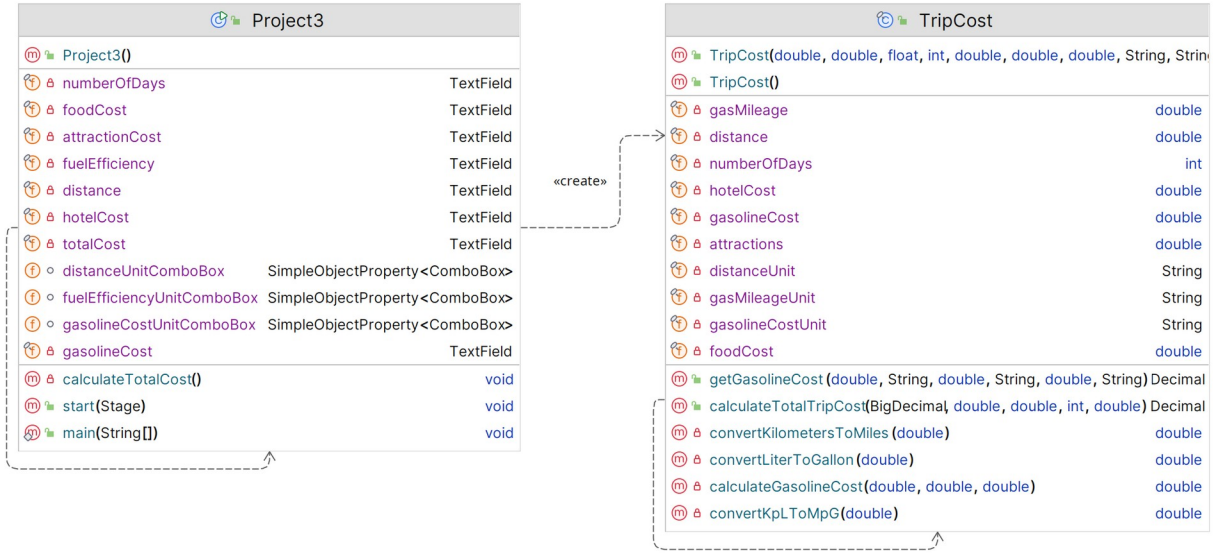
DESIGN

As with the previous projects, this project was a good exercise in applying the lessons from JavaFX, combined with proper validation of user-inputted data. For the most part, I followed along with the general recommendations in the project description, however, I added in some additional items that were not listed as requirements. I added validation of user input, and the display of an error message if invalid input was detected. I also converted all the inputted units for distance, gasoline cost, and gas mileage to Imperial units so that I could minimize math errors.

