

CSE 4500 – Platform Computing
Professor Lawrence Orijuela
Midterm Project
Due Midnight March 24th

Instructions:

1. Download this assignment as an editable word doc from Canvas.
2. Write your name and student ID.
3. Select one of the two options. (Please only select one, there is no incentive for you to do both):
 - a. **Option1: DistanceConverter**
 - b. Option2: VolumeConverter
4. For the option that you have chosen, read the list of requirements and create the web application.
5. After you confirm that the application works, attach the appropriate screenshots as required for the option you've chosen.
6. Export this doc with your name and answers as a PDF:
 - a. Use this as your title: CSE4500_YourName_Midterm_Option#
 - b. Example: CSE4500_BobSmith_Midterm_Option1
7. In the MidtermProject Canvas submission page, please submit the following:
 - a. This document as a PDF, filled out and with screenshots.
 - b. A ZIP file of your MidtermProject.

Name: Nathan Bush Student ID #: 007463099 Points: /100

For your Midterm, you are required to demonstrate your knowledge of the material by reading an application description and creating the web application from scratch. You are given two options. Please only select one and indicate which option you have chosen. After that, read the application description and create the application using HTML and JavaScript. The option you've chosen has a different set of screenshots that you have to make to demonstrate that the program works. Attach them to this document in the space provided. Then upload this document as well as a zip file containing your project to the Midterm Submission page on Canvas.

For either option, you will need to include the following files from canvas:

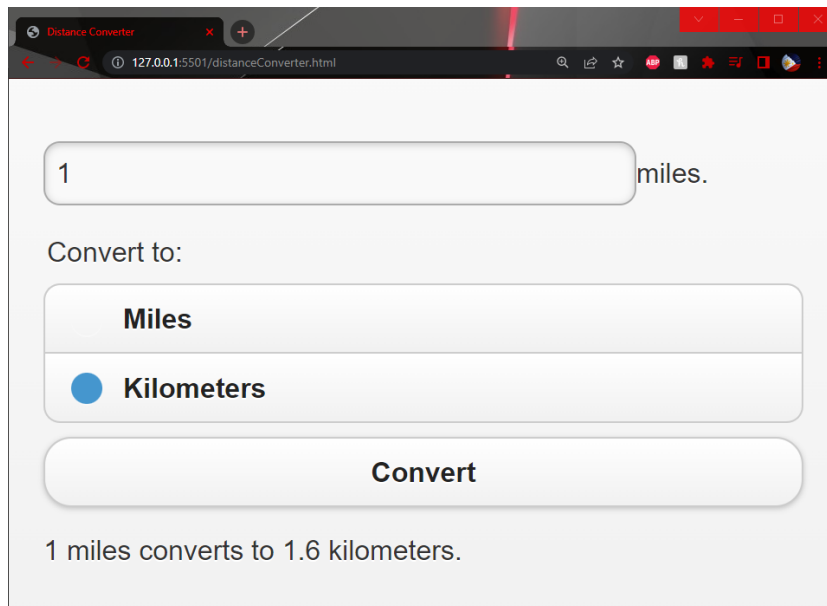
- jquery.mobile-1.3.1.min.css
- chromeFileProtocolFix.js
- jquery.mobile-1.3.1.min.js
- jquery-1.8.3.min.js

Accompanying Video (for hints): <https://www.youtube.com/watch?v=ypzuyCyY-M4>

Option 1: DistanceConverter

Application Description: You are hired by a company to create a web application that can convert a distance that a user inputs, in miles, and convert it to kilometers, and vice versa. The application should:

1. Have a textbox on the top of the screen that allows the user to enter a numeric value.
 - a. Next to the textbox is a label. When the project first starts, the default setting should be *converting miles to kilometers*. Therefore, the label next to the text box must read *'miles.'*, but then change to *'kilometers.'* when the *Miles* radio button is selected by the user.
2. Underneath, there should be a label with the words 'Convert to:'
3. Underneath the label, there should be a series of two radio buttons. One called *Miles*, and another called *Kilometers*; and underneath that, there should be a *Convert* button.
 - a. When the user clicks *Convert*:
 - i. If the *Miles* radio button is selected, it will take the numeric value that the user entered, as kilometers, and convert to miles.
 1. $\text{distanceInKilometers} = \text{distanceInMiles} * 1.609$
 - ii. If the *Kilometers* radio button is selected, it will take the numeric value that the user entered, as miles, and convert to kilometers.
 1. $\text{distanceInMiles} = \text{distanceInKilometers} * 0.621$
 - iii. It then shows a label underneath with the conversion.
 1. *ie. 1 kilometers converts to 0.6 miles.*
4. Picture of application:

