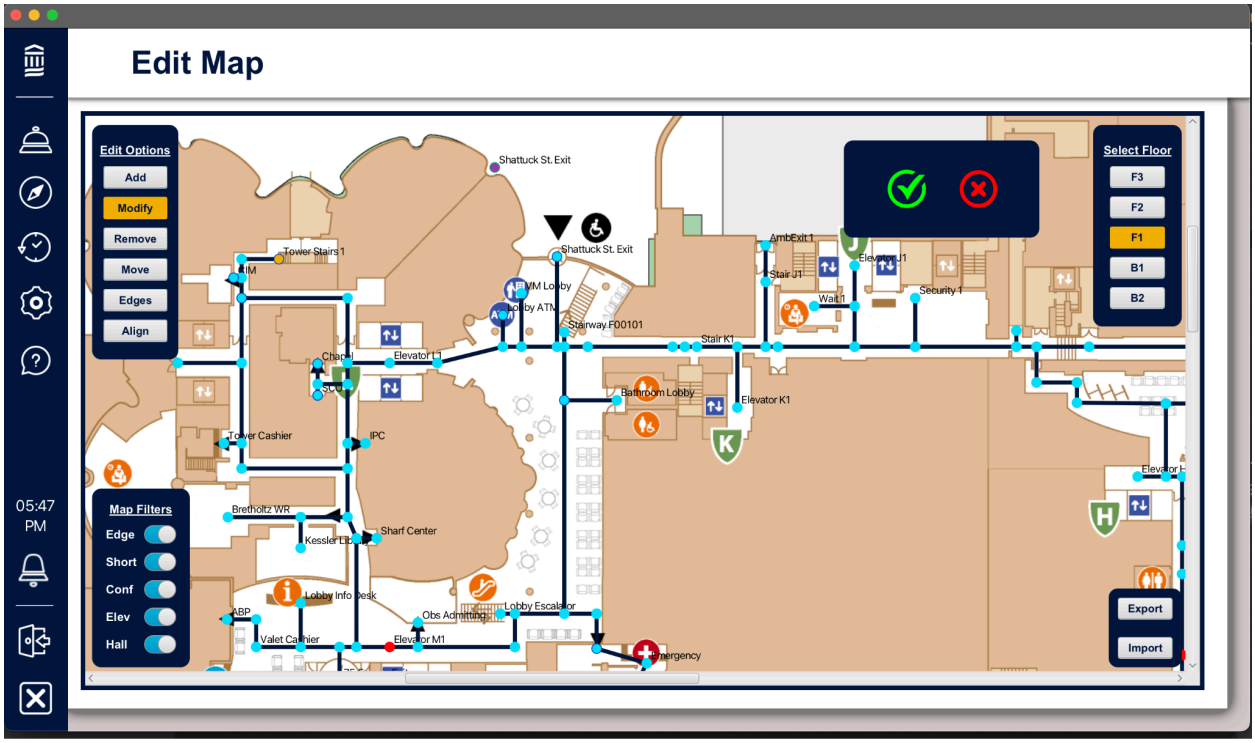


While in the modify mode, there are four methods to choose from: Modify node by text input, modify node by dragging on map, modify location name of node, and or enter close node mode.



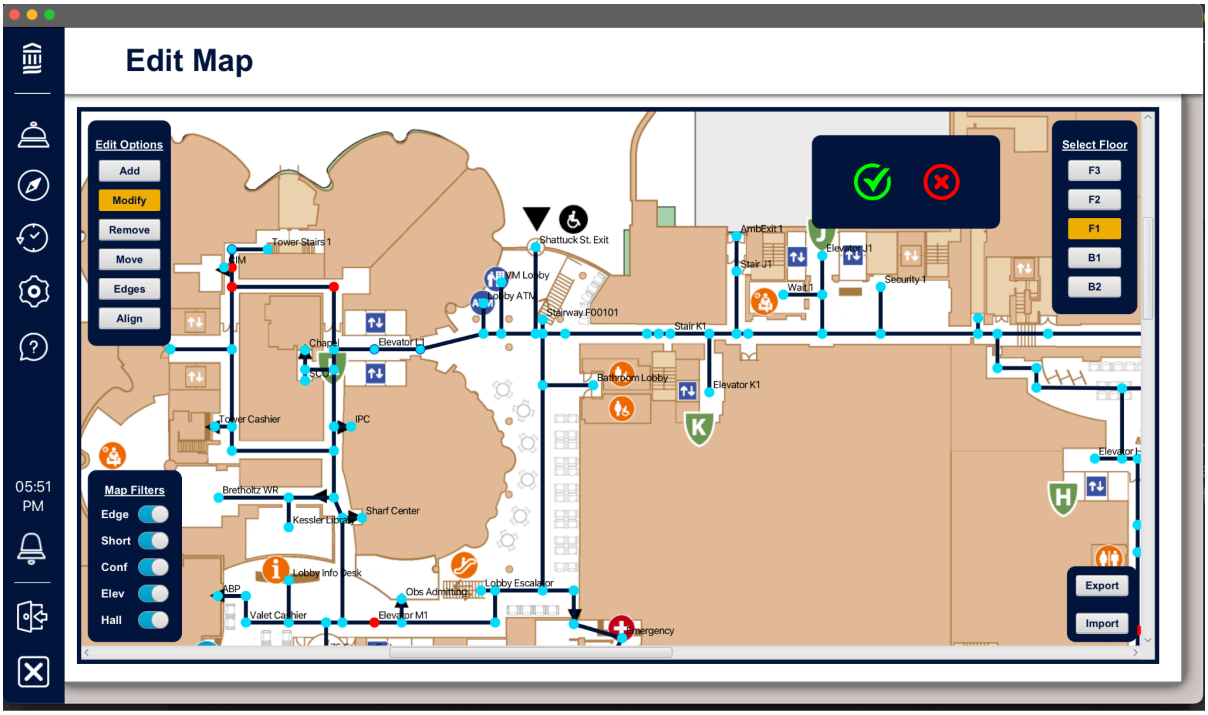
The first option allows you to modify the X and Y coordinates of the node. Simply type the new coordinates for the node in the pop-up.

The second modifier mode is by drag. Simply drag the node to the new location and click the green checkbox to confirm your modification.

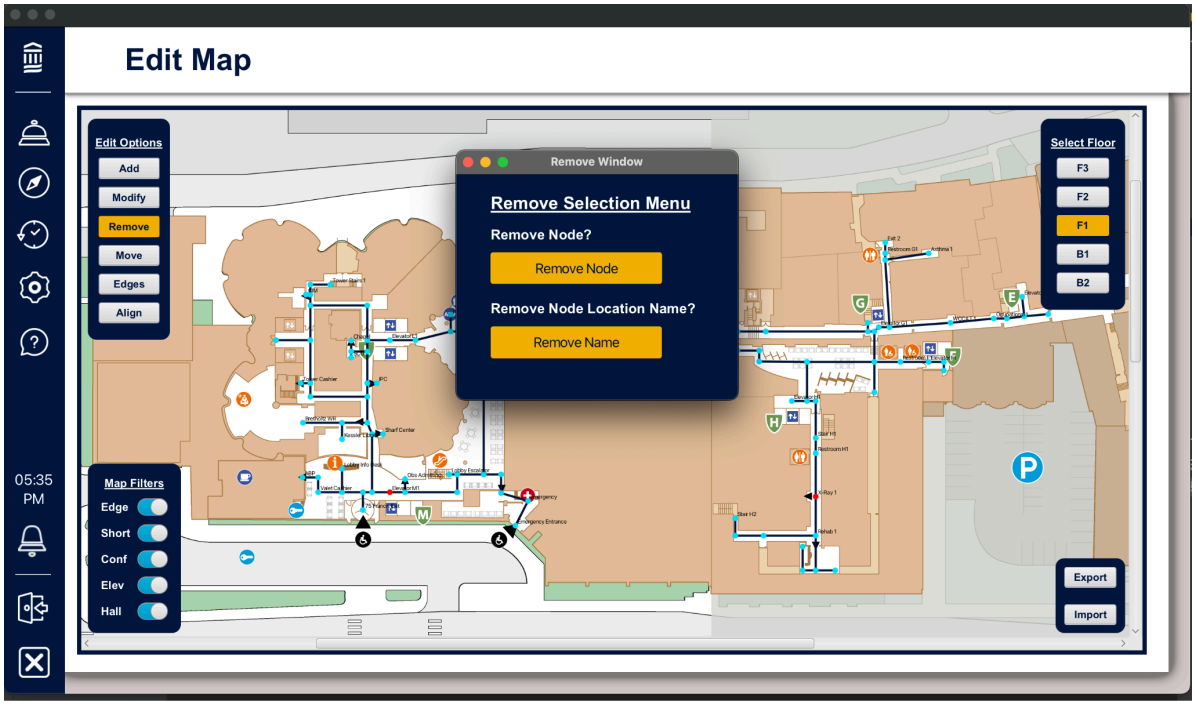


The third option allows you to modify the location name of the node. Simply fill out the field in the pop-up and click modify name.

The last option is close node mode. In this mode, click on nodes to close and open them. Closed nodes are red while blue nodes are open. This allows you to show areas of the hospital that are under construction or are not accessible at the moment. Closed nodes will not be used in pathfinding. Instead, another route will be found.



In the remove mode, when you click on a node there are two options: Removing a node, and removing a location name. Removing the node will remove the location name associated with it but removing a location name will not remove a node.

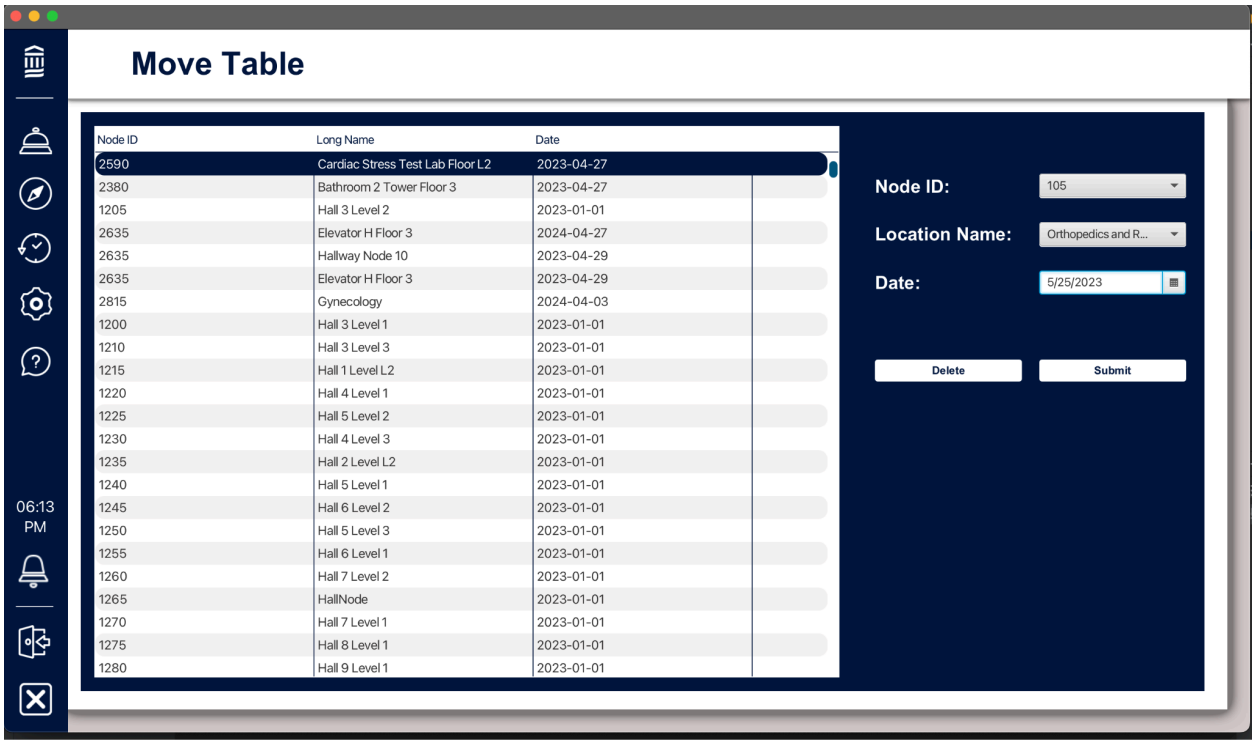


While in the move mode, click on the node that you would like to move, then click the node for which you would like to move it to. You will then be prompted with a pop-up to select the date for when the move will take place and the description for why the node is being moved.

