1. Backend
   1. Dataset is saved under Cytometers folder in FCMPASS directory
   2. ‘Database’ variable is a struct containing all saved info under it’s fields
   3. Dataset is saved by FCMOpt\_SaveVars/scatterVoltration\_SaveVars
      1. Fields are group in the script according to the tab they correspond to
      2. FCMPASSDatasetIndex.fcmpass file is updated anytime a change is made to a dataset
   4. Dataset is loaded by FCMOpt\_LoadVars/scatterVoltration\_LoadVars
      1. Datasets with more than 3 fields are loaded—incomplete datasets have just 3 fields saved (date, version, and notes)
      2. Fcs data is not saved in dataset, so all displayed data for drawing gates is reloaded inside function. If the .fcs file has moved, then an error will occur. The user must reload the .fcs files in the listbox and redo their steps through the software
2. Frontend
   1. Advancing through software tabs
      1. Pressing ‘Back’ and ‘Next’ buttons loads different tabs in the software through the ‘PanelSelection()’ function
      2. ‘Back’ button is always enabled for all tabs
      3. Cytometers Tab
         1. Next button is enabled with a selected cytometer and dataset
      4. .fcs File Tab
         1. Next button is enables with the .fcs file listbox not being empty, calibration particles not being empty, and .fcs parameters being loaded into dropdown and FL table in next tab
         2. Pressing import file button will reset all downstream checks and trigger the checks again as files need to be parsed and loaded
            1. Software needs height and area parameter for FL pars to be used in analysis. This was written based on ’H/A’ convention. Other cytometers may not follow this format, and may need to update TestFLPars.m script with a global variable that tracks parameter append for each cytometer
      5. Parameters tab (only used for FL voltrations, scatter voltrations advance to Noise Gate tab)
         1. Next button is always enabled, as user can only reach this tab if parameters are loaded
      6. Noise Gate tab
         1. Next button is enabled if the gate object isn’t empty, so if user deletes dates, they must draw a new one to advance
      7. Bead Gate tab
         1. Next button is enabled if the gate object isn’t empty, so if user deletes dates, they must draw a new gate to advance
   2. Loading backend variables
      1. Cytometers loaded in IndexDefaults()
      2. Calibration particles loaded from bead catalogue in SetCalibrationParticles()/SetScatterCalibrationParticles()