**Design Document for Distance Finder (Week 5 - Assignment #2)**

**Overview**

This program will take in one numeric value from the user and output a string of text that states how long it will take the person to travel based on the distance formula (d = speed x time). There are three buttons of pre-set time frames that the user can select from to measure distance. The user can freely input any real number value upwards of zero. The text box will update each time a user inputs a new number value and presses a button.

**Components and Processing**

The program stores a lot of information in integer variables. The program starts with Parsing the text box the user enters information into and converting it to the *speed* **int** variable. The program is then given a pre-set number for the timeframe of travel. In the future, I plan to change this to be more flexible, but for now it is set at intervals of 5, 8, and 12. There are three buttons with logic that looks like this below:

// Converts the user input to an integer

int speed = int.Parse(speedInput.Text);

// Declaring pre-set time frame variable

int time = 5;

// Preforming the distance calculation as a seperate variable

int distance = speed \* time;

/\* Displaying the travel time text to the user after converting the

value back to a string and using concatenation for presentation.

\*/

outputTextBox.Text = distance.ToString() + " miles";

Ideally, at the end of the programs logic, a user who entered 12 mph as the speed of the car should see an example value of 60 miles travelled displayed as:

**The distance the car will travel is:**

**60 miles**

**Input and Output**

The user inputs a string, and the program will convert it to an integer with the help of the Parse() method.

The expected output is a string value that has a concatenated format as shown above.

**Testing**

The program boots and prompts the user to enter a value into the textbox, then choose the pre-set travel time below. On clicking each button, the value in the textbox will update each time.

Assuming the user does NOT input a negative value or text instead of a number, the program will take the value entered in the textbox and perform the distance formula calculation. Any input besides a number will seemingly result in the program crashing.