CP1295
Advanced JavaScript
Project Part B v1 – 10%

CP1295 Assignment 02v1

Contents

A. Brief Description

The specifications for Project Part B - are based on updates to specifications of Project Part A

CNA Rail System is upgrading its software requirements.

Expansion requirements the ability to Move the Train from Station 1 to Station 2

Rules of Box Car code have been updated.

This version of the project will consist of TWO indepent Web Pages.

It is now **required** that arrays of object are used in your design of intermediate data storage requirements and its manipulation.

To simplify the Display components of the project, it is permitted to code Table Headers and Footers into the applicable DIV sections. The Body section will still require use of JS. Pre-coding of Body sections of table into HTML will be considered as Out-Of-Scope for this assignment.

The only allowable element creation command to be used is **document.createElement**.

You are permitted to use JavaScript and JQuery. See the full set of project requirements in Code Requirements section.

Pending additions for v2 of this document.

A detailed expected output display that follow the Bench Mark data test.

A detailed expected Web Page 2

B. Menu- divA

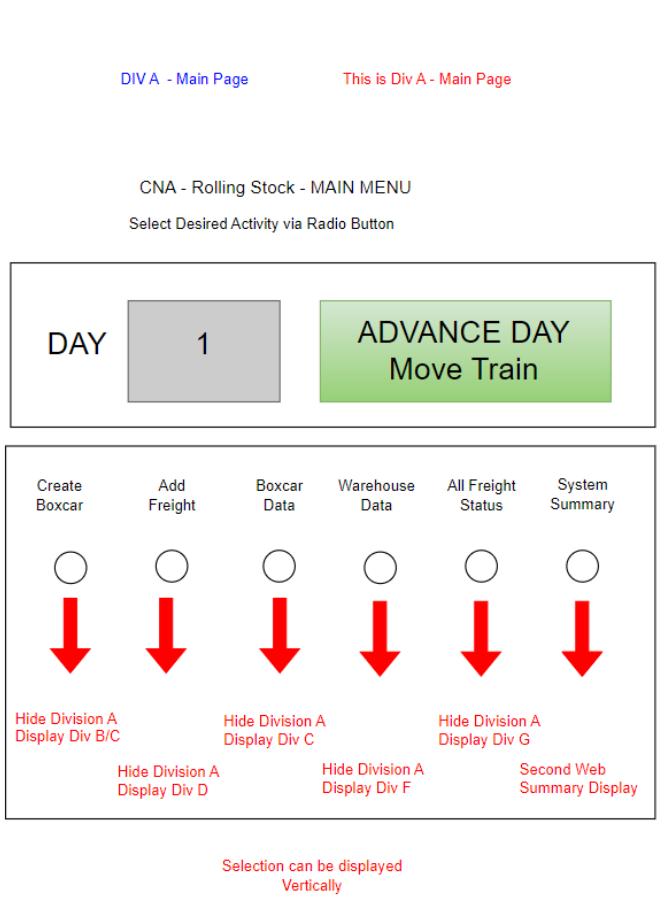
There are 7 DIV sections. Each will be considered to be a pseudo Page.

One 1 HTML PAGE.

The 7 DIV elements will be used in combinations to simulate various pages as required.

The ‘blue’ text is informational and will not be displayed on the web page.

The ‘red’ text indicate activity requirements of various components.



Single Page
Division A - Main Page
Division B - Create Boxcar page
Division C - Display of configured boxcars
Division D - Add Freight page
Division E - Display Boxcar Manifest
For Selected Boxcar
Division F - Display Warehouse Manifest
Division G - Display All Freight Status

Designs for Each of the Divisions will indicate general formal and operation of each Division.

Red - Operational Information

BLUE - Information Lables for design purposes

Advance DAY Move train
will move the clock forward 24 hours.

Day Counter moves to next day

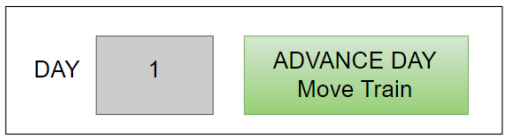
The train moves to the next station in the sequence is will automatically move cargo destinated for the current station into the station's warehouse. There may be some cargo remaining on the train.

The train cannot move past the last station in the sequence, the day counter may contiue to the next 24 hours but the train

If the train is still at the statiion for more than one day, all of the remaining cargo will be transferred of the train into the current station's warehouse.

The Main menu is a Radio Button Page.
Initially NO buttons are selected.
Upon return to this page ensure that NO buttons are selected.
Ex. If “Add freight is Selected”
(1) The main menu ‘DivA’ will be hidded and ‘DivB’ will appear. Before you return back to main menu, be sure to deselect All radio buttons.