The last mode in the edit map page is the align mode. While in this mode, select a grouping of nodes and press the green check box. You will then be prompted with a pop-up that allows you to align these nodes. If you are not happy with the alignment, you can press alt and click on the screen to undo your alignment.

5.2 How to edit the Move Table

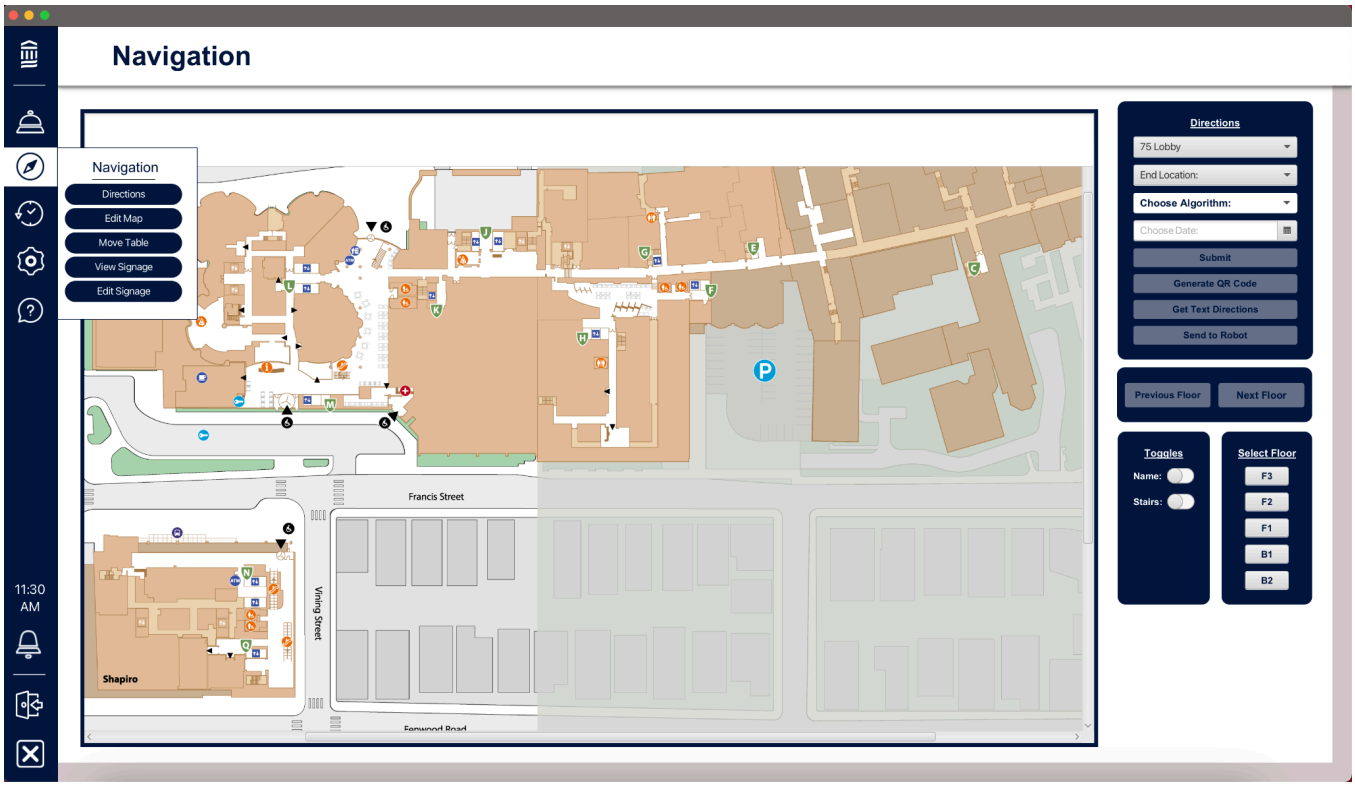
Node moves can also be accessed through the move table, which is found in the navigation menu. This table displays the node id, name, and the date that the node will be moved. To delete a row, you can simply select the row and click the delete button. To submit a new move, use the drop down menus on the right side of the screen. Once all three fields are filled out you can submit the move.



5.3 How to use Pathfinding

5.3.1: Navigating to the Pathfinding Page

The first step in conducting pathfinding is navigating to the correct page. By hovering over the compass icon at the top left of the menu bar, the navigation menu will appear. Clicking on the “Directions” button will navigate you to the pathfinding page shown below.



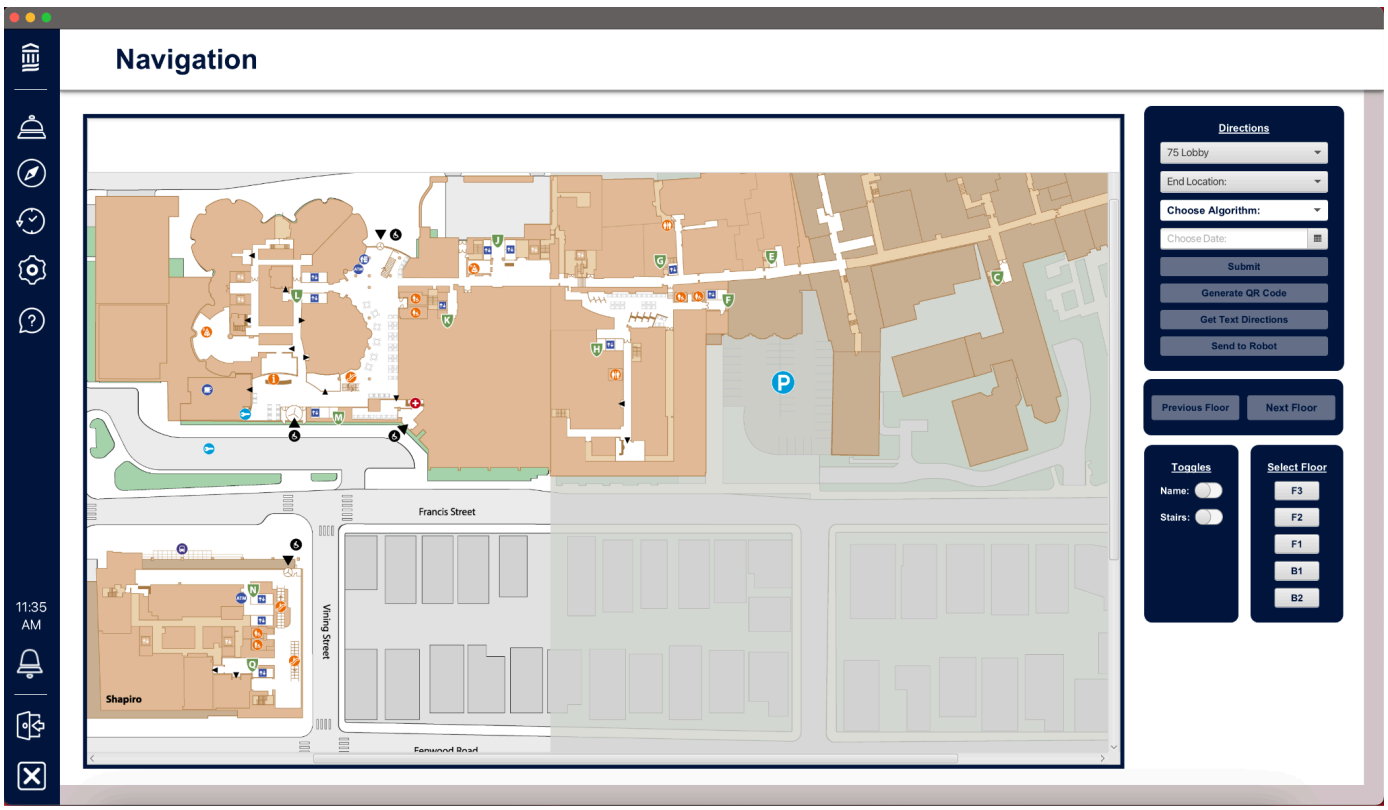
Navigation Page and Menu

5.3.2: General Usage

Displayed to the right is the general directions menu, and is where most of the functionality for pathfinding resides. The first two components are searchable drop down menus for location names. By default, 75 Lobby is selected as the starting location.

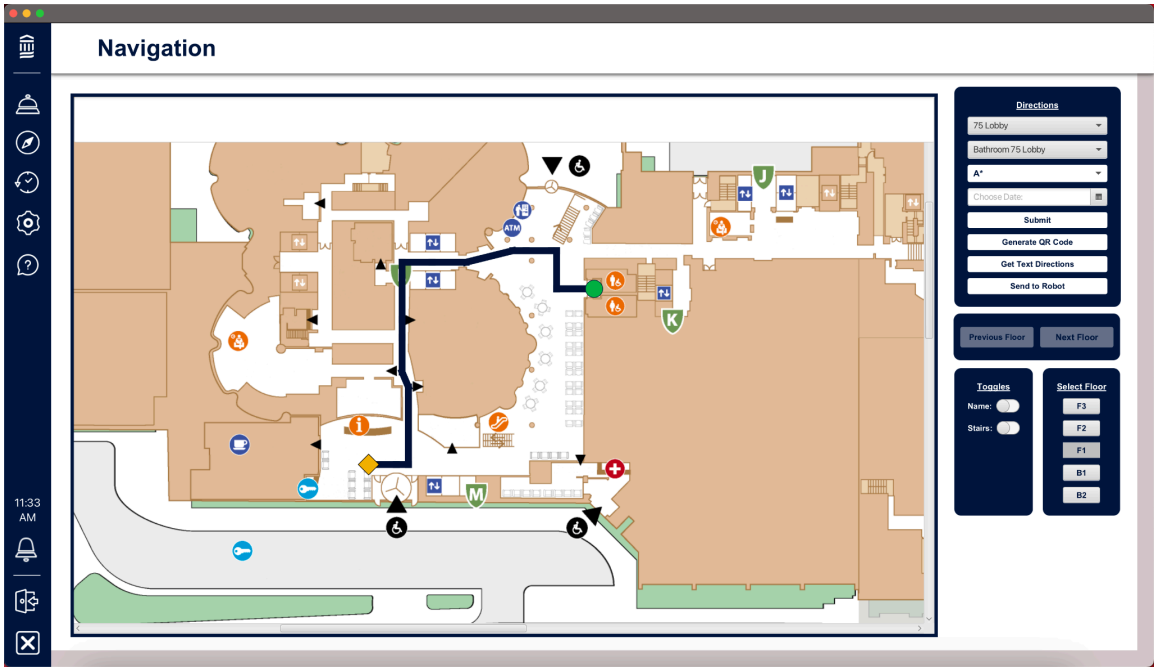
An additional algorithm dropdown exists to change which algorithm to use for pathfinding (AStar, BFS, DFS, or Dijkstra). For the purposes of this application, we recommend using AStar, but you are welcome to experiment with the others as well.

Finally, a datepicker serves to choose a date to pathfind on. As locations around the hospital may move from time to time, this datepicker ensures an accurate pathfinding result according to the chosen date. If no date is selected, the value will default to the current date.



Default Navigation Page

Upon selecting an algorithm, the “Submit” button will become available for use. After clicking submit, a path is generated on the map. A yellow diamond indicates your starting location, while a green circle indicates your destination. Additionally, the “Generate QR Code” and “Get Text Directions” buttons will become available.

