Design Document

If the job of a specific function did not drastically change compared to Part A it will only be superficially explained in this design document. The additions/ changes between Part B and Part A will be explained more in depth as follows:

Setup()- We moved much of the original GPS gathering code into the setup function. We get an “initial fix” and then determine which hemisphere the corresponding coordinates are located in. We now print this initially acquired position after a time delay automatically.

Loop()- This function responds to user inputs of arrow presses and selects. The directions toggle through the menu while enter lat and enter long alter the current latitude or longitude based on the users desire as to where they would like to be directed. The main change we made from the given code was the print statements we added prior to the conditionals which assess keystrokes (in enter lat/ long and nav.) These print statements give the user something to toggle through when looking at the screen. Additionally, in the nav section, we used built in function (from the gps package) like distance\_between and course\_to to determine the route towards the entered destination. These functions take the float values as parameters so we have to convert the values using the function below. We take the result ad return them to the string after returning them back to string format.

convertStrToFloat()- in order to interpret the input we had to add a new function convertStringToFloat in addition to our function from the last part where we converted in the opposite direction. We did this by interpreting the input string from enter lat/long etc. and multiplying each index by its relative scalar value.

convertFloatToString()- the float value is parsed and placed in non-contiguous string indices