UML

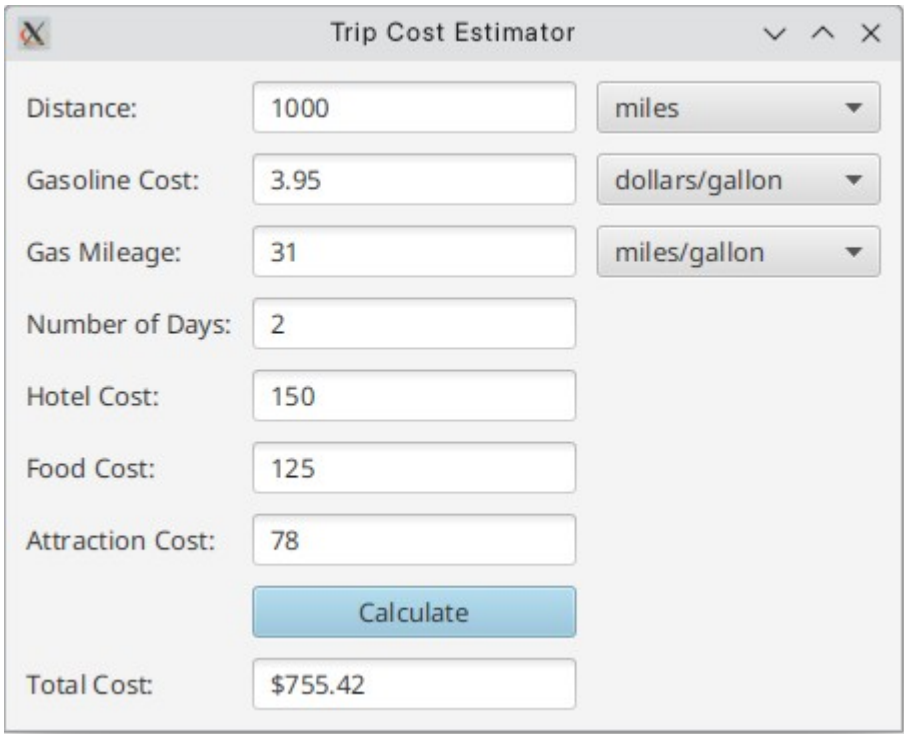


TEST PLAN

Test #	Input			Expected Output
1	Distance:	1000	Miles	Validate that output matches requirements document Total Cost: $755.42
	Gasoline Cost	3.95	Dollars/ Gal	
	Gas Mileage	31	Miles/Gal	
	Number of Days	2		
	Hotel Cost	150		
	Food Cost	125		
	Attractions	78		
2	Distance:	1000	Kilometers	Changing distance unit from Miles to Kilometers and Gas Mileage from MPG to KPL provides sane results Total Cost: $814.24
	Gasoline Cost	3.95	Dollars/ Gal	
	Gas Mileage	31	Km/L	
	Number of Days	2		
	Hotel Cost	150		
	Food Cost	125		
	Attractions	78		
3	Distance:	1000	Kilometers	Provide non-numerical values for several fields. Program shoujld replace fields that contain non-numerical values with “Numbers only please”. Fields with numerical values should be retained.
	Gasoline Cost	3.95	Dollars/L	
	Gas Mileage	31	Km/L	
	Number of Days	Apple		
	Hotel Cost	Banana		
	Food Cost	Cherry		
	Attractions	Date		
4	Distance:	1130	Miles	Sample trip to Orlando theme park, based on current fuel cost and MPG. Total Cost: $6474.65
	Gasoline Cost	3.64	Dollars/ Gal	
	Gas Mileage	33	Miles/Gal	
	Number of Days	7		
	Hotel Cost	250		
	Food Cost	300		
	Attractions	2500		
5	Distance:	1820	Kilometers	Sample trip to Orlando theme park, based on current fuel cost as with #4, but using kilometers for distance and KPL for gas mileage. Total Cost: $7041.62
	Gasoline Cost	3.64	Dollars/ Gal	
	Gas Mileage	14	Km/L	
	Number of Days	7		
	Hotel Cost	250		
	Food Cost	300		
	Attractions	2500		