A new button is added.



The program will start on day 1. The train is at location S1. (The first of two stations).

While the train is at station on day1, all train loading will commence and will use the data format as used for partA. Some minor data changes have been made to ‘Transport ID’

During Data Entry, some of the cargo will remain at S01 due to weight capacity of box car being used.

When the Advance DAY button is selected, the train with its configured box cars, will move to station S2.

The Day counter will be incremented by 1.

The freight cargo that is destined for Station S2 will be removed form the train and placed into the Warehouse for Station S2.

No new cargo will be added to the train from Station S2.

The process Repeats.

When the next day counter is pressed again.

The train advanced onto Station S3 (Day Counter shows 3)

No new cargo is being accepted but cargo for S3 will be deposited into Station’s 3 Warehouse.

When the next day counter is pressed again. (There are only 4 Stations)

The train advanced onto Station S4 (Day Counter shows 4)

No new cargo is being accepted but all remaining will be deposited into Station’s 4 Warehouse.

In the Benchmark test plan.

The last three characters of the Transport ID

Sequence					
FTR	Boxcar ID	Transport ID	Description	Weight	Result
FTR 1	BX500	TXL2031S02	50000 Shirts	25000	Added to BX500
FTR 2	BX505	MED2033S02	Medical MX45000	16000	Added to BX505
FTR 3	BX520	CSX2037S02	Lamp Oil K1 Drum	10000	Added to BX520
FTR 4	BX500	TXL2031S03	30000 Coats	30000	Added to BX500
FTR 5	BX505	MED2033S03	Medical MX34111	16000	Added to BX500
FTR 6	BX520	CSZ2039S03	Fuel Dsl G1 10000L BL	8320	Added to BX520
FTR 7	BX520	CSZ2041S04	Fuel Dsl G2 9000L BL	7928	Added to BX520
FTR 8	BX500	TXL2031S04	40000 Artic Boots	40000	Added to Warehouse
FTR 9	BX505	MED2033S04	Medical MRI4909	50000	Added to Warehouse

C. Create Boxcar- divB

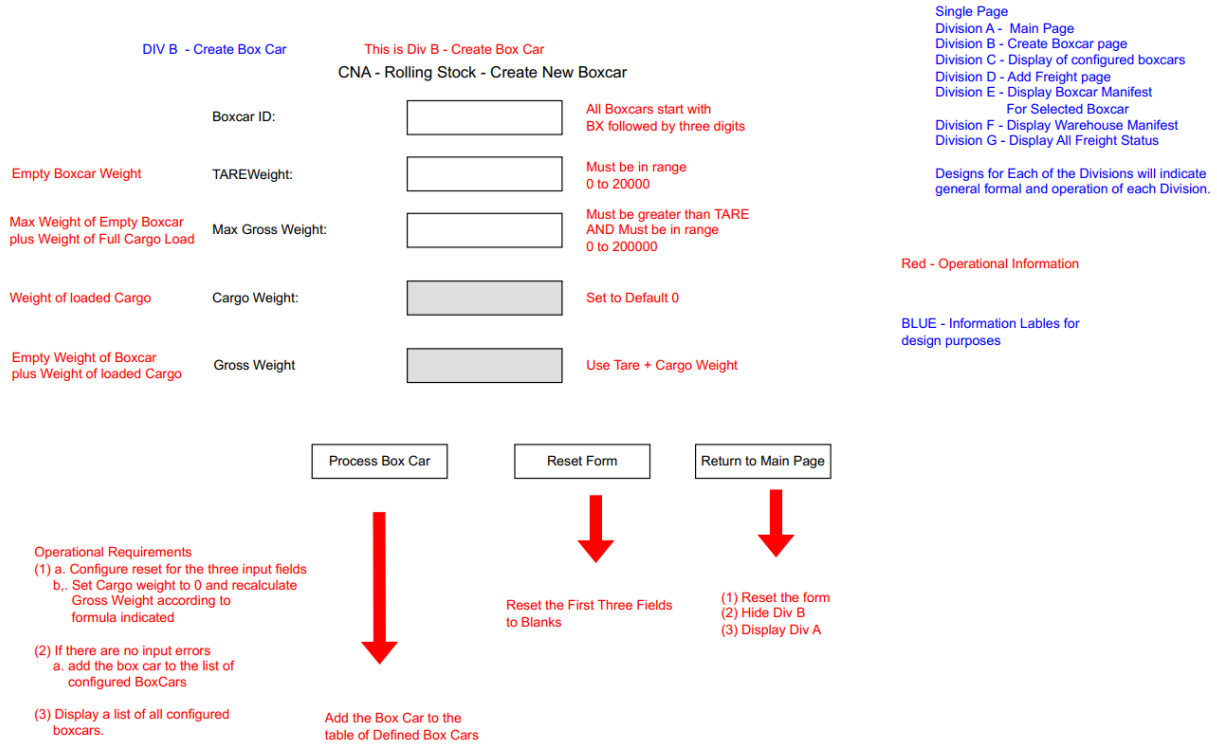
The project requirements are being displayed as a list of requiremnts with sample output sketches.