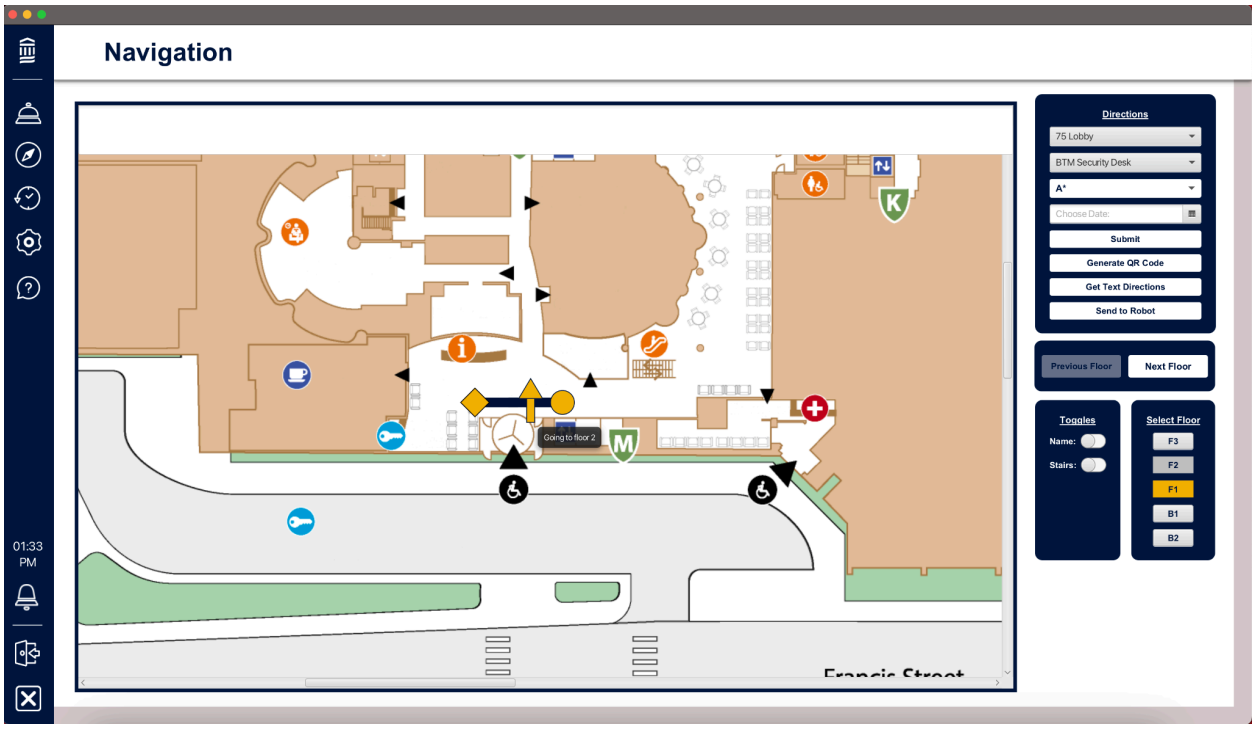


By clicking the “Generate QR Code” button, a popup containing a QR code is displayed. Upon scanning, the user will be redirected to a website displaying text directions for their path. In the case that the backend website is down, the “Get Text Directions” button can be used to display basic textual directions without the website's additional formatting.

5.3.3: Multi Floor Support

Pathfinding also supports multi-floor, multi-building pathways. In the case that a path travels across multiple floors, several important additions are made to the path. Intermediate ending nodes (i.e an elevator going up), are displayed as yellow circles. Intermediate starting nodes are displayed as black circles. Additionally, next to each node traveling up or down a floor, an arrow appears indicating which direction to travel in the elevator. Hovering your cursor on the arrow will display a tooltip displaying the next floor you are traveling to.

Multi-floor paths also open up usage of the “Next Floor” and “Prev Floor” buttons. Pressing the next floor button will transfer you to the next floor in the path, and vice versa for the previous floor button. Additionally, several floor buttons change colors to yellow to indicate which floor the currently displayed directions are for.

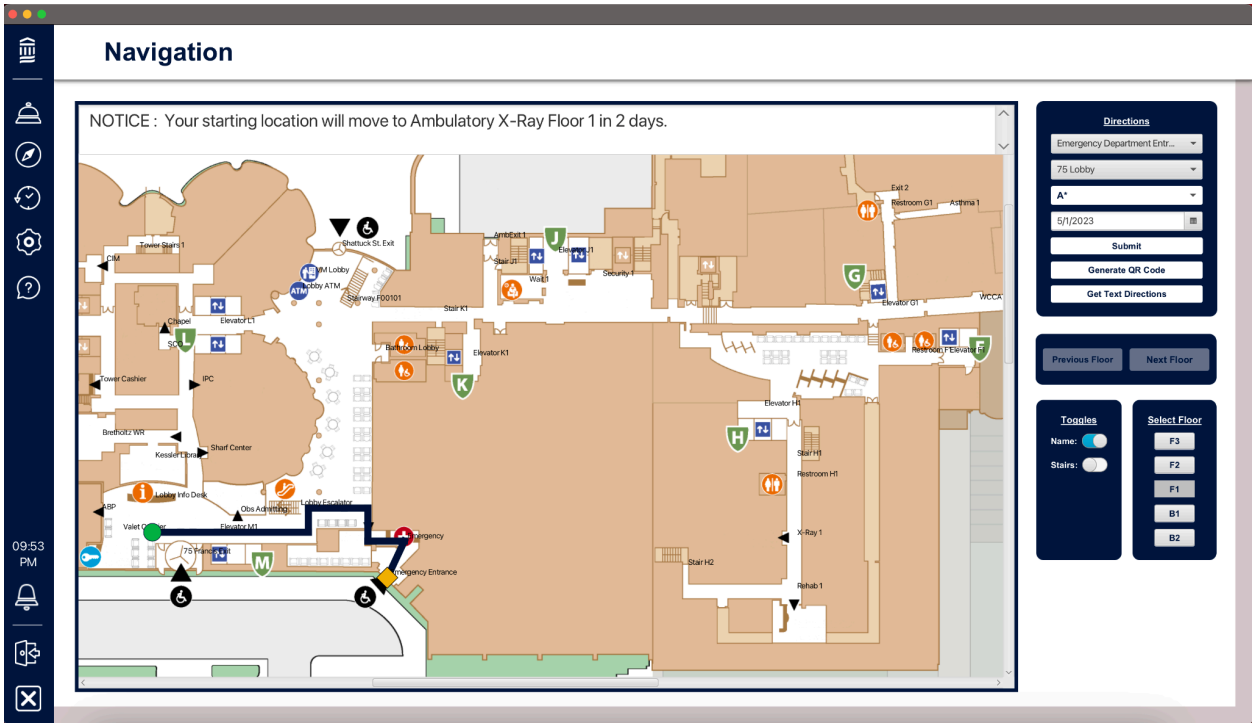


5.3.4: Other Features

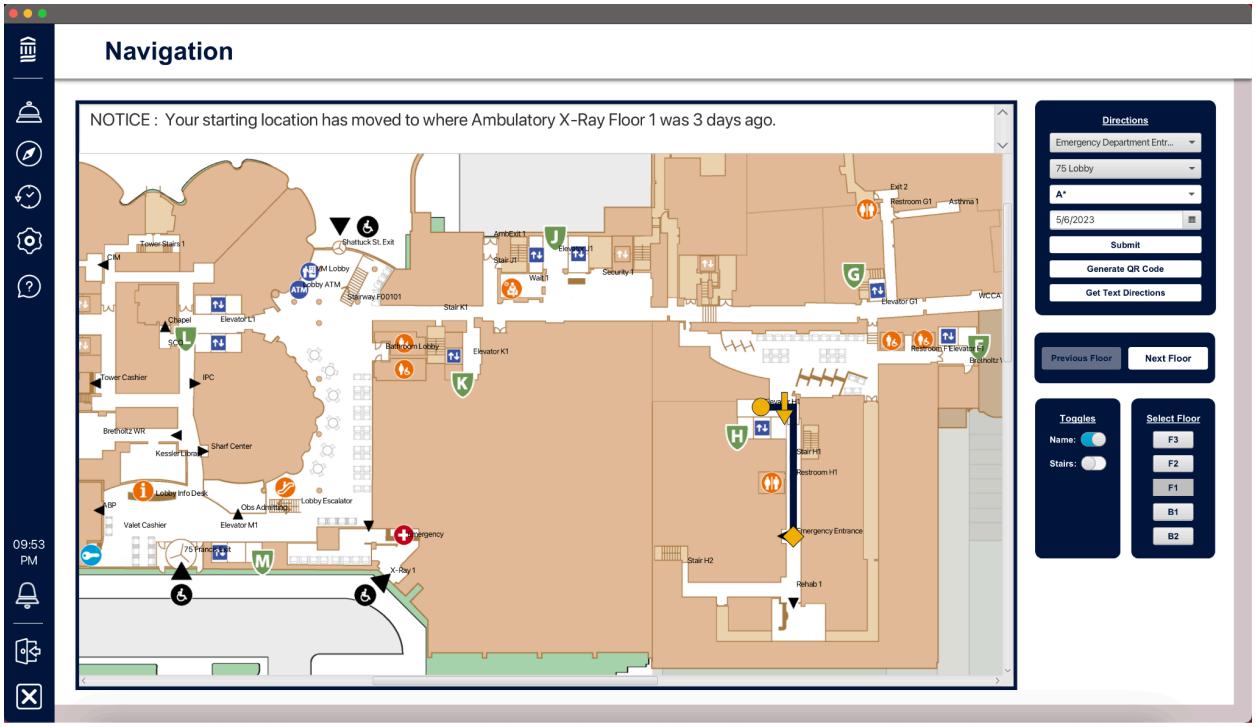
The pathfinding page has two toggle switches. The first toggle, “Name”, enables the user to display location names on the map. The second toggle, “Stairs”, serves to enable stairs as valid pathways during pathfinding. It is initially in a disabled state, so pathfinding will automatically avoid stairs, even in the case where using stairs results in a

faster route. Enabling this option will permit the pathfinding algorithm to use stairs, but this does not guarantee that the path will use stairs.

The pathfinding page also has the ability to auto-generate move messages. For example, in the case that your starting location is moving two days from now, the pathfinding page will generate a message describing where the location is moving to. The feature works for both starting and destination locations, and within a range of three days of the move (into the past or future). The message is displayed at the top of the map panel. An example of this functionality is displayed below.

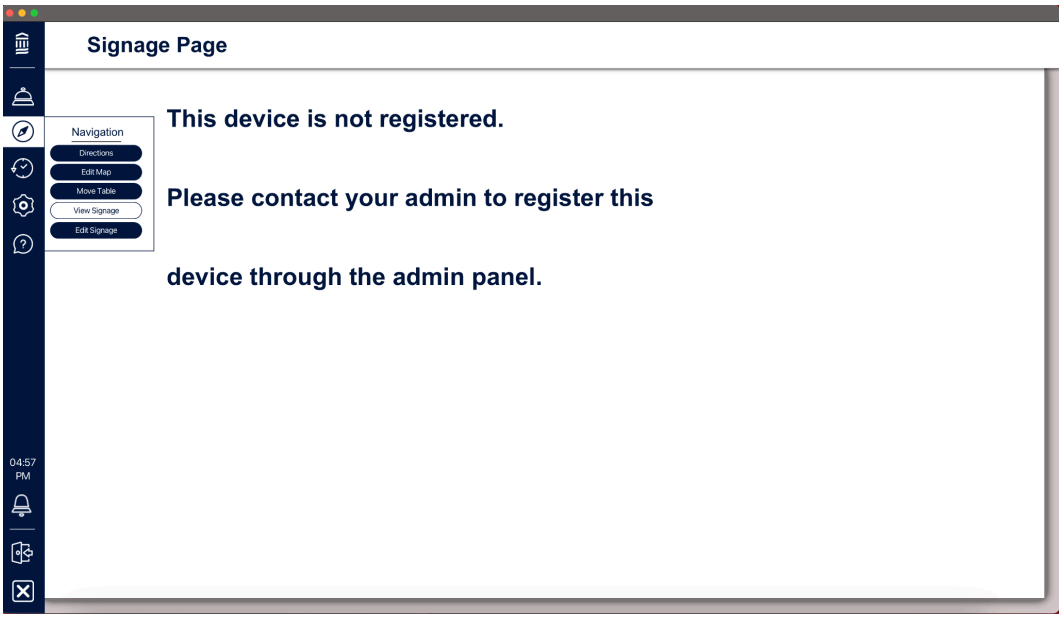


Several days after the move, we can view a different message.