SCREEN SHOTS

1



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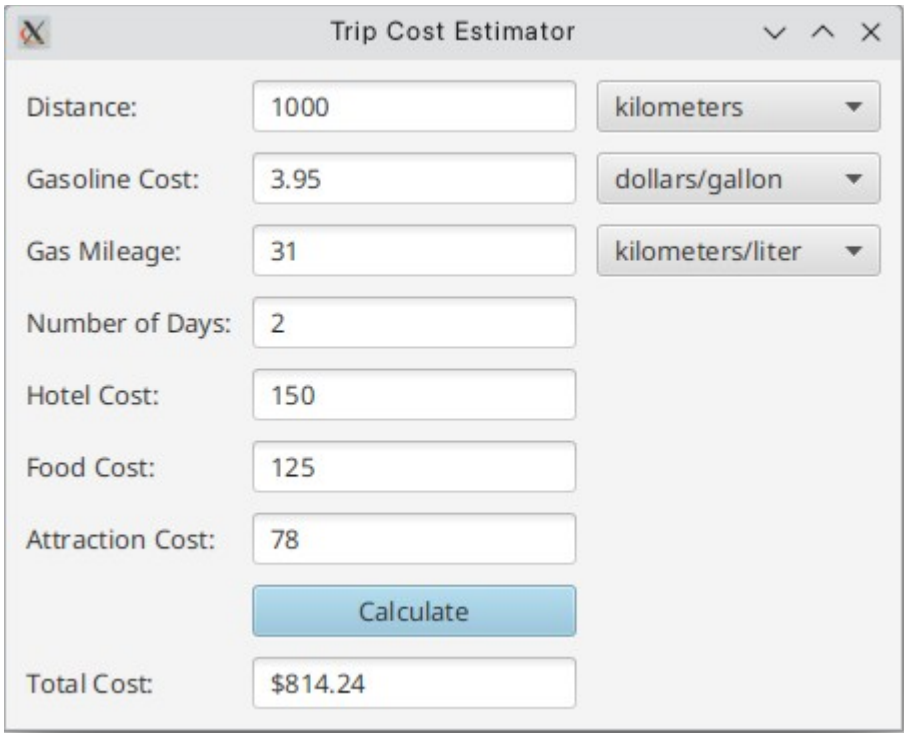
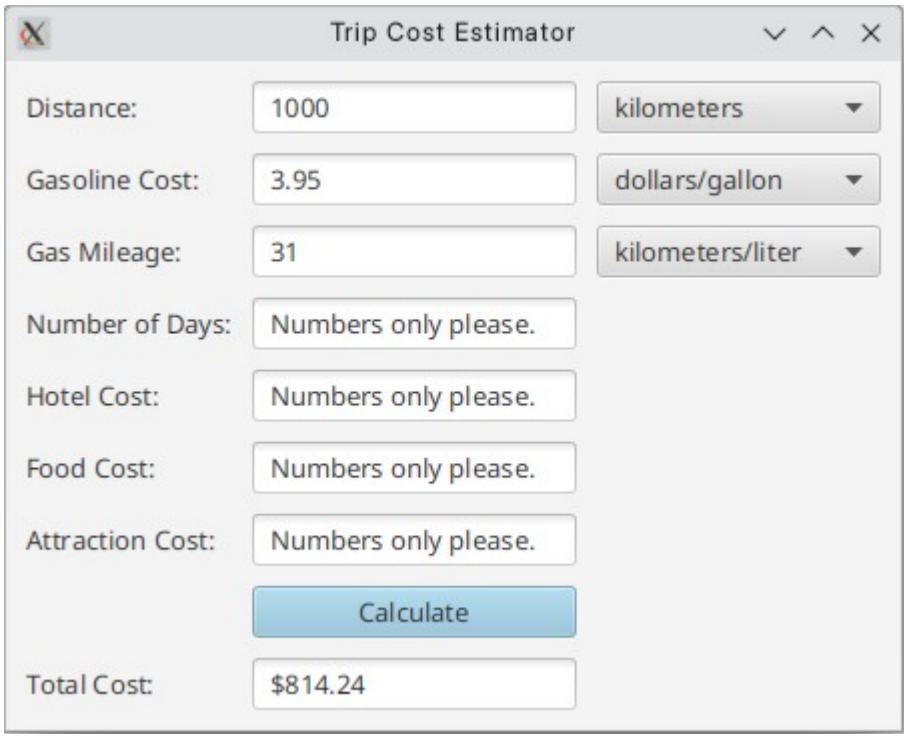
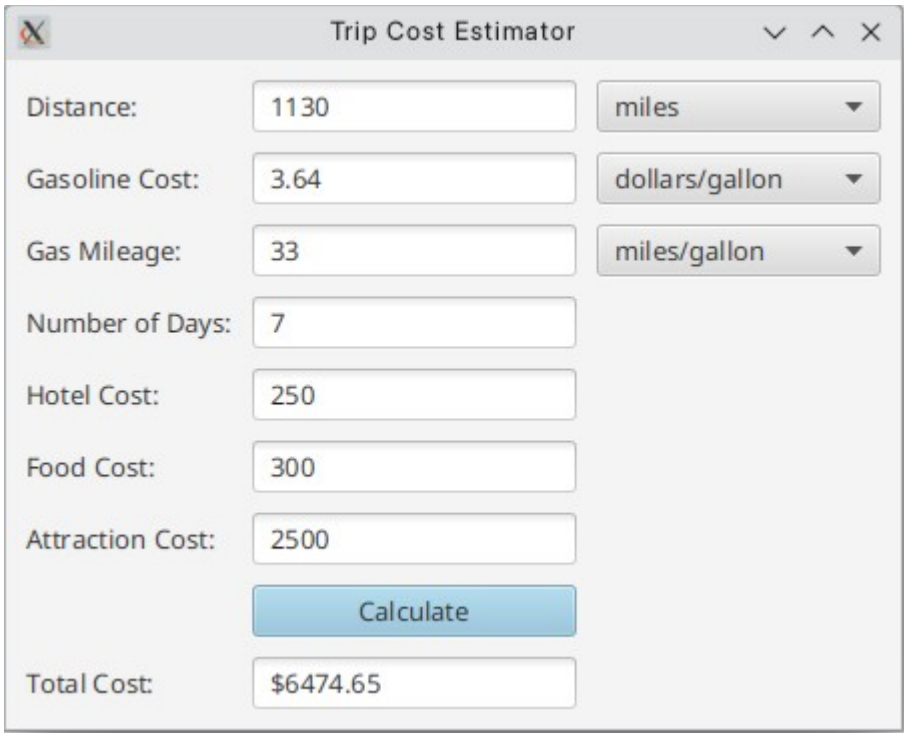