The project will require the use of more than one boxcar. There are no default boxcars. Each will require configuration. The sample data testing will use only three box cars, but the next phase may require more.

The three initial data entry requirements

(1) Box car ID will require a BX followed by three digits. This pattern will be one of the error testing requirements. Usage of 'span' messaging is encouraged. POP-Ups such a ALERTS are not permitted.

(2) Definitions of correct railway terminology is introduced. I.E. TARE weight means Empty boxcar weight. Read the 'Red' and 'Blue' information notes to ensure that the definitions are understood.



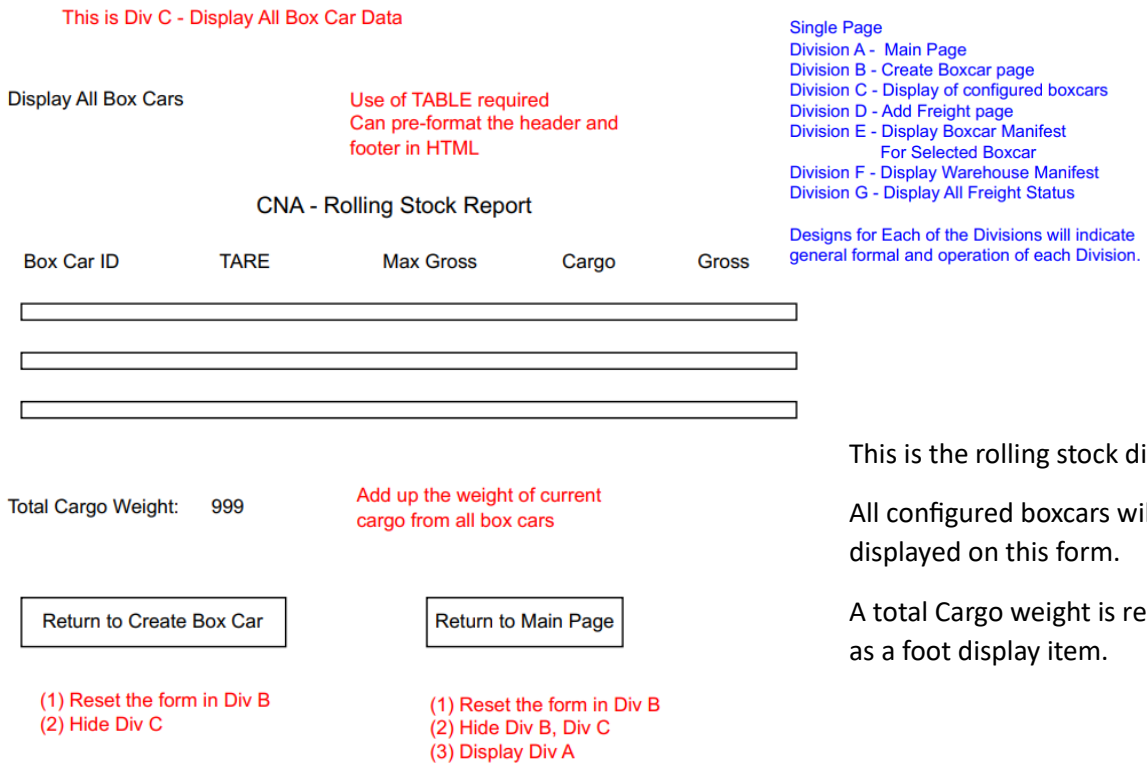
(Item #3) Display divC. DivC is displayed on the screen at the same time as DivB as required.

Each of the three buttons will have specific task requirements. Three buttons, each will have its own list of requirements to be met and followed.

If you discover any inconsistencies, send an e-mail or bring it up in class so that it can be addressed early.

D. Display of Configured Boxcars- divC

DivC is displayed on the screen at the same time as DivB as required. No other Div sections are displayed at this time.



