WEB ROUTING

Contributions

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# Overview

This document focuses on the added contributions to the system

# Added Contributions

The following is a comprehensive list of contributions made to**Web Routing Auctioning application** in its current iteration. Brief descriptions of the solutions implemented are included. The **Issue Numbers** coincide with the **Issue Numbers** for the group project on GitHub.

1. Auctioneer – changed the name from Master to Auctioneer
   1. Freeze / Unfreeze shipments.
   2. Add / Edit / delete bids.
   3. Remove and push shipments to auction.
   4. Direct Assign Shipments
   5. View all shipment details.
2. Admin
   1. Restore database from backup.
   2. Toggle auctioning for shippers and carrier
3. Freight rate table
4. Implemented HTML sessions to hold errors and redirect locations.
5. Shadow Admin account and role
   1. Filter and export logs
6. Log4j has been implemented.
7. Nested Back buttons
8. Exporting entities as excel files.
9. Importing entities from excel
10. Auction Simulation
11. Direct Assignment Simulation
12. Carriers can no longer delete other carrier’s bids.
13. Direct Assignment System
14. Auction System
15. Database Backup
    1. Database can be restored from a SQL backup file.
16. Notification System
17. Attach vehicles to shipments.
    1. Can select the best vehicle based on distance.
18. Routing System
    1. Google map api integration
    2. Displays the route from vehicle to shipment.
19. Longitudes and Latitudes are set by using google map api
20. Data sanitization has been completely reworked.
21. Visual Changes
    1. Icons within the tables
    2. Carrier info separated into different columns.
    3. Username, user account icon, alert icon, logout icon moved to top right corner of all pages.
    4. Make edit screens smoother with dropdown bars.
22. Edit pages were reworked.
23. Add pages were reworked.
24. Split the user tables into separate columns for shippers and carriers.
25. Added a function so that shippers can remove their own shipments from auction.
26. Created the All-Shipments Page for MASTER, CARRIER, SHIPPER
27. Removed Slippery Rock references.
28. Confirmation pages replaced with popups using a JavaScript/ajax request.
29. Reworked the Navigation menu.
30. Greyed out various options that users are not supposed to have access to.
    1. Admin can disable auctioning for users greying out all their auctioning related buttons.
    2. Users start out with auctioning disabled so they must be approved by the admin.

Explanations of the more complex systems listed above.

**Reworked the Navigation** **menu** – Navigation menu now loads from a JavaScript function, which allowed for a huge amount of html code to be deleted. It also now has dropdown submenus included in it.

**Database Backup**: On startup and every 20 minutes the database is saved into a database backup file that then can be used to reinstate the database at any point. Admins have this feature.

**Direct Assign System:** A standalone shipment assigning system that allows shippers to bypass the auctioning system and directly assign shipments to carriers of their choosing. Assigned carriers are sent a notification and an email asking whether they wish to approve or deny the request.

**Auctioning System:** Shipments can be pushed to auction which means they become available for carriers to bid on them. The carrier with the lowest bid wins. When the shipper accepts the bid, it attaches the winning carrier to the shipment.

**Freight Rate Table:** Shippers to set default price-per-mile multipliers for shipments. Also allows shippers to pre-generate prices for shipments when they are assigning shipments to carriers outside of the auction. Once a Freight Rate Table has been uploaded, the "Fetch Price from Freight Rate Table" button on the Direct Assignment screen will be enabled. The system allows shippers to have multiple Freight Rate Tables to allow for different pricing for different carriers. When assigning a price to the shipment using a freight rate table, a query is made to Google Maps API to determine the distance between the shipment start and ending location. That distance is matched against the "Distance Breakpoints" in your freight rate table to determine a price per mile, and then the distance is multiplied by that rate. The resultant price will be automatically filled into the input box.

**Data Sanitization:** The validation service holds methods for taking in locations, vehicles, vehicle types, maintenance orders, technicians, drivers, contacts, and shipments. These methods will validate the objects and return the valid object or display an error message for what went wrong. The validation service holds methods for validating the edit forms and excel files as well.

**Direct Assignment Simulation:** Creates a shipment. Directly assign the shipment to a carrier. Shipment gets accepted.

**Auction Simulation:** Creates a shipment. Pushes the shipment to auction. A bid gets places on the shipment. Bid gets accepted.

**Log4j:** Every controller has an instance of a Log4j object used to log the various database interactions throughout the controller. They are written in the console and in a log file.

**Importing entities from excel:** Added Excel Controller handling the uploading and validation of all entities. Shippers can upload shipments from an excel sheet. Carriers can upload all fields from excel sheets. Freight rate table can upload carriers and prices from excel sheet.