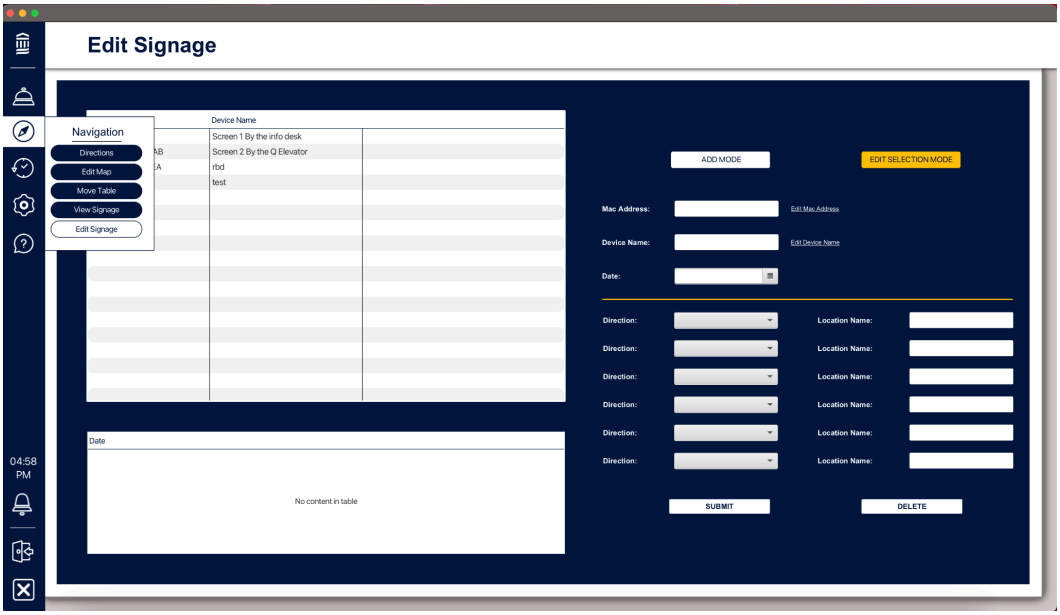


5.4 How to edit Signage

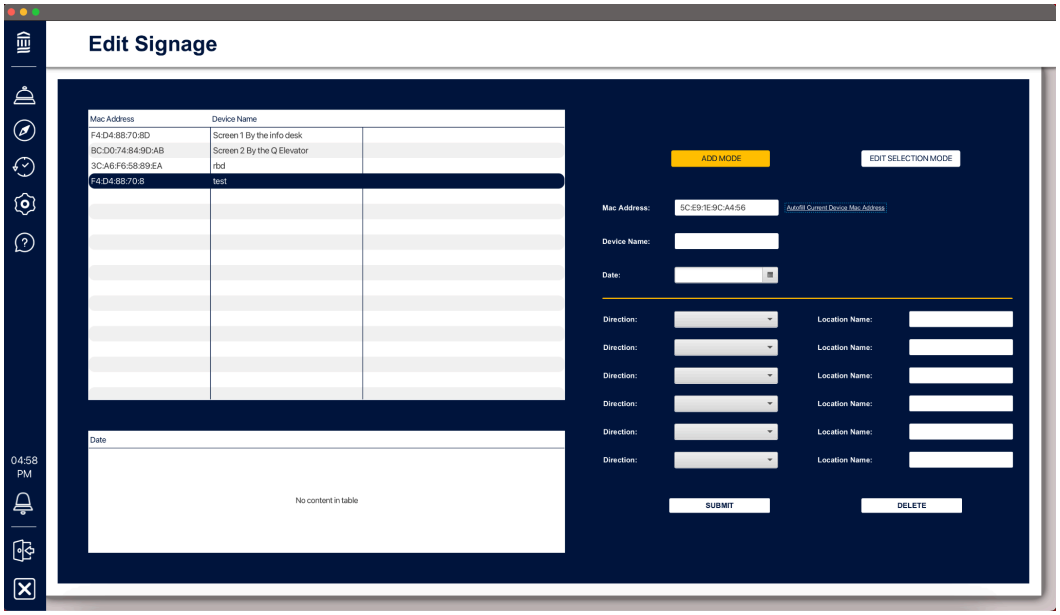
The first time someone tries to display signage on an unregistered device, the screen below will be displayed. In order to fix this issue, an admin must navigate to the edit signage page to register a given device.



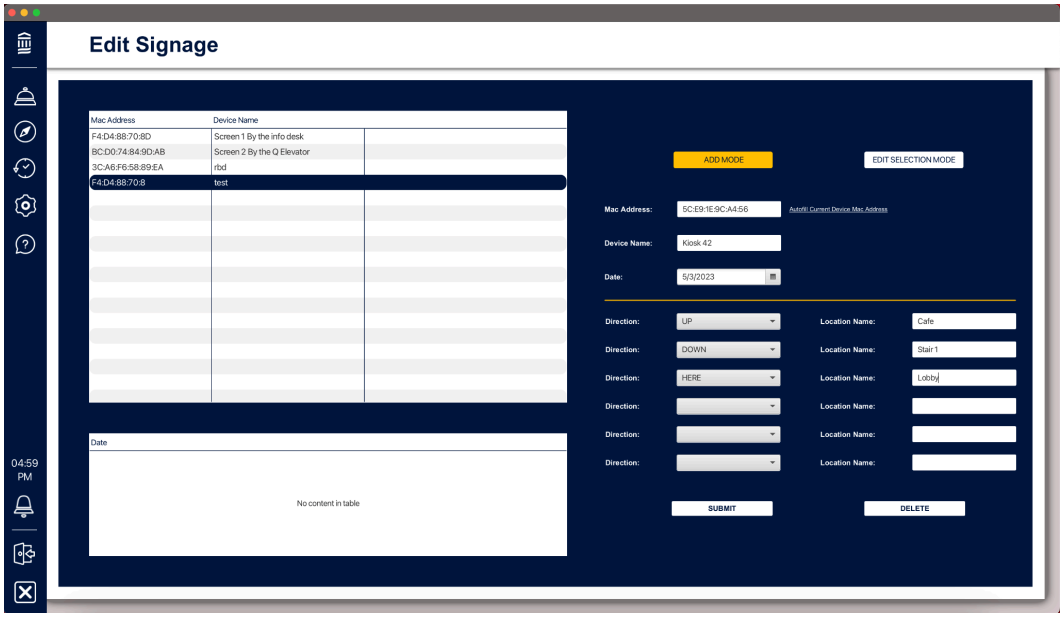
In order to navigate to the edit map page, the user should hover over the navigation menu icon and click the “Edit Signage” button.



The next step in registering a new device is to enter add mode. By clicking the button labeled “Add Mode”, the button should turn a yellow color which indicates you are now in adding mode. Next, click “Autofill Current Mac Address” to register the device you are currently on.

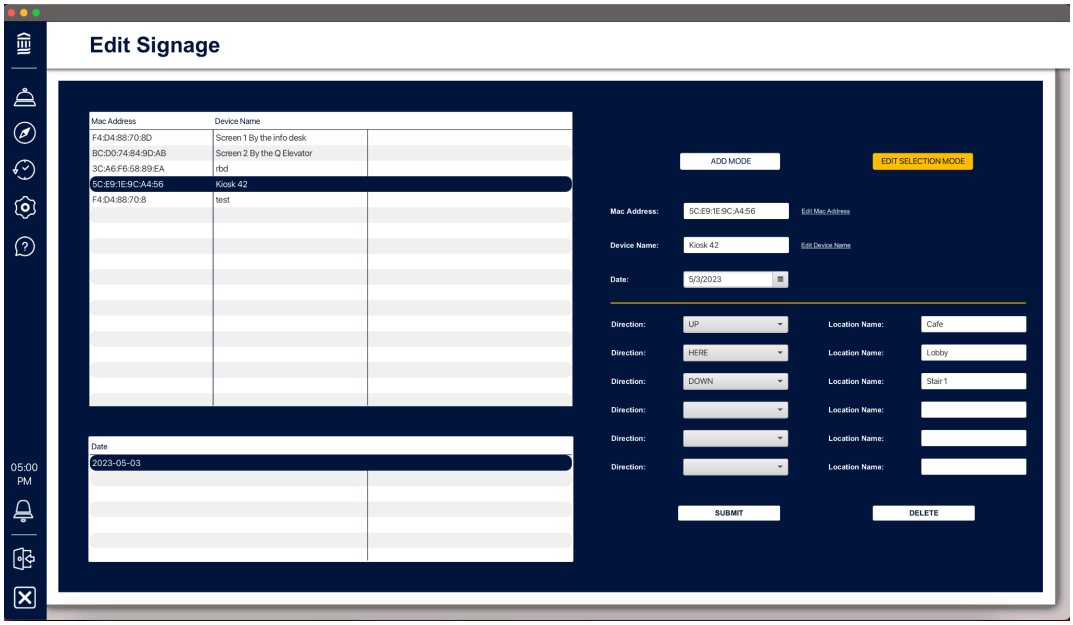


Next, enter a device name, and a date to be assigned to the sign configuration. Each “sign” can hold up to six different locations, and can be any combination of “Up”, “Down”, “Left”, “Right”, “Here”, or “None”. After selecting each direction, enter the corresponding location name in the text box to the right of the dropdown menus.

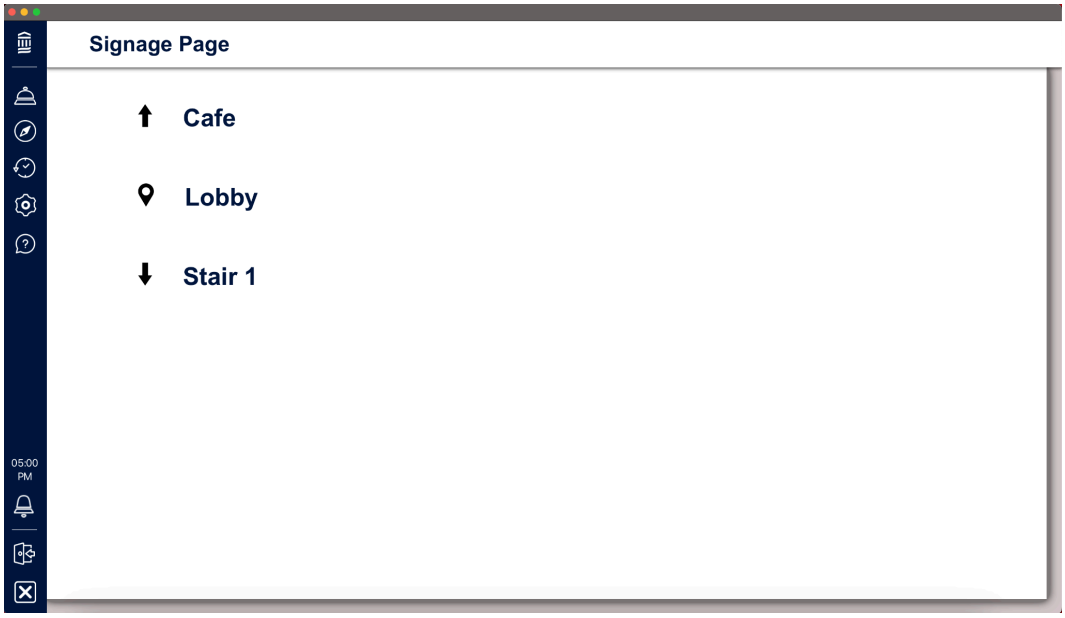


Finally, click the submit button located under the direction dropdown menus to submit your sign. Your newly registered device will appear in the top table. The corresponding sign and its associated date will appear in the bottom table. Each device can hold any number of signs, as long as each sign is associated with a different date.