This is the rolling stock display.

All configured boxcars will be displayed on this form.

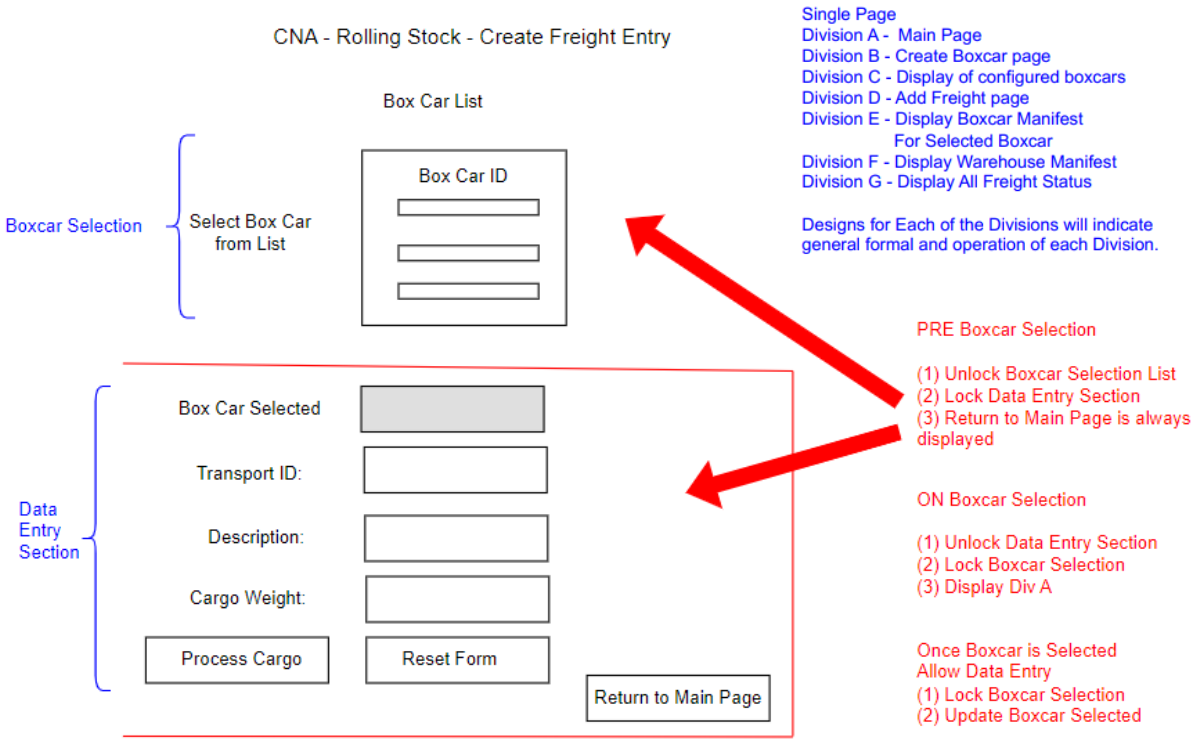
A total Cargo weight is required as a foot display item.

Two button choices. Ensure basic display housekeeping. Turn of current s and Turn on Destination . Reset form requires blanking all input data so when this is required again, it will appear as it it was the first time called.

All of the forms are based on this button logic.

*** Note: The display shown is not accurately displayed. Each row has 5 columns. There are 5 <td> elements in each row.

E. Add Freight- divD



On Process Cargo

(1) Perform Error Checking

(2) IF (NO data entry errors)
(3) Lock Data Entry Eelector

(4) IF (Within Max Weight of Boxcar)
(5) show DIV E - Box Car Manifest for selected Boxcar

(6) ELSE // Warehouse storage used
(6) show

On Reset Form
(1) Blank Data in Data Section
(2) Lock Data Entry Section
(3) Unlock Boxcar Selection
(4) Make the Boxcar Seclection list active

Transport ID CHECK
(1) data example "TXL2031S02"
PATTERN AAA BBBB CDD
A-Three Chars A-Z B-Four Digits C-'S' D-01 to 04
Must use REGEX to validate input data
(2) Display error message in span element or equivalent
(NO popup alerts)

On Return to Main Page
(1) Blank and Lock Data in Data Entry Section
(2) Clear Boxcar selection
(3) Hide Division D (Create Freight Entry)
(4) Show Division A (Main Page)

This is two part div section.

A list of configured box cars are presented at the top of the screen.

Pick One of them.

If none are in the list then you will not be able to enter freight into the system.

Once you have selected a box car from the list you can enter a Freight entry for the selected box car.

