



WORCESTER POLYTECHNIC INSTITUTE
COMPUTER SCIENCE DEPARTMENT

User Manual – Team N

Section	CS3733-D20-D02	
Instructor	Professor Wong	
Team name	Nyanza Nagas	
Team coach	Samuel Goldman	
Lead Software Engineer	Tian Yu Fan	tianyufan1
Assistant Lead Software Engineer	Noah Capucilli-Shatan	noah-C-S
Assistant Lead Software Engineer	Ivan Eroshenko	ieroshenko
Project Manager	Michael Laks	mjlaks
Product Owner	Matt Johannessen	majohadev
Product Owner	Nick Wood	njwood
Scrum Master	Seungho Lee	seungho715
Documentation Analyst	Kaitlyn Fichtner	kofichtner
Software Engineer	Evan Llewellyn	evdude33
Software Engineer	Nick Pelletier	npelletier2
Organization	https://github.com/CS3733-D20-Team-N	

Table of Contents

Table of Contents	2
1 Preface	4
1.1 Purpose.....	4
1.2 How to use the guide.....	4
2 Basic User	5
2.1 Get directions	5
2.1.1 Viewing the map	5
2.1.2 Selecting locations	7
2.1.3 Viewing directions	13
2.2 Make a service request.....	16
2.2.1 Laundry request	17
2.2.2 Flower delivery	17
2.2.3 Translator request.....	18
2.2.4 Security request.....	18
2.2.5 Internal transportation request	19
2.2.6 IT assistance request	19
2.2.7 Sanitation request.....	20
2.2.8 Wheelchair request.....	20
2.2.9 Emotional support request	21
2.2.10 Service request API's.....	21
2.3 Chat with chatbot	22
2.4 View kiosk information	23
2.4.1 About page	23
2.4.2 Credits page	23
3 Administrator	24
3.1 Login.....	24
3.2 Handle service requests.....	25
3.2.1 Assign employee	25
3.2.2 Accept a request.....	25
3.2.3 Deny a request.....	26

3.3	Manage staff.....	27
3.3.1	Employee management.....	27
3.3.2	Doctor management.....	29
3.3.3	Administrator management.....	30
3.4	Edit map	31
3.4.1	Node editing.....	32
3.4.2	Edge editing	36
3.4.3	Stair and elevator management	37
3.5	View analytics.....	40
3.6	Manage files.....	41
3.7	Connect Arduino.....	42
3.8	Change timeout period.....	42
3.9	Change algorithm.....	42
4	Doctor	43
4.1	Login	43
4.2	Prescribe medicine	43
4.3	Handle medicine requests	44

1 Preface

1.1 Purpose

Team Nyanza Naga's hospital kiosk application was developed for the main purpose of helping hospital visitors and patients navigate Brigham and Women's Hospital. To help patients easily find where they need to go for appointments, our application has options for searching for locations using a doctor's name. In addition to serving as a pathfinding application, the application allows users to request various services including internal transportation, security, sanitation, translator services, and more. The application also includes many features for administrators to handle these service requests, manage employees, and update the maps used for pathfinding. This manual will serve as a guide for using our application from the basic user, administrator, and doctor perspective. Many of these instructions can also be found by using our application's chatbot which is able to answer a variety of questions on how to use the application.

1.2 How to use the guide

The following guide will provide instructions for basic users, administrators, and doctors to use the application. **Bold** text will indicate clicking action for the user, and CAPITALIZATION will indicate other types of user action such as scrolling or dragging. All instructions will be based off of the home screen which opens on launch of the application. The kiosk will also reset to the home screen after a timeout period specified by an administrator in the application's settings.

Within the application, the cursor will show  when hovered over any clickable buttons  when hovered over any drag-able item, and  when hovered over an item that takes text input.

2 Basic User

2.1 Get directions

The home screen of the application is the map display page. From this page a user can view the map, select locations and get directions to a selected location. There are many different ways to change the view of the map. The following legends indicates the meaning of icons on Brigham and Women's Faulkner building maps (left) and Main Campus maps (right).

Legend		Map Key	
	Elevator		Information Desk Información
	Stairs		Restroom Baños
	Bathroom		Elevator Ascensor
	Pathfinding Kiosk		Gift Shop Tienda de Regalos
			Pharmacy Farmacia
			Valet Parking Valet
			Parking Garage Estacionamiento

Figure 1: Legends for Faulkner maps (left) and Main Campus maps (right)

The Faulkner building has floors 1 through 5 with a main entrance on floor 1, while the Main Campus has floors L1, L2, Ground and floors 1 through 3. The Main Campus consists of multiple buildings: Building for Transformative Medicine (BTM), 45 Francis St., Tower, 15 Francis St., Shapiro, and Flexible Workspaces (FLEX).

2.1.1 Viewing the map

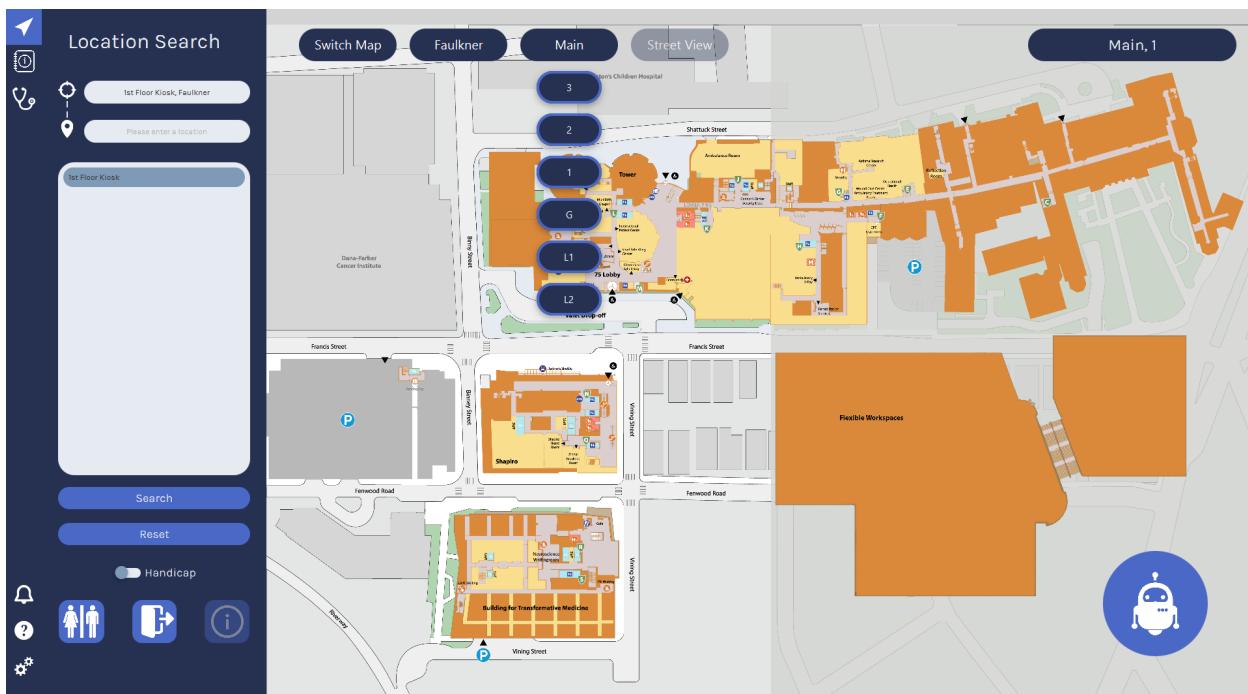
When the map is in view mode, meaning no path is currently selected, the user can zoom and pan on the map image and switch the current map being displayed to a different floor or building. The following methods for changing the map view can be used with or without a path selected on the map.

2.1.1.1 Zooming & panning

A user can SCROLL to zoom in and out of the map and CLICK & DRAG to pan the map. If the map is zoomed all the way out, the user will be unable to pan the map as the map will already be displaying its full view. When zooming, the map will always zoom in or out from the center of the portion of the map currently on display. For example, zooming in from a full view of the map will provide a closer view of the center of that map image. However, if the map is panned to a specific location on the map, zooming in will zoom towards the center of this specific area. From a zoomed in view, the map can be panned in any direction within the bounds of the map.

2.1.1.2 Switching floors & buildings

With no path selected, there is one way to switch the view of the map. In the upper right corner of the map display, the name of the current building in view and the floor number is displayed. To change the map view to a different floor or building, click the **Switch Map** button on the upper left corner of the map display. After clicking **Switch Map**, three additional buttons for Faulkner (left), Main Campus (middle), and Street View (right) will appear to the right of the map switching button. **Street View** will be disabled if no path between the two hospitals is selected. To view a floor in the Faulkner building, click **Faulkner** which will open a list of floor buttons below. Select a floor by clicking on one of the floor buttons labeled **F1, F2, F3, F4, or F5**. To view a floor on the Main Campus, click **Main** and select a floor by clicking on a button labeled **L2, L1, G, 1, 2, or 3** from the list below. Clicking on only **Faulkner** or **Main** will not switch the map view to that building unless a specific floor is selected.



2.1.2 Selecting locations

There are six different ways to select a location to find a path to from the map display page. With any selection method, if the **Handicap** toggle is toggled *on*, a handicap accessible path will be generated. Selecting a location using a different method of selection will not change the way the path is generated. The different means of selection are provided to help the user easily find a path without needing to know the exact name of the start and end locations.

2.1.2.1 Default location

The kiosk will be selected as the default start location from the home screen. To change the start location, the user can type in a different location into the start location bar at the top of the doctor search or location search.

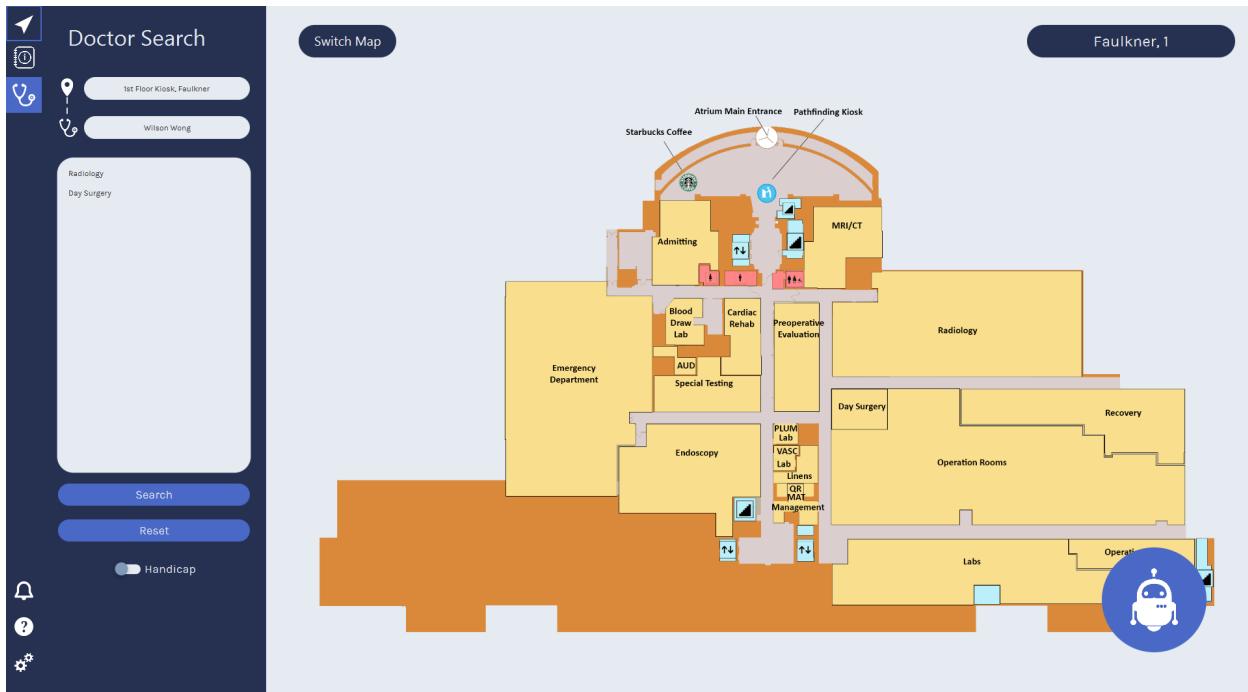
2.1.2.2 Location search

A user can search for start and end locations using the location search panel. The location search panel will be opened by default on the map screen. When another panel is selected, the user can open the location search panel by clicking the  icon in the upper left. To input a starting location, type a location into the top search bar. To select a start location click on the appropriate search result from the results box below the search bars. To input an end location, type a location into the second search bar and select the appropriate search results. Locations in the search bars can be cleared using the **reset** button or by deleting the text from the search bar. To find a path to the searched locations, click the **search** button below.



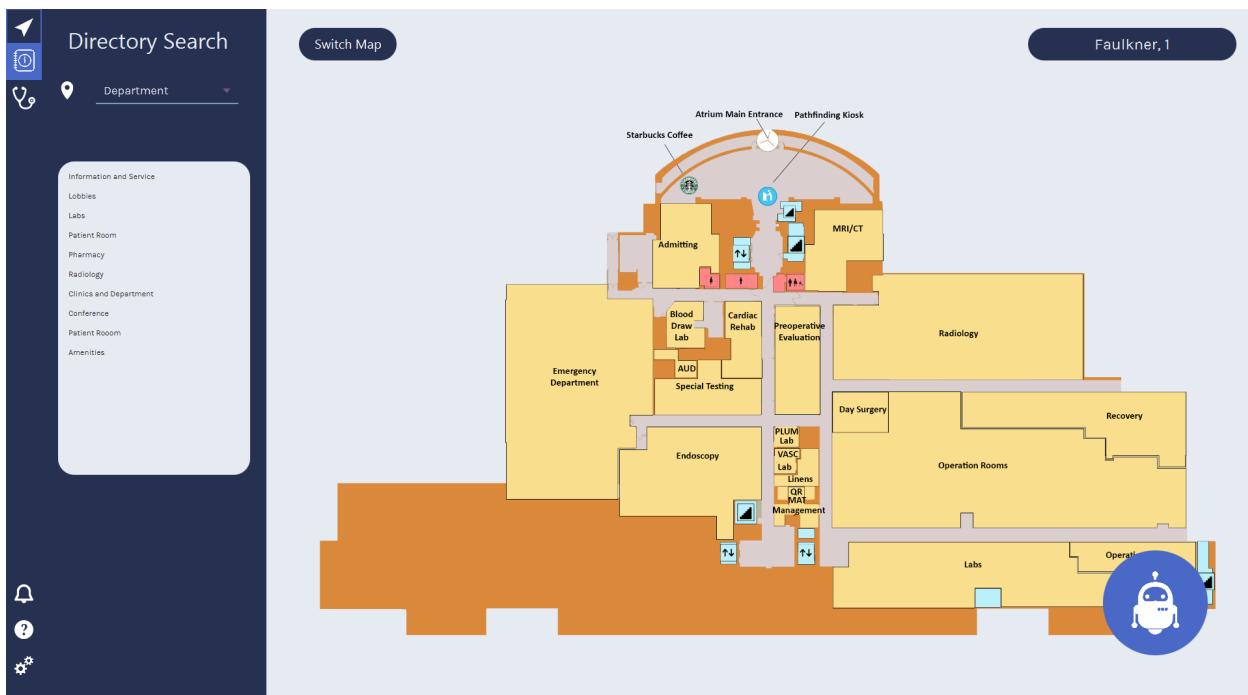
2.1.2.3 Doctor search

A user can search for the location of a doctor's office by clicking the  icon in the upper right to search by doctor. The starting location can either be left as the default start location or selected by searching a location in the top search bar. The user can type in the name of a doctor into the second search bar and select a doctor from the search results. When a doctor is selected, a list of locations where that doctor has offices will appear in the results box. Select one of the resulting locations to set it as a destination. To reset the selection, click the **reset** button. To find a path to the selected doctor's office, click the **search** button.



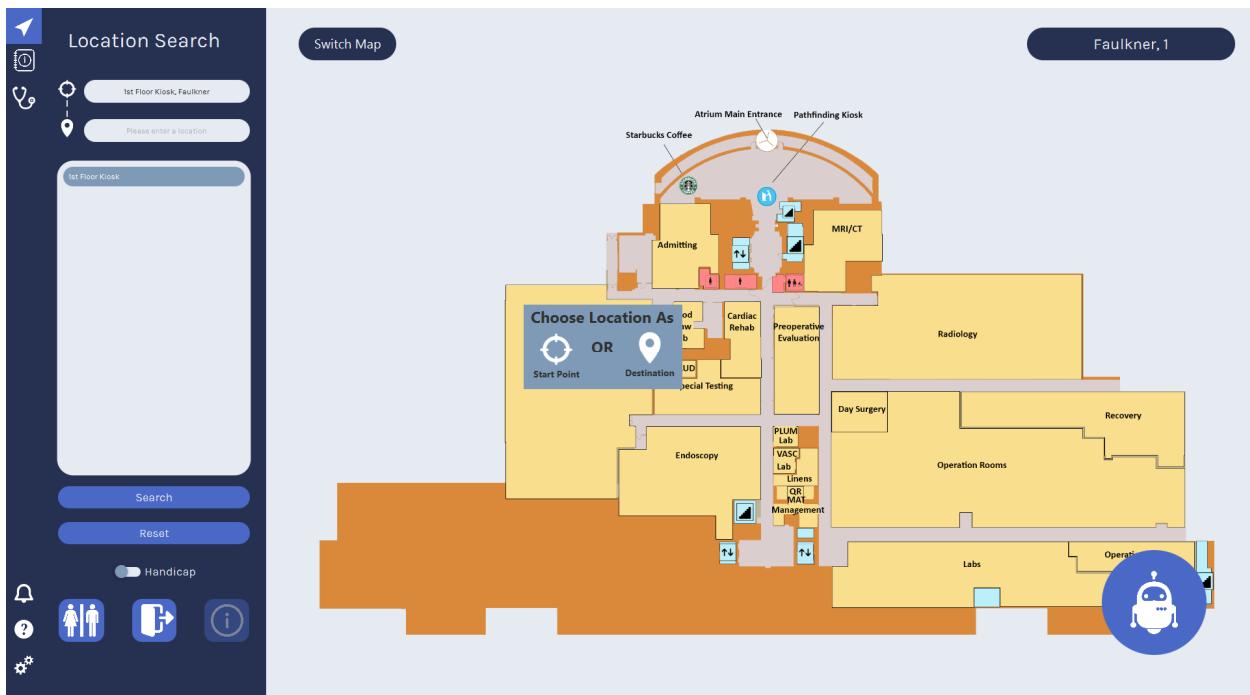
2.1.2.4 Directory search

The user can select a location to get directions to using the directory. Using the drop-down menu, select the method of sorting for the directory: alphabetical, by building, or by department. The user can browse the directory and click on a location to select it as a second location for pathfinding. Once an end location is selected, the user can click **search** to get directions to that location.