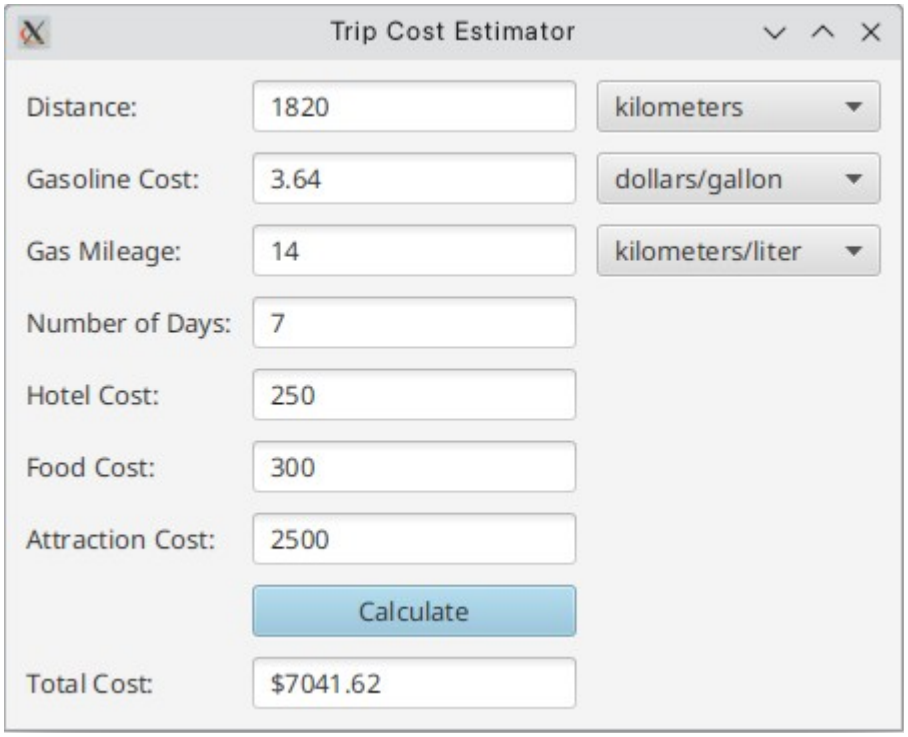
3


Trip Cost Estimator
Distance:
1000
kilometers
Gasoline Cost:
3.95
dollars/gallon
Gas Mileage:
31
kilometers/liter
Number of Days:
Numbers only please.
Hotel Cost:
Numbers only please.
Food Cost:
Numbers only please.
Attraction Cost:
Numbers only please.
Calculate
Total Cost:
$814.24

4


Trip Cost Estimator
Distance:
1130
miles
Gasoline Cost:
3.64
dollars/gallon
Gas Mileage:
33
miles/gallon
Number of Days:
7
Hotel Cost:
250
Food Cost:
300
Attraction Cost:
2500
Calculate
Total Cost:
$6474.65

5


Trip Cost Estimator
Distance:
1820
kilometers
Gasoline Cost:
3.64
dollars/gallon
Gas Mileage:
14
kilometers/liter
Number of Days:
7
Hotel Cost:
250
Food Cost:
300
Attraction Cost:
2500
Calculate
Total Cost:
$7041.62

LESSONS LEARNED

Some specific items that the project reinforced were:

Always validate user input.

Do not lose valid input when possible – clear invalid fields but keep valid data

Double check math for unit conversions – preferably, always convert to a single unit to perform calculations, no matter what the source unit.