Additionally, previously submitted signs can be edited by first clicking on the device in the top table, and then clicking on your preferred date in the bottom table. The associated fields will automatically populate in the dropdowns and text fields. An admin can make any changes they would like, and then press submit to update a sign. Since the signs are based on unique mac addresses, this page also permits an admin to update any number of signs on any number of devices remotely.



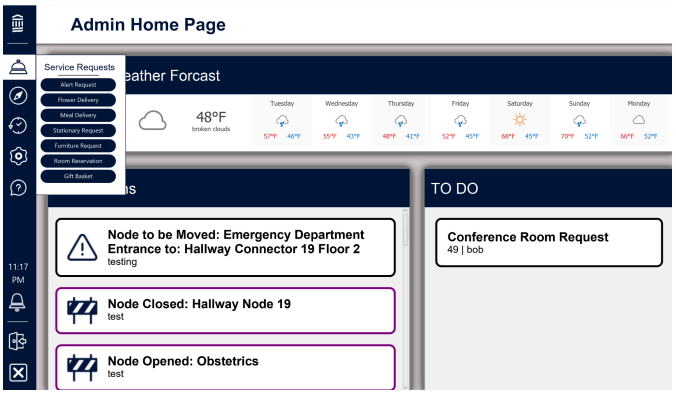
Upon navigating back to the signage page, we can see the associated sign now displayed on our device.



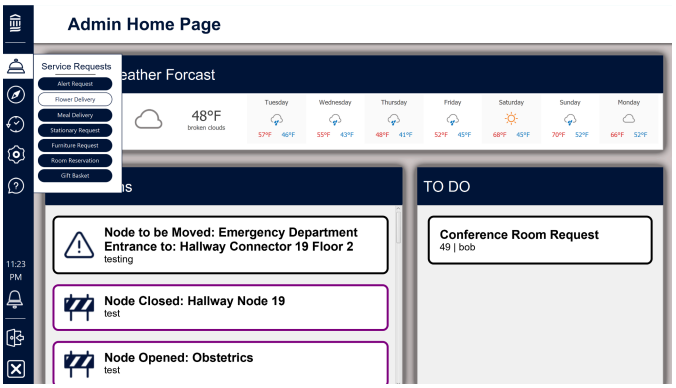
6. Service Requests

These requests can be made by either employees or admin.

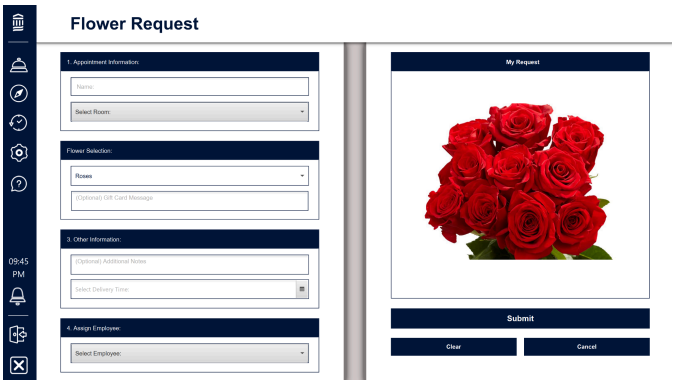
6.1 How to issue a Flower Request



To make a flower delivery in the hospital, hover over the bell icon to access the service requests directory. Once the directory appears, navigate your mouse to the popout and click on Flower Delivery.
After you have been selected, you will be directed to the Flower Delivery Page where you can enter the necessary details for your order. The first step is to fill out the recipient's name and the room where you want the flowers to be delivered.



Next, you can choose from a variety of flower types and arrangements to suit your preferences. If you want to add a special touch, you can also opt to include a gift card with a personalized message.



Once you have made your flower selection, you can select the desired delivery time. This is also the section where you can provide any special instructions or notes, such as if you want the delivery to be a surprise or if there are specific delivery instructions for the recipient's room.

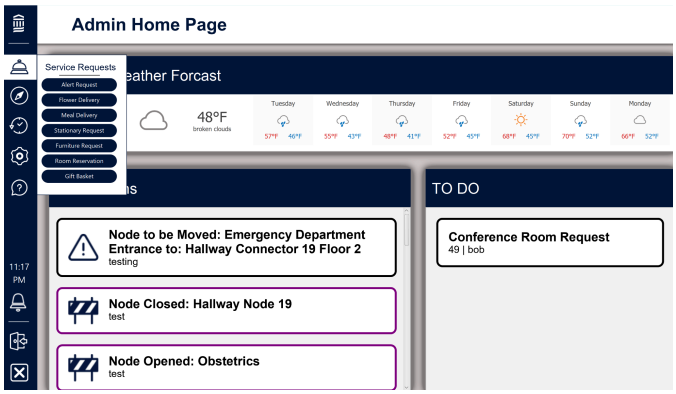
After that, you need to choose an employee who will deliver the flowers. The dropdown list will only display the employees who are currently listed in the employee table. If the employee you want to deliver the flowers is not on the list, you should check the employee table to see if they are already in the system. If they are not, you can refer to section 4.1 for instructions on how to add employees.

Once all of the required fields are filled out and you are satisfied with your flower selection, you can click on the "Submit" button. This will take you to a confirmation page that lets you know

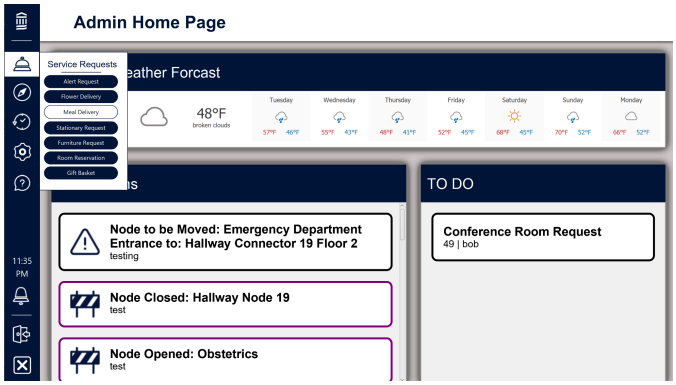
your request went through. You can then click on the button that will take you back to the home page.

We hope that this process is easy and straightforward for you. If you have any questions or concerns, please don't hesitate to contact us for assistance.

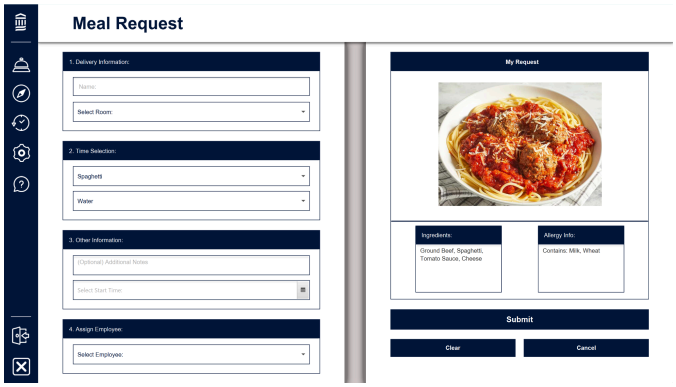
6.2 How to issue a Meal Request



To make a meal delivery in the hospital, hover over the bell icon to access the service requests directory. Once the directory appears, navigate your mouse to the popout and click on Meal Delivery. After you have been selected, you will be directed to the Meal Delivery Page where you can enter the necessary details for your order. The first step is to fill out the recipient's name and the room where you want the meal to be delivered.



Next, you can choose from a variety of different meals to suit your preferences. You can also add a drink to your selected meal.



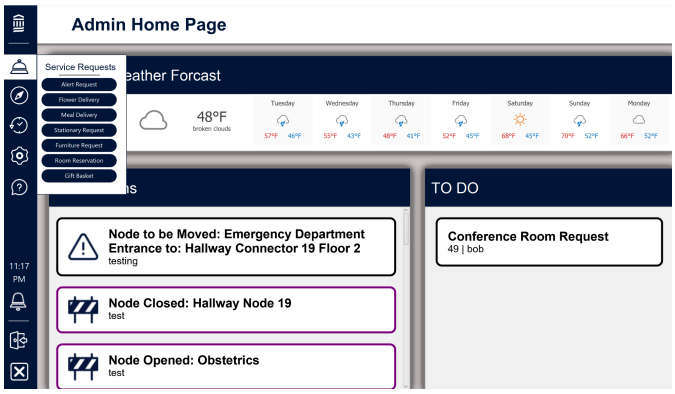
Once you have made your meal selection, you can select the desired delivery time. This is also the section where you can provide any special instructions or notes, such as if you want the delivery to be a surprise or if there are specific allergies that need to be noted.

After that, you need to choose an employee who will deliver the meal. The dropdown list will only display the employees who are currently listed in the employee table. If the employee you want to deliver the meal is not on the list, you should check the employee table to see if they are already in the system. If they are not, you can refer to section 4.1 for instructions on how to add employees.

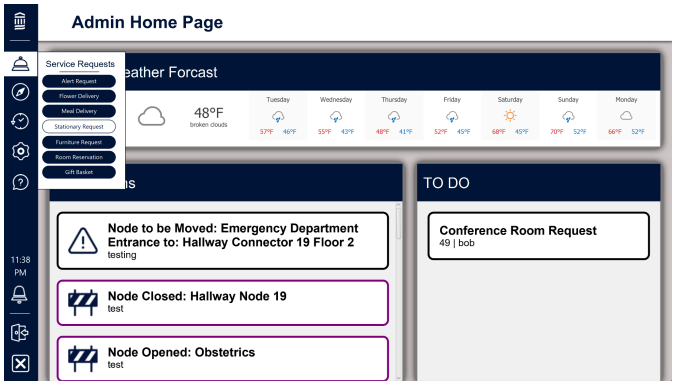
Once all of the required fields are filled out and you are satisfied with your meal selection, you can click on the "Submit" button. This will take you to a confirmation page that lets you know your request went through. You can then click on the button that will take you back to the home page.

We hope that this process is easy and straightforward for you. If you have any questions or concerns, please don't hesitate to contact us for assistance.

6.3 How to issue a Stationary Request



To make a stationary request in the hospital, hover over the bell icon to access the service requests directory. Once the directory appears, navigate your mouse to the popout and click on Stationary Request.



After you have been selected, you will be directed to the Stationary Request Page where you can enter the necessary details for your order. The first step is to fill out the recipient's name and the room where you want the supplies to be delivered.

Next, you can choose from a variety of different supplies. You can also specify the amount that you desire.

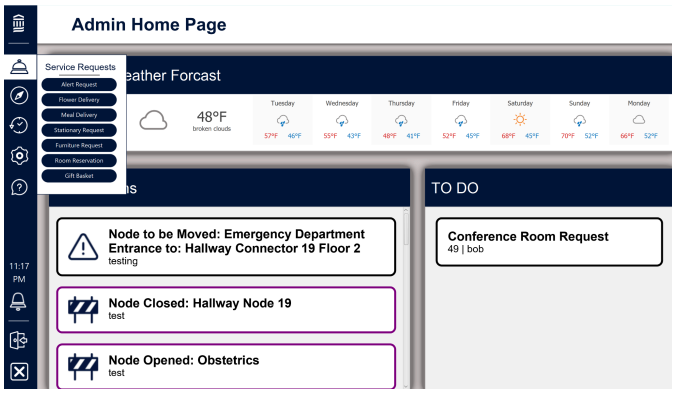
Once you have made your supplies selection, you can select the desired delivery time. This is also the section where you can provide any special instructions or notes, such as if you want the delivery to be a surprise or if there are specific delivery instructions for the recipient's room.