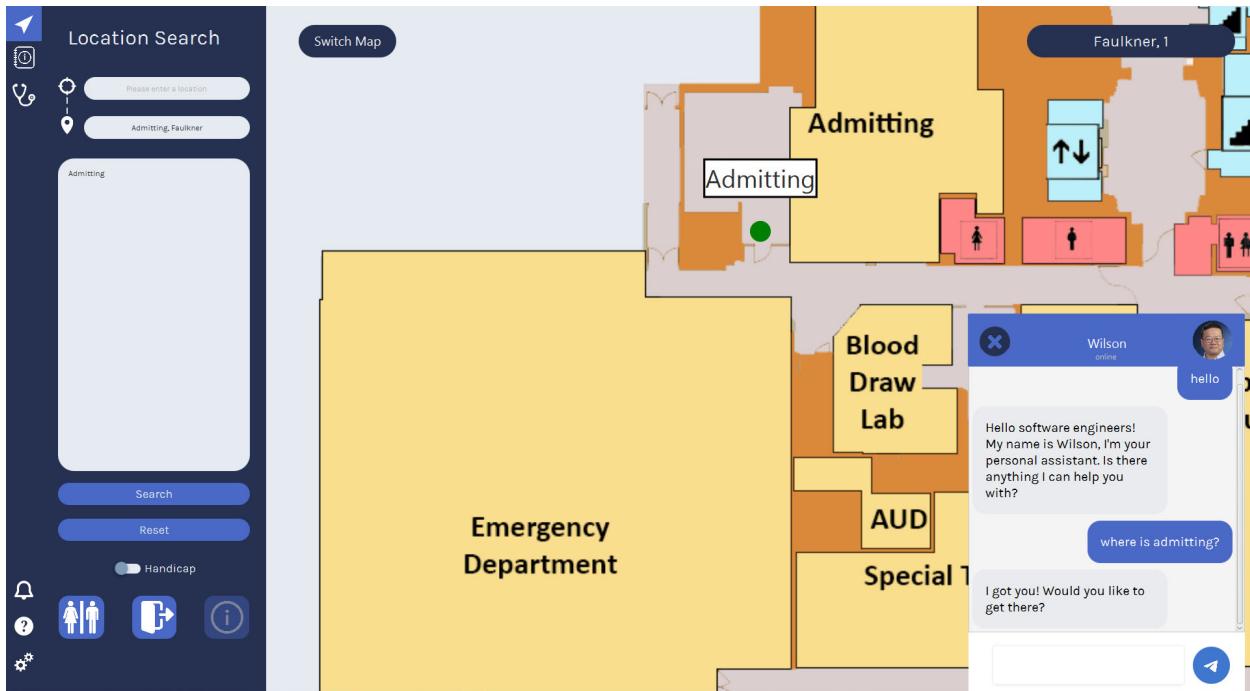
2.1.2.5 On-Click selection

The user can DOUBLE CLICK on a room on the map and select the option of *start point* or *destination*. The selected room will be set as the start or end location and once two locations are selected, the user can click the **search** button to get directions.



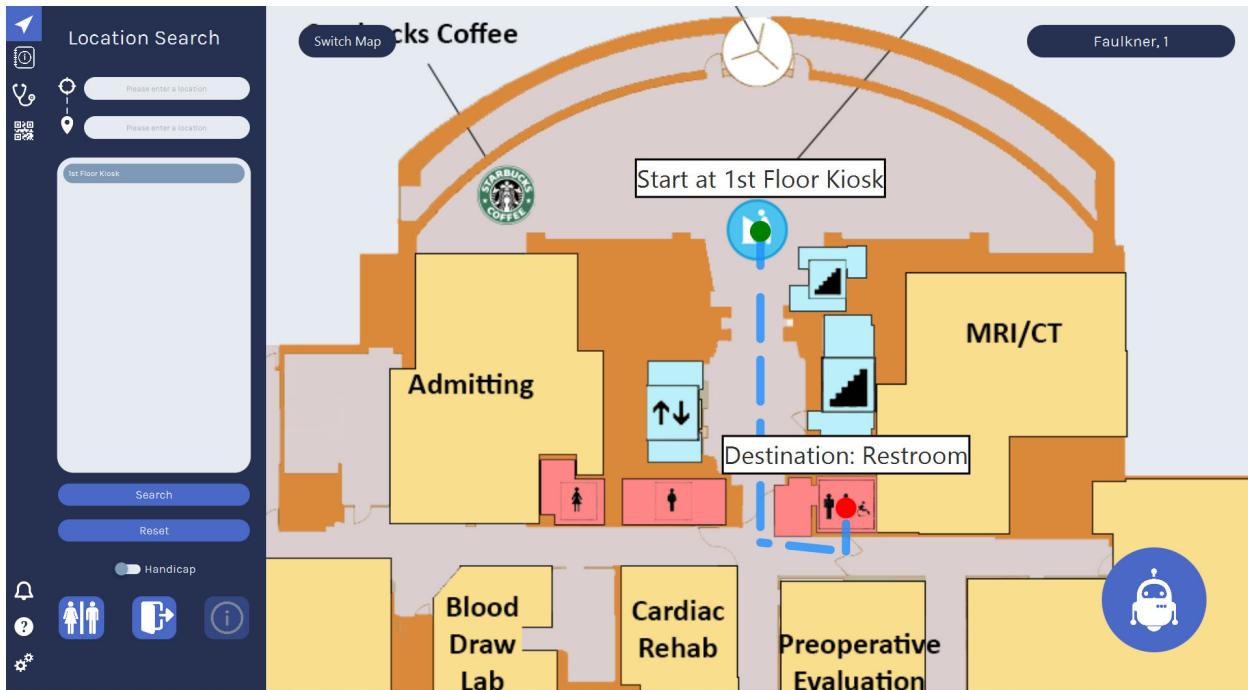
2.1.2.6 Chatbot selection

The user can ask the chatbot where a location is and the chatbot will display it on the map. The user can also ask the chatbot how to get between different locations and the chatbot will display the path and textual directions for that path on the map display page.



2.1.2.7 Quick access selection

An end location can be selected using the quick access buttons on the location search panel. There are quick access buttons for restrooms, exits, and information desks. Clicking one of the quick access buttons will automatically generate a path to the closest location of that type. Click the icon  to find the nearest information desk, click  to find the nearest exit, and click  to find the nearest restroom.



2.1.3 Viewing directions

When a path is displayed, there are multiple ways to view the textual directions corresponding with the path and switch the map views to follow the path to different buildings and floors.

2.1.3.1 Textual directions

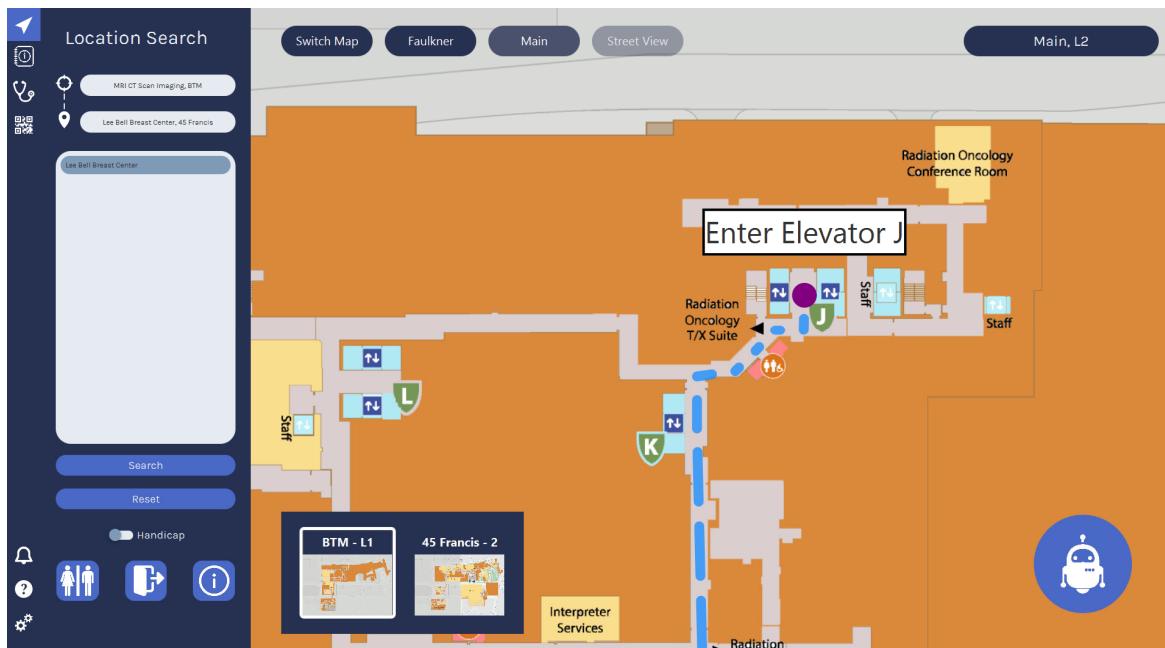
After clicking the search button or a quick access location, the textual directions for a path will be accessible by clicking on the  icon in the upper left. The user can view the textual directions for each of the buildings on the path by clicking on the tabs for Main Campus, Faulkner, and Driving. The user can step through the textual directions one-by-one by clicking the  icon. The map will auto-zoom to the portion of the path associated with each direction. The user can also select different directions by clicking on them to see that part of the path. The application will generate a QR code for any set of textual directions if the user presses the **Get QR Code** button at the bottom of the textual directions tab.



2.1.3.2 Map view

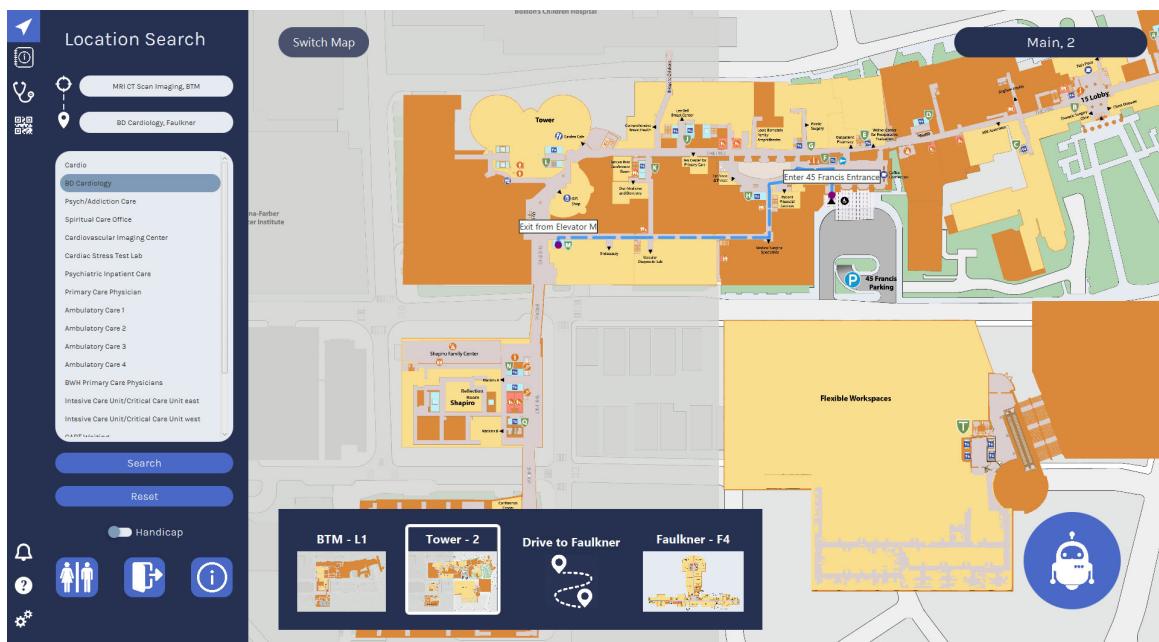
2.1.3.2.1 Clickable nodes

When a path is displayed on the map screen, the user can click on the purple transition nodes to change the maps between floors or buildings.



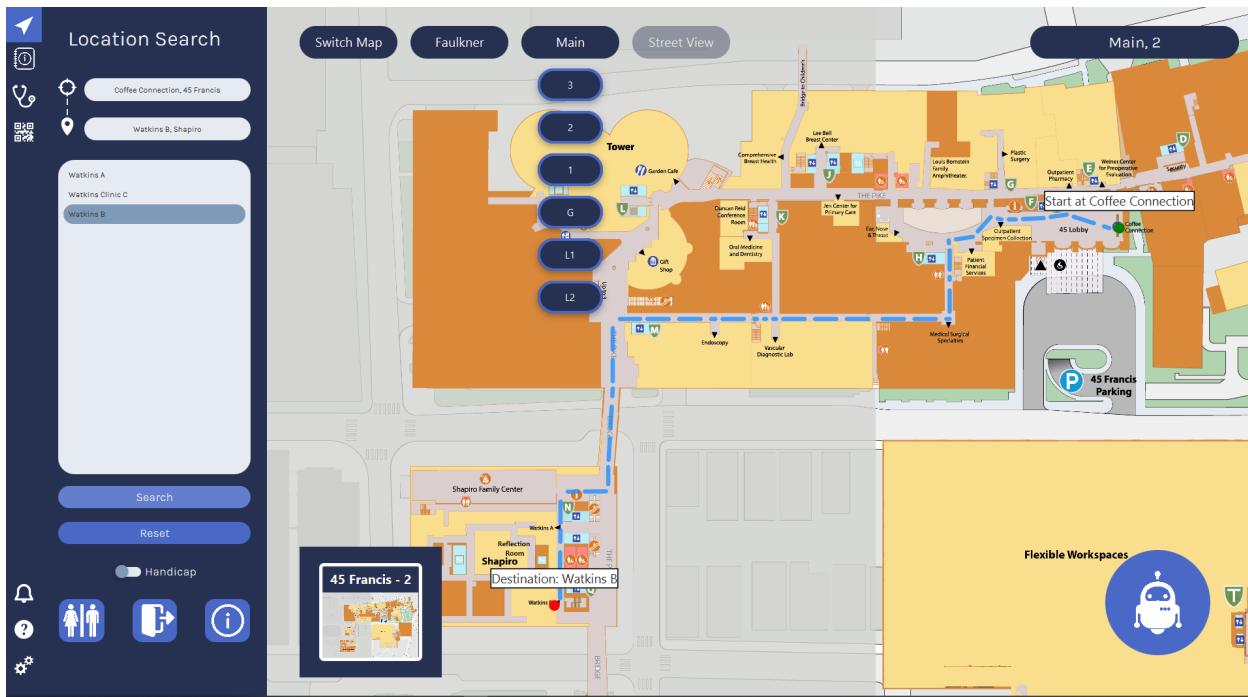
2.1.3.2.2 Mini-map view buttons

The user can also switch the map displayed by clicking on a mini-map icon displayed across the bottom of the map page. The mini-maps are in order of steps in the path.



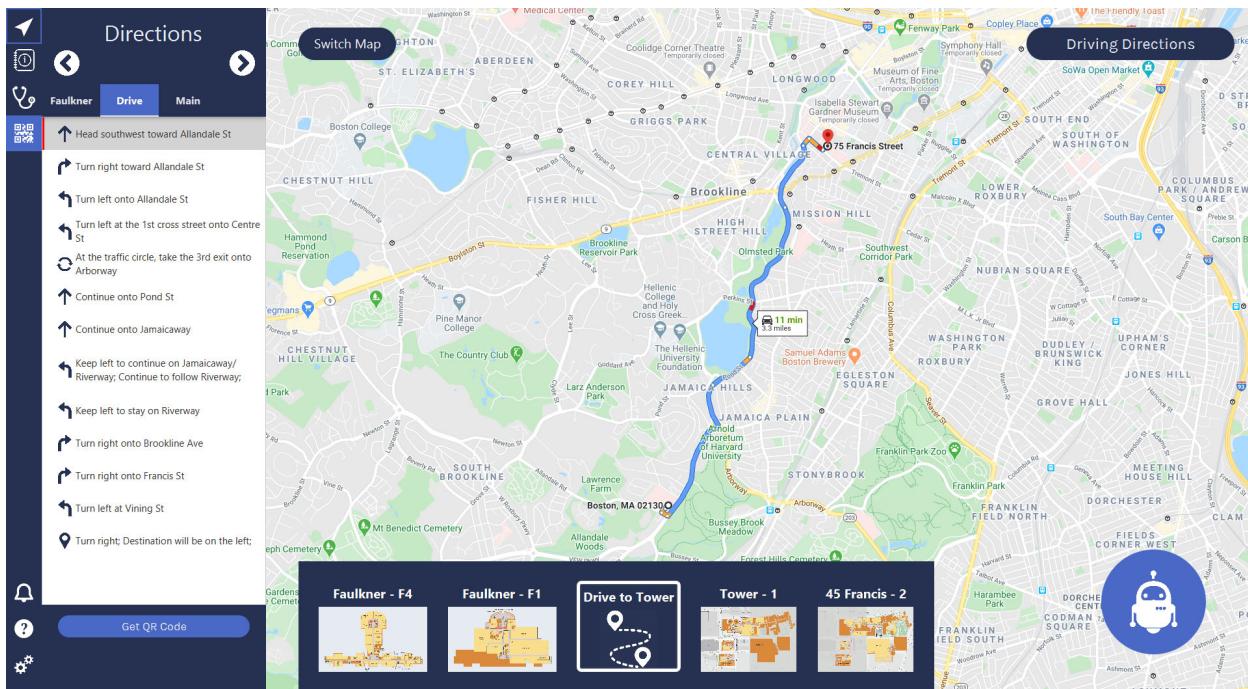
2.1.3.2.3 Switch map buttons

The user can use the switch map buttons at anytime during pathfinding for switch the floor or building in view.