It will require the usual validation process. If the additional weight of the entry will put the boxcar over its maximum allowable weight, then it will be added to the warehouse manifest otherwise it will be added to the boxcar manifest. Ensure numeric error tests (> 0) are applied where applicable.

If the freight was added to the box car, then the display will show DivD and DivE. (The box car manifest) otherwise it will show DivD and DivF(Warehouse manifest).

Each of the possible outcomes are described in the diagram on the previous page..

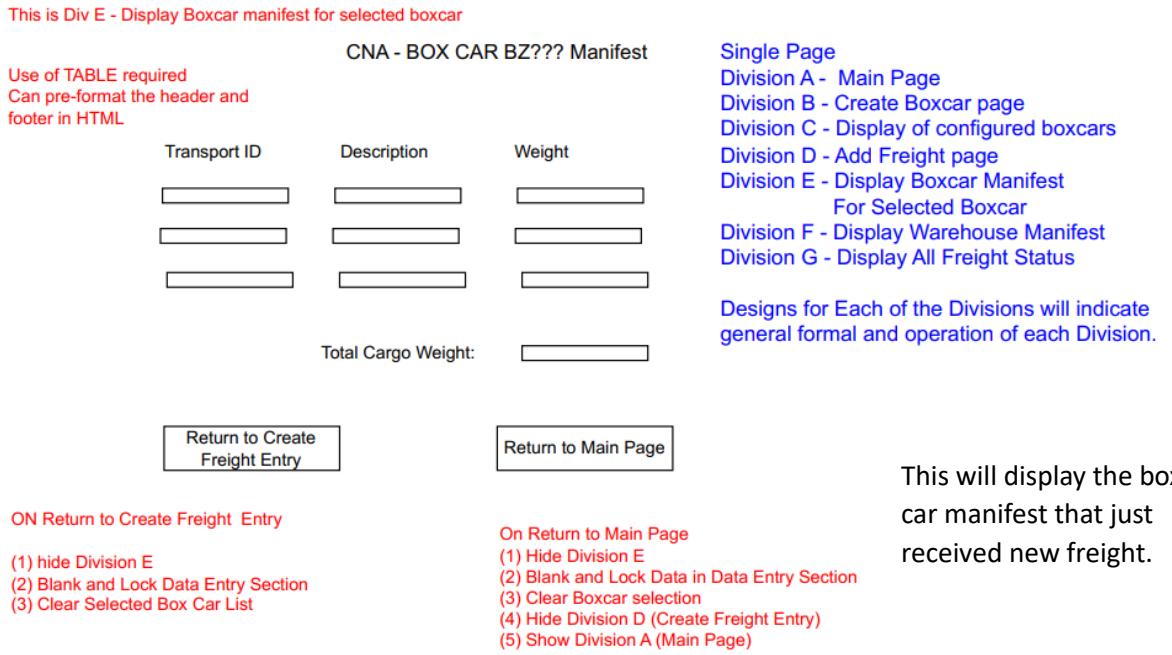
*** Note: If freight cannot be added to Box car due to box car overweight issues and requires that freight must be placed into warehouse. Display a message in the span (or equivalent) “Cargo Diverted to Warehouse-weight exceeded” of transport_id.

** NEW ITEM **

Transport ID CHECK
(1) data example "TXL2031S02"
PATTERN AAA BBBB CDD
A-Three Chars A-Z B-Four Digits C-'S' D-01 to 04
Must use REGEX to validate input data
(2) Display error message in span element or equivalent
(NO popup alerts)

F. Display Box Car Manifest – divE

This <divE> will appear with <divD> in the sequence <divD> followed by <divE>. All elements will appear on the screen in alphabetical order when two or more appear together.



This will display the box car manifest that just received new freight.

You can verify that your new freight item is now appearing on the manifest of this boxcar.

There are two possible button options on how to proceed.

