* Introduction

For our final project we will be creating a mobile application targeted to owners of older cars. The application will perform a series of calculations based on user input. The app will generate an accurate estimation of the number of miles the given user will be able to drive, based off the amount of gas they have in their car.

* Storyboard (screen mockups): FluidUI, PowerPoints, paint, etc... will be fine. Graphical user interface

  Description automatically generated

**Requirement #1**

* + As an owner of an older car (car without a *miles-left* calculator).
  + I want to enter my car’s information into an app.
  + So that I can determine how many miles I can travel on highways before needing to refill my car.
  + Elaborations:
    - **Given** the user opens the application with internet access
    - **When** the user selects commute type: Highway, and correctly enters the make, model, year of car, current amount of gas in tank (fraction), and tank size
    - **Then** the application will generate how many miles the user can drive if they are traveling on highways.
    - **Given** the user opens the application
    - **When** the user **does not** select a commute type, and correctly enters the make, model, year of car, current amount of gas in tank (fraction), and tank size
    - **Then** the application will generate an error message prompting the user select a Commute Type for the calculation and re-submit.
    - **Given** the user opens the application
    - **When** the user selects commute type: Highway, and **incorrectly** enters one of the following: the make, model, year of car, current amount of gas in tank (fraction), or tank size
    - **Then** the application will generate an error message prompting the user to check their inputs, correct the data, and re-submit.

**Requirement #2**

* + As an owner of an older car (car without a *miles-left* calculator).
  + I want to enter my car’s information into an app.
  + So that I can determine how many miles I can travel through a city before needing to refill my car.
  + Elaborations:
    - **Given** the user opens the application
    - **When** the user selects commute type: City, and correctly enters the make, model, and year of car, current amount of gas in tank (fraction), and tank size
    - **Then** the application will generate how many miles the user can drive if they are traveling in a city.
    - **Given** the user opens the application
    - **When** the user **does not** select a commute type, and correctly enters the make, model, year of car, current amount of gas in tank (fraction), and tank size
    - **Then** the application will generate an error message prompting the user select a Commute Type for the calculation and re-submit.
    - **Given** the user opens the application
    - **When** the user selects the commute type: City, and **incorrectly** enters one of the following: the make, model, year of car, current amount of gas in tank (fraction), and tank size.
    - **Then** the application will generate an error message prompting the user to check their inputs, correct the data, and re-submit.

**Requirement #3**

* + - As an owner of an older car (car without a *miles-left* calculator).
    - I want to enter my car’s information into an app.
    - So that I can determine how many miles I can travel via a combination of highways and cities before needing to refill my car.
    - Elaborations:
    - **Given** the user opens the application
    - **When** the user selects commute type: Combo, and correctly enters the make, model, and year of car, current amount of gas in tank (fraction), and tank size
    - **Then** the application will generate how many miles the user can drive if they are traveling through a combination of highways and cities.
    - **Given** the user opens the application
    - **When** the user **does not** select a commute type, and correctly enters the make, model, year of car, current amount of gas in tank (fraction), and tank size
    - **Then** the application will generate an error message prompting the user select a Commute Type for the calculation and re-submit
    - **When** the user selects the commute type: Combo, and **incorrectly** enters one of the following: the make, model, year of car, current amount of gas in tank (fraction), and tank size.
    - **Then** the application will generate an error message prompting the user to check their inputs, correct the data, and re-submit.
* Class Diagram:

Diagram, engineering drawing

Description automatically generated

* Class Diagram Description:

This is our diagram for GasCalculator. Com.gascalc.ui is the breakdown of our initial home screen. The DTO shows that the data needed to move from back end to front is the individual application selection. The apps we make will require values for their username and password that can be locked, it also needs data to calculate the gas milage of any car you wanted to know. The DAO is the database or off site information center were we will recall the information stored and have access to a varity of apps to implemenet into our program

* A Scrumy.com link that contains:

<https://4045finalproject.atlassian.net/jira/software/projects/KZ4045/boards/1>

note: Sprint #1 will start Tuesday. In the backlog, all of the cards are laid out for Sprint #1.

* Scrum Roles, and who will fill those roles

-Jeremy Mazurowski: Scrum Master / Backend logic and persistence  
-Tu Doan: UI / github admin  
-AJ Walder: Backend Logic and persistence  
-Kyler Severance: UI