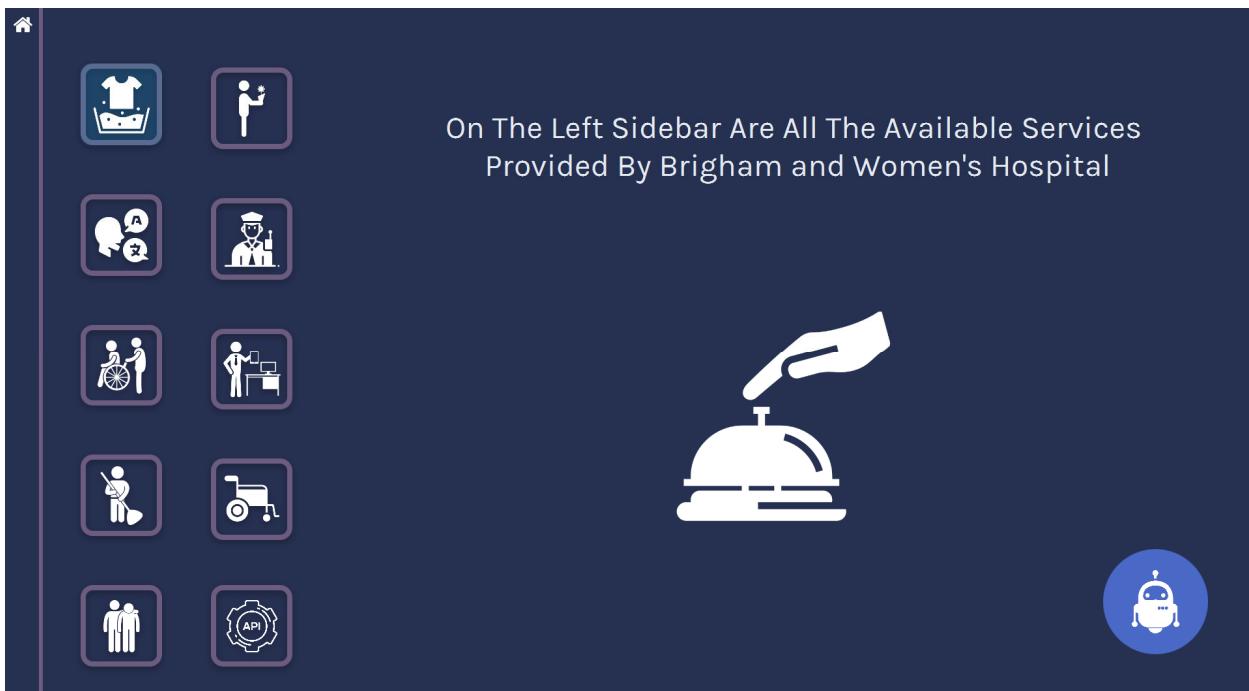
2.1.3.2.4 Street view

To view the Google Map driving directions between the hospital campuses, click the driving tab under textual directions. The Google Map will show live updates of traffic between the two hospitals.



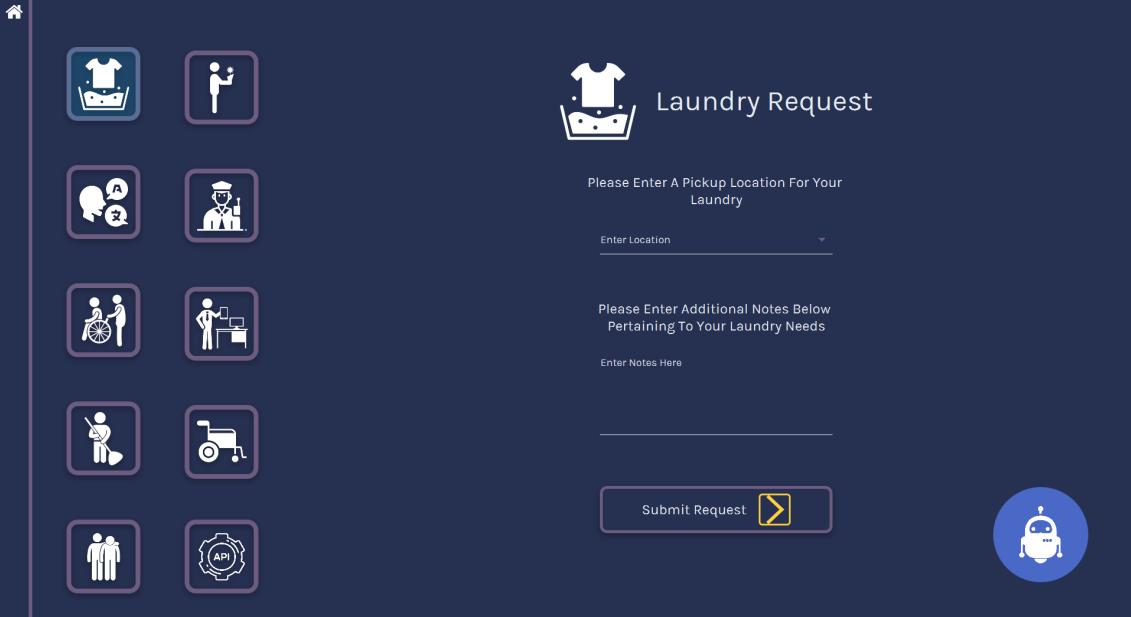
2.2 Make a service request

There are nine available service requests that can be made by a basic user within the application. By clicking on the  icon in the lower left corner of the map display a user can open the service request page. On the service request page, different services can be selected from the icons on the left and the form for the selected service request will appear on the right. When the submit button is clicked for a service request, if the input is valid the request will be submitted and become available for approval or denial from the admin portal.



2.2.1 Laundry request

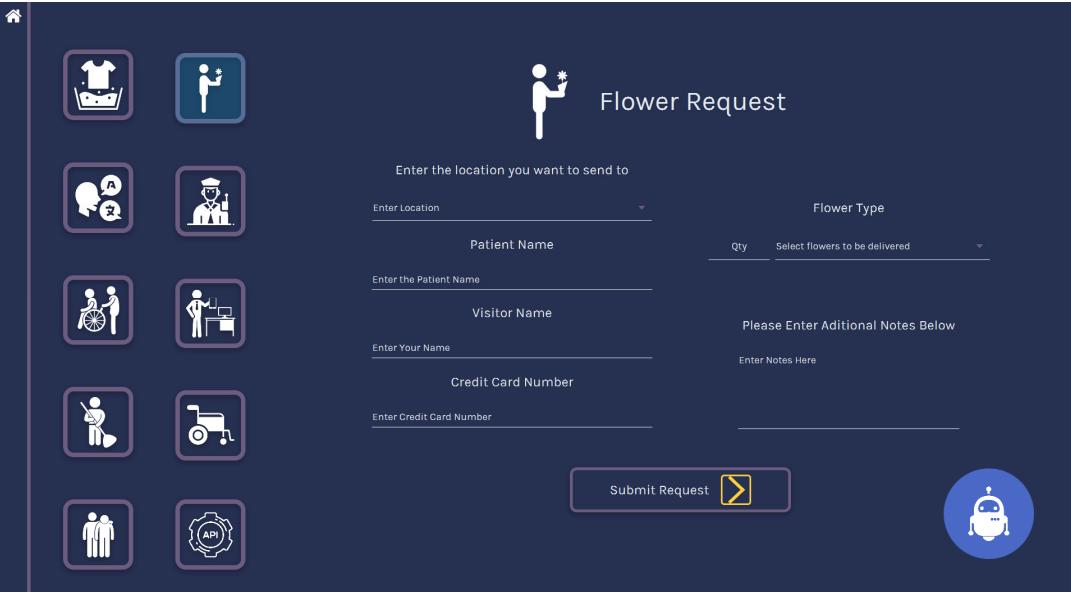
The laundry request, as seen in the figure below, has a search field for selecting a location for the laundry to be picked up and a text field for additional notes.



The Laundry Request interface features a sidebar on the left containing icons for various services: a house, a person with a washboard, a person with a speech bubble, a person in a wheelchair, a person at a desk, a person with a shovel, a person with a wheelchair, a person with a speech bubble, and an API icon. The main area has a dark blue background with a central icon of a shirt in a washing machine. The title "Laundry Request" is displayed above a text input field labeled "Please Enter A Pickup Location For Your Laundry". Below it is a dropdown menu labeled "Enter Location". To the right, there is a text area labeled "Please Enter Additional Notes Below Pertaining To Your Laundry Needs" with a placeholder "Enter Notes Here". At the bottom is a "Submit Request" button with a yellow arrow icon. A blue circular icon with a white robot head is located on the right side.

2.2.2 Flower delivery

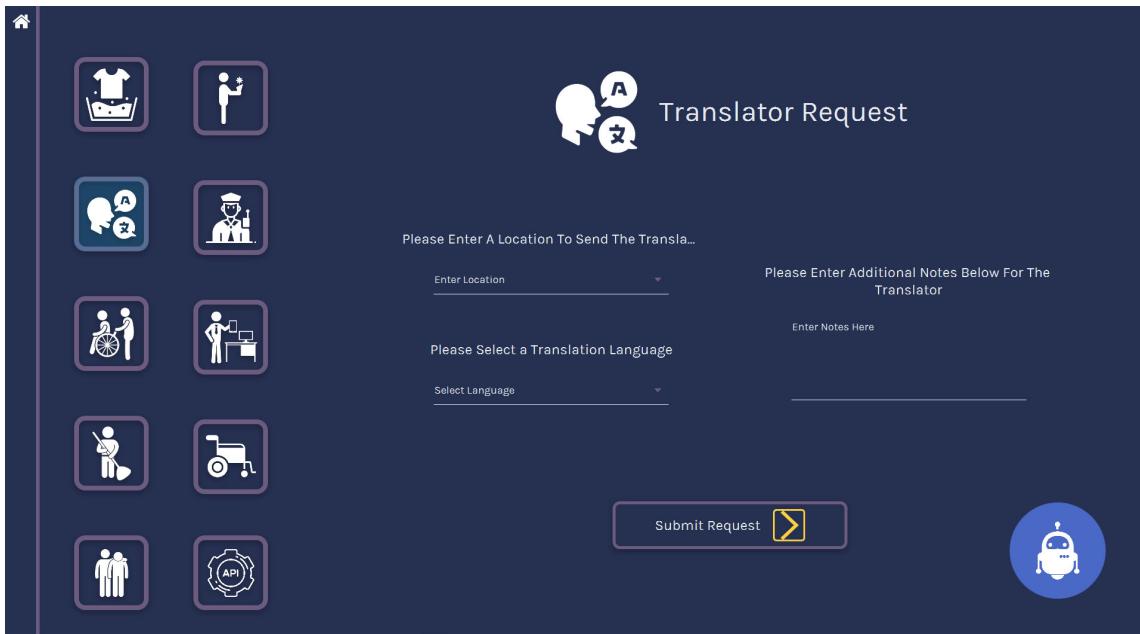
The flower delivery request, as seen in the figure below, has a search field for selecting a location for flowers to be delivered, a text field for the name of the patient for flowers to be delivered to, and a text field for the name of the visitor sending the flowers. The user can then select a type of flower from the drop-down on the right and input a quantity. The user can also leave notes in the additional notes field.



The Flower Delivery Request interface features a sidebar on the left with the same set of icons as the Laundry Request page. The main area has a dark blue background with a central icon of a person holding a flower. The title "Flower Request" is displayed above a text input field labeled "Enter the location you want to send to". Below it is a dropdown menu labeled "Enter Location". To the right, there is a dropdown menu labeled "Flower Type" with a "Qty" field and a "Select flowers to be delivered" dropdown. Below these are fields for "Patient Name" (with placeholder "Enter the Patient Name"), "Visitor Name" (with placeholder "Enter Your Name"), and "Credit Card Number" (with placeholder "Enter Credit Card Number"). To the right, there is a text area labeled "Please Enter Additional Notes Below" with a placeholder "Enter Notes Here". At the bottom is a "Submit Request" button with a yellow arrow icon. A blue circular icon with a white robot head is located on the right side.

2.2.3 Translator request

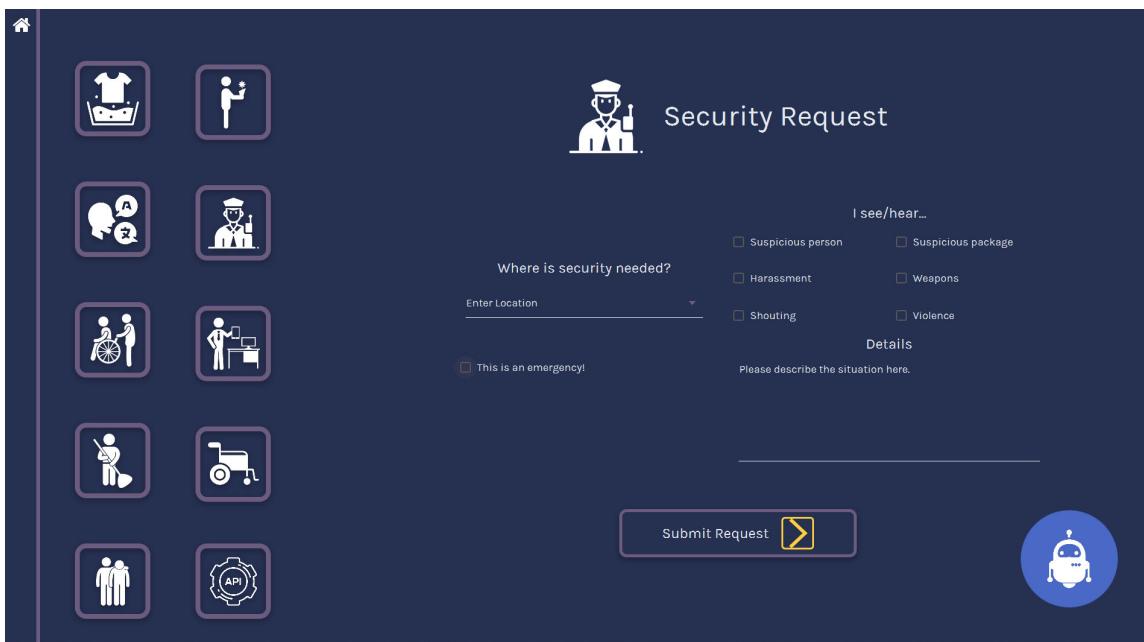
The translator request, as seen in the figure below, has a search field for the location where the request is needed, a drop down for selecting a language, and text field for additional notes for the translator.



The Translator Request interface features a sidebar with icons for various services. The main area includes a "Translator Request" icon with two profile heads and a speech bubble containing 'A'. Below it is a search bar labeled "Please Enter A Location To Send The Transla..." and a dropdown menu labeled "Enter Location". To the right is a text area labeled "Please Enter Additional Notes Below For The Translator" with a "Enter Notes Here" placeholder and a "Select Language" dropdown menu. At the bottom is a "Submit Request" button with a yellow arrow icon. A blue circular icon with a white robot head is located on the right side.

2.2.4 Security request

The security request, as seen in the figure below, has a search field for selecting the location where security is needed, a check box for if the request is an emergency, check box options for what the user sees/hears and a text field for the user to describe the situation.



The Security Request interface features a sidebar with icons for various services. The main area includes a "Security Request" icon with a police officer and a speech bubble. Below it is a search bar labeled "Where is security needed?" and a dropdown menu labeled "Enter Location". There is also a checkbox labeled "This is an emergency!". To the right is a section titled "I see/hear..." with checkboxes for "Suspicious person", "Suspicious package", "Harassment", "Weapons", "Shouting", and "Violence". Below this is a "Details" section with a placeholder "Please describe the situation here." and a "Submit Request" button with a yellow arrow icon. A blue circular icon with a white robot head is located on the right side.

2.2.5 Internal transportation request

The internal transportation request, as seen in the figure below, has a search field for selecting the location for the destination for transportation and a pickup location. The user can then select a type of transportation from the transport type drop-down and then schedule a pickup time. There is also a text field for additional notes.

The screenshot shows a dark-themed web application for an internal transportation request. On the left, there is a vertical sidebar containing ten icons arranged in two columns of five. The top row includes icons for laundry, a person, a person with a speech bubble, a person at a desk, a person in a wheelchair, a person at a computer, a person with a broom, a wheelchair, a person, and an API gear. The middle row includes icons for a person, a person with a speech bubble, a person at a desk, a person with a speech bubble, a person at a computer, a person with a speech bubble, a person at a desk, a person with a speech bubble, a person at a computer, and an API gear. The right side of the screen features a large icon of two people pushing a wheelchair. Below this icon, the text "Internal Transportation Request" is displayed. The main form area contains several input fields and labels:

- "Please Enter A Destination For Transportation" with a dropdown labeled "Enter Destination Location".
- "Please Schedule A Pickup Time" with a text input field and a calendar icon.
- "Please Enter A Pickup Location" with a dropdown labeled "Enter Pickup Location".
- "Please Enter Additional Notes Below" with a text input field labeled "Enter Notes Here".
- "Please Select Your Transport Type" with a dropdown labeled "Transport Types".
- A "Submit Request" button with a yellow arrow icon.
- A blue circular icon with a white robot head in the bottom right corner.