After that, you need to choose an employee who will deliver the supplies. The dropdown list will only display the employees who are currently listed in the employee table. If the employee you want to deliver the stationary is not on the list, you should check the employee table to see if they are already in the system. If they are not, you can refer to section 4.1 for instructions on how to add employees.

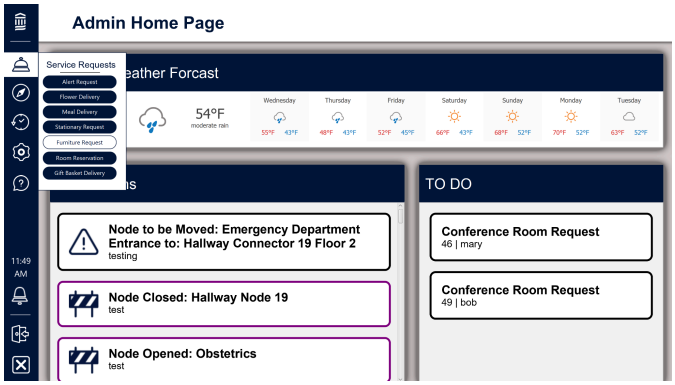
Once all of the required fields are filled out and you are satisfied with your supplies selection, you can click on the "Submit" button. This will take you to a confirmation page that lets you know your request went through. You can then click on the button that will take you back to the home page.

We hope that this process is easy and straightforward for you. If you have any questions or concerns, please don't hesitate to contact us for assistance.

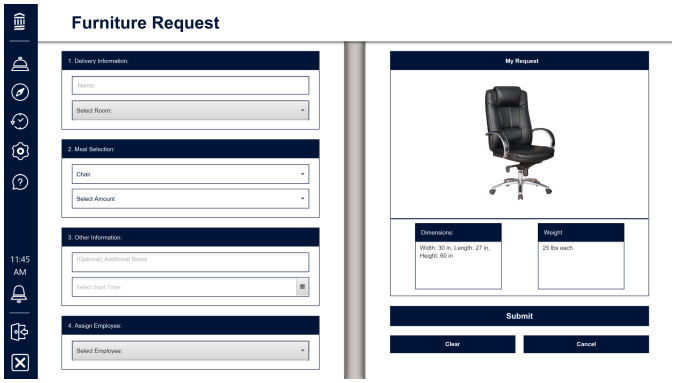
6.4 How to issue a Furniture Request



To make a furniture request in the hospital, hover over the bell icon to access the service requests directory. Once the directory appears, navigate your mouse to the popout and click on Furniture Request. After you have been selected, you will be directed to the Furniture Request Page where you can enter the necessary details for your order. The first step is to fill out the recipient's name and the room where you want the furniture to be delivered.



Next, you can choose from a variety of furniture options to suit your preferences. If you need more than one specific furniture option, you can select the desired amount from the drop down.



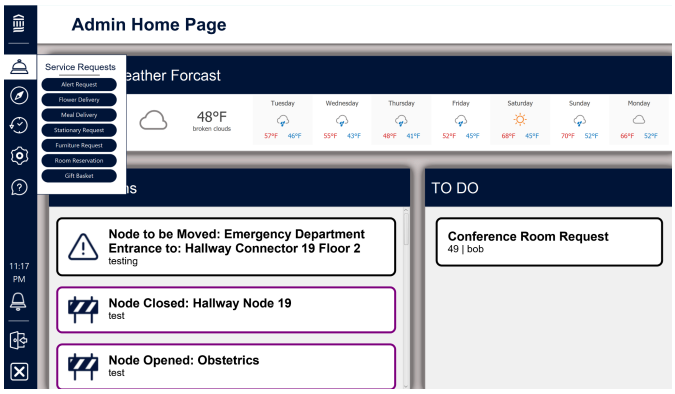
Once you have made your furniture selection, you can select the desired delivery time. This is also the section where you can provide any special instructions or notes, such as if you want the delivery to be a surprise or if there are specific delivery instructions for the recipient's room.

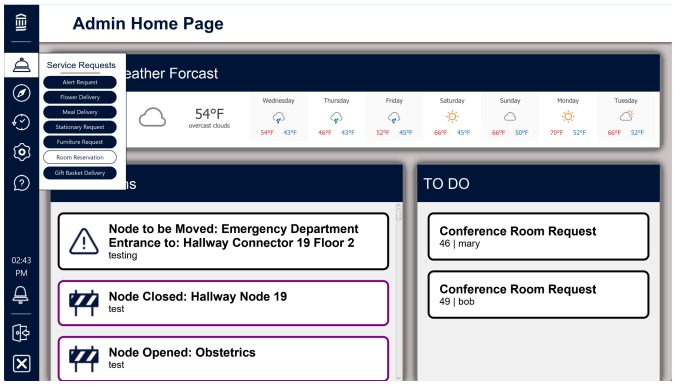
After that, you need to choose an employee who will deliver the furniture. The dropdown list will only display the employees who are currently listed in the employee table. If the employee you want to deliver the furniture is not on the list, you should check the employee table to see if they are already in the system. If they are not, you can refer to section 4.1 for instructions on how to add employees.

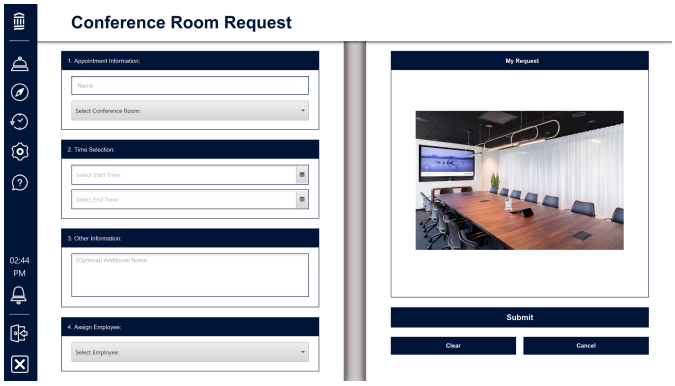
Once all of the required fields are filled out and you are satisfied with your furniture selection, you can click on the "Submit" button. This will take you to a confirmation page that lets you know your request went through. You can then click on the button that will take you back to the home page.

We hope that this process is easy and straightforward for you. If you have any questions or concerns, please don't hesitate to contact us for assistance.

6.5 How to issue a Room Reservation







To make a room reservation in the hospital, hover over the bell icon to access the service requests directory. Once the directory appears, navigate your mouse to the popout and click on Room Reservation. After you have been selected, you will be directed to the Room Reservation Page where you can enter the necessary details for your order. The first step is to fill out your name and what room you want to reserve.

Next, you can choose a start and end time for when you will be using the room.

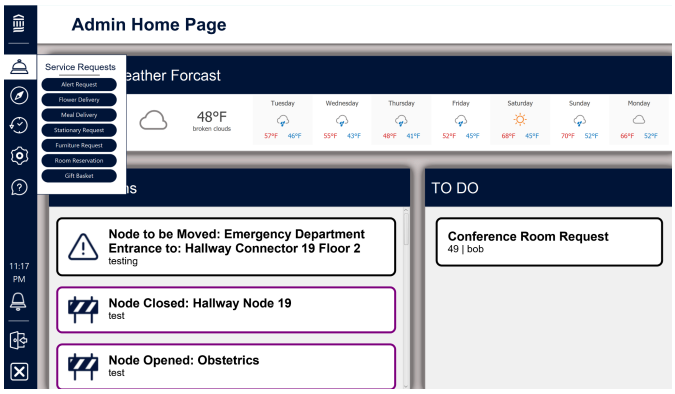
Once you have made your selection, you can include any special notes to the room booking, such as if you will be in need of a projector, or if additional chairs will be required.

After that, you need to choose an employee who will be in charge of making sure that the room is ready. The dropdown list will only display the employees who are currently listed in the employee table. If the employee you want to prepare the room is not on the list, you should check the employee table to see if they are already in the system. If they are not, you can refer to section 4.1 for instructions on how to add employees.

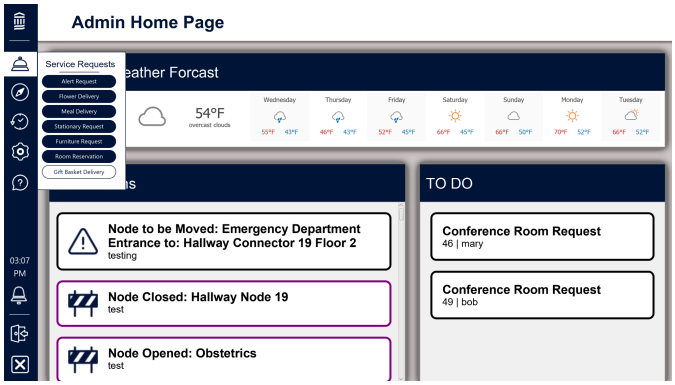
Once all of the required fields are filled out and you are satisfied with your room reservation, you can click on the "Submit" button. This will take you to a confirmation page that lets you know your request went through. You can then click on the button that will take you back to the home page.

We hope that this process is easy and straightforward for you. If you have any questions or concerns, please don't hesitate to contact us for assistance.

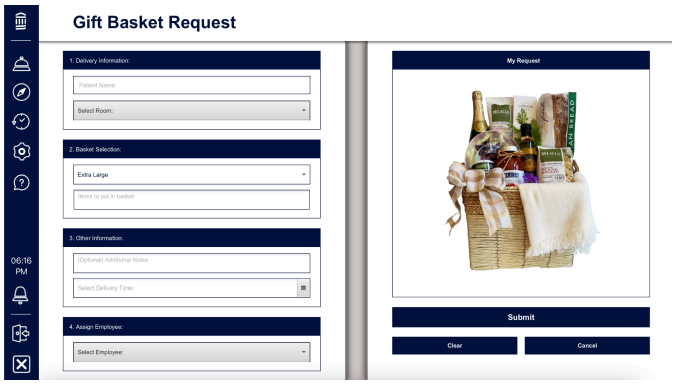
6.6 How to issue a Gift Basket Delivery Request



To make a gift basket delivery in the hospital, hover over the bell icon to access the service requests directory. Once the directory appears, navigate your mouse to the popout and click on Gift Basket Delivery.



After you have been selected, you will be directed to the Gift Basket Delivery Page where you can enter the necessary details for your order. The first step is to fill out the recipient's name and the room where you want the gift basket to be delivered.



Next, you can choose from a variety of gift basket sizes that suit your preferences. You can then list what items you would like to include in the gift basket, such as a gift card with a personalized message.

Once you have made your gift basket selection, you can select the desired delivery time. This is also the section where you can provide any special instructions or notes, such as if you want the delivery to be a surprise or if there are specific delivery instructions for the recipient's room.

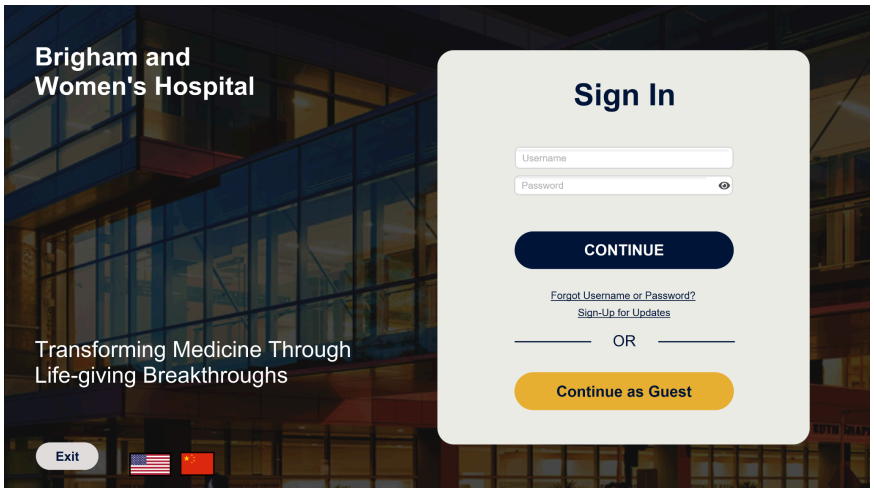
After that, you need to choose an employee who will deliver the gift basket. The dropdown list will only display the employees who are currently listed in the employee table. If the employee you want to deliver the gift basket is not on the list, you should check the employee table to see if they are already in the system. If they are not, you can refer to section 4.1 for instructions on how to add employees.

