This APP is designed to simplify your weight and balance estimates for your aircraft of choice. It provides a simple graphical output to show you where your centre of gravity is in the C of G Envelope at takeoff and what it will be on landing, based on your inputs of weights, arms, C of G envelope, fuel consumption rate and flight time. NOTE: This APP is not to be used to determine actual weight and balance. This is a tool to simply help the pilot to visualize the aircraft loading for adjusting the loads. It is the pilot's responsibility to validate the actual weight and balance using approved methods prior to takeoff.

Pressing the WB button will activate a choice between creating a new aircraft from available templates or selecting an existing aircraft from a table that you have already created.

Selecting "New" will open a "Template" table with a selection of generic aircraft types. These templates will be upgraded from time to time to include more aircraft based on user feedback and preferences.

Selecting an aircraft template will open the "Arms" window which will start with the preset template values. You must first enter your aircraft registration in the yellow window.

You will notice that there are small square buttons for some of the features. These are either green (active) or red (disabled) for your aircraft. You may tap the button to activate or delete these features to customize your aircraft. Since a generic layout is used for all configurations your template selection will preselect the normal features for your type of aircraft. For example, a Cessna 150 only has a pilot and a front passenger. Therefore the middle passengers and rear passengers are disabled (red). If you have an aircraft which has tandem seating, the pilot will be in the front and the copilot or passenger will be in the rear (or vice versa). In this configuration the front passenger, middle passengers and one rear passenger will be disabled (red). Disabled arm entry windows will be gray in colour and preset to 0.

Next you must edit all of the generic arm values to match your specific aircraft using data from your Pilot Operator's Handbook (POH) or unique weight and balance attachments in your logs. Empty weight includes oil.

Seat locations, for example, may change based on a person's height, e.g. forward for shorter legs. Cargo 1 and Cargo 2 entries are also added to permit a belly pod or float compartments for storage. Cargo 1 or 2 can also be used as ballast (e.g. Seabee, Lake) if required. Set the arms appropriately for these cargo spaces, if used.

Once you are satisfied that all the arm values are correct, click the "Save" button on the upper right corner of your screen.

The "Aircraft" table will now open with your new aircraft listed at the bottom of the table. Selecting an aircraft from this table will open the "Weights" view where the aircraft registration will match your aircraft and the type will show the template that was used to create this table entry. These are editable for your convenience.

Now you simply add the appropriate weights for your flight. These are also editable after saving them so you can easily modify them for later flights. These include pilot weight, passenger weights, baggage weights, cargo 1 & 2 weights, fuel amount, flight time and fuel rate in gph (US). If you remove seats for more cargo space, be sure to delete the removed seat weights from your cargo weights. Click the "Save" button on the upper right corner of your screen when completed. Note: The MKS button on the top bar will place the app into a metric mode with all displays converted to metric units. (weights will be in Kg, arms in mm and fuel in L.) Pressing the MKS button again will convert back to non-metric units (lbs, inches and USG).

This APP uses a common layout for all aircraft which will support single place aircraft to 6 place aircraft as well as both side-by-side and tandem configurations. Customizing to suit your needs provides wide flexibility.

Next select the C of G button at the bottom left. This will open the C of G view for your aircraft. Again the weight and moment/1000 values are from the generic template. A sample graph is shown to clarify which entry represents each point on your graph. There are C of G differences between models of the same type. Use your POH for your specific aircraft to edit these values then click the "Save" button on the upper right. This will return you to the Weight view.

You are now ready to check the graph. Click the "Show" button on the lower right and the Centre of Gravity Moment Envelope will be plotted on the graph based on your values. The red dot represents your aircraft's C of G at takeoff and the blue dot represents the C of G at landing. The weight difference is due to the fuel burned so the blue value will be at a lower weight and at a different arm. BOTH dots must be inside the G of G envelope to be within safe limits for your aircraft.

With practice you will easily be able to adjust your aircraft's loads and fuel to ensure your flight will be a safe one. Adjusting both the weights and forward/aft locations will permit proper location on your C of G graph.

Keep in mind that you can create various versions for your aircraft if you use floats or skis. Make sure that you add the floats or skis to the registration so you will know which version you are using. The empty weight and empty arm must be adjusted for these configurations.

Enjoy and be creative, but be safe!