2.2.6 IT assistance request

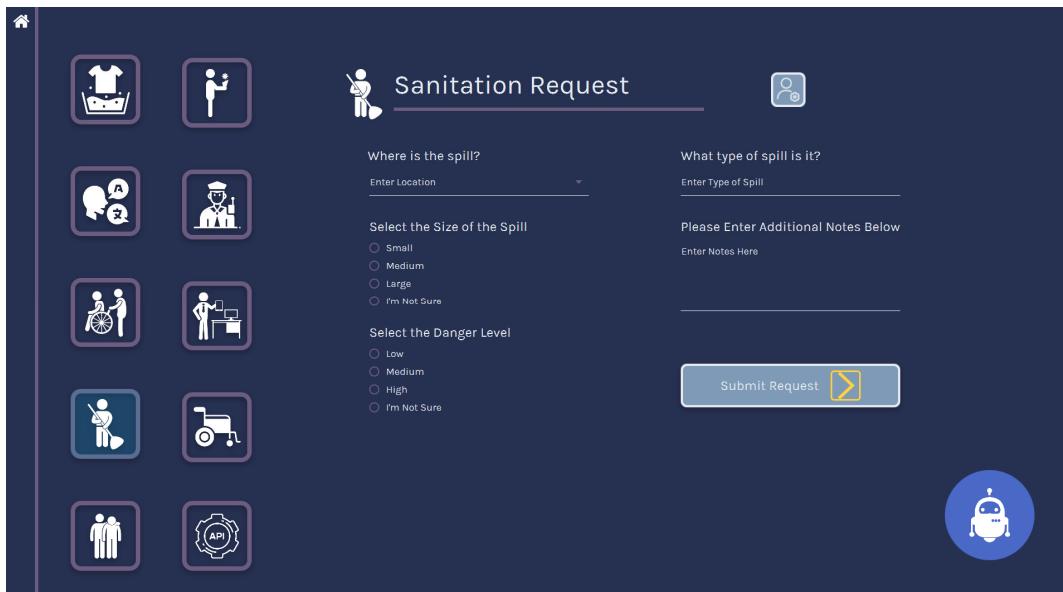
The information technology assistance request, as seen in the figure below, has a search field for selecting a location where assistance is needed, a text field for inputting the type of device the assistance is needed for, a text field for describing the problem and an additional field for notes.

The screenshot shows a dark-themed web application for an IT assistance request. On the left, there is a vertical sidebar containing ten icons arranged in two columns of five. The top row includes icons for laundry, a person, a person with a speech bubble, a person at a desk, a person in a wheelchair, a person at a computer, a person with a broom, a wheelchair, a person, and an API gear. The middle row includes icons for a person, a person with a speech bubble, a person at a desk, a person with a speech bubble, a person at a computer, a person with a speech bubble, a person at a desk, a person with a speech bubble, a person at a computer, and an API gear. The right side of the screen features a large icon of a person standing at a desk. Below this icon, the text "IT Request" is displayed. The main form area contains several input fields and labels:

- "Please Enter A Location Where You Want To Meet IT Services" with a dropdown labeled "Enter Location".
- "Please Enter The Problem You Are Having" with a text input field labeled "Enter Problem Here".
- "Please Enter Your Device" with a text input field labeled "Enter Device Here".
- "Please Enter Additional Notes Below" with a text input field labeled "Enter Notes Here".
- A "Submit Request" button with a yellow arrow icon.
- A blue circular icon with a white robot head in the bottom right corner.

2.2.7 Sanitation request

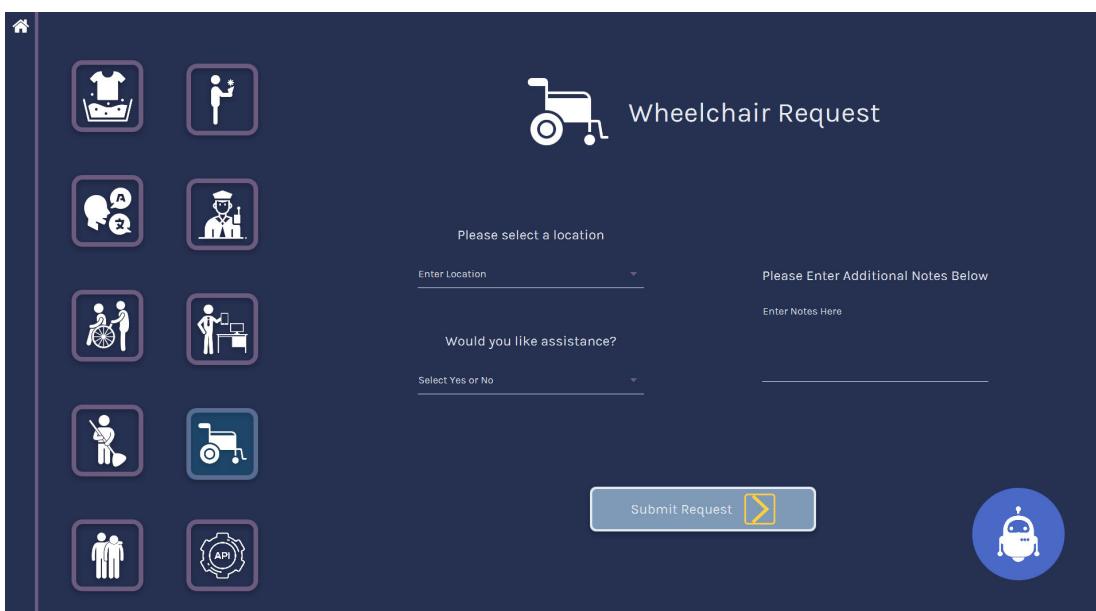
The sanitation request, as seen in the figure below, has a search field for selecting a location where sanitation services are needed and a text field for indicating the type of spill. The user can then select the size of the spill and the level of danger from the drop-down menus. There is also a text field for additional notes.



The screenshot shows a mobile application interface for a 'Sanitation Request'. On the left, there is a vertical sidebar with icons for different service requests. The main screen has a dark blue header with the title 'Sanitation Request' and a user profile icon. Below the header, there are two main sections: 'Where is the spill?' and 'What type of spill is it?'. The 'Where is the spill?' section includes a search bar labeled 'Enter Location' and dropdown menus for 'Select the Size of the Spill' (Small, Medium, Large, I'm Not Sure) and 'Select the Danger Level' (Low, Medium, High, I'm Not Sure). The 'What type of spill is it?' section includes a search bar labeled 'Enter Type of Spill' and a text area for 'Please Enter Additional Notes Below' with a placeholder 'Enter Notes Here'. At the bottom right is a large blue button labeled 'Submit Request' with a yellow square icon containing a checkmark.

2.2.8 Wheelchair request

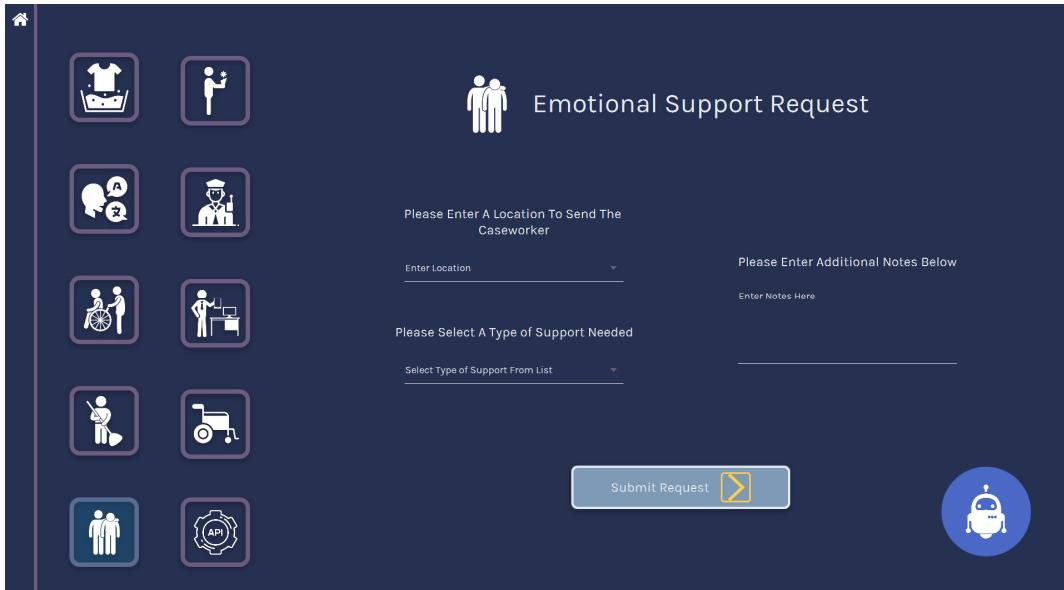
The wheelchair service request, as seen in the figure below, has a search field for selecting a location where a wheelchair is needed, a drop down for selected if assistance with the wheelchair is needed and a text field for additional notes.



The screenshot shows a mobile application interface for a 'Wheelchair Request'. On the left, there is a vertical sidebar with icons for different service requests. The main screen has a dark blue header with the title 'Wheelchair Request' and a user profile icon. Below the header, there are two main sections: 'Please select a location' and 'Would you like assistance?'. The 'Please select a location' section includes a search bar labeled 'Enter Location' and a text area for 'Please Enter Additional Notes Below' with a placeholder 'Enter Notes Here'. The 'Would you like assistance?' section includes a dropdown menu labeled 'Select Yes or No'. At the bottom right is a large blue button labeled 'Submit Request' with a yellow square icon containing a checkmark.

2.2.9 Emotional support request

The emotional support request, as seen in the figure below, has a search field for location, a drop down for selecting the type of support needed and a text field for additional notes.



The screenshot shows a mobile application interface for an emotional support request. At the top right is a user icon. Below it, the title "Emotional Support Request" is displayed next to a small icon of two people. On the left side, there is a vertical sidebar containing eight icons: a person with a speech bubble, a person with a paintbrush, a person with a gift box, a person with a graduation cap, a person in a wheelchair, a person at a desk, a person with a stethoscope, and a gear with the letters "API". The main content area has a dark blue background. It includes a text input field with placeholder "Please Enter A Location To Send The Caseworker", a dropdown menu labeled "Enter Location", and a text input field with placeholder "Please Enter Additional Notes Below" and a "Submit Notes" button. Below these fields is a dropdown menu labeled "Please Select A Type of Support Needed" with placeholder "Select Type of Support From List". At the bottom right is a large blue circular button featuring a white robot icon.

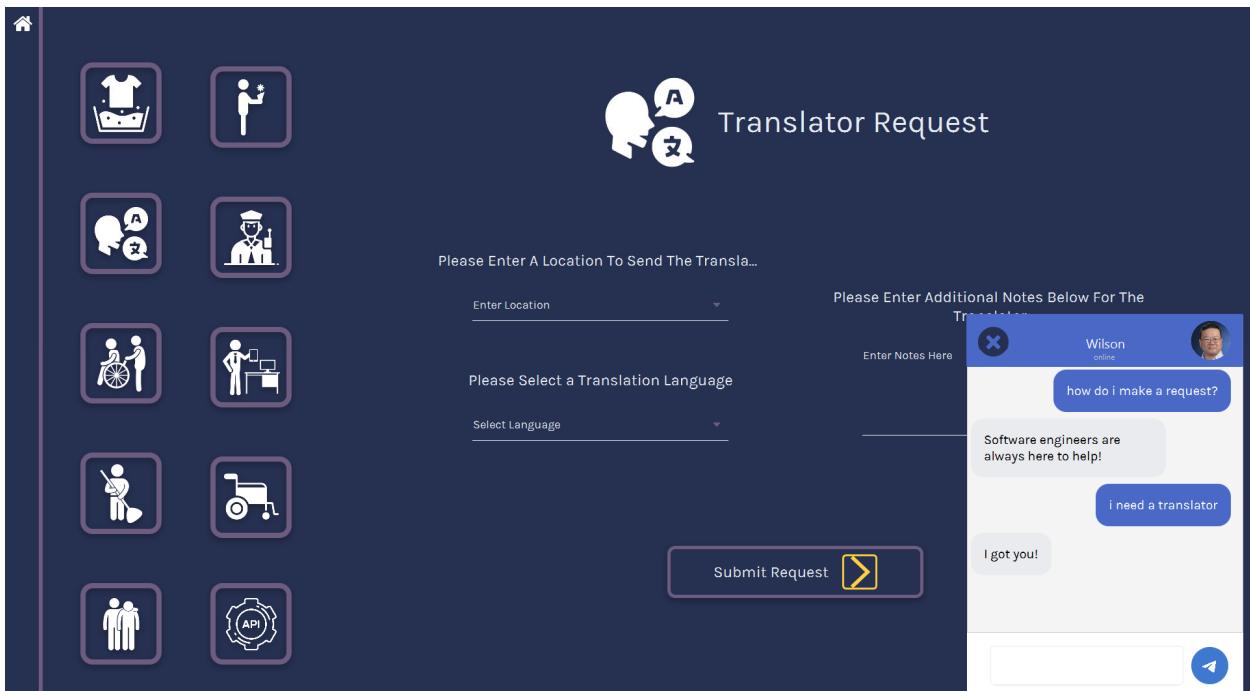
2.2.10 Service request API's

The application implements the following service request API's from other teams in CS3733-D20, these API's are accessible from the API button on the service request page: Team C – Interpreter Request, Team A – Flower Delivery, Team L – Gift Delivery, Team B – Secure Incident Reporting, and Team P – Food Service Request



2.3 Chat with chatbot

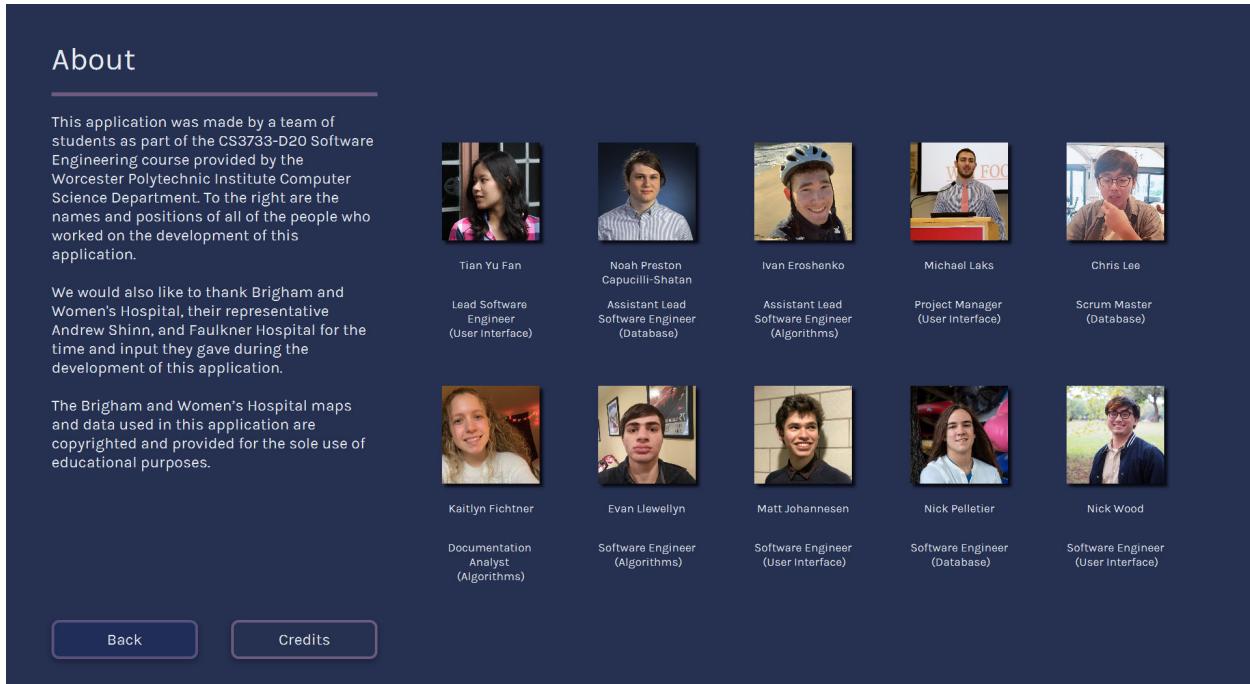
The chatbot is accessible to the user from the map display page and the services page. The user can ask the chatbot for directions, information about the hospital, and help making a service request. The chatbot can also make small talk, check the weather, and tell jokes.



2.4 View kiosk information

2.4.1 About page

The user can view the about page for the kiosk by clicking on the  icon on the bottom left of the map screen. From there the user can see the creators of this application and a background about the CS3733 project. From the about page the user can return to the map screen by clicking the **back** button or view the credits page by clicking the **credits** button.



The screenshot shows the 'About' page with a dark blue header and footer. The main content area has a white background. At the top left is the word 'About'. Below it is a paragraph about the project's creation. To the right is a grid of ten team member profiles, each with a photo and name/role. At the bottom are two buttons: 'Back' and 'Credits'.

This application was made by a team of students as part of the CS3733-D20 Software Engineering course provided by the Worcester Polytechnic Institute Computer Science Department. To the right are the names and positions of all of the people who worked on the development of this application.