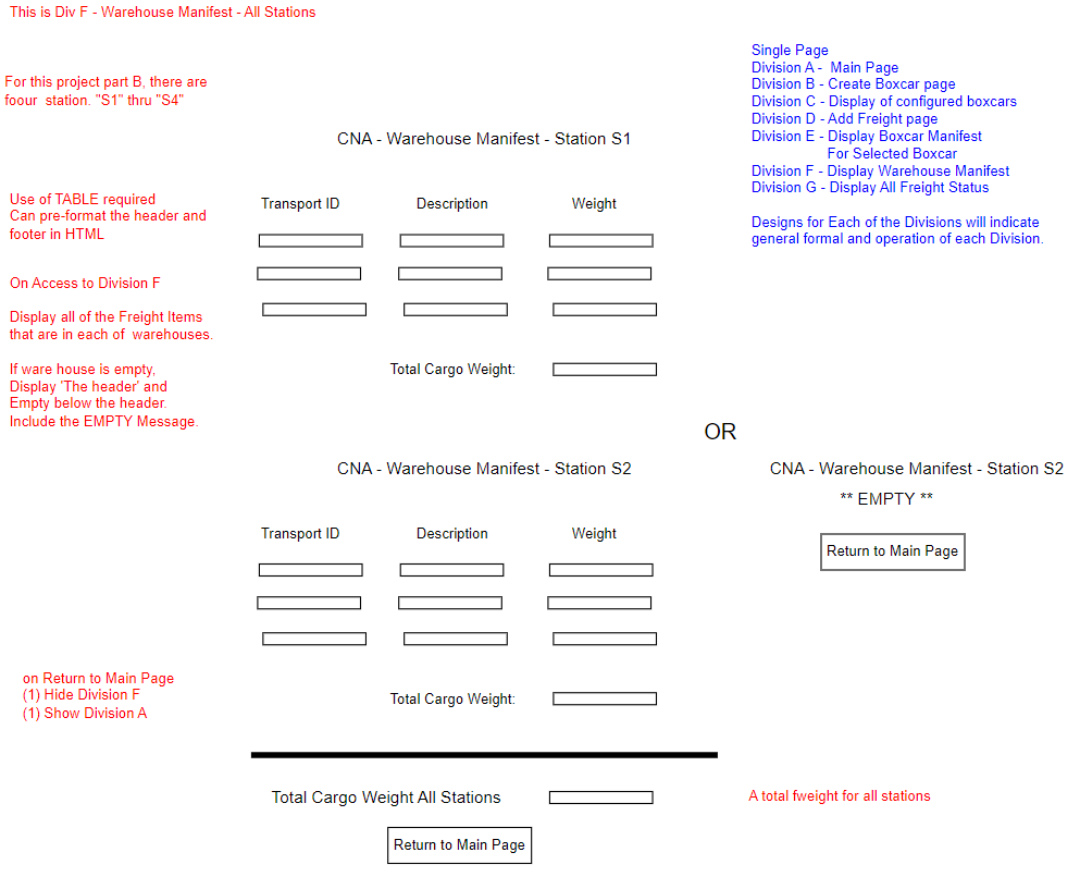
(1) Return to Create Freight Entery and continue to add more freight (to any boxcar).

(1) Return to Main Page.

Each option will require some DIV housekeeping such as resetting form values to blank, and closing the appropriate <DIV> elements and may requiring opening another one.

G. Display Warehouse Manifest – divF

This <divF> will appear with <divD> in the sequence <divD> followed by <divF>. All elements will appear on the screen in alphabetical order when two or more appear together.



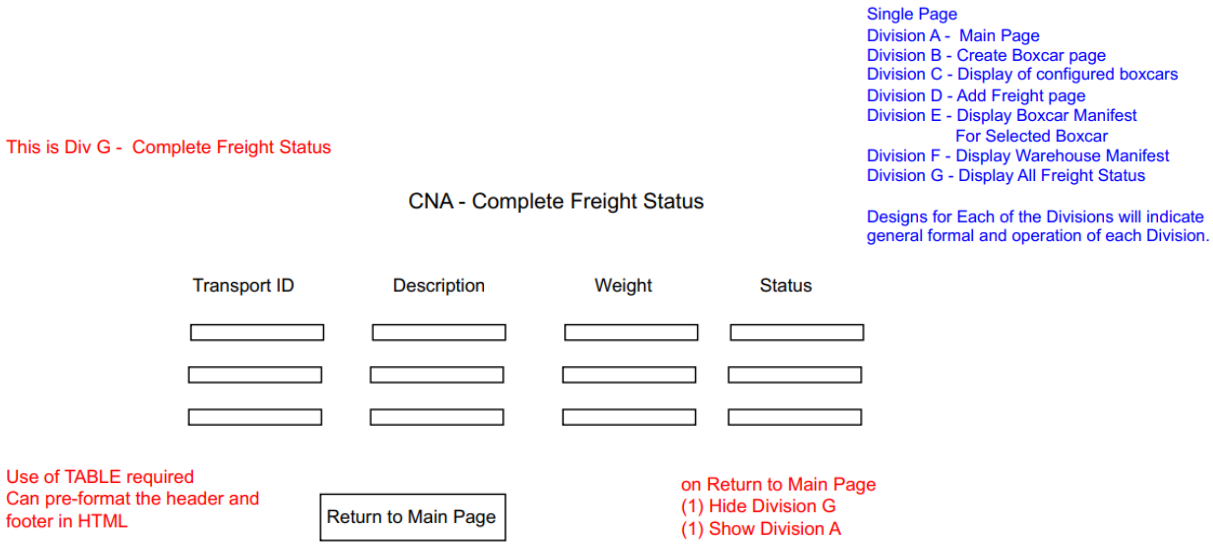
This is similar to the boxcar manifest. All of these Freight items were placed in the warehouse due to weight limit exceeded from Add Freight ot boxcar, therfore have become part of the warehouse manifest. Provide a mechanism to return back to the Boxcar to add more Freight.