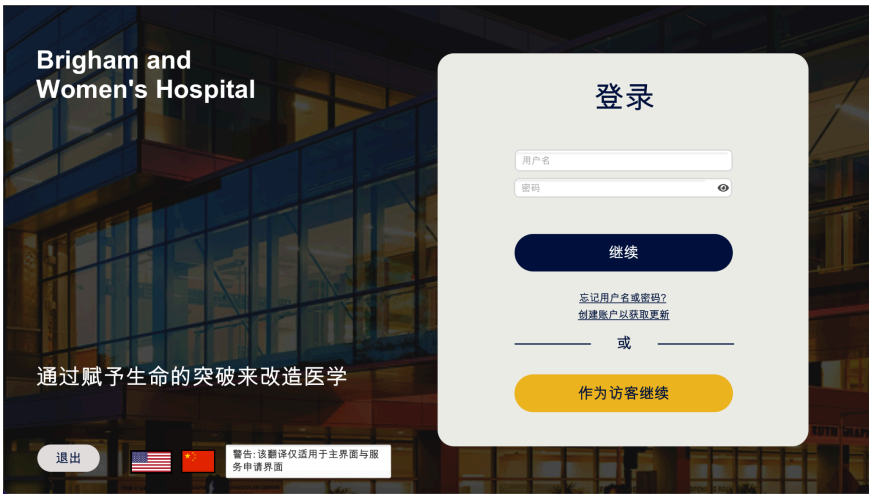
Once all of the required fields are filled out and you are satisfied with your gift basket selection, you can click on the "Submit" button. This will take you to a confirmation page that lets you know your request went through. You can then click on the button that will take you back to the home page.

We hope that this process is easy and straightforward for you. If you have any questions or concerns, please don't hesitate to contact us for assistance.

7. Extra Features

7.1 Language Feature





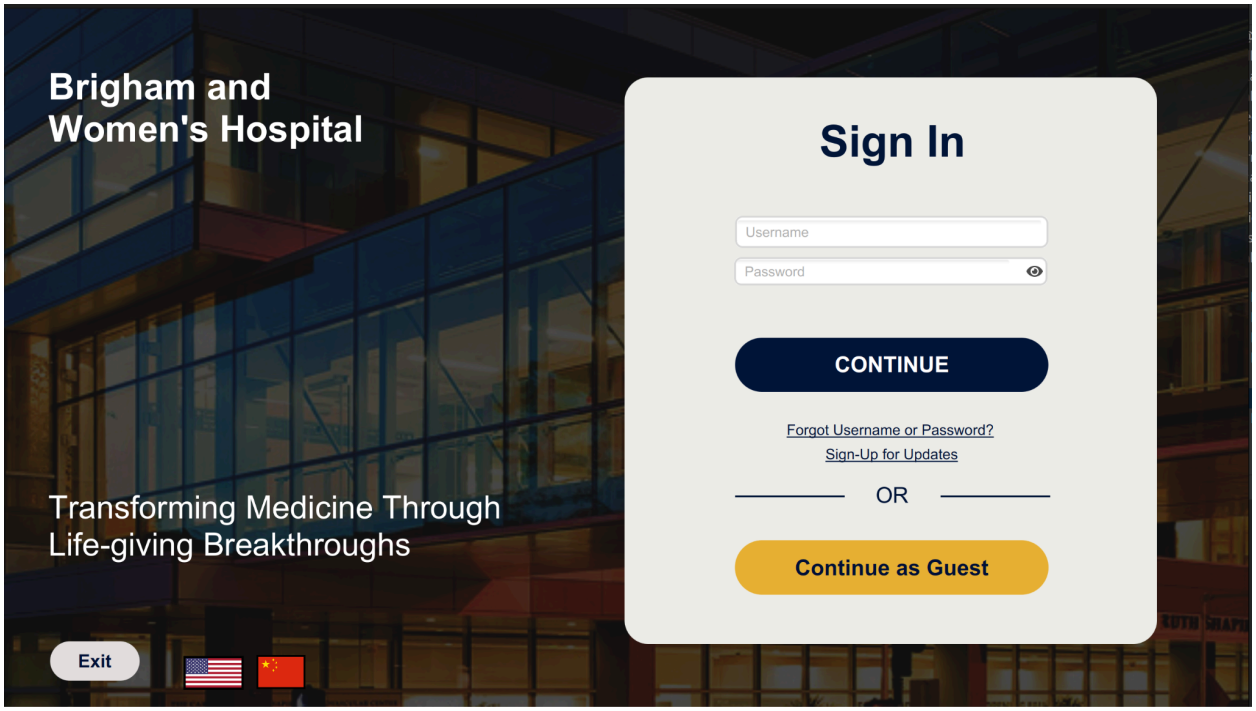
To use the language feature on the application, simply click on the corresponding flag of the language you would like to use.

Once you have selected your preferred language, the app will automatically switch to that language and display all text, menus, and prompts in that language. This makes it easy for users who speak different languages to navigate the app and access the information and services they need.

The language feature is a convenient and user-friendly way to ensure that all users can fully understand and interact with the app, regardless of their language proficiency. By providing language options, the app can help to improve the overall user experience and ensure that everyone can access the care and services they need.

7.2 Text Notifications to Phone Number

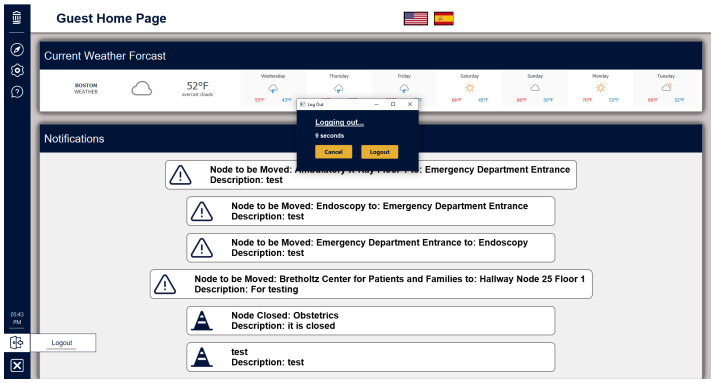
Any patient can sign up to receive text alerts with any new notifications that appear in the hospital system. In order to sign up for notifications navigate to the log in screen and right below the text fields click Sign-Up for Updates.



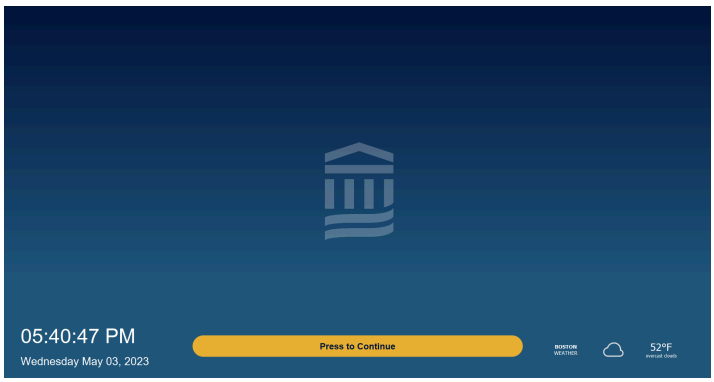
Once you click on the button, enter your name, phone number, and click submit. Notice that your phone number must be entered with the country code first (ex: +11112228888).
Technical Note: This feature uses an external API Twilio.com which is a commercial product and must be purchased with the according credentials to run. Please refer to the SMSHelper.java class for the necessary functionality and environment variable names.

7.3 Screensaver Lock

In addition to automatically activating after 9 minutes of inactivity, the screensaver feature on the application also includes a popup with a short countdown before it pops up. This countdown gives the user a warning that the screensaver is about to activate and allows them to continue using the app if they are still actively engaged.



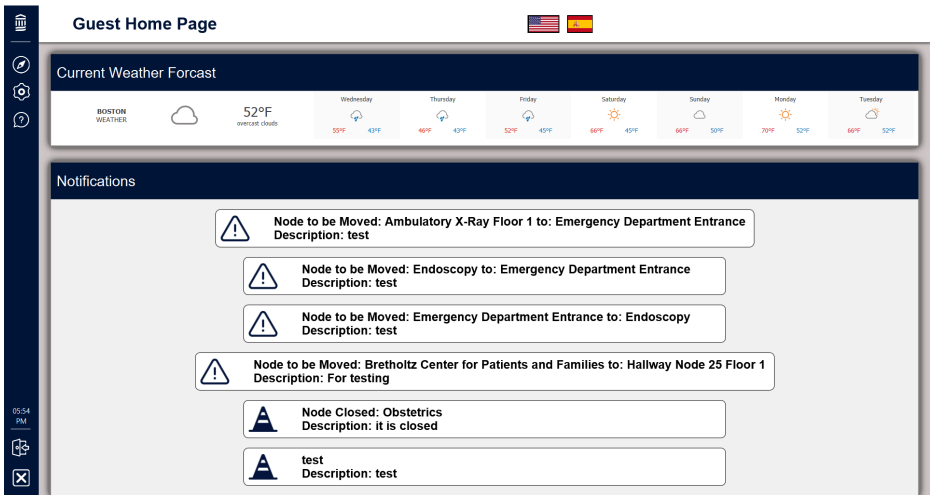
Once the countdown has finished, the screensaver will activate and the user will be logged out of the app. However, they can simply log back in to continue using the app as before.



The screensaver itself includes a weather widget and the current time, which makes it a useful feature even when the app is not actively being used. This information can be helpful to users who are waiting in a lobby or other common area and want to check the time or weather conditions.

Overall, the screensaver feature is a helpful tool for maintaining the security of the app and protecting the user's information. The addition of a countdown popup ensures that the user is aware of the impending screensaver activation, and the inclusion of a weather widget and current time makes the screensaver a useful feature that provides value to users, even when the app is not being actively used.

7.4 Weather Widget



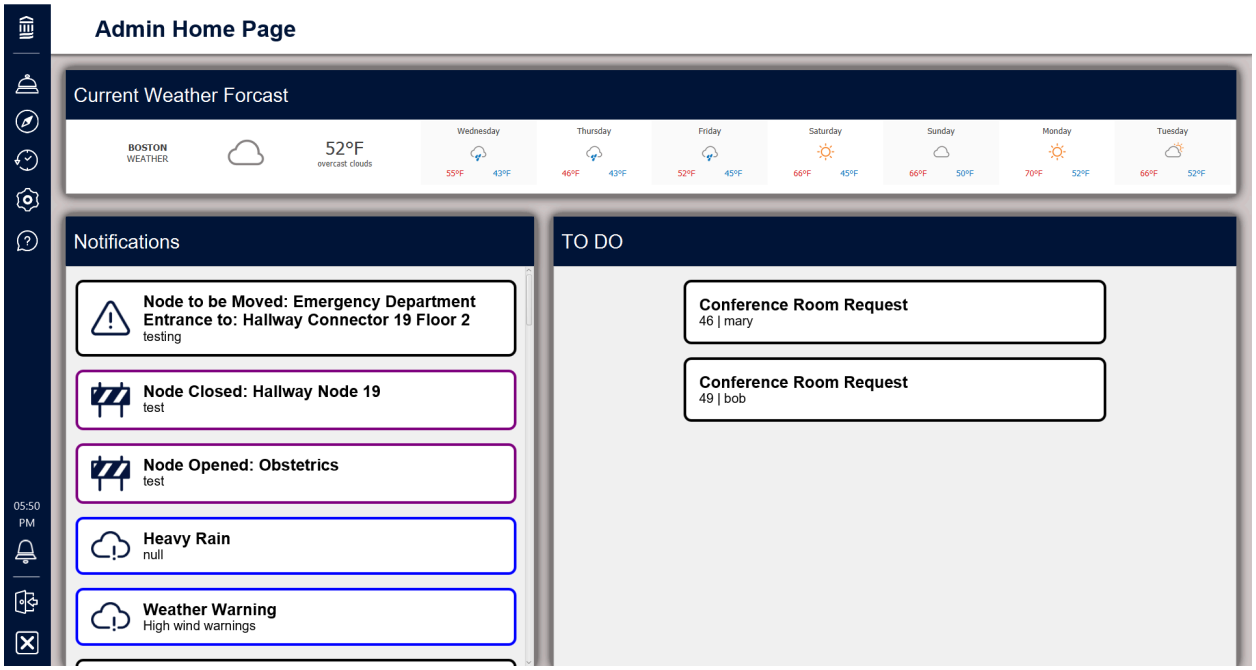
The weather widget is a feature in the application that displays current and upcoming weather conditions. The widget shows the current temperature along with an icon that indicates whether it is sunny, rainy, or cloudy outside.