We would also like to thank Brigham and Women's Hospital, their representative Andrew Shinn, and Faulkner Hospital for the time and input they gave during the development of this application.

The Brigham and Women's Hospital maps and data used in this application are copyrighted and provided for the sole use of educational purposes.

Photo	Name	Role
	Tian Yu Fan	Lead Software Engineer (User Interface)
	Noah Preston Capucilli-Shatan	Assistant Lead Software Engineer (Database)
	Ivan Eroshenko	Assistant Lead Software Engineer (Algorithms)
	Michael Laks	Project Manager (User Interface)
	Chris Lee	Scrum Master (Database)
	Kaitlyn Fichtner	Documentation Analyst (Algorithms)
	Evan Llewellyn	Software Engineer (Algorithms)
	Matt Johannessen	Software Engineer (User Interface)
	Nick Pelletier	Software Engineer (Database)
	Nick Wood	Software Engineer (User Interface)

Back **Credits**

2.4.2 Credits page

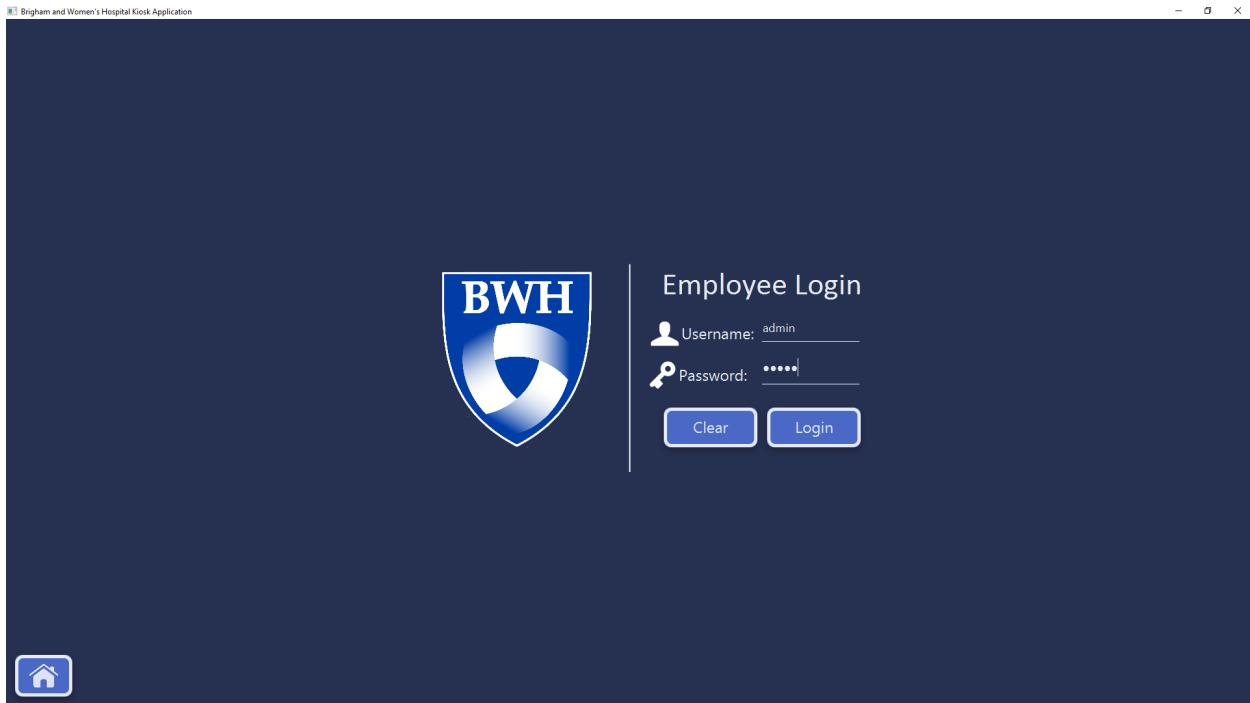
The user can access the credits page by clicking the **credits** button at the bottom of the about page. The credits page contains information about all of the API's and external libraries used for the application. The user can exit the credits page by clicking the **navigation** button or return to the about page by clicking the **about** button.

3 Administrator

Administrators have access to manage employees, edit maps, manage service requests, view analytics, and change kiosk settings.

3.1 Login

From the home screen (map display), an admin can click the  icon on the lower left to open the employee login page. From the login page, shown below, administrators can login by entering an assigned username and password into the **username** and **password** text fields. From the login page, the admin can click **return** to return to the home screen, **clear** to clear the text in the username and password fields, and **login** to enter the admin portal. If the inputted username or password is incorrect, an error message will pop-up on the login page. The admin can click **OK** on the error pop-up and attempt to login again.



3.2 Handle service requests

Administrators can view service request information from the main page of the admin portal. A table containing all service requests is on the left and a table of employees is on the right.

The screenshot shows the Brigham and Women's Hospital Kiosk Application Admin Portal. On the left, there is a sidebar with icons for users, accept requests, assign employees, and other administrative tasks. The main area has two tables. The top table, titled 'Accept Request', lists service requests with columns for ID, Service, Assigned, Notes, Location, and Status. The bottom table, titled 'Assign Employee', lists employees with columns for ID, Name, and Service Type. There are also filter options at the bottom of each table.

ID	Service	Assigned	Notes	Location	Status
1	Laundry	joe bob (Lau...	Notes	GA	DONE
301	Laundry	joe bob (Lau...	asdasd	GA	DONE
401	Laundry	joe bob (Lau...	asd	GA	DONE
501	Laundry	joe bob (Lau...	asdasd	GA	DONE
601	Laundry	joe bob (Lau...	asdasd	GA	DONE
602	Laundry	joe bob (Lau...	asdasd	Garden Cafe	DONE
701	Laundry	joe bob (Lau...	asdasd	GA	DONE
801	Laundry	joe bob (Lau...	ads	GA	DONE
901	Laundry	joe bob (Lau...	asd	GA	DONE
1001	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1101	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1201	Laundry		asd	GA	DENY
1301	Laundry		asd	GA	DENY
1401	Laundry		asdasd	GA	DENY
1501	Laundry		asdasdasdada	GA	DENY
1601	Laundry	joe bob (Lau...	asdasd	GA	DONE
1701	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1801	Laundry	joe bob (Lau...	asd	Spine FAC	DONE

ID	Name	Service Type
101	1 1	Translator
1	joe bob	Laundry
301	asd asd	Emotional Support
401	da da	Medicine

3.2.1 Assign employee

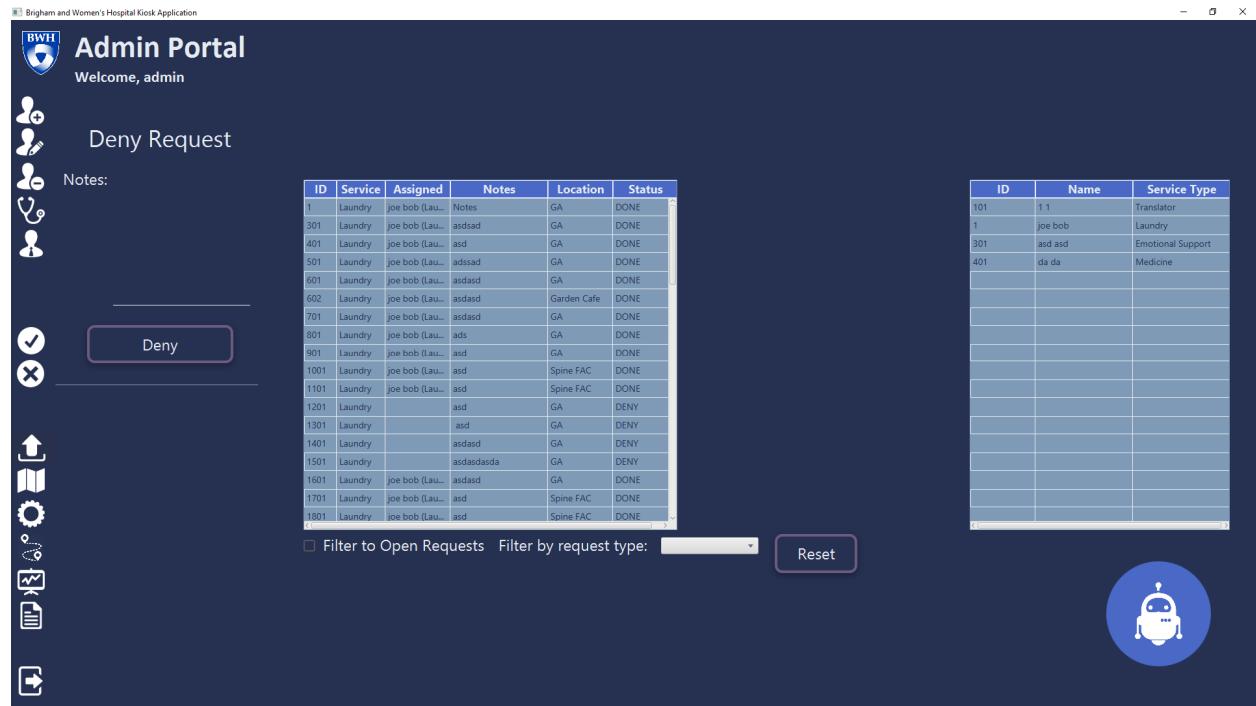
From the admin portal, an administrator can assign employees to open service requests by selecting an service request from the table, clicking the icon on the left, then selecting an employee from the drop-down and clicking **assign**. If an employee is not qualified for the request, an error message will appear on the screen. The admin can filter the table to show only open service requests by checking the *filter to open requests* check box underneath the request table. The admin can also filter by the type of request using the *filter by request type* drop-down. To reset a selection, click the **reset** button to the right of the service request table.

3.2.2 Accept a request

After assigning an employee to a request, an administrator can add notes to a request and click the **accept** button to accept the request. The request must be selected from the table and an employee must be assigned to the request for a request to be accepted.

3.2.3 Deny a request

To deny a service request, the administrator must select an open service request from the table, click the  icon on the left, fill in the optional notes section and then click the **deny** button. A request can not be denied if it has already been completed.



The screenshot shows the Brigham and Women's Hospital Kiosk Application Admin Portal. The main title is "Admin Portal" with a sub-header "Welcome, admin". On the left, there is a vertical sidebar with various icons: a user profile, a plus sign, a person, a stethoscope, a person with a checkmark, a person with an X, an upward arrow, a map, a gear, a location pin, a chart, a document, and a right-pointing arrow. The main content area is titled "Deny Request". It features a table with columns: ID, Service, Assigned, Notes, Location, and Status. The table contains several rows of data. Below the table is a "Notes:" input field and a "Deny" button. At the bottom, there is a filter section with "Filter to Open Requests" and "Filter by request type:" dropdowns, and a "Reset" button. To the right of the main content, there is a smaller table with columns: ID, Name, and Service Type, containing a few rows of data. In the bottom right corner, there is a blue circular icon with a white robot head inside.

ID	Service	Assigned	Notes	Location	Status
1	Laundry	joe bob (Lau...	Notes	GA	DONE
301	Laundry	joe bob (Lau...	asdasd	GA	DONE
401	Laundry	joe bob (Lau...	asd	GA	DONE
501	Laundry	joe bob (Lau...	asdasd	GA	DONE
601	Laundry	joe bob (Lau...	asdasd	GA	DONE
602	Laundry	joe bob (Lau...	asdasd	Garden Cafe	DONE
701	Laundry	joe bob (Lau...	asdasd	GA	DONE
801	Laundry	joe bob (Lau...	ads	GA	DONE
901	Laundry	joe bob (Lau...	asd	GA	DONE
1001	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1101	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1201	Laundry		asd	GA	DENY
1301	Laundry		asd	GA	DENY
1401	Laundry		asdasd	GA	DENY
1501	Laundry		asdasdadsa	GA	DENY
1601	Laundry	joe bob (Lau...	asdasd	GA	DONE
1701	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1801	Laundry	joe bob (Lau...	asd	Spine FAC	DONE

Filter to Open Requests Filter by request type:

3.3 Manage staff

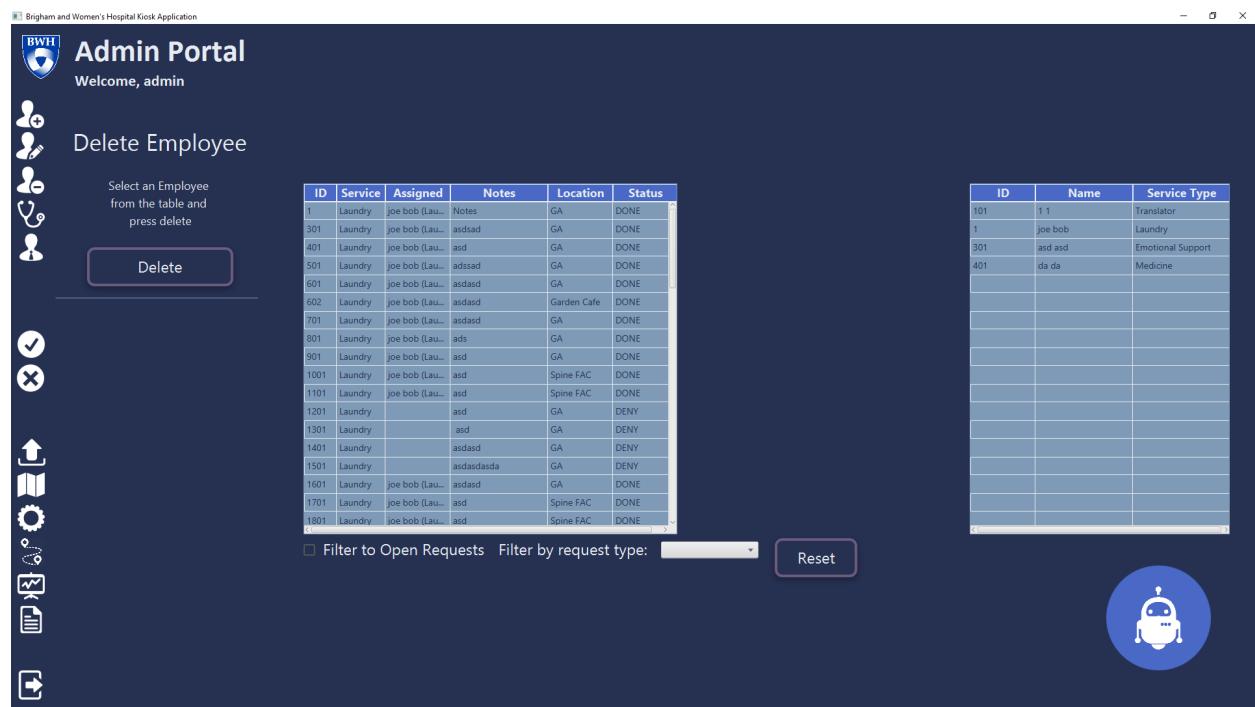
3.3.1 Employee management

3.3.1.1 Add employee

An administrator can add an employee by clicking the  icon in the upper left corner of the admin portal. To add a new employee, enter the employee's first name, last name, languages spoken (if applicable), and select a department from the drop-down. To add the new employee, click the **add** button.

3.3.1.2 Delete employee

An administrator can delete an employee by clicking the  icon in the upper corner of the admin portal, selecting an employee from the table on the right, and then clicking the **delete** button.



ID	Service	Assigned	Notes	Location	Status
1	Laundry	joe bob (Lau...	Notes	GA	DONE
301	Laundry	joe bob (Lau...	asdasd	GA	DONE
401	Laundry	joe bob (Lau...	asd	GA	DONE
501	Laundry	joe bob (Lau...	adssad	GA	DONE
601	Laundry	joe bob (Lau...	asdasd	GA	DONE
602	Laundry	joe bob (Lau...	asdasd	Garden Cafe	DONE
701	Laundry	joe bob (Lau...	asdasd	GA	DONE
801	Laundry	joe bob (Lau...	ads	GA	DONE
901	Laundry	joe bob (Lau...	asd	GA	DONE
1001	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1101	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1201	Laundry		asd	GA	DENY
1301	Laundry		asd	GA	DENY
1401	Laundry		asdasd	GA	DENY
1501	Laundry		adadasdadasda	GA	DENY
1601	Laundry	joe bob (Lau...	asdasd	GA	DONE
1701	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1801	Laundry	joe bob (Lau...	asd	Spine FAC	DONE

ID	Name	Service Type
101	1 1	Translator
1	joe bob	Laundry
301	asd asd	Emotional Support
401	da da	Medicine
501		
601		
701		
801		
901		
1001		
1101		
1201		
1301		
1401		
1501		
1601		
1701		
1801		

3.3.1.3 Add or remove languages

To add or remove languages for an existing translator employee, click the  icon on the right. To add a language, input the employee ID of the employee and the language to the text fields, then click the **add** button below. To remove a language select a translator from the drop-down menu. The selected translator's languages will appear in the languages table. To remove a language, select it from the table and click the **remove** button.

The screenshot displays the Brigham and Women's Hospital Kiosk Application Admin Portal. The top navigation bar includes the BWH logo, the title "Admin Portal", and a welcome message "Welcome, admin".