There is only one button (Return to Main Page) OR (return to Add Freight Page) depending on how you arrived to this DIV element.

H. Display All Freight – divG

This is the simplest of the forms.

This is called only from <divA> Main menu directly.



All freight items are displayed. (In Boxcars and Warehouse).

The Status indicates the Boxcar ID or Warehouse depending on where the Freight item was placed.

The return to Main Page button will simply hide divG and show divA.

This concluded all of the possible Div combinations.

I. The Second Web Page

PENDING Completion of Requirements.

Rather than Hold the Version 2, This release until all of the details were ironed out, on the second web page.

J. Benchmark Data Test Plan

The Test Plan involves two phases. First Phase – Box Car Addition. Second Phase – Freight Addition.

1. Create 3 Box Cars

a. With Error data (Code BX1 - Page 3 Screen shot showing error display)

BX1	Create Boxcar	BA500	15,000	105,000	Fail Data Err Check

b. With Error data (Code BX2 - Page 4 Screen shot showing error display)

BX2	Create Boxcar	BX5000	12,000	90,000	Fail Data Err Check

c. With Valid Data

BX3	Create Boxcar	BX500	15,000	105,000	Add to Boxcar List

d. With Valid Data

BX4	Create Boxcar	BX505	12,000	90,000	Add to Boxcar List

e. With Valid Data. (Last Box Car to be added). Code is BX5. Page 5 Screen shot required showing the Entry Data and the Display of all Boxcars Created.

BX5	Create Boxcar	BX520	10,000	80,000	Add to Boxcar List

BOXCAR Display after BX520 added

Boxcar ID	Tare	Max Gross	Cargo	Gross
BX500	15,000	105,000	0	15,000
BX505	12,000	90,000	0	12,000
BX520	10,000	80,000	0	10,000

Addition of Freight. FTR – Freight Transaction

Create the following Freight transactions. Take screenshots where indicated.

There are 9 required Freight Transactions labeled in sequence FTR 1 to FTR 9

Data for each Freight Transaction is in the following sequence.

(6) is the Expected Result of the Add Freight Attempt.

(1) FTR	(2) Boxcar ID	(3) Transport ID	(4) Description	(5) Weight	(6)Result

f. First attempt is to add 50000 Shirts to Boxcar BX500. Weight is 25000. The attempt should be successful. Code FTR1 – Screen shot page 6. Screenshot should show the data being added and the corresponding Box Car manifest.

FTR 1	BX500	TXL2031S01	50000 Shirts	25000	Added to BX500

g. FTR 2 attempt is to add a Large Medical Device weighing 16000kg to Boxcar BX505. The attempt should be successful.

FTR 2	BX505	MED2033S01	Medical MX45000	16000	Added to BX505

h. FTR 3 data test requirement is to Add Freight ID item CSX2037S01 which is Drum of K1 Lamp Oil to Boxcar BX520. The attempt should be successful.

FTR 3	BX520	CSX2037S01	Lamp Oil K1 Drum	10000	Added to BX520

i. FTR 4 data test requirements. You should be able to decode the test requirements based on the previous explanations.

FTR 4	BX500	TXL2031S02	30000 Coats	30000	Added to BX500

j. FTR 5 data test requirements.

FTR 5	BX505	MED2033S02	Medical MX34111	16000	Added to BX500

k. FTR 6 data test requirements.

FTR 6	BX520	CSZ2039S02	Fuel Dsl G1 10000L BL	8320	Added to BX520

l. FTR 7 data test requirements. A screen shot (Page 7) is required for this data entry test. Code is FTR 7. Screen shot should include the data being added as well as the Boxcar manifest.