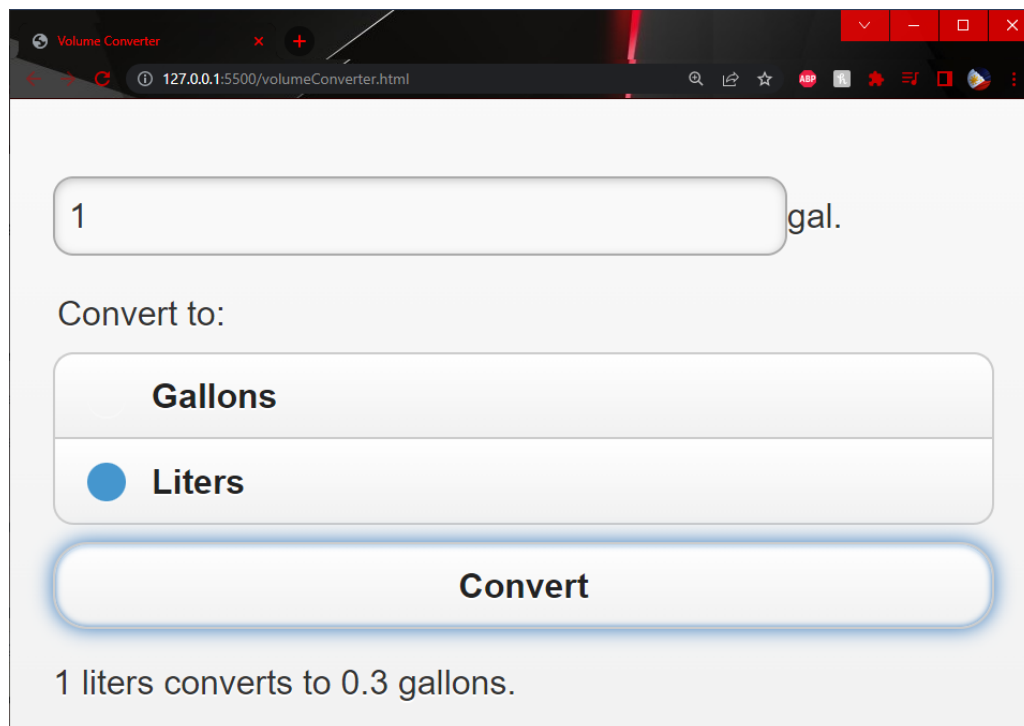


5. When you finished the application, please take two screenshots:
 - a. Converting 100 miles to kilometers.
 - b. Converting 100 kilometers to miles.

Option 2: VolumeConverter

Application Description: You are hired by a company to create a web application that can convert a volume that a user inputs, in gallons, and convert it to liters, and vice versa. The application should:

1. Have a textbox on the top of the screen that allows the user to enter a numeric value.
 - a. Next to the textbox is a label. When the project first starts, the default setting should be *converting gallons to liters*. Therefore, the label next to the text box must read '*gallons.*', but then change to '*liters.*' when the *Gallons* radio button is selected by the user.
2. Underneath, there should be a label with the words 'Convert to:'
3. Underneath the label, there should be a series of two radio buttons. One called *Gallons*, and another called *Liters*; and underneath that, there should be a *Convert* button.
 - a. When the user clicks *Convert*:
 - i. If the *Gallons* radio button is selected, it will take the numeric value that the user entered, as liters, and convert to gallons.
 1. $\text{volumeInLiters} = \text{volumeInGallons} * 3.785$
 - ii. If the *Liters* radio button is selected, it will take the numeric value that the user entered, as gallons, and convert to liters.
 1. $\text{volumeInGallons} = \text{volumeInLiters} * 0.264$
 - iii. It then shows a label underneath with the conversion.
 1. *ie. 1 liters converts to 0.3 gallons.*
4. Picture of application:



5. When you finished the application, please take two screenshots:
 - a. Converting 100 gallons to liters.
 - b. Converting 100 liters to gallons.

Screenshot A – Converting 100 Miles to Kilometers:

A screenshot of a web browser window titled "Distance Converter". The address bar shows the URL "127.0.0.1:5500/distanceConverter.html". The main interface has a text input field containing "100" with a unit dropdown menu set to "miles". Below this, a "Convert to:" section shows two radio buttons: "Miles" (unselected) and "Kilometers" (selected). A large "Convert" button is positioned below the radio buttons. At the bottom, a text line states "100 miles converts to 160.9 kilometers."

100 miles

Convert to:

☐ Miles

☒ Kilometers

Convert

100 miles converts to 160.9 kilometers.

Screenshot B – Converting 100 Kilometers to Miles:

A screenshot of the same "Distance Converter" web browser window. The input field now contains "100" with the unit dropdown menu set to "kilometers". In the "Convert to:" section, the "Miles" radio button is now selected, while "Kilometers" is unselected. The "Convert" button remains. The bottom text line now states "100 kilometers converts to 62.1 miles."

100 kilometers

Convert to:

☒ Miles

☐ Kilometers

Convert

100 kilometers converts to 62.1 miles.