Add Language Section:

- Employee ID:
- Languages:
- Add** button

Remove Language Section:

- Employee:
- Languages** button
- No content in table
- Remove** button

Request History Table:

ID	Service	Assigned	Notes	Location	Status
1	Laundry	joe bob (Lau...	Notes	GA	DONE
301	Laundry	joe bob (Lau...	asdasd	GA	DONE
401	Laundry	joe bob (Lau...	asd	GA	DONE
501	Laundry	joe bob (Lau...	asdssad	GA	DONE
601	Laundry	joe bob (Lau...	asdssad	GA	DONE
602	Laundry	joe bob (Lau...	asdssad	Garden Cafe	DONE
701	Laundry	joe bob (Lau...	asdasd	GA	DONE
801	Laundry	joe bob (Lau...	ads	GA	DONE
901	Laundry	joe bob (Lau...	asd	GA	DONE
1001	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1101	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1201	Laundry		asd	GA	DENY
1301	Laundry		asd	GA	DENY
1401	Laundry		asdasd	GA	DENY
1501	Laundry		asdasdadasda	GA	DENY
1601	Laundry	joe bob (Lau...	asdasd	GA	DONE
1701	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1801	Laundry	joe bob (Lau...	asd	Spine FAC	DONE

Filter Options:

- Filter to Open Requests
- Filter by request type:
- Reset** button

Sidebar Icons:

- User profile
- Medical chart
- Appointment
- Map
- Settings
- Logout

Bottom Right Corner:

3.3.2 Doctor management

The screenshot shows the Brigham and Women's Hospital Kiosk Application Admin Portal. On the left, there is a sidebar with icons for adding a doctor (person plus), deleting a doctor (person minus), updating offices (map), and other settings. The main area has two sections: 'Add Doctor' and 'Update Offices'. The 'Add Doctor' section contains fields for First Name, Last Name, Username, Password, and Field, with a 'Field' dropdown menu and an 'Add Doctor' button. The 'Update Offices' section contains a 'Doctor ID' field, a search bar for locations, and buttons for 'Add' and 'Remove'. To the right, there are two tables. The top table shows a list of doctors with columns for ID, Service, Assigned, Notes, Location, and Status. The bottom table shows a list of service types with columns for ID, Name, and Service Type. A blue circular icon with a white robot head is in the bottom right corner.

ID	Service	Assigned	Notes	Location	Status
1	Laundry	joe bob (Lau...	Notes	GA	DONE
301	Laundry	joe bob (Lau...	asdasd	GA	DONE
401	Laundry	joe bob (Lau...	asd	GA	DONE
501	Laundry	joe bob (Lau...	asdasd	GA	DONE
601	Laundry	joe bob (Lau...	asdasd	GA	DONE
602	Laundry	joe bob (Lau...	asdasd	Garden Cafe	DONE
701	Laundry	joe bob (Lau...	asdasd	GA	DONE
801	Laundry	joe bob (Lau...	ads	GA	DONE
901	Laundry	joe bob (Lau...	asd	GA	DONE
1001	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1101	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1201	Laundry		asd	GA	DENY
1301	Laundry		asd	GA	DENY
1401	Laundry		asdasd	GA	DENY
1501	Laundry		asdasdadsa	GA	DENY
1601	Laundry	joe bob (Lau...	asdasd	GA	DONE
1701	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1801	Laundry	joe bob (Lau...	asd	Spine FAC	DONE

ID	Name	Service Type
101	1 1	Translator
1	joe bob	Laundry
301	asd asd	Emotional Support
401	da da	Medicine

3.3.2.1 Add doctor

To add a doctor click the icon on the left side of the admin portal. Input the new doctor's first name, last name, username, password, and field into the text fields. Click the **add doctor** button to add the new doctor.

3.3.2.2 Delete doctor

Doctor's can be deleted from the employee table by clicking the icon in the upper left corner of the admin portal, selecting a doctor from the table on the right, and then clicking the **delete** button.

3.3.2.3 Update doctor's offices

Once a new doctor is added, office locations can be added for that doctor or other existing doctors. To add an office location, input the doctor's ID and select a location using the location search bar under *update offices*. To remove an office for a doctor, input the doctor's ID and search the location of the office to remove. Select the location to remove from the search results and click the **remove** button.

3.3.3 Administrator management

The screenshot shows the Brigham and Women's Hospital Kiosk Application Admin Portal. On the left, there are three main sections: 'Add Admin' (with fields for Username and Password and a 'Add Login' button), 'Change Password' (with fields for Username, Old Password, and New Password, and a 'Update' button), and 'Remove Login' (with a field for Username and a 'Submit' button). On the right, there are two tables. The top table lists service requests with columns for ID, Service, Assigned, Notes, Location, and Status. The bottom table lists users with columns for ID, Name, and Service Type. A blue circular icon with a white robot head is in the bottom right corner.

ID	Service	Assigned	Notes	Location	Status
1	Laundry	joe bob (Lau...	Notes	GA	DONE
301	Laundry	joe bob (Lau...	asdasd	GA	DONE
401	Laundry	joe bob (Lau...	asd	GA	DONE
501	Laundry	joe bob (Lau...	asdasd	GA	DONE
601	Laundry	joe bob (Lau...	asdasd	GA	DONE
602	Laundry	joe bob (Lau...	asdasd	Garden Cafe	DONE
701	Laundry	joe bob (Lau...	asdasd	GA	DONE
801	Laundry	joe bob (Lau...	ads	GA	DONE
901	Laundry	joe bob (Lau...	asd	GA	DONE
1001	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1101	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1201	Laundry		asd	GA	DENY
1301	Laundry		asd	GA	DENY
1401	Laundry		asdasd	GA	DENY
1501	Laundry		asdasdadsa	GA	DENY
1601	Laundry	joe bob (Lau...	asdasd	GA	DONE
1701	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1801	Laundry	joe bob (Lau...	asd	Spine FAC	DONE

ID	Name	Service Type
101	1 1	Translator
1	joe bob	Laundry
301	asd asd	Emotional Support
401	da da	Medicine

3.3.3.1 Add administrator

An administrator can add a new administrator by clicking the icon on the left side of the admin portal. To add a new admin login enter a username and password in the text fields and click the **add login** button.

3.3.3.2 Change password

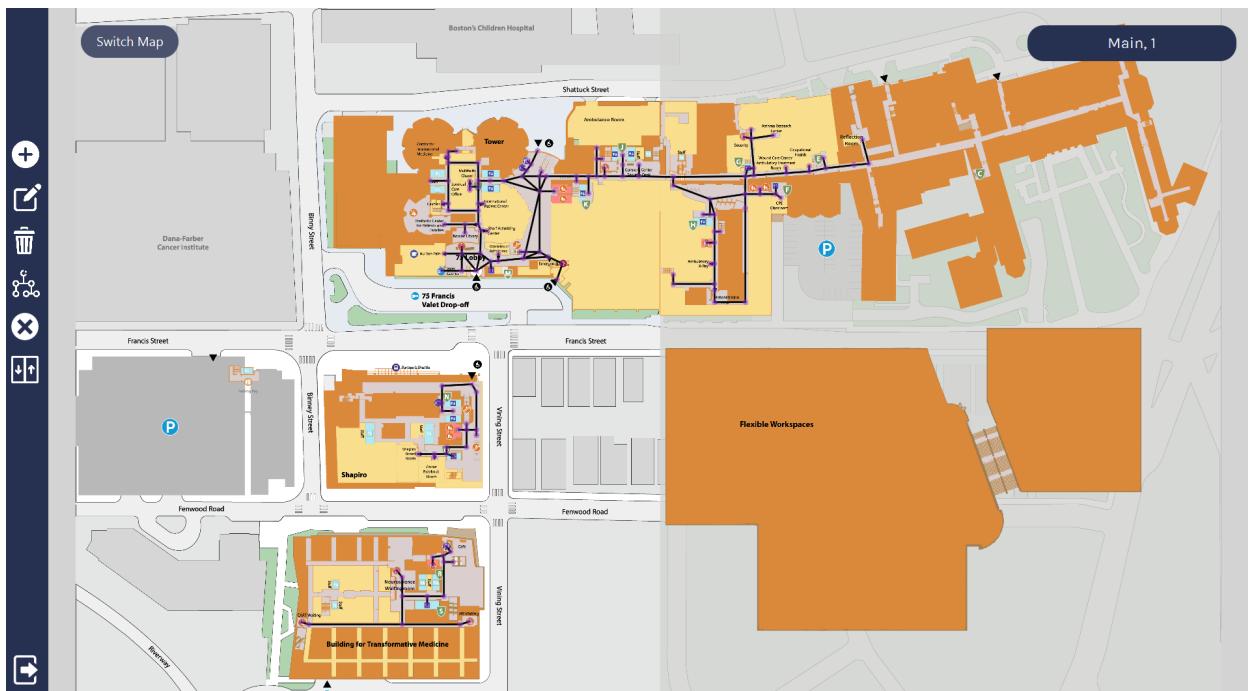
To change the password for an existing login, enter a username, old password, and new password and click the **update** button.

3.3.3.3 Remove login

To remove an account, enter the username for the account to remove and click **submit** button.

3.4 Edit map

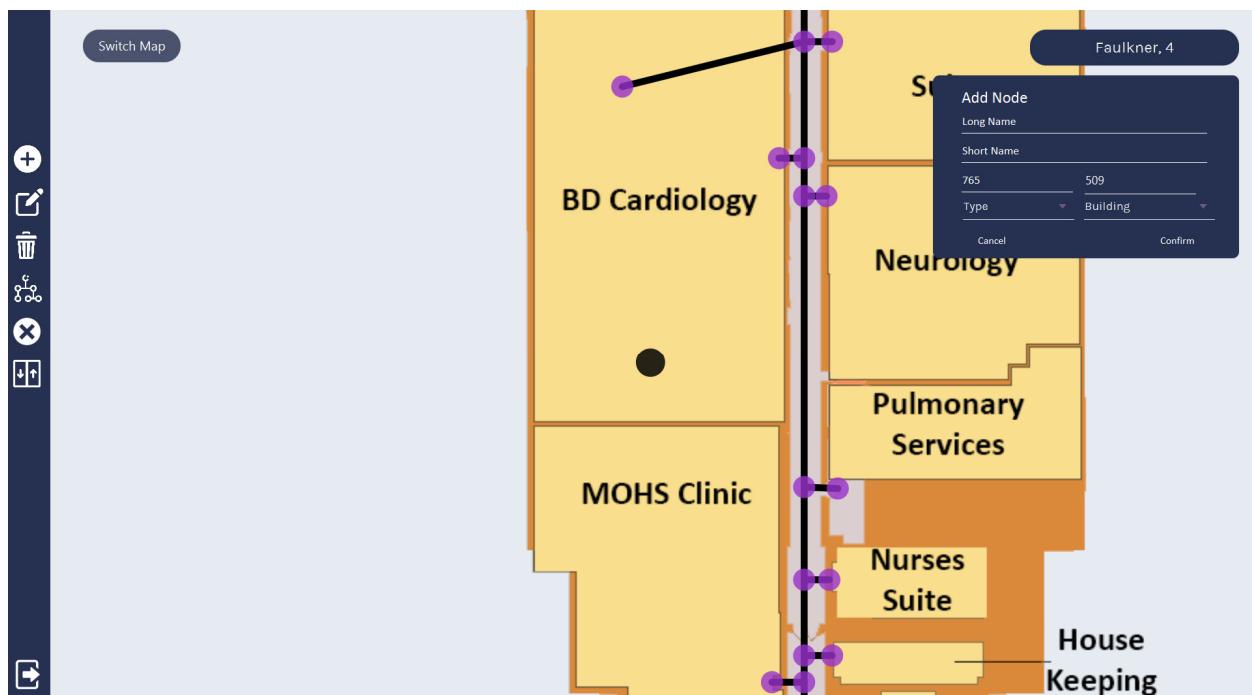
The edit map tool allows hospital administrators to add, delete, and edit nodes and edges on the maps for Faulkner and Main Campus buildings of Brigham and Women's Hospital. From the admin portal, an administrator can click the  icon to open the map editor. There are eight different editing modes, from each mode the admin can click **cancel** to undo the staged changes and **confirm** to save changes to the database. To switch the view of the map on the edit map screen, use the **switch map** button in the upper left corner of the screen and select a different building or floor button.



3.4.1 Node editing

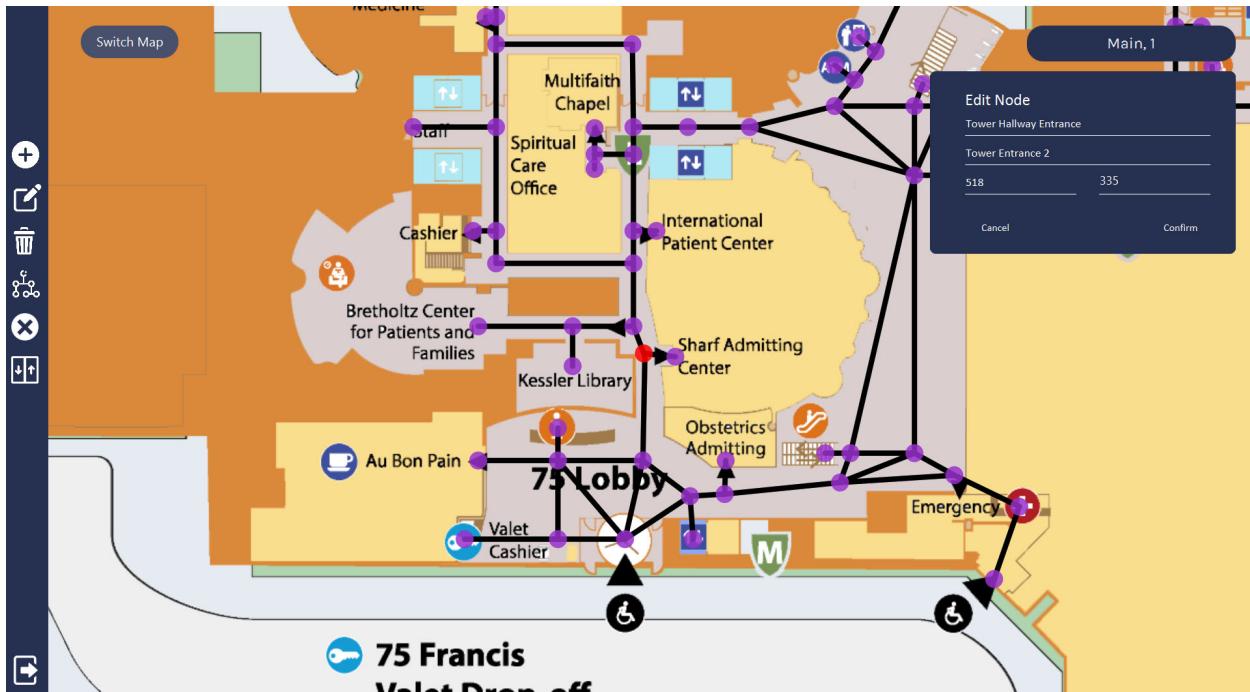
3.4.1.1 Add node

To add a node to the map, DOUBLE CLICK on the map in the location where the new node is to be added or click on the **+** icon on the right and a new node will appear on the map. After double clicking, a black node will appear on the map and the add node panel will appear in the upper right corner of the screen. The position of this node can be edited by DRAGGING the node to the correct position. The admin must input a *Long Name*, *Short Name*, *Node Type*, and *Building* into the text fields on the add node panel. To save the new node click **confirm** or to undo the operation click **cancel**.



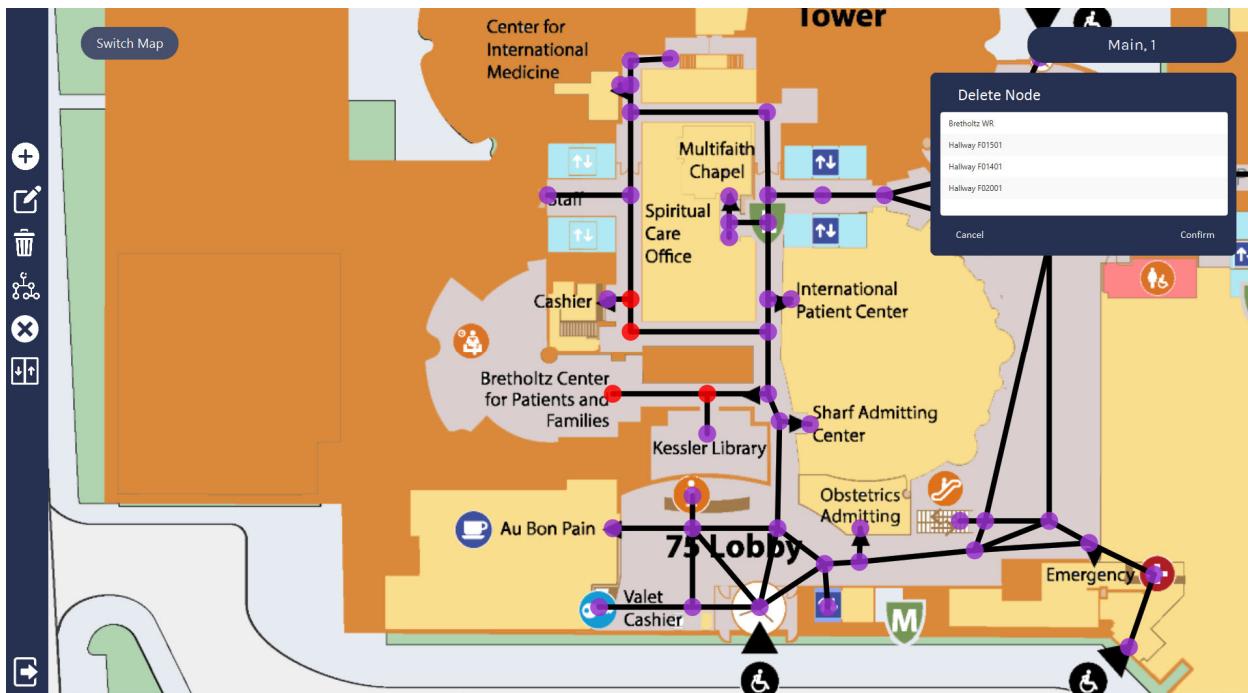
3.4.1.2 Edit node

To edit a node, RIGHT CLICK anywhere on the edit map screen and select **edit node** from the context menu or click the  icon on the right. The edit node panel will appear in the upper right corner of the screen. The admin can then click on any node to select for editing, the selected node will appear the color red. To edit the position of a node DRAG the node anywhere on the map or change the X and Y coordinates in the text fields on the edit node panel. To edit the *Long Name* or *Short Name* of a node, modify the name of the node in the edit node panel. To save changes to a node click **confirm** and to undo changes to a node click **cancel**.