FTR 7	BX520	CSZ2041S03	Fuel Dsl G2 9000L BL	7928	Added to BX520

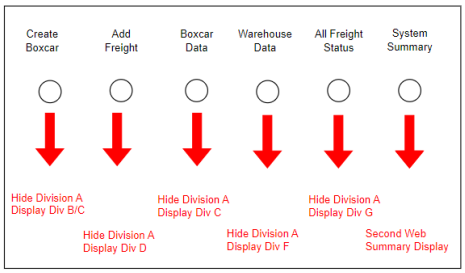
m. FTR 8 data test requirements. This data entry test should create a weight exceeded message for Boxcar BX520. The test involves an attempt to create Freight Item #TXL2031S03 weighing 40000kg and place this freight item on Boxcar BX500. This would create an overweight problem for the Boxcar, therefore the item is placed in the warehouse. Screenshot (Page 8) required for FTR 8. The screen should show the following (1) Data that is being added (2) form messages showing the cargo overweight status (3) the display of the Warehouse manifest.

FTR 8	BX500	TXL2031S03	40000 Artic Boots	40000	Added to Warehouse

n. FTR 9 data test requirements. Last Screen shot (Page 9) is required. Screen shot should show (1) the data that being entered, (2) Any screen information messages such as Boxcar would exceed weight limit, (3) the warehouse manifest that shows the freight item. This is the last data entry test. There is an attempt to create Freight ID: MED2033S03 which is large medical device weighing 50000Kg. This device is to be added to boxcar BX505. This will cause a weight exceeded problem for BX505. The item will be placed in the Warehouse at this time.

FTR 9	BX505	MED2033S03	Medical MRI4909	50000	Added to Warehouse

o. On the opening page, activate the “All Freight Status” button and generate a display of the status of all created Freight Items. Take a screen shot. This will be Page 10 content. Code is FTR 10. 9 Freight Items should be displayed. 2 of these are in Warehouse.



p. Check all Totals and Summaries, Boxcar, Warehouse, All Freight, Summary

q. Advance to day 2 and check All totals as in subpart ‘p’.

r. Advance to day 3 and check All totals as in subpart ‘p’.

s. Advance to day 3 and check All totals as in subpart ‘p’.

End of data testing.

K. Submission Reqirements

Generate a word document called Assignment 02 – Your name and student number.

Page 1

a. Add Course Number

b. Your Name

c. Your Student Number

For details on the following re-visit section I – Benchmark Data Test Plan

Page 2 Screen Shot

Screen Shot of running program with DivA showing. Should be the initial screen shot upon starting of the program.

Page 3 Screen Shot

Creation of Boxcar test. Item a. Code BX1

Page 4 Screen Shot

Creation of Boxcar test. Item b. Code BX2

Page 5 Screen Shot

Creation of Boxcar with valid data. This the last boxcar to be added. Item e. Code BX5

Page 6 Screen Shot

Create of the first Freight Item. Item f Code FR1.

Page 7 Screen Shot

Creation of the last successful Freight Item that will be added to a Boxcar. Code FTR 7. Item l.

Page 8 Screen Shot

Creation of the first Freight item that would exceed max weight situation. Code FTR 8, Item m.

Page 9 Screen Shot

Creation of the second Freight item that would exceed max weight situation for a boxcar. Code FTR 9, Item n.

Page 10 Screen Shot

All Freight Status Screen Shot. Code FTR 10. This is the last screen shot that is taken after all test data has been entered.

This concludes the Screen shot collection requirements.

L. Code Requirements

The assignments are based course outline requirements.

Code used for the completioin of this assignment must follow the following guidelines.

Inclusions (note: exclusion rules will overide inclusion rules)

(1) Code must be based on code demonstrated in this course or its pre-requisite course(s)

Use of jQuery is inScope for this project and subect to the terms of 'scope of valid code'.

Sources ("scope") of valid of code is limited to the following:

- Course Text Book
- Course Notes
- Course Handouts

Exclusions

Exclusion will overide inclusion rules.

a. Note: getElementByTag, innerHTML, outerHTML are not permitted in this project.

M. Grading Rubric

To maximize your grade be sure to consider the Grading Rubric as part of the of list of requirements.

Items missed are marks that you will not receive.

CP1295
Project 01
Grading Rubric
General Allocation of Points

ID	Name, Student #, Assignment # on Page 1	5
A	Intro Page with Menu Choices - divA	10
B	Create New Boxcar - divB	10
C	Display All Boxcar data - divC	15
D	Add Freight Form - divD	15
E	Display Box Car Manifest - divE	15
F	Display Warehouse Manifest - divF	15
G	Display All Freight Status - divG	15
		100

End of Project