In addition to the current conditions, the widget also displays the weather forecast for the coming week. The forecast includes similar icons that predict whether it will be sunny, rainy, or cloudy, as well as the high and low temperatures for each day.

This weather widget is a useful tool for hospital staff and guests who need to be aware of weather conditions when traveling to and from the hospital. By providing both current conditions and a forecast, users can plan their day accordingly and be prepared for any changes in the weather.

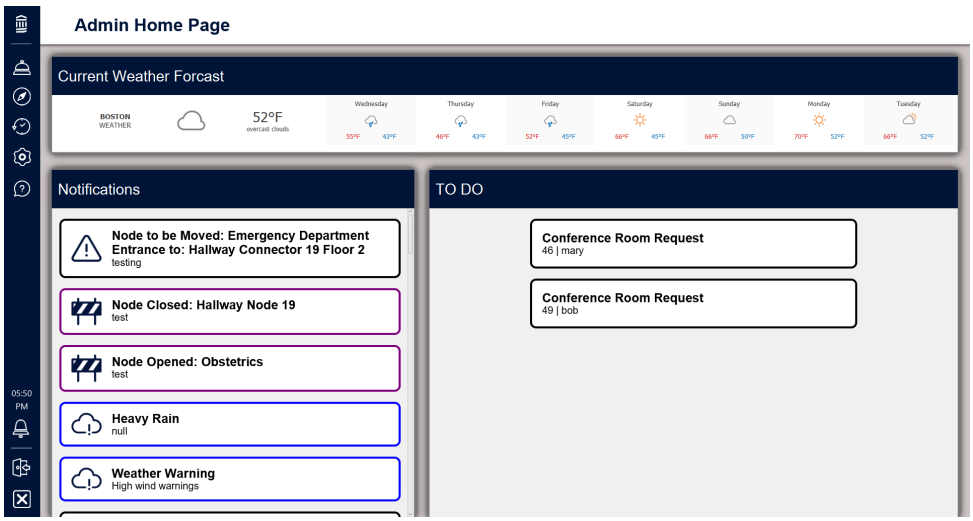
Overall, the weather widget is a valuable feature in the application that enhances the user experience and provides helpful information. The combination of current conditions and a weekly forecast with icons that indicate the weather condition helps users to quickly and easily understand what the weather will be like over the next several days.

7.5 Alerts



The Alerts and Notifications are shown on the lower-left pane on Admin Home page. It can also be find in “Recent Alerts” on the Menu Bar. Each icons and border colors indicates one of the notification types including: Construction, Weather, Car Crash, Closure, Emergency and Other. The “Others” also include notification from Map Editing, includes Move Nodes, Close Nodes, Open Nodes.

7.6 To-Do List



The to-do list feature on the application displays current tasks on the home page that are assigned to employees. This feature is designed to help employees stay organized and keep track of the tasks they need to complete.

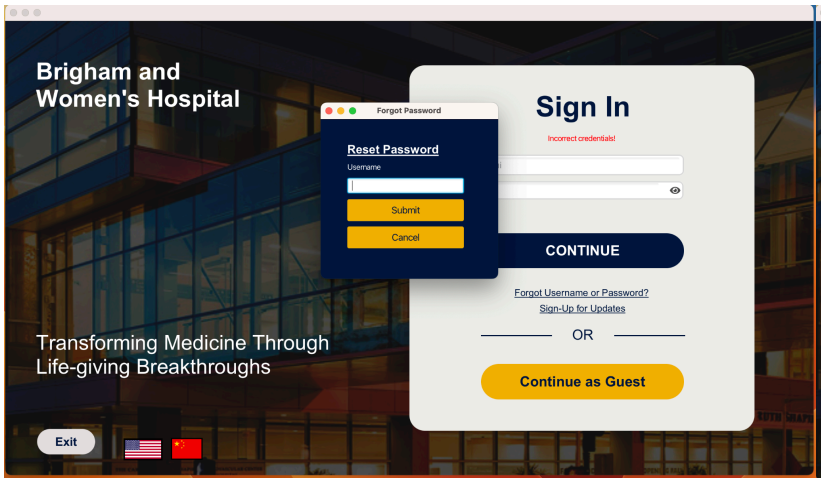
From the admin perspective, the to-do list shows all tasks that are assigned, allowing them to monitor progress and ensure that everything is on track. However, from the employee perspective, the to-do list only displays tasks that are specifically assigned to them. This helps to avoid confusion and ensure that each employee is focused on their individual responsibilities.

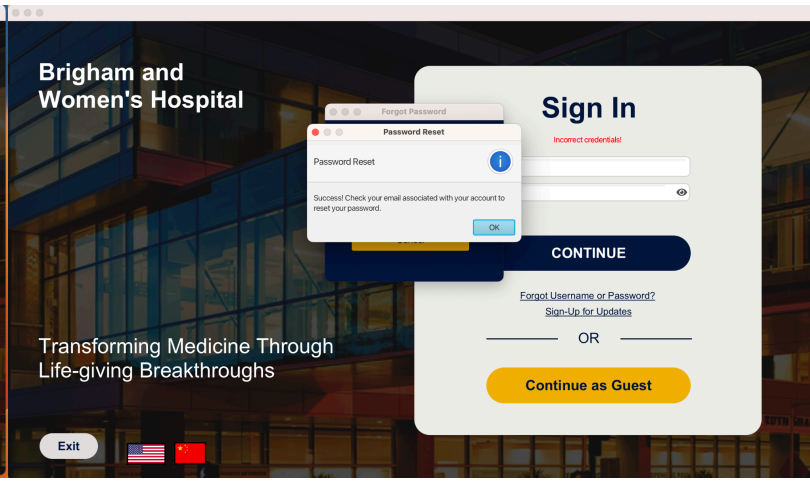
Tasks that are displayed on the to-do list can include a variety of service requests, such as meal deliveries, flower deliveries, gift basket deliveries, furniture requests, and more. By having these tasks displayed prominently on the home page, employees can quickly and easily see what they need to do next and prioritize their work accordingly.

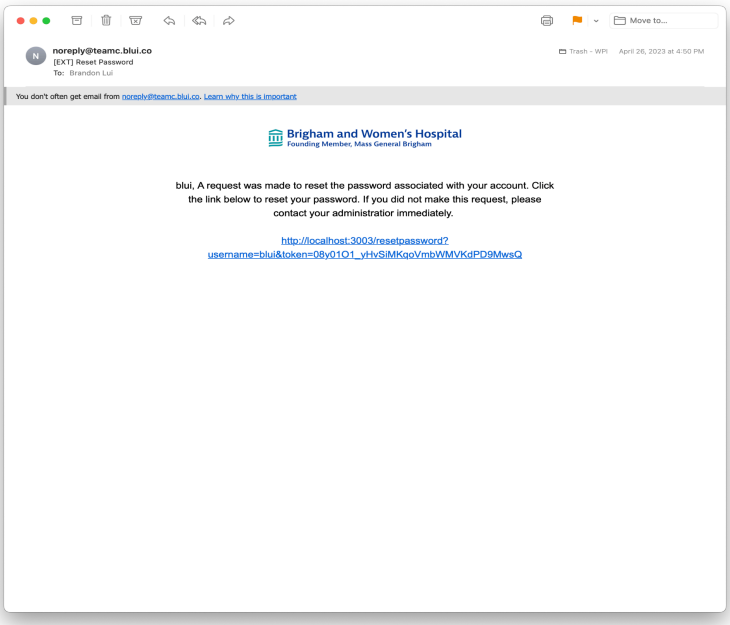
Overall, the to-do list feature is a valuable tool for both employees and administrators. It helps to ensure that tasks are assigned and completed efficiently, and that everyone involved has a clear understanding of their responsibilities.

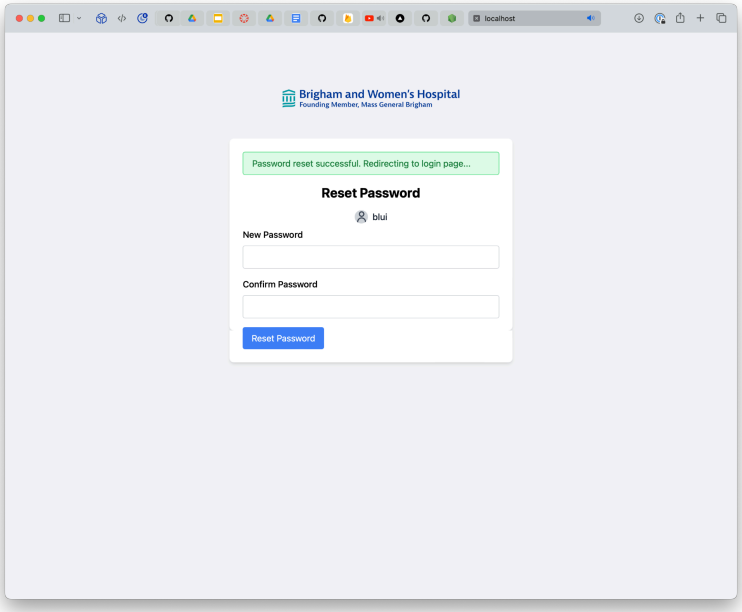
7.7 Reset Password

The reset password feature allows users who have forgotten their password to configure a new password. Upon entering the user's username in the reset password field, the user will check his or her email for one time a verification link, expiring in 10 minutes. After clicking on the link, the user can enter a new password to be updated in the database on the website.









Frequently Asked Questions (FAQ)

Q: What are the system requirements for running the application?
A: The application requires a device with at least 4GB of RAM, a modern web browser (such as Google Chrome or Mozilla Firefox), and an internet connection.

Q: Can I use the application on my mobile device?
A: The application is designed to run on local desktops around Brigham Women's Hospital. While it may be possible to access the application on a mobile device, we recommend using a desktop device for the best user experience.

Q: How do I reset my password?
A: If you forget your password, you can reset it by clicking on the "forgot password" link on the login page. You will be prompted to enter your email address, and a password reset link will be sent to your email. Follow the instructions in the email to reset your password.

Q: Can I customize the application to my preferences?
A: The application is designed to provide a consistent and user-friendly experience for all users. However, if you have any suggestions or feedback, please reach out to our customer support team. We value your input and are always looking for ways to improve our application.

Q: How do I report a technical issue or bug?
A: If you encounter a technical issue or bug while using the application, please contact our customer support team immediately. We will investigate the issue and work to resolve it as soon as possible.

Q: How secure is my data on the application?
A: We take data security and privacy seriously. Our application follows industry-standard protocols to ensure the confidentiality and integrity of your data. We also regularly monitor and update our security measures to stay ahead of emerging threats.

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