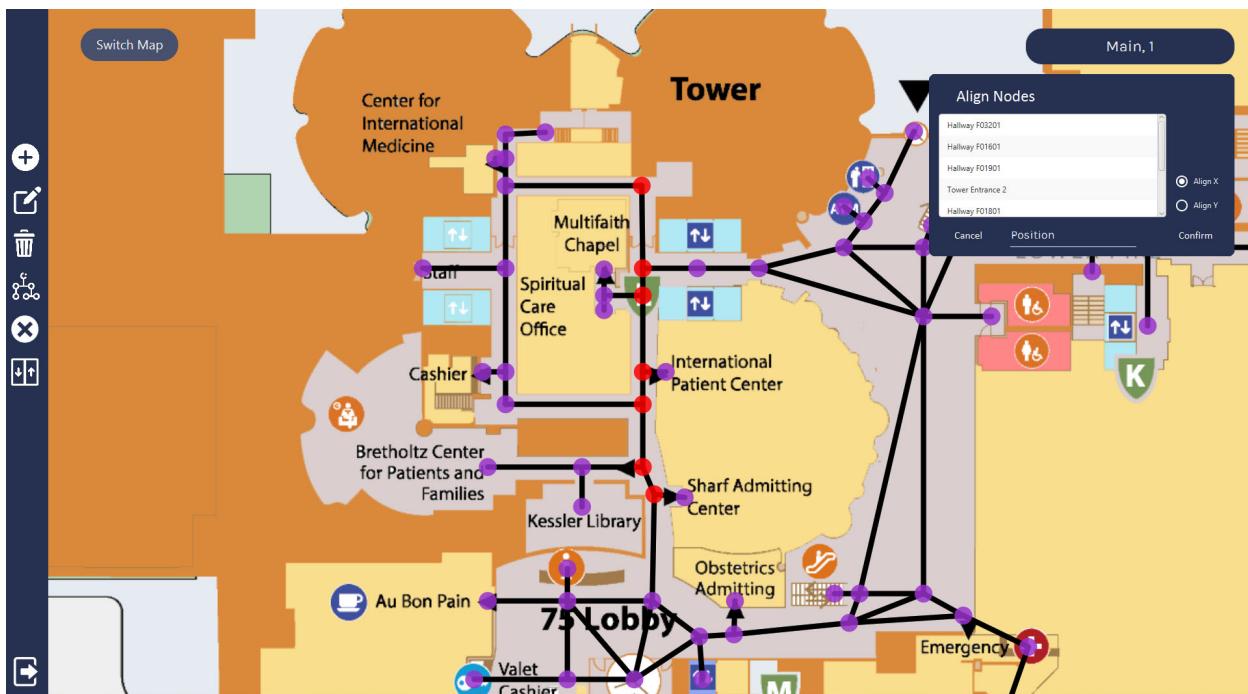
3.4.1.3 Delete node

To delete a nodes from the map, RIGHT CLICK anywhere on the edit map screen and select **delete node** from the context menu or click on the  icon on the right. A delete node panel will appear in the upper right corner of the screen and the admin can select any node(s) on the map to be deleted. The delete node panel will display a list of the names of the nodes staged for deletion and all selected nodes will appear the color red. To de-select a node, click on the already selected node again. To delete the selected nodes, click **confirm** and to cancel the operation click **cancel**.



3.4.1.4 Align node

To align multiple nodes horizontally or vertically, RIGHT CLICK anywhere on the edit map screen and select **align nodes** from the context menu or click the  icon on the right. The align node panel will appear in the upper right corner of the screen and the admin can select any nodes to be aligned. The selected nodes will appear the color red with the names of the selected nodes listed in the align nodes panel. To de-select a node, click on the already selected node again. To align nodes in a vertical line, select **align X** on the right side of the align node panel. To align nodes in a horizontal line, select **align Y**. The *position* text field at the bottom of the align node panel is optional. If no position is inputted, the nodes will automatically align to the X or Y position of the first selected node in the list. If a position is inputted, the nodes will align to the X or Y coordinate inputted in the position text field. To align the selected nodes, click **confirm** and to cancel the operation click **cancel**.



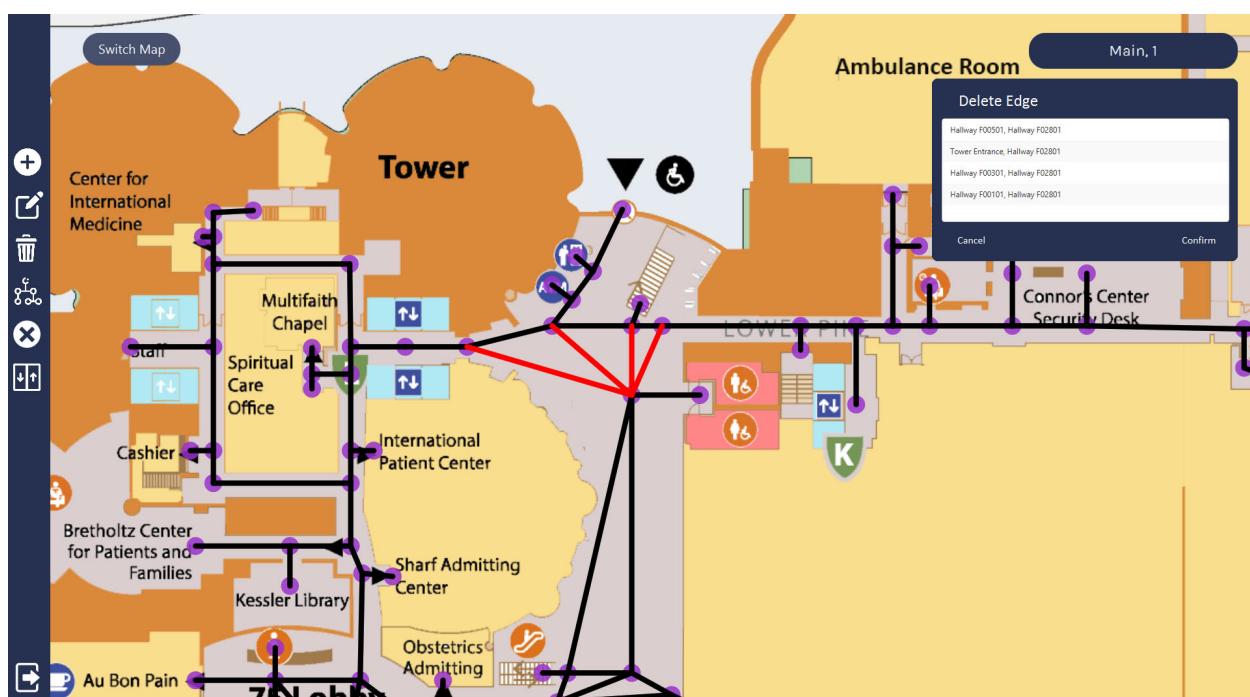
3.4.2 Edge editing

3.4.2.1 Add edge

Edges can be added to the map by CLICK & DRAG. To add an edge click on one node and drag an edge to the second node for the edge to connect to. A black line will appear as an edge is being dragged, when the edge is connected it will stay in place connecting the two nodes. The edge will automatically be saved to the database when it is connected. To delete an edge the admin must use the delete edge mode. Edges can be added between any of the nodes displayed on the current map in view. To edit edges between floors, the admin must use the edit elevator/stair mode.

3.4.2.2 Delete edge

To delete a edges from the map, RIGHT CLICK anywhere on the edit map screen and select **delete edge** from the context menu or click the  icon on the right. A delete edge panel will appear in the upper right corner of the screen and the admin can select any edge(s) on the map to be deleted. The delete edge panel will display a list of the names of the edges staged for deletion and all selected edges will appear the color red. To de-select an edge, click on the already selected edge again. To delete the selected edges, click **confirm** and to cancel the operation click **cancel**.

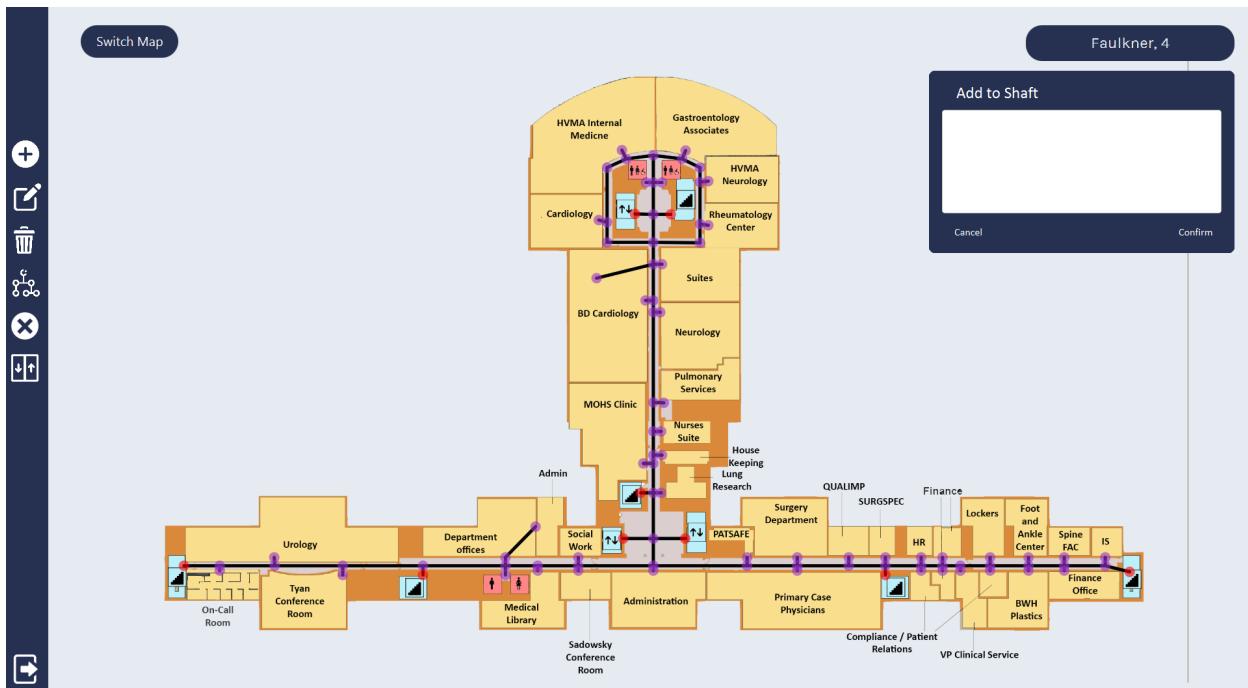


3.4.3 Stair and elevator management

To enter editing elevator or stair mode, RIGHT CLICK anywhere on the edit map screen and select **elevator/stair management** from the context menu or click the  icon on the right.

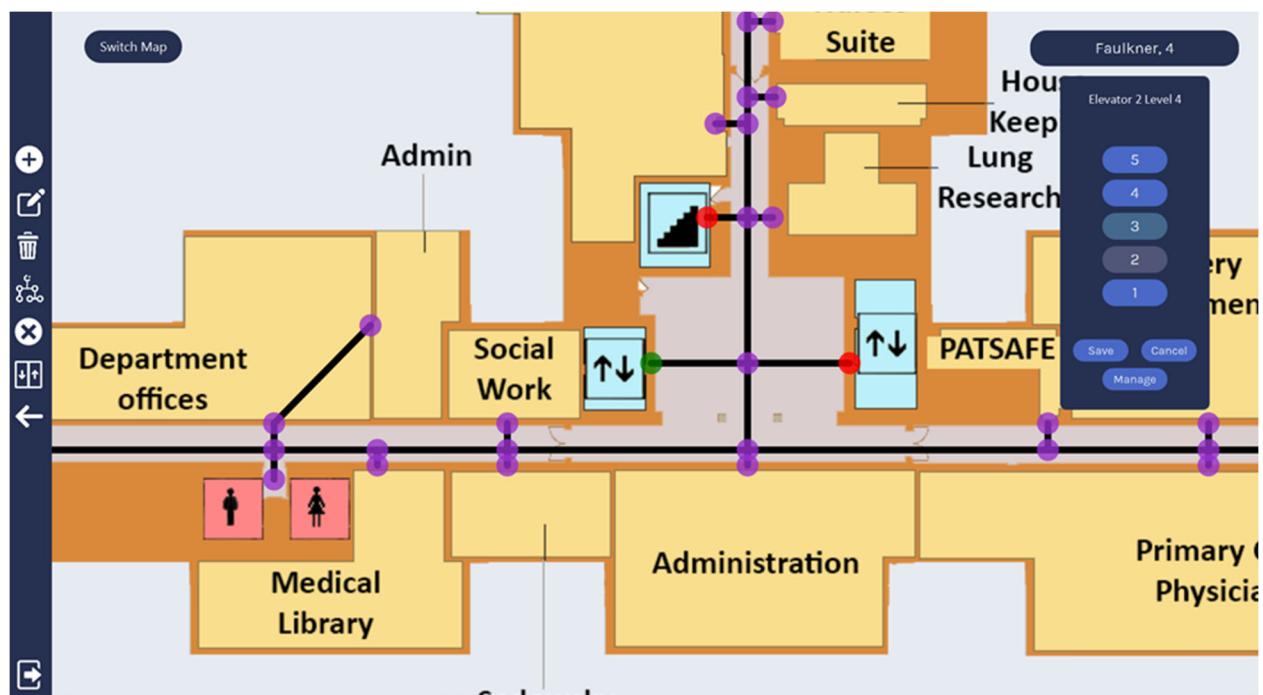
3.4.3.1 Create new shaft

After entering the elevator/stair editing mode, the shaft panel will appear on the right and the admin can click **manage** to start a new shaft. After clicking **manage**, the add to shaft panel will appear in the upper right. The admin can then select nodes from different floors, using the switch map button to change the floors, and select elevator or stair nodes to add to the shaft. All nodes in the shaft must be the same node type and must be in the same building. All unselected elevator and stair nodes will appear in the color red and selected elevator and stair nodes will be the color green. To deselect a node, click on the already selected node again. When a node is selected it will appear in the list of selected nodes in the add to shaft panel. To cancel the operation click the **cancel** button and to save the nodes to a new shaft click the **confirm** button.



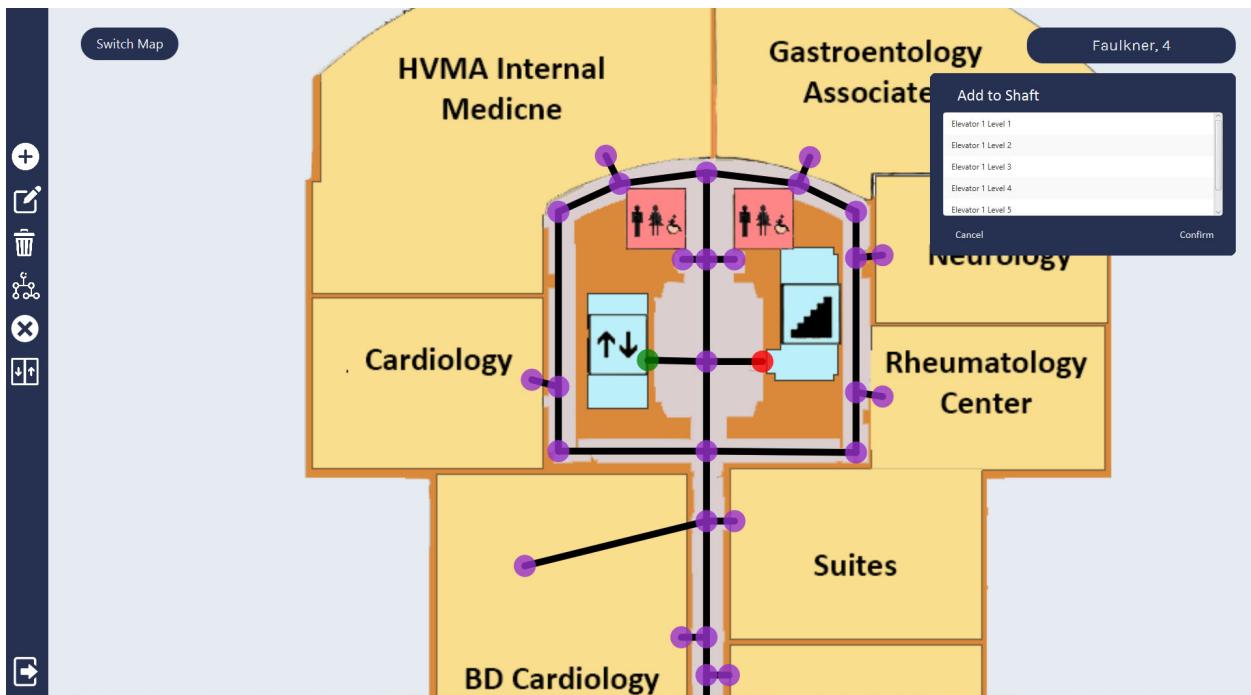
3.4.3.2 Connect & disconnect nodes

In edit elevator/stair mode, the admin can manage a shaft that already contains elevator or stair nodes. When a node is selected, all nodes in the same shaft will appear in the manage shaft panel on the right. Nodes that are connected in the shaft will appear blue and disconnected nodes in the shaft will appear grey. If a node is connected in a shaft it will have edges to all adjacent connected nodes in the same shaft. If a connected node is clicked on, it will turn grey and become disconnected from the shaft. If a disconnected node is clicked on, it will turn blue and become connected. Disconnected nodes will remain part of the shaft, but will have no edges to nodes in the shaft until it is re-connected. To save changes to connections click **save** and to cancel changes click **cancel**.



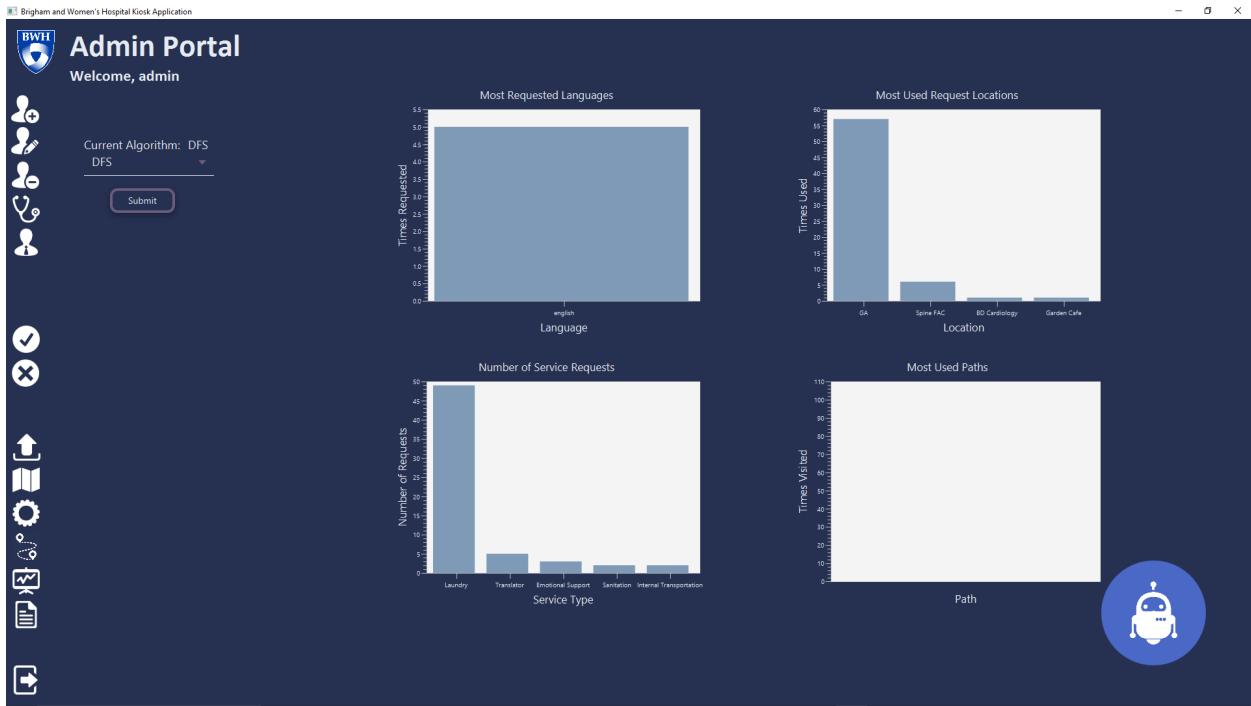
3.4.3.3 Edit shaft

To manage nodes in an existing shaft, select an elevator or stair node and then click manage. The names of the nodes in the selected shaft will appear in the add shaft panel and the selected nodes will appear the color green. To remove the node on the current floor from the shaft, deselect that node on the map. Deselected elevator or stair nodes will turn red. Click **confirm** to save the shaft with the deselected node removed. Click **cancel** to cancel the staged changes.



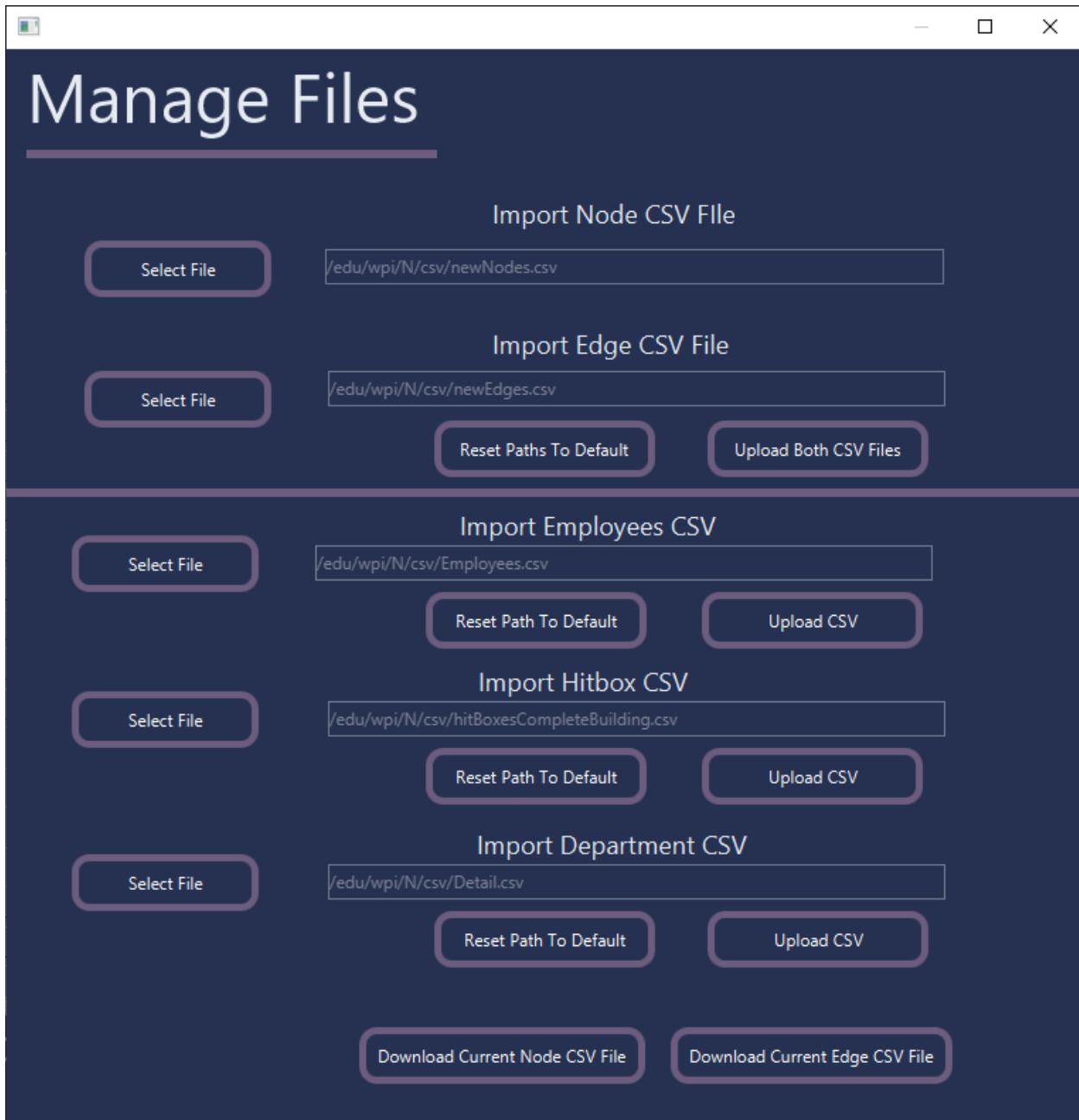
3.5 View analytics

An administrator can view analytics about the kiosk by pressing the  icon on the lower left. The kiosk tracks the number of service requests made of each type, the most frequently requested languages for translators, the most frequently used end node locations, and the most frequently used service request locations.



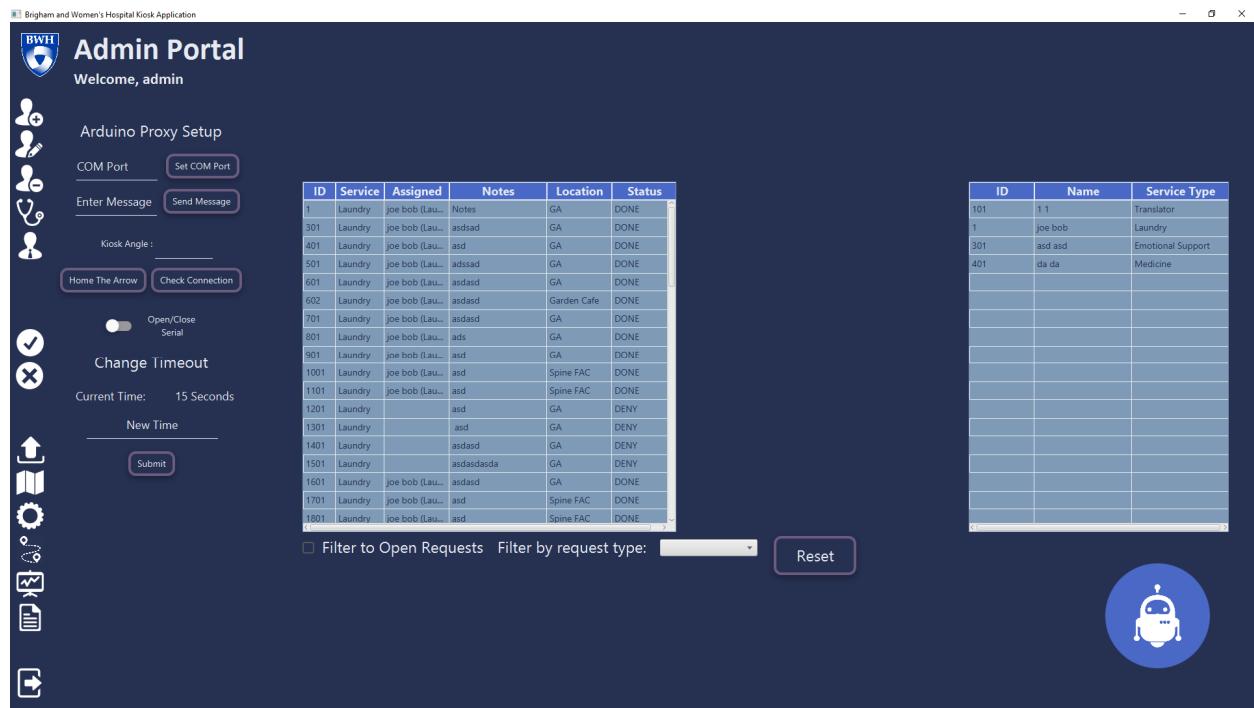
3.6 Manage files

To access the kiosk file manager, click the  icon on the left of the admin portal. Using upload CSV options, the admin can select files and upload CSV's for nodes, edges, employees, and hitboxes. To download the current nodes and edges CSV's, click the **download current node CSV file** button and the **download current edge CSV file** button.



3.7 Connect Arduino

To access the Arduino proxy setup, click the  icon on the left. The admin can set a COM port and open or close the serial connection. Using the Arduino setup, the admin can send a message to the Arduino, set the kiosk angle, home the kiosk arrow, and check the connection.



The screenshot shows the Admin Portal interface with the title "Admin Portal" and a welcome message "Welcome, admin". On the left, there is a vertical sidebar with icons for user management, service requests, and system settings. The main area is titled "Arduino Proxy Setup". It includes fields for "COM Port" (with "Set COM Port" button) and "Enter Message" (with "Send Message" button). Below these are buttons for "Home The Arrow" and "Check Connection". There is also a "Change Timeout" section with a slider set to "15 Seconds" and a "Submit" button. A large table displays a list of requests with columns for ID, Service, Assigned, Notes, Location, and Status. To the right of the table is another table showing service types with columns for ID, Name, and Service Type. At the bottom right is a circular icon containing a robot head.

ID	Service	Assigned	Notes	Location	Status
1	Laundry	joe bob (Lau...	Notes	GA	DONE
301	Laundry	joe bob (Lau...	asdasd	GA	DONE
401	Laundry	joe bob (Lau...	asd	GA	DONE
501	Laundry	joe bob (Lau...	adssad	GA	DONE
601	Laundry	joe bob (Lau...	asdasd	GA	DONE
602	Laundry	joe bob (Lau...	asdasd	Garden Cafe	DONE
701	Laundry	joe bob (Lau...	asdasd	GA	DONE
801	Laundry	joe bob (Lau...	ads	GA	DONE
901	Laundry	joe bob (Lau...	asd	GA	DONE
1001	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1101	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1201	Laundry		asd	GA	DENY
1301	Laundry		asd	GA	DENY
1401	Laundry		asdasd	GA	DENY
1501	Laundry		asdasdasda	GA	DENY
1601	Laundry	joe bob (Lau...	asdasd	GA	DONE
1701	Laundry	joe bob (Lau...	asd	Spine FAC	DONE
1801	Laundry	joe bob (Lau...	asd	Spine FAC	DONE

ID	Name	Service Type
101	1 1	Translator
1	joe bob	Laundry
301	asd asd	Emotional Support
401	da da	Medicine
...

3.8 Change timeout period

To change the timeout period for the kiosk, click the  icon on the left. The admin can view the currently set timeout period and set a new timeout period using the text field. To update the timeout period, click the **submit** button.

3.9 Change algorithm

The admin can view the pathfinding settings by clicking the  icon on the lower left of the admin portal. The currently selected algorithm is displayed and the algorithm can be changed by selecting a different algorithm from the drop-down and clicking the **submit** button.

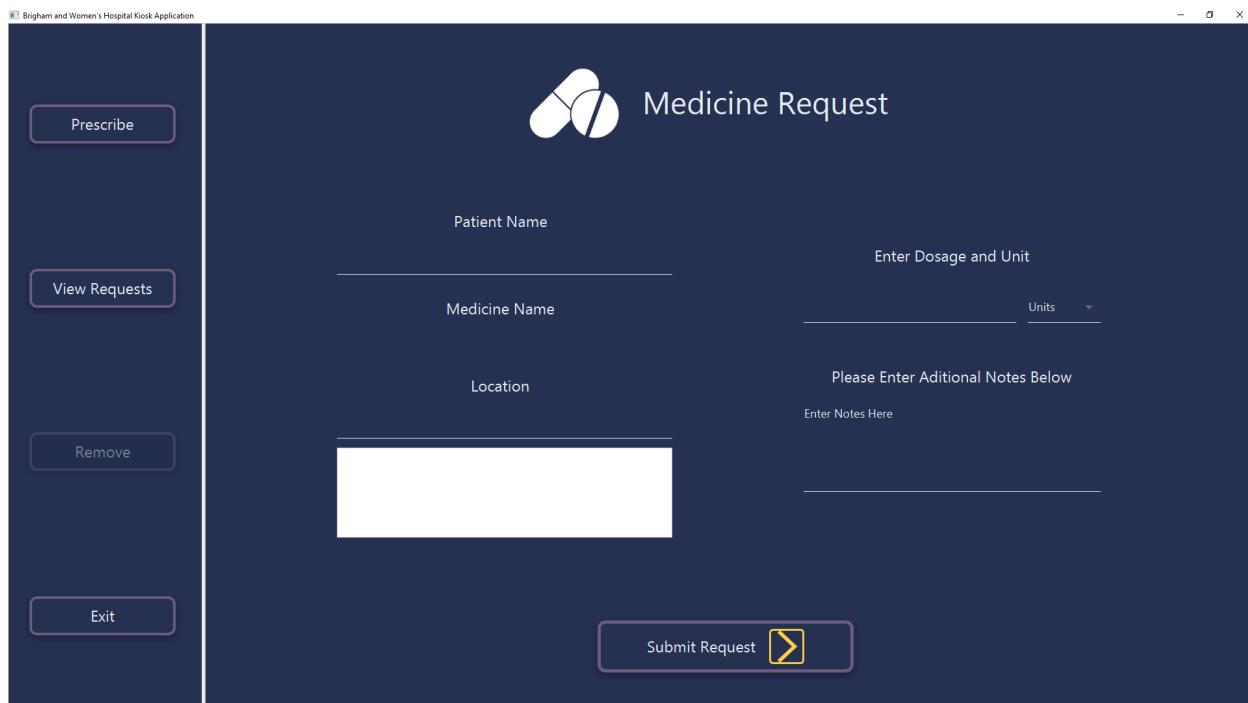
4 Doctor

4.1 Login

From the home screen (map display), a doctor can click the  icon on the lower left to open the employee login page. From the login page doctors can login by entering an assigned username and password into the **username** and **password** text fields. From the login page, the doctor can click **return** to return to the home screen, **clear** to clear the text in the username and password fields, and **login** to enter the doctor portal. If the inputted username or password is incorrect, an error message will pop-up on the login page. The doctor can click **OK** on the error pop-up and attempt to login again.

4.2 Prescribe medicine

Once logged into the doctor portal, a doctor can prescribe medicine to a patient by clicking the prescribe button on the left. The doctor needs to input the patients name, medicine name, location, dosage, and additional notes to create a prescription.



The screenshot shows the 'Medicine Request' screen of the Brigham and Women's Hospital Kiosk Application. On the left, there is a vertical sidebar with buttons for 'Prescribe', 'View Requests', 'Remove', and 'Exit'. The main area has a dark blue background with white text and input fields. At the top center is a logo of two overlapping capsules and the text 'Medicine Request'. Below this are four input fields: 'Patient Name', 'Medicine Name', 'Location', and 'Enter Dosage and Unit'. To the right of 'Enter Dosage and Unit' is a dropdown menu labeled 'Units'. Below these fields is a note 'Please Enter Additional Notes Below' followed by a text area labeled 'Enter Notes Here'. At the bottom center is a large button labeled 'Submit Request' with a yellow arrow icon.

4.3 Handle medicine requests

A doctor can view their own medicine requests by clicking the **view request** button on the left side of the doctor portal. The list of medicine requests will appear in the table. A doctor can accept or deny requests by selecting a request from the table and clicking the **accept** button or the **deny** button. A doctor can only